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No. 20

**Benefit Coverage Rates  
and Household Typologies:  
Scope and Limitations of  
Tax-Benefit Indicators**

**Herwig Immervoll,  
Pascal Marianna,  
Marco Mira d'Ercole**

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## SUMMARY

2. The OECD regularly produces estimates of tax burdens and benefit entitlements for a range of “typical household” situations. The results of these calculations (published in the *Benefits and Wages* and *Taxing Wages* series) are frequently used to compare countries’ tax-benefit systems and to assess progress towards specific policy objectives. This paper presents information on particular aspects of the structure of household populations across countries in order to help in the interpretation of results based on such “typical” family situations. A range of internationally comparable data sources are used to assess how relevant household circumstances such as family structure, labour market attachment and benefit coverage vary across countries. The results are used as a basis for clarifying the scope of tax-benefit indicators based on synthetically constructed household typologies.

3. “Typical household” calculations cannot be used to address essential distributional issues such as how many individuals are faced with particular situations or what fraction of a population is likely to gain or lose from a specific policy reform. We argue that calculations focussing on a smaller number of synthetic households are, instead, useful for focussing on the mechanics of tax-benefit rules. While one is ultimately interested in *policy outcomes* such as employment levels and poverty rates, a careful examination of *policy features* is needed in order to document and understand the role of individual policies in achieving particular objectives. It is in this latter context of policy monitoring that the OECD tax-benefit calculations are particularly useful. They provide a basis for quantitative indicators that summarise the complex interaction of different policy instruments affecting household incomes and work incentives.

## RESUME

4. L’OCDE publie régulièrement des évaluations des charges fiscales et des droits aux prestations en se servant d’un large échantillon de situations de ménages types. Les résultats de ces calculs (publiés dans les séries *Prestations et salaires* et *Les impôts sur les salaires*) sont souvent utilisés pour comparer le régime fiscal et le régime de prestations en vigueur dans les pays ainsi que pour évaluer le progrès à faire pour atteindre des objectifs de politique spécifiques. Ce document présente une information sur des aspects précis de la structure des ménages d’un pays à l’autre afin d’aider à l’interprétation des résultats basés sur des situations types de famille. Une gamme de sources de données, comparables à l’échelle internationale, est utilisée pour évaluer comment les différentes situations des ménages telles que la structure de la famille, les liens avec le marché du travail ou encore la couverture sociale varient d’un pays à l’autre. Ces résultats sont utilisés comme base pour évaluer la portée des indicateurs impôts-prestations fondés sur des typologies de ménages synthétiquement élaborées.

5. Des calculs de ménages types ne peuvent être utilisés pour débattre de questions de distribution importantes telles le nombre d’individus confrontés à une situation bien précise ou le pourcentage de la population qui pourrait bénéficier ou non d’une réforme de politique spécifique. Aussi, nous pensons que les calculs concentrés sur un nombre réduit de ménages sont utiles pour réfléchir à la manière dont fonctionne la réglementation des impôts-prestations. Bien que l’on soit finalement intéressés par les résultats des politiques tels que les niveaux d’emploi et les taux de pauvreté, il est cependant nécessaire d’examiner les caractéristiques des politiques afin de démontrer et de comprendre le rôle des politiques individuelles visant des objectifs précis. C’est dans ce contexte de suivi de politique que les calculs sur les impôts-prestations de l’OCDE sont particulièrement utiles. Ils fournissent une base pour des indicateurs quantitatifs qui résument l’interaction complexe des différents instruments de politique affectant les revenus des ménages et les incitations au travail.

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## INTRODUCTION

6. Tax and benefit policies have an important influence on the functioning of the labour market and on the size and distribution of household incomes. Both these topics are major policy concerns across OECD countries and it is therefore essential to carefully monitor policies in this area. One of the methods commonly used for policy monitoring is the computation and comparison of tax burdens and benefit entitlements for a number of “typical” households, such as a single employee with average earnings or a two-earner couple with two children.

7. This paper combines information on demographic characteristics, work attachment and benefit reciprocity from a number of different sources in order to obtain an overview of the coverage rates of social benefits. This is done in order to assess the representativeness of “typical” cases used as the basis of OECD and European Commission indicators of the tax-benefit system. The detailed data presented on household circumstances across different countries are likely to be useful for analysing a range of different social policy and labour market topics. However, the focus in the present paper is on providing an improved basis for analysing and comparing the effects of taxes and benefits on household incomes. The paper does not have a specific policy focus but is descriptive and aims at complementing the OECD’s tax-benefit calculations, including widely-used income-adequacy and work-incentive indicators, that relate to “typical” families or households. The objective is twofold. First, detailed information on countries’ household populations is presented to help in the interpretation of results based on “typical” family situations: how “typical” are the various model situations and, thus, the calculated tax burdens and benefit entitlements in different countries? Second, the results are used as a basis for clarifying the scope of tax-benefit indicators based on “typical households”.

8. Income levels are frequently an explicit target of policy measures or are important indicators for the attainment or feasibility of other policy objectives. The net incomes of employees and the unemployed as well as their families are essential information for policy analysts and policy makers alike. Income data are, for instance, required for discussing issues of income adequacy, redistribution and work incentives. In addition, it is necessary to understand the factors behind observed income situations. Taxes and social benefits are key determining factors of income levels and therefore deserve detailed analysis.

9. Tax-benefit calculations such as those shown in OECD (2004) establish the effects of taxes and benefits on household incomes for a large number of household situations at certain earnings levels and assuming a given pattern of benefit eligibility. Yet, owing to the heterogeneity of actual household populations, no manageable number of hypothetical cases can “represent” the population at large. Hence, the households chosen in these analyses are not meant to be in any particular way representative of the underlying population. Rather than attempting to mirror existing country populations, the objective is to choose those household types that best illustrate the most relevant policy features.

10. It is clear however that, when comparing results across countries, the prevalence of a particular household situation will vary as certain family situations (such as lone-parenthood or two-earner families) may be much more common in one country than in others. Similarly, the earnings distribution and the number of households receiving social benefits will differ between both countries and family types. Given the use of tax-benefit indicators for comparative purposes, it is therefore desirable to be able to say something about the relative importance of each situation. To provide such information, this paper collects



and analyses data from a range of different sources including administrative data, labour-force and household surveys as well as a multi-country microsimulation model based on empirical household data.

11. The structure is as follows. Section 1 discusses the scope of tax-benefit calculations based on “typical” households and describes the specific household types chosen as the basis for the OECD’s tax-benefit calculations. A range of widely-used tax-benefit indicators is then presented for a subset of these household circumstances. The extent to which these indicators differ between household types provides a first indication of the relevance of population characteristics for an appropriate interpretation of results. Taking into account actual patterns of household circumstances is likely to be especially important in countries where relevant tax-benefit mechanisms differ widely between household types. To illustrate the relevance of cross-country differences in household typologies, indicators derived from the OECD’s “typical household” tax-benefit models are compared with conceptually-equivalent measures computed on the basis of representative household micro-data. The aim is to contrast results on Net Replacement Rates and related measures from different sources in order to situate the scope and limitations of “typical household” based approaches vis-à-vis methods that rely on micro-data.

12. Section 2 summarises and compares the characteristics of existing household populations across countries. We present evidence on family structures, working hours and levels of earnings and other market incomes and relate the results to the characteristics of the “typical” cases presented in the previous section. The focus is on establishing the number of households in each country that share relevant characteristics with the chosen “typical” cases. Empirical information on the heterogeneity of household populations also clarifies the scope of “typical household” models. Given the number of characteristics that are, in combination, relevant for determining tax burdens and benefit entitlements it is clear that no set of typical households can hope to approximate the true population structure in its heterogeneity and in the correct proportions.

13. Section 3 synthesises and extends new evidence on benefit coverage, i.e. the number of households receiving particular types of social benefits. Together with evidence on benefit take-up rates discussed in a separate report (Hernanz *et al.*, 2004), this type of information is essential in order to understand the role of social transfers across countries. Net incomes of certain types of household critically depend on whether or not they receive social benefits. This is particularly true for low-income or workless families who are frequently the focus of the kind of tax-benefit calculations described above. In order to understand the importance of different categories of earnings-replacement benefit, it is essential to know how likely it is that a particular family, who might potentially benefit, actually receives it. Also, families may have access to different types of replacement benefit, which may either be received alternatively or in combination. The analysis of benefit reciprocity throws light on this issue and seeks to provide a basis for interpreting tax-benefit calculations that tend to assume that individuals in particular situations (e.g. the unemployed) have access to particular types of benefit (e.g. unemployment insurance benefits).

## **1. TAX-BENEFIT INDICATORS: “TYPICAL” HOUSEHOLDS VERSUS ACTUAL POPULATIONS**

### **1.1. Purpose of tax-benefit calculations**

14. Tax-benefit calculations based on “typical households” provide an in-depth view of the mechanisms of relevant social and fiscal policy instruments in particular household circumstances. Widely-used indicators derived from these calculations include Net Replacement Rates and Marginal Effective Tax Rates and also relate to a selected range of specific “typical” situations. These and related indicators form an integral part of both tax-benefit policy-evaluation exercises and the formulation of policy reform proposals and are used to compare policy features between countries and across time.

15. An advantage of this method is that it can be applied to many different household circumstances. The appropriate choice of relevant situations will, to a large extent, depend on the purpose of the analysis. For instance, a number of recent policy initiatives are specifically targeted towards low-wage workers and include measures aimed at “making work pay” or providing adequate income levels for those without a job. Tax-benefit calculations focussing on these specific target groups show the consequences of reforms as well as possible trade-offs between different policy objectives.

16. Yet, tax-benefit indicators are used for addressing a large number of different policy and research questions, and it is therefore desirable to provide a wider set of results that is useful for a range of different purposes. This implies choosing a set of “typical” households. By looking at identical household situations across countries, it is possible to focus on differences in the mechanics of tax-benefit systems. The features of existing policy instruments can be illustrated by computing the amounts of taxes and benefits that particular households would be liable to pay or entitled to receive given existing policy rules. This method shows the cross-country variation of tax-benefit policy rules in isolation from population differences and provides a direct and unobstructed view of the characteristics of social and fiscal policy instruments and interactions between them. The approach is therefore particularly useful for deriving *policy* indicators (as opposed to *outcome* indicators).

17. Calculations of tax burdens and benefit entitlements that relate to synthetically constructed households instead of actual populations are also useful for uncovering interesting features of particular policy instruments. The use of “typical” households allows many of the determinants of tax and benefit amounts to be held constant while changing one household characteristic at a time. Tax-benefit calculations can be repeated for each different household situations (e.g. for different numbers of children or different earnings levels). A comparison between the resulting tax burdens and benefit entitlements then shows under which circumstances certain tax-benefit rules are particularly relevant and which type of household characteristics are the most important determinant of taxes and benefits. A focus on one aspect at a time helps improve our understanding of existing policy instruments as well as differences between them across countries and at different points in time.

18. More specifically, certain individual and household characteristics that are relevant for determining tax- and benefit amounts may, in turn, be partly a result of existing policy regimes. For instance, the sharing between family members of paid and unpaid work is likely to be affected to a considerable degree by the tax-treatment of second earners or the availability of childcare support. For the purpose of documenting and understanding how policies differ across countries and over time, and how

they might alter people's living arrangements, it is desirable to separate policy changes from changes in the underlying population. Computing tax burdens and benefit entitlements for a constant set of household types is a useful method for monitoring relevant policy measures and their effect on household incomes. In terms of the above example, these calculations may show how financially attractive it is for potential second earners to take up paid employment, which is valuable information regardless of the actual number of single or dual-earner families in a given country.

19. Tax-benefit analyses based on "typical household" calculations can thus serve as useful complements to population-based approaches such as incidence studies using micro-data alone or microsimulation models capable of simulating the effects of fiscal and social policy instruments on a sample of actual households. Yet, given that the prevalence of a particular set of individual and household circumstances will vary across countries, it is useful to clarify how a chosen set of "typical cases" relates to the structure of each country's population. Before turning to evidence on individuals' family status, work attachment and benefit reciprocity, this section briefly outlines the family types considered in tax-benefit calculations such as those presented in OECD (2004) and presents results for relevant tax-benefit indicators, such as replacement rates, for a subset of these family types. These indicators are then compared to conceptually similar measures from a recent multi-country study that derives tax-benefit calculations for all families in representative household samples.

## **1.2. Illustrating the mechanics of tax-benefit instruments: A set of "typical" cases**

20. OECD (2004) and Carone, *et al.* (2004) consider six basic family types:

1. Single adults without children.  
(employed/unemployed)
2. Lone parents with two children.  
(employed/unemployed)
3. One-earner married couples.  
(first spouse employed/unemployed, second spouse "inactive")
4. One-earner married couples with two children.  
(first spouse employed/unemployed, second spouse "inactive")
5. Two-earner married couple.  
(first spouse employed/unemployed, second spouse full-time employed)
6. Two-earner married couple with two children.  
(first spouse employed/unemployed, second spouse full-time employed)

21. These broad groups comprise large numbers of different household circumstances. For instance, household members may have different ages, earnings levels, work histories or may face different expenditures (e.g. housing costs). All these dimensions are likely to have an impact on an individual's tax burden and benefit entitlements. In multi-person households, the tax-benefit position of the family as a whole will be determined by the particular combination of individual characteristics. For instance, total family tax burdens are likely to depend on whether a given level of total employment income is earned by one or two persons.

22. Taxes and benefits can be calculated for any combination of relevant characteristics. However, for the purpose of the present paper, a limited number of specific circumstances are considered. The standard assumption is that adults are 40 years old and children are aged 4 and 6. Other characteristics,

including previous employment record (uninterrupted work record since the age of 18), or housing costs (20 percent of average earnings in each country), have been chosen to illustrate the most relevant mechanisms built into tax and benefit systems. For each of these family types, net incomes are determined for a range of different earnings levels and/or working hours. The resulting indicators therefore cover a large number of family, labour market and income situations and provide a broad picture of how taxes and transfers potentially affect the incomes of different population sub-groups.

23. Unemployed people are assumed to be entitled to unemployment benefits during the initial phase of unemployment. In most countries, this requires participation in certain job-search activities and may depend on whether job losses qualify as involuntary. Another assumption, which is particularly relevant for those in long-term unemployment, concerns the calculation of means-tested benefits. Where means-tested benefits are included in the calculations, it is assumed that people do not have any assets that would make them ineligible and that they receive all the benefits to which they are formally entitled (*i.e.* there is full benefit take-up). Further details on these assumption and the rationale behind them are discussed in OECD (2004, Annex A).

### 1.3. Tax-benefit indicators (1): calculations based on typical households

24. In discussing how the choice of household types affects the value of tax-benefit indicators, this section focuses on two types of measure: the Net Replacement Rate (NRR) and the Average Effective Tax Rate (AETR). Both indicators are presented for the six family types outlined above and for three different earnings levels.

#### *Income maintenance during unemployment: Net replacement rates (NRR)*

25. Together with benefit durations, NRRs are important indicators of benefit sufficiency. They show the proportion of in-work income that is maintained for somebody becoming unemployed. As indicators of net incomes, they capture the direct effects of all relevant types of taxes and benefits on current household incomes, such as the higher amount of taxes paid by employees or country differences in the taxation of benefits. Given that benefit receipt and tax payments of different household members usually interact, the NRR measures presented here are calculated in relation to the household as a whole:

$$NRR = y_{\text{netOW}} / y_{\text{netIW}}, \quad (1)$$

where  $y_{\text{netOW}}$  (net income while out of work) and  $y_{\text{netIW}}$  (net income while in work) denote household net income before and after a transition from employment to unemployment of one household member. Net income is defined as current cash employment income plus cash social benefits minus income taxes minus own social security contributions.

26. Table 1.1 shows NRRs during the initial phase of unemployment (*i.e.* following any benefit waiting period) for somebody who was previously employed on a full-time basis with earnings at 67, 100 and 150 percent of the Average Production Worker (APW<sup>1</sup>) wage. Taxes are computed under the assumption that initial benefits (in the unemployed situation) and earnings (in the in-work situation) remain unchanged during the entire fiscal year. Childcare costs or benefits that depend on having a child in childcare are not considered.

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1 APW values are the average full-time gross earnings of production workers in the manufacturing sector for the country as a whole. The methodology underlying these data is explained in OECD (2003b). APW values and, where applicable, statutory minimum wages are shown in Annex A.

27. Comparisons between family types show that NRRs tend to be higher for larger families since family-related additions to unemployment benefits and other benefit entitlements combine to reduce the relative drop in household resources. Some benefits (e.g. family benefits) may be available in both the in-work and out-of-work situations while others (e.g. housing benefits) may be income-related. In both cases, benefit payments increase NRRs although the effect is stronger for benefits targeted towards low-income groups.

28. NRRs compare total family resources across two different work situations of one particular household member. They thus capture the degree of income protection provided by both the tax-benefit system and any incomes of other household members. As a result, NRRs for two-earner married couples are, to a large extent, driven by the employment income of the second earner (whose employment status and hours of work are assumed to remain unchanged following the job loss of the other spouse), particularly in countries where unemployment benefits are low. In these cases, the earnings of the second earner can serve an insurance function and represents an important complement of unemployment benefits, which would, by themselves, maintain only relatively small proportions of in-work earnings.

**Table 1.1. Net replacement rates for six family types: initial phase of unemployment**

2001, different earnings levels(1)

	67% of APW level						100% of APW level						150% of APW level					
	No children			2 children			No children			2 children			No children			2 children		
	Single person	One-earner married couple	Two-earner married couple	Lone parent	One-earner married couple	Two-earner married couple	Single person	One-earner married couple	Two-earner married couple	Lone parent	One-earner married couple	Two-earner married couple	Single person	One-earner married couple	Two-earner married couple	Lone parent	One-earner married couple	Two-earner married couple
Australia	48	42	53	60	79	68	34	30	44	56	69	56	25	22	36	42	52	48
Austria	68	82	80	83	97	86	55	60	76	72	76	81	55	56	72	65	66	76
Belgium	83	73	96	79	74	96	63	55	82	63	58	84	46	41	67	48	45	70
Canada	63	67	81	76	81	88	63	65	78	75	76	85	45	47	62	58	58	69
Czech Republic	57	75	77	80	96	80	51	57	72	63	75	75	50	52	67	58	59	70
Denmark	85	88	93	96	85	93	60	67	77	76	77	78	45	52	64	61	61	66
Finland	74	88	81	89	99	86	61	69	75	82	85	80	48	54	66	67	65	70
France	83	87	92	91	85	92	71	67	82	78	78	83	70	69	79	70	69	79
Germany	81	85	90	92	84	99	61	63	85	82	78	96	62	51	80	78	70	91
Greece	63	66	74	72	72	76	45	45	62	49	49	62	32	32	49	35	35	49
Hungary	65	65	81	73	73	85	47	47	68	58	57	73	35	35	57	46	46	63
Iceland	63	84	81	77	90	86	46	65	68	63	74	75	33	48	55	49	59	62
Ireland	69	87	71	65	90	80	50	64	59	59	72	68	38	45	47	45	53	55
Italy	50	50	77	54	57	81	52	56	71	60	62	76	46	49	63	57	60	67
Japan	73	71	89	92	87	88	63	62	80	74	71	81	62	61	75	63	62	76
Korea	54	54	77	64	80	77	55	55	72	56	59	72	47	47	62	47	47	62
Luxembourg	85	108	90	90	116	94	85	84	89	89	89	92	87	85	88	92	89	91
Netherlands	80	89	85	86	89	85	71	73	83	76	77	83	61	63	74	66	64	74
New Zealand	55	81	57	77	83	65	38	54	46	62	67	52	27	39	37	45	49	42
Norway	66	79	83	90	91	87	66	67	80	85	74	83	53	53	69	66	59	72
Poland	68	70	76	80	90	77	47	48	62	56	73	63	32	33	48	38	51	50
Portugal	86	73	95	75	69	92	78	76	88	76	66	87	83	79	88	80	78	87
Slovak Republic	72	100	81	92	100	84	64	75	78	72	96	83	47	52	64	56	69	69
Spain	76	72	88	77	77	89	72	72	84	76	74	87	49	50	66	63	63	76
Sweden	82	98	91	92	100	92	78	78	87	89	82	88	56	56	71	69	61	72
Switzerland	79	91	89	93	100	90	71	71	82	82	82	88	72	71	80	82	82	87
United Kingdom	64	78	63	65	76	72	45	56	53	62	71	60	31	39	42	46	53	49
United States	62	65	81	60	62	83	58	60	75	56	59	78	42	41	59	40	42	63

1. Initial phase of unemployment but following any waiting period. Social assistance "top-ups" are assumed to be available in both the in-work and out-of-work situations as long as relevant income conditions are met. Any income taxes payable on unemployment benefits are determined in relation to annualised benefit values (i.e. monthly values multiplied by 12) even if the maximum benefit duration is shorter than 12 months. See OECD (forthcoming, 2004) for details. For married couples the percentage of APW relates to one spouse only; the second spouse is assumed to be "inactive" with no earnings in a one-earner couple and to have full-time earnings equal to 67% of APW in a two-earner couple. Children are aged 4 and 6 and neither childcare benefits nor childcare costs are considered.

Source : OECD Tax-Benefit Models

29. NRRs during the initial period of unemployment do not capture country differences in benefit duration and/or benefit levels over time. Long-term unemployed persons may receive unemployment insurance or assistance, social assistance or no out-of-work benefit at all. The resulting NRRs after five years of unemployment are shown in Table 1.2. Since conditions governing the eligibility for receiving

social assistance (such as having assets below any asset limits) are more likely to be met after a prolonged period of unemployment, the long-term NRRs in Table 1.2 assume that social assistance can be received as long as relevant income conditions are met. Where social assistance amounts exceed unemployment benefit levels, this can cause long-term NRRs to exceed initial NRRs in several cases (e.g. Austria, Iceland and the United Kingdom).

**Table 1.2. Net replacement rates for six family types: long-term unemployment**

2001, different earnings levels(1)

	67% of APW level						100% of APW level						150% of APW level					
	No children			2 children			No children			2 children			No children			2 children		
	Single person	One-earner married couple	Two-earner married couple	Lone parent	One-earner married couple	Two-earner married couple	Single person	One-earner married couple	Two-earner married couple	Lone parent	One-earner married couple	Two-earner married couple	Single person	One-earner married couple	Two-earner married couple	Lone parent	One-earner married couple	Two-earner married couple
Australia	48	42	53	60	79	68	34	30	44	56	69	56	25	22	36	42	52	48
Austria	68	82	52	83	97	70	51	60	47	68	76	67	51	52	48	61	62	64
Belgium	62	73	89	79	74	90	47	55	76	63	58	78	34	41	62	48	45	65
Canada	32	51	55	64	69	69	23	38	45	56	60	59	16	26	36	42	45	47
Czech Republic	49	75	55	80	96	60	33	55	44	63	75	51	23	38	35	46	55	41
Denmark	71	87	54	85	82	72	51	76	55	74	79	60	38	58	46	59	62	51
Finland	70	88	60	73	99	72	51	68	51	63	85	61	37	50	42	49	64	51
France	58	76	52	79	81	65	42	52	43	62	68	53	29	36	34	43	47	42
Germany	81	85	74	92	84	79	60	63	71	72	69	77	54	46	67	68	64	74
Greece	0	0	50	4	4	51	0	0	41	3	3	41	0	0	32	2	2	33
Hungary	36	36	50	43	41	59	25	25	42	34	32	51	19	19	35	27	26	44
Iceland	63	84	81	77	90	86	46	65	68	63	74	75	33	48	55	49	59	62
Ireland	69	87	54	65	90	63	50	64	46	59	72	53	38	45	36	45	53	43
Italy	0	0	54	0	0	62	0	0	45	0	0	53	0	0	36	0	0	43
Japan	50	71	52	92	87	63	34	48	42	74	71	52	23	33	33	52	50	41
Korea	27	46	50	64	79	50	19	31	40	44	54	40	13	22	31	30	37	31
Luxembourg	71	98	52	83	107	55	51	67	43	59	76	47	38	48	35	46	56	39
Netherlands	79	90	56	80	89	60	58	69	47	63	72	51	39	47	37	45	50	40
New Zealand	55	81	57	77	83	65	38	54	46	62	67	52	27	39	37	45	49	42
Norway	61	70	53	74	91	58	43	50	44	63	69	49	32	36	36	48	52	41
Poland	47	70	52	80	90	62	32	48	42	56	73	51	22	33	33	38	51	41
Portugal	34	57	60	61	69	77	24	46	49	49	61	64	17	32	39	36	50	51
Slovak Republic	66	100	56	92	100	74	45	75	45	71	96	64	31	52	36	53	69	51
Spain	35	43	53	55	62	52	25	31	45	39	43	44	18	22	36	28	31	35
Sweden	75	98	50	67	100	59	52	68	41	56	79	49	37	49	33	44	59	41
Switzerland	74	91	52	93	100	55	52	64	43	67	73	46	36	44	34	47	51	37
United Kingdom	64	78	50	65	76	69	45	56	42	62	71	58	31	39	33	46	53	47
United States	10	17	53	45	51	57	7	12	43	36	42	48	5	8	34	25	30	39

1. After tax and including unemployment benefits, social assistance, family and housing benefits in the 60th month of benefit receipt. For married couples the percent of APW relates to one spouse only; the second spouse is assumed to be "inactive" with no earnings in a one-earner couple and to have full-time earnings equal to 67% of APW in a two-earner couple. Children are aged 4 and 6 and neither childcare benefits nor childcare costs are considered.

Source : OECD Tax-Benefit Models

### *Unemployment traps and barriers to moving back into work: Average Effective Tax Rates (AETR)*

30. In cases where the unemployed person shares a household with individuals who have employment income of their own, the above results have shown that NRRs can, to a large extent, be driven by the size of these other earnings. Regardless of the number of earners in the household, the NRR is a useful indicator since it shows the relative drop of household incomes when one person becomes unemployed. Yet, in the case of households with more than one potential earner, the fact that other earnings in the household largely determine its value, it is not an ideal indicator of the influence of the tax-benefit system on financial work incentives.

31. Replacement rates show the amount of income available during unemployment as a fraction of in-work income. A related, but different, question is what part of any in-work earnings is effectively "taxed away" for somebody moving into work. The Average Effective Tax Rate (AETR) is the relevant measure for addressing this question. It measures by how much benefits decrease and taxes increase when entering employment. As done in recent analyses at the EU level, this measure can thus be used as an indicator of

so-called “unemployment traps” or “inactivity traps” where entering employment does not result in sufficient increases of households’ current incomes. The AETR should not be confused with the effective tax burden, which is often shown as a percentage of gross earnings for a particular employee and does not relate to a *transition* between different work situations.

32. Compared to the NRR, the AETR is a better indicator of the influence of the tax-benefit system on financial work incentives because it relates the change in net household income to the *change* in gross earnings and is therefore not directly affected by the level of any earnings received by other household members. It is defined as

$$AETR = 1 - \frac{\Delta y_{net}}{\Delta y_{gross}} = 1 - \frac{y_{netIW} - y_{netOW}}{y_{grossIW} - y_{grossOW}} \quad (2)$$

As in equation (1) above,  $y_{netIW}$  and  $y_{netOW}$  are, respectively, household net income while in and out of work, while  $y_{grossIW}$  and  $y_{grossOW}$  denote household gross earnings in- and out of work. The second term thus represents that part of any gross earnings increase that ends up adding to net household income. One minus this fraction is therefore the part of the earnings increase that is “taxed away” through increased taxes and reduced benefit payments. Gross incomes are wages and salaries paid to employees before deducting taxes and compulsory employee social security contributions.

33. For an unemployed person who is single or lives in a household where nobody else has any income from work, there is a straightforward relationship between the AETR and the NRR: For those with high NRRs, net incomes during unemployment are not much lower than during employment. When moving back into work, they will thus tend to see only small increases in net income and, hence, have high AETRs as well. This direct link between NRR and AETR is most easily seen in the case of  $NRR=AETR=1$  (in general,  $NRR \neq AETR$ ). While a transition into work is perhaps the more intuitive interpretation of AETRs, they can also be related to a change of employment status in the opposite direction. This can best be seen by re-arranging equation (2):

$$AETR = 1 - \frac{y_{netIW} - y_{netOW}}{y_{grossIW} - y_{grossOW}} = \frac{y_{grossIW} - y_{grossOW} - y_{netIW} + y_{netOW}}{y_{grossIW} - y_{grossOW}}$$

$$AETR = \frac{(y_{grossIW} - y_{netIW}) - (y_{grossOW} - y_{netOW})}{y_{grossIW} - y_{grossOW}} = \frac{(T_{IW} - B_{IW}) - (T_{OW} - B_{OW})}{y_{grossIW} - y_{grossOW}} \quad (3)$$

where  $T_{IW}$ ,  $B_{IW}$  and  $T_{OW}$ ,  $B_{OW}$  are, respectively, total household taxes and benefits in the in-work and out-of-work situations. As discussed in Immervoll and O’Donoghue (2001), the AETR therefore measures the extent to which net taxes change following an employment transition. Since this change is divided by the change in earnings, the AETR measures to what extent increasing net taxes (due to higher taxes or lower benefits) absorb the earnings increase in the case of a transition into work. For a transition in the opposite direction, they show to what extent decreasing taxes and increasing benefits compensate for a loss in earnings.

34. AETRs for transitions from/to full-time employment are shown in Tables 1.3 and 1.4. As with NRRs, the numbers relate to an employment transition of one particular household member (*i.e.* in multi-person households, the employment status of all other individuals is assumed to remain unchanged). Calculations in Table 1.3 assume that the person making the transition receives the full level of initial unemployment benefits (*i.e.* following any waiting period) in the unemployed situation.

35. Table 1.4 repeats the analysis for someone not entitled to unemployment benefits (*i.e.* they are zero in the out-of-work situation). Instead, the household may be entitled to minimum-income and other means-tested benefits (such as housing benefits), subject to relevant income conditions being met. Unemployment benefits may not be available because they may have expired due to the duration of unemployment. When interpreting the AETR for a transition from employment to unemployment, unemployment benefits may, for instance, not be available because of an insufficient employment record or because other relevant eligibility conditions (such as job-search requirements) are not met.

36. Comparing across family types, Table 1.3 shows that unemployed people with working spouses face particularly high AETRs in several cases (e.g. Belgium, Germany). For potential second earners, barriers to moving into work can be particularly pronounced in countries where spouses' incomes are assessed jointly for the purpose of determining tax liabilities or benefit entitlements. In these cases, taking up employment not only reduces or stops entitlement to the individual's own unemployment benefit but can also reduce benefits received or increase taxes paid jointly by the couple or family as a whole. Australia and New Zealand exhibit markedly lower AETRs for unemployed persons with working spouses. This is mainly due to unemployment benefits which are low compared to most other countries and which are means-tested. As a result, the unemployed person with a working spouse with moderate or higher earnings does not receive any unemployment benefits in the first place and is, therefore, not affected by any benefit withdrawal upon taking up employment.

**Table 1.3. Average Effective Tax Rates for persons receiving unemployment benefits at the initial level**  
2001, different earnings levels(1)

	67% of APW level						100% of APW level						150% of APW level					
	No children			2 children			No children			2 children			No children			2 children		
	Single person	One-earner married couple	Two-earner married couple	Lone parent	One-earner married couple	Two-earner married couple	Single person	One-earner married couple	Two-earner married couple	Lone parent	One-earner married couple	Two-earner married couple	Single person	One-earner married couple	Two-earner married couple	Lone parent	One-earner married couple	Two-earner married couple
Australia	58	50	24	51	76	45	50	44	27	62	73	41	47	43	32	55	62	44
Austria	75	86	69	82	97	74	68	71	70	74	78	73	70	70	71	72	73	73
Belgium	89	80	95	82	76	95	78	70	82	74	68	82	71	65	73	68	64	73
Canada	70	72	70	73	79	81	72	73	71	77	78	80	60	60	59	67	67	66
Czech Republic	67	79	63	80	96	65	62	66	63	67	77	65	63	64	64	67	65	64
Denmark	91	90	91	97	85	91	78	77	78	83	82	78	73	71	73	76	75	73
Finland	81	91	71	88	99	78	73	79	71	84	89	75	68	71	68	75	76	70
France	87	89	88	91	83	87	79	74	78	81	81	76	79	77	78	75	75	76
Germany	88	88	86	93	85	98	77	74	85	87	82	95	79	69	83	86	79	91
Greece	69	71	57	76	76	59	55	55	47	56	56	45	47	47	41	47	47	40
Hungary	75	75	73	71	71	73	64	64	62	61	61	62	61	61	60	59	59	60
Iceland	68	83	68	74	87	74	58	68	58	65	74	65	52	58	52	59	65	58
Ireland	73	87	48	54	87	61	59	68	42	60	72	51	54	54	37	53	57	43
Italy	60	57	64	53	54	70	65	67	65	67	66	69	63	64	63	69	70	65
Japan	78	75	81	91	86	80	71	69	73	78	75	74	71	69	72	71	69	73
Korea	58	57	57	66	82	57	59	59	57	60	62	57	54	54	49	54	53	49
Luxembourg	88	107	83	89	118	89	89	87	85	89	89	88	91	88	86	93	90	88
Netherlands	85	91	78	87	89	77	80	81	80	81	82	79	74	74	74	74	74	74
New Zealand	63	84	30	78	83	44	51	64	28	69	73	37	45	54	30	59	62	36
Norway	75	83	75	89	92	78	76	76	76	87	78	78	70	68	70	73	69	71
Poland	77	78	66	84	91	66	63	63	55	68	80	55	53	54	48	57	65	51
Portugal	88	72	91	72	55	86	81	79	83	78	63	80	87	83	85	82	80	83
Slovak Republic	77	100	69	91	100	69	71	80	71	72	96	75	59	62	59	61	72	62
Spain	79	74	79	79	79	80	77	76	77	79	77	82	61	59	61	69	69	71
Sweden	87	98	87	91	100	87	85	85	85	90	86	85	72	72	72	76	73	72
Switzerland	83	93	82	93	100	81	77	76	76	84	83	83	79	77	77	84	84	84
United Kingdom	70	82	41	55	70	49	58	66	38	65	74	43	49	55	36	57	62	39
United States	71	72	71	59	59	69	69	69	69	63	64	68	59	56	56	52	53	55

1. Initial phase of unemployment but following any waiting period. Social assistance "top-ups" are assumed to be available in both the in-work and out-of-work situations as long as relevant income conditions are met and if such top-ups are legally possible. Any income taxes payable on unemployment benefits are determined in relation to annualised benefit values (*i.e.* monthly values multiplied by 12) even if the maximum benefit duration is shorter than 12 months. See OECD (forthcoming, 2004) for details. For married couples the percentage of APW relates to one spouse only; the second spouse is assumed to be "inactive" with no earnings in a one-earner couple and to have full-time earnings equal to 67% of APW in a two-earner couple. Children are aged 4 and 6 and neither childcare benefits nor childcare costs are considered.

Source : OECD Tax-Benefit Models



**Table 1.4. Average Effective Tax Rates for persons receiving no unemployment benefits**  
2001, different earnings levels(1)

	67% of APW level						100% of APW level						150% of APW level					
	No children			2 children			No children			2 children			No children			2 children		
	Single person	One-earner married couple	Two-earner married couple	Lone parent	One-earner married couple	Two-earner married couple	Single person	One-earner married couple	Two-earner married couple	Lone parent	One-earner married couple	Two-earner married couple	Single person	One-earner married couple	Two-earner married couple	Lone parent	One-earner married couple	Two-earner married couple
Australia	51	43	24	53	48	45	44	39	27	63	54	41	43	40	32	56	50	44
Austria	75	86	24	82	97	24	64	71	30	69	78	30	57	62	34	61	67	34
Belgium	67	69	49	76	69	48	64	63	51	69	63	51	61	61	52	65	61	52
Canada	45	58	28	59	65	45	41	50	29	60	64	44	38	44	30	55	57	42
Czech Republic	59	79	28	80	96	30	49	64	28	67	77	31	43	53	29	57	63	31
Denmark	83	90	61	87	81	74	72	83	64	81	84	66	69	75	64	75	75	65
Finland	78	91	30	66	99	38	67	78	35	65	89	40	61	69	40	60	76	43
France	71	86	27	81	82	41	60	65	30	69	74	37	52	54	31	55	58	34
Germany	80	81	47	85	77	51	71	69	48	74	69	51	67	62	49	67	62	51
Greece	16	16	16	16	16	16	18	18	18	16	16	16	22	22	22	20	20	20
Hungary	53	53	27	38	38	27	49	49	32	39	39	32	51	51	40	45	45	40
Iceland	67	85	38	70	89	46	57	70	38	62	75	46	51	59	38	57	66	46
Ireland	73	87	18	54	87	29	59	68	22	60	72	29	54	54	24	53	57	29
Italy	20	13	32	-2	-7	43	27	24	35	17	12	44	31	30	37	27	26	43
Japan	60	75	22	91	86	37	47	58	22	78	75	35	40	47	23	62	60	31
Korea	33	50	7	67	81	7	26	37	7	49	58	7	24	32	7	39	45	7
Luxembourg	76	98	20	82	107	14	63	73	24	59	76	17	58	59	28	53	59	24
Netherlands	84	92	36	80	90	38	72	78	39	70	78	40	59	63	38	59	63	39
New Zealand	63	84	30	78	83	44	51	64	28	69	73	37	45	54	30	59	62	36
Norway	71	76	30	70	92	30	60	63	32	67	73	32	56	56	37	59	63	37
Poland	63	78	33	84	91	44	53	63	33	68	80	41	47	54	33	57	65	41
Portugal	42	55	30	55	55	57	36	54	28	52	57	46	35	44	27	45	56	39
Slovak Republic	72	100	27	91	100	51	56	80	26	72	96	46	46	62	27	59	72	40
Spain	44	47	19	58	64	15	40	41	23	46	49	20	37	37	25	40	42	23
Sweden	82	98	29	61	100	37	67	78	32	60	84	36	60	67	36	56	71	40
Switzerland	78	93	21	93	100	20	62	70	23	70	75	23	51	55	26	55	58	25
United Kingdom	70	82	19	55	70	44	58	66	24	65	74	40	49	55	26	57	62	38
United States	29	32	28	43	47	20	29	31	29	45	49	23	33	31	29	40	43	25

1. Results relate to the situation of a person who is not entitled to unemployment benefits (e.g. because they entitlements have expired). Instead, social assistance and other means-tested benefits are assumed to be available subject to relevant income conditions. See OECD (forthcoming, 2004) for a further discussion of relevant assumptions. For married couples the percentage of APW relates to one spouse only; the second spouse is assumed to be inactive with no earnings in a one-earner couple and to have full-time earnings equal to 67% of APW in a two-earner couple.

Source : OECD Tax-Benefit Models

#### 1.4. Tax-benefit indicators (2): empirical measures based on household data

37. Tax-benefit indicators, such as replacement rates, are influenced by people's family circumstances, earnings levels and benefit entitlements. Country differences in these dimensions will therefore affect the value of replacement rates that are calculated for households in a representative sample but not those computed for "typical households" which are similar across countries as in Tables 1.1 to 1.4. A team of European researchers has recently constructed a multi-country microsimulation model which computes taxes, benefits and net income measures for individual and family situations represented in samples of countries' household populations (see Sutherland, 2000; 2001 and [www.dae.econ.cam.ac.uk/mu/emod.htm](http://www.dae.econ.cam.ac.uk/mu/emod.htm)).<sup>2</sup> Using this model, a series of recent and forthcoming studies have derived NRR and AETR measures for a number of EU countries (Immervoll H and C O'Donoghue, 2001; 2003; 2004a; and forthcoming, 2004b). This section compares these estimates (labelled

2 EUROMOD relies on micro-data from 12 different sources for fifteen countries. These are the European Community Household Panel (ECHP) User Data Base for Greece, Denmark, Portugal and Spain; and Austrian-specific version of the ECHP; the Panel Survey on Belgian Households; the Finnish Income Distribution Survey; the French Enquête sur les Budgets Familiaux; the public use version of the German Socio Economic Panel Study; the Living in Ireland Survey; the Italian Survey of Household Income and Wealth; the Socio-Economic Panel for Luxembourg; the Dutch Socio-Economic Panel Survey; the Swedish Income Distribution Survey; and the UK Family Expenditure Survey.

“EUROMOD results” in the discussion below) to results for the “typical households” included in Tables 1.1 to 1.4 (“OECD results”) in order to illustrate the variation of results across different population groups.<sup>3</sup> A comparison of these two sets of measures provides the context for the discussion of family typologies and benefit coverage rates presented in Sections 2 and 3 as well as an ideal opportunity to illustrate the relevance for tax-benefit indicators of patterns of individual and household characteristics.

### *Comparing Average Effective Tax Rates from different sources*

38. A large number of factors can be expected to cause discrepancies between the two sets of results. One important determinant of NRRs calculated for the household as a whole is the size of incomes earned by other household members. For reasons discussed in Section 3 above, these do not directly affect AETRs.<sup>4</sup> Compared to NRRs, they are therefore better suited for an initial comparison as differences in these “other” incomes between the OECD and EUROMOD results will not cause AETRs to diverge.

39. AETR results from the two different sources are reported in Figure 1.1. The vertical bars show the distribution of AETRs generated by EUROMOD. They show the proportion of employees (vertical axis) facing AETRs of different magnitudes ranging from 0-20 percent to 100 percent and above (horizontal axis). The median “EUROMOD” AETR is indicated alongside the distribution (light numbers on dark background). Given the representativeness of the data sources used, these distributions are good estimates of the variation and incidence of AETRs across the working population. OECD results reported in Tables 1.3 are situated in relation to these distributions as follows. The range of OECD results for the six different household types and three earnings levels is indicated by the horizontal bar showing minimum and maximum values as well as a simple (unweighted) average over the (6 x 3 = 18) different results. The single data point above this range indicates the AETR for a single person with earnings at 67 percent of APW. This indicator is shown separately since it corresponds to one Structural Indicator (“Tax rate on low wage earners: Unemployment trap”) published by the European Commission for monitoring purposes.<sup>5</sup>

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3 NRR and AETR measures relate to specific employment transitions. In comparing the results from different sources, this section restricts attention to transitions from employment to unemployment. In addition, transitions in the opposite direction (from unemployment or “inactivity” into work) are of considerable interest. In fact the studies cited above do carry out analyses of the work-incentives faced by jobless individuals. However, this entails estimating potential in-work earnings for those classified as being out-of-work in the underlying micro-data. Given the technical issues surrounding econometric earnings models as well as the large number of influences on re-entry wages, these estimation techniques would blur comparisons with the OECD’s tax-benefit calculations and make it difficult to draw useful conclusions. In interpreting the EUROMOD results presented below, it is, however, essential to keep in mind that they relate to working individuals only. That is, NRRs and AETRs are computed by evaluating the net incomes of individuals aged 18-59 reported to be employed or self-employed in the underlying micro-data. In a second step, these individuals are then “made unemployed” in order to compute net incomes in the out-of-work situation. That is, their employment incomes are set to zero, initial unemployment benefits are computed based on these previous earnings, and taxes and benefits of all household members are re-computed for the new situation. The analysis in Immervoll and O’Donoghue (2001) shows that NRRs and AETRs (referred to as “Tax-Benefit-to-Earnings-Ratio”, TBER in that study) of non-employed individuals can be very different. On one hand, their benefits are often lower than those computed for the initial phase of unemployment (which reduced NRRs and AETRs). On the other hand, their prospective earnings are likely to be lower than those of otherwise similar employees (which will tend to increase both measures).

4 Other household members’ incomes do not enter directly in equation (2). They will, however, frequently influence AETRs “indirectly” by affecting the amount by which taxes and benefits change as a result of the employment transition. For instance, if unemployment benefits are means-tested based on household income then someone living with a high-income spouse will face low AETRs since she is unlikely to be entitled to means-tested benefits while unemployed.

5 see <http://europa.eu.int/comm/eurostat/structuralindicators>.

40. OECD and EUROMOD results are remarkably close in most countries. EUROMOD medians are within the range of OECD results in all but four countries (Greece, Italy, Luxembourg and Portugal). Furthermore, in all but one country (Greece), the household circumstance chosen for OECD “typical household” analyses result in AETRs that comprise the situation faced by most working individuals (*i.e.* the range of OECD results overlaps with the modal value of the EUROMOD distribution). Perhaps as expected, the range of OECD results does not, however, reflect the width of the distribution for the working population as a whole. In all but a few cases (Denmark, France, Netherlands, United Kingdom), more than 20 percent of working individuals face AETRs that are strictly outside the range of OECD results.

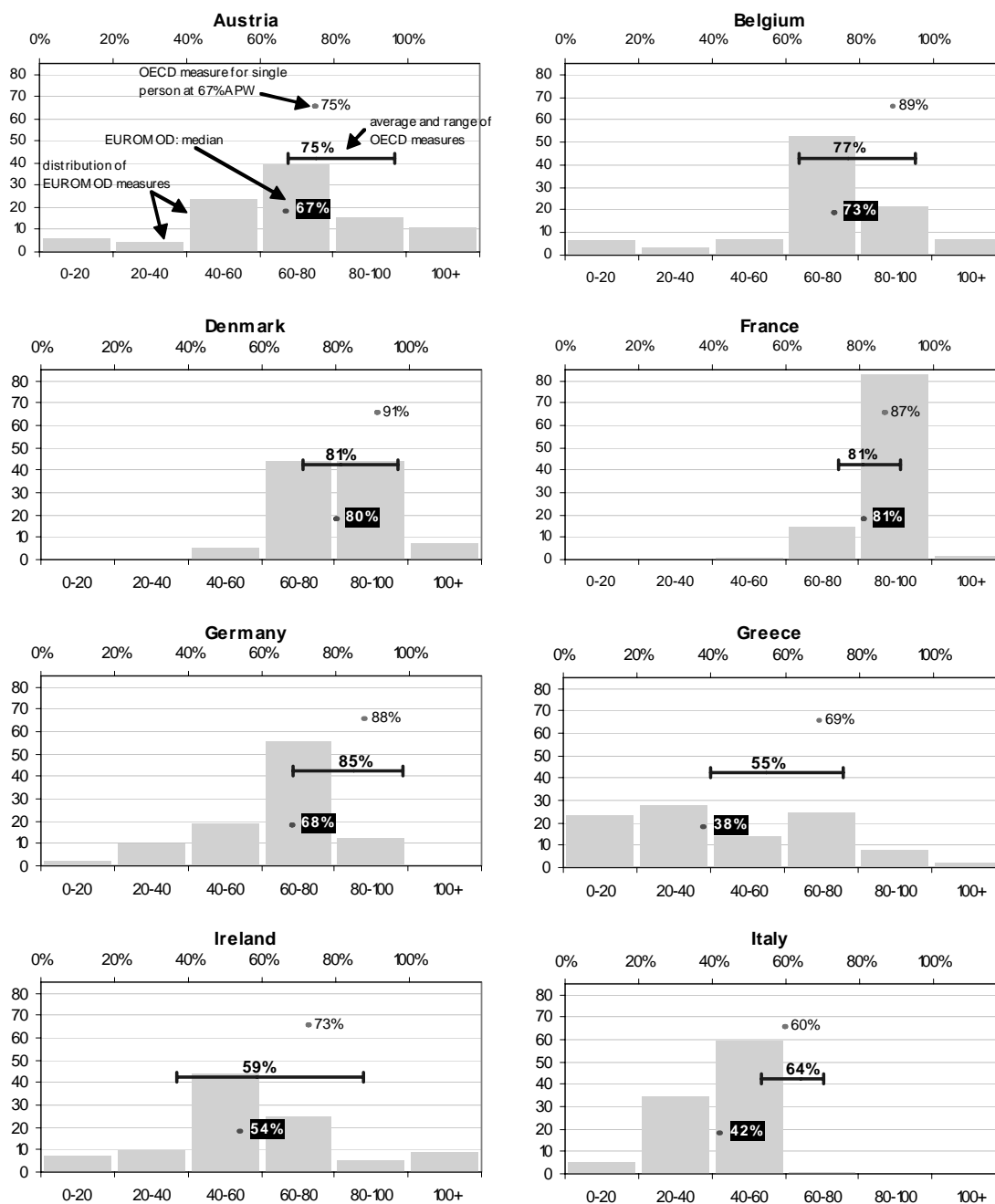
41. Discrepancies are mainly a result of differences in the range of circumstances that are covered by the two approaches and the relative weights given to each of them. However, there are also conceptual differences that explain some of the observed patterns. First, the two sets of results refer to different time-periods. While published results generated by EUROMOD relate to 1998, OECD results are for 2001.<sup>6</sup> While larger-scale changes are rare, some policy changes have a noticeable impact on summary measures.<sup>7</sup> An example is Italy, where ordinary unemployment insurance benefits have been increased from 30 percent of previous earnings in 1998 to 40 percent in 2001 (causing OECD AETRs to be higher than the 1998 EUROMOD measures). Another time-period issue relates to the reference time period used for measuring incomes. While OECD models calculate incomes for a particular month (here the first month of unemployment benefit receipt), EUROMOD measures related to the year as a whole and thus take into account that unemployment benefits may only be available following a certain waiting period, that benefit duration may be shorter than a full year or that they may be reduced during the first year of benefit receipt. Countries where initial levels of unemployment benefits are available for less than 12 months include Austria, Italy and the United Kingdom. In these countries, NRRs and AETRs generated by EUROMOD will therefore tend to be low compared to OECD results. The difference is particularly pronounced for Italy, since those losing unemployment benefits once it expires after six months are not covered by general assistance schemes so that their benefit income during the remaining six months may be very low.

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6 The OECD’s tax-benefit models currently cover the years 1995, 1997, 1999, 2001 and 2002 and are now being updated for each year thereafter. However, models prior to 2001 do not allow results to be generated in way that is conceptually consistent with the EUROMOD approach. While currently available studies on NRRs and related indicators relate to 1998, EUROMOD now covers more recent years than 1998 and is also continually updated.

7 Recent policy changes are described in OECD (forthcoming, 2004).

**Figure 1.1. Average Effective Tax Rates (AETR) from different sources**  
 "Typical households" versus entire population

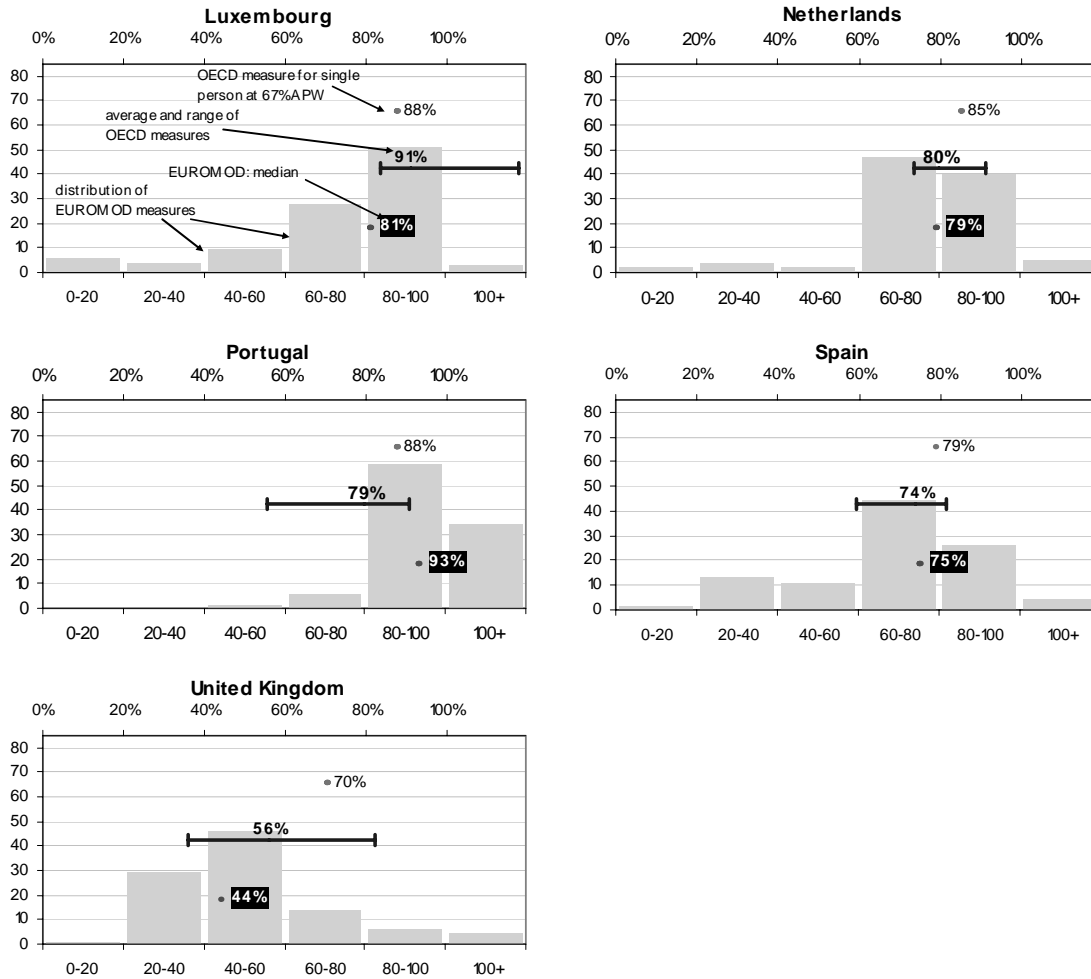


Source : OECD Tax-Benefit Models and EUROMOD data used in Immervoll and O'Donoghue (2003) and Immervoll and O'Donoghue (forthcoming, 2004b).

Note: Densities of AETRs derived from EUROMOD (grey bars) are shown against the left axis. The features of this distribution can be compared to the horizontal position of the average and range of OECD AETRs (the vertical position is irrelevant for these latter measures).

**Figure 1.1. Average Effective Tax Rates (AETR) from different sources (cont.)**

"Typical households" versus entire population



Source : OECD Tax-Benefit Models and EUROMOD data used in Immervoll and O'Donoghue (2003) and Immervoll and O'Donoghue (forthcoming, 2004b).

Note: Densities of AETRs derived from EUROMOD (grey bars) are shown against the left axis. The features of this distribution can be compared to the horizontal position of the average and range of OECD AETRs (the vertical position is irrelevant for these latter measures).

42. The method based on representative samples of the household population considers each relevant household type in the correct proportion since the data provide information about the statistical weight attached to each observation. That is, the distributions and averages shown for the EUROMOD results take into account both the differences in tax-benefit rules that apply to particular household situations and differences in the frequencies by which each situation occurs in different countries' populations. Averages of the EUROMOD and OECD results must therefore be different since simple unweighted averages are shown for OECD results. In addition, however, the method based on representative samples covers a very wide range of household circumstances and earnings levels. This includes household situations for which tax burdens and, especially, benefit entitlements may differ considerably compared to those covered by the 18 "typical" household situations included in Table 1.3. Situations that are not considered in this set of "typical" households and are therefore likely to cause the range of OECD results to be narrow compared to the EUROMOD distributions (as well as contribute to differences between average measures) include in particular:

- **Part-time work:** Results in Table 1.3 relate to full-time employment where part-time employees are included in the EUROMOD calculations. Part-time employees may be subject to higher AETRs as the level of means-tested out-of-work benefits will often be higher relative to their in-work earnings. On the other hand, part-time workers may not be entitled to the same levels of unemployment benefits which can potentially reduce AETRs.
- **Self-employment:** The typical situations in Table 1.3 relate to employees only whereas EUROMOD calculations relate to all working individuals and therefore include the self-employed. Taxes and benefits can be very different for self-employed individuals. In the majority of countries, they are not covered by unemployment benefits and can therefore face very low AETRs and NRRs. In countries (e.g. Greece) with large numbers of self-employed persons, the OECD measures for employees can therefore be substantially above those for the working population as a whole.
- **Age and employment record:** Unemployment benefit entitlements may depend on the age of the recipient. In particular, special benefit schemes for young people are in place in a number of countries (e.g., Belgium, Luxembourg). In addition, insurance benefits depend on employment or contribution records. While information on these records is not available in EUROMOD, calculations take into account the age of the person becoming unemployed by incorporating relevant age-specific entitlement rules and by assuming contribution records equal to age minus 18 (the EUROMOD results relate to individuals aged 18-59). The same contribution assumption is made in the OECD models but the age of adults is assumed to be 40 throughout. As a result, out-of-work incomes (and, thus, AETRs) derived from the OECD models will tend to be higher in countries where benefit levels depend on contribution records or where benefit levels are lower for lower age-groups.
- **Housing costs:** OECD results are based on the assumption of rented accommodation with rental costs equal to 20 percent of APW for all households and at all earnings levels. Housing benefits, which are frequently only available for families living in rented accommodation, are computed accordingly and can therefore be too high for small families with low incomes. EUROMOD calculates housing benefits based on actually observed housing tenure and cost. Higher housing benefits will add to out-of-work incomes and are therefore likely to push AETR measures up relative to EUROMOD results.
- **Regional differences:** Where tax- or benefit rules vary regionally, the OECD's tax-benefit models relate to one specific region (often the capital) or compute relevant benefits and taxes based on average rates and amounts. This may be relevant in the case of minimum-income

schemes or housing benefits and will potentially cause AETRs to be less variable in comparison with EUROMOD (which takes into account regional variations in policy rules to the extent that regions can be identified in the underlying micro-data).

- **Household sizes:** A number of out-of-work benefits, particularly means-tested transfers, depend on family sizes with larger families more likely to benefit from social assistance and housing benefits. For families with more than two children, which are not included in the OECD results reported above, AETRs will therefore tend to be higher.
- **Employment incomes:** Another obvious reason for discrepancies between the two results and, in particular, the wider distributions of AETRs generated by EUROMOD, is the restriction of earnings in the “typical” situations used in the OECD calculations to the 67 to 150 percent interval. Higher earnings would, due to lower out-of-work incomes relative to in-work earnings, result in lower AETRs and *vice versa*. In some countries, where employment incomes are recorded on an annual basis in the underlying micro-data, EUROMOD results may be subject to an upwards bias as a result of very low wage-levels recorded in the data. This is because it is not always possible to properly annualise employment incomes that are only received during part of the year (e.g. two months). If no information is available on the number of months in employment then recorded annual employment incomes can, in these cases, appear unrealistically low. In countries where benefit floors exist for out-of-work benefits (e.g. Portugal), individuals with very low recorded employment incomes can then be reported to face high AETRs (and NRRs), sometimes exceeding 100 percent whereas actual AETRs (and NRRs) would be lower if employment incomes were annualised according to the actual number of months worked during the year.

### *Comparing Net Replacement Rates from different sources*

43. The comparison of NRRs is affected by the same factors as listed for AETRs above. NRRs are, however, subject to one important additional influence: the level of incomes that remain unaffected by the employment transition. The larger those incomes are the smaller will be the impact of employment transitions on total household incomes. Individuals living in households with large amounts of these incomes will therefore benefit from high NRRs. For someone facing a transition into unemployment, these other incomes provide an important insurance function against income loss in addition to the income security provided by out-of-work benefits. While AETRs are better indicators of the degree of insurance provided by the tax-benefit system, NRRs are required to capture the additional insurance function provided by household incomes that are unaffected by employment transitions.

44. The one component of “other” household incomes considered in the “typical” household situations above is the 67 percent of APW earnings of the secondary earner in the case of two-earner couples. The variation of “other” household incomes is difficult to capture using a limited number of hypothetical households but will be considerably larger in actual country populations. Market incomes such as interest or rental income will play a role as will the earnings or benefit incomes of other household members. Given the large influence of the second earner’s earnings on NRRs in the “typical” household calculations, one would expect the range of OECD results to be wider than for AETRs. This is confirmed by Figure 1.2, which compares NRR results from EUROMOD and OECD models in a similar way as done for AETRs in Figure 1.1.

45. However, the likely impact of “other” incomes on the width of the distribution of EUROMOD results is less clear. In countries with relatively low out-of-work benefits, the heterogeneity of household structures (and the corresponding variation of the degree of “insurance” provided by the incomes of other household members) is likely to “drive” the distribution of NRRs to a considerable degree. This can, for

instance, be seen in Italy, where the distribution of EUROMOD NRRs is much wider than that of AETRs. Other differences between NRRs and AETRs that can largely be attributed to the existence of “other” earnings in the household affect individuals with low or no benefit entitlements in particular. “Other” incomes may cause very high NRRs for individuals with very low earnings sharing a household with one or several other earners (e.g. young adults living with their parents) even if they are not entitled to any out-of-work benefits at all (and therefore have very low AETRs). For most countries, this point is illustrated by the significantly smaller number of individuals with very low NRRs relative to the number of very low AETRs. To the extent that, for certain groups of individuals, the income insurance provided by larger households compensates for low or zero benefit entitlements, distributions of NRRs can in fact be less dispersed than those of AETRs. This is seen in the case of Austria, Luxembourg or the Netherlands.

***Can the results be reconciled?***

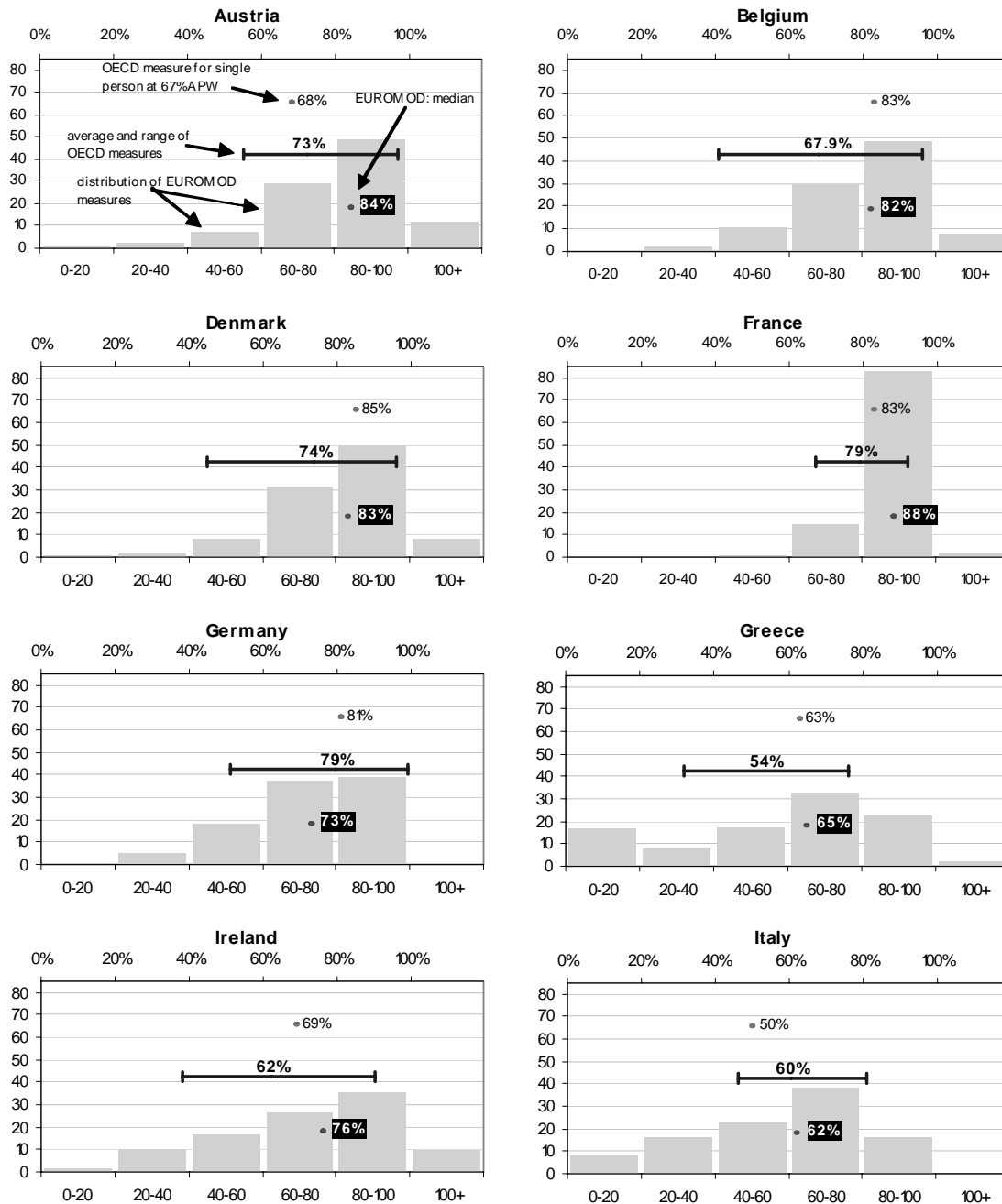
46. The comparison shows that tax-benefit measures computed for a limited number of household situations do provide essential information about the functioning of countries’ tax-benefit systems. They characterise the situation of certain “typical” families and individuals and how their incomes are affected by the operation of taxes and benefits. Given the complexity of tax-benefit systems and the heterogeneity of household populations, results for these “typical” families are not representative of the population at large and cannot be made so. But they describe relevant and well-defined aspects of the overall impact of tax-benefit systems, are conceptually clear and operational in different country contexts and can be implemented in a consistent way over longer periods of time. These are essential pre-requisites for high-quality indicators and tax-benefit calculations based on “typical” households are therefore of considerable use for the purpose of monitoring policy developments. At the same time, it is clear that, as with all indicators, it is important to understand their limitations and, in particular, the type of situations which are beyond their scope. This is necessary both for a responsible use of existing indicators and for devising possible extensions of the range of situations covered by the calculations.

47. Understanding of the scope of existing indicators is dependent on detailed information about population characteristics across countries. The next two sections aim at providing this information. Section 2 presents evidence on family structures, employment patterns and earnings levels across countries. This information is essential for reconciling the “typical” household results with empirical analyses such as that provided by the EUROMOD studies referred to above. There is, however, another relevant aspect of household incomes that may differ between countries and may therefore limit the international comparability of results considered so far. Both the “EUROMOD” and “OECD” results presented above assume that certain types of benefit (either unemployment or minimum income benefits) can be received in the out-of-work situation. Since the financial situation of benefit recipients will depend on the type of benefit that is received and will be very different for those not receiving any benefits, it is essential to document country differences in benefit coverage. This is done in Section 4 of the present paper, which provides a detailed account of benefit reciprocity focussing, in particular, on unemployment benefits.



**Figure 1.2. Net Replacement Rates (NRR) from different sources**

"Typical households" versus entire population

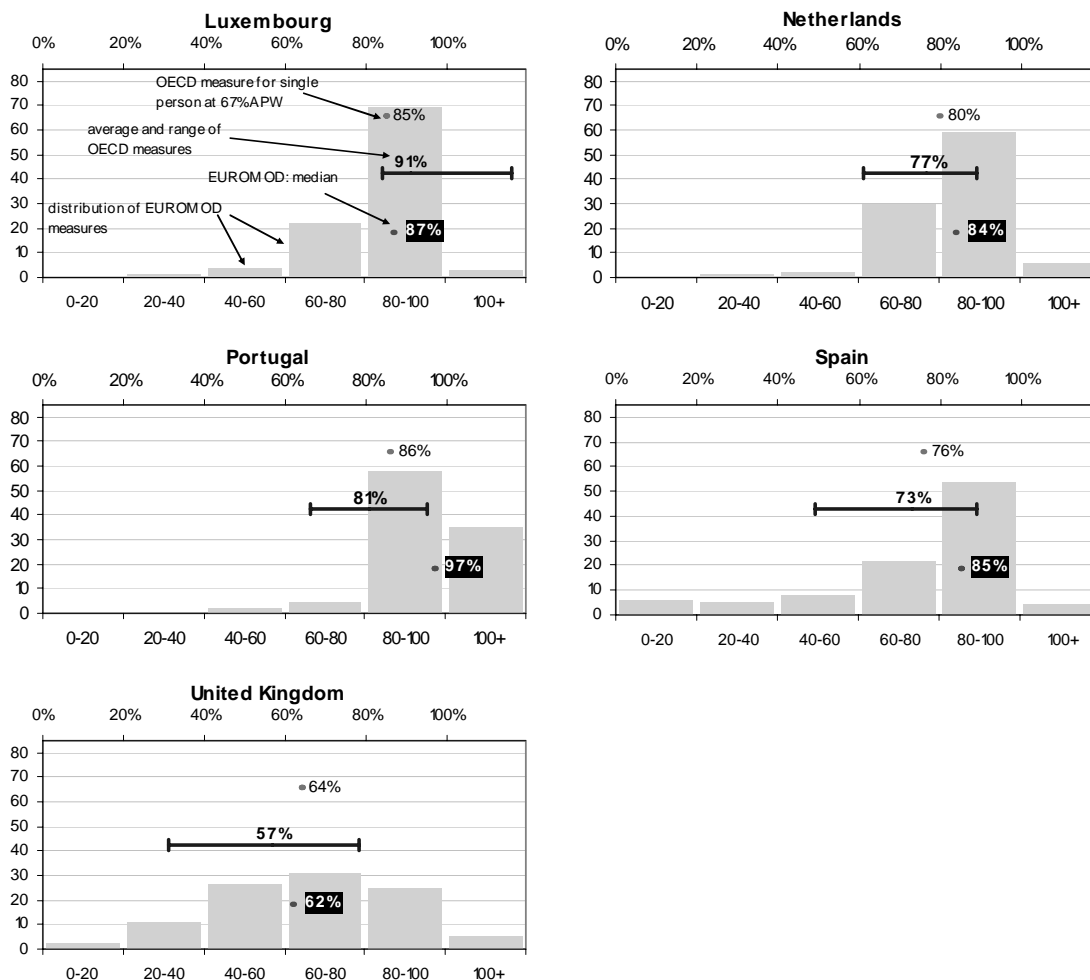


Source : OECD Tax-Benefit Models and EUROMOD data used in Immervoll and O'Donoghue (2003) and Immervoll and O'Donoghue (forthcoming, 2004b).

Note: Densities of NRRs derived from EUROMOD (grey bars) are shown against the left axis. The features of this distribution can be compared to the horizontal position of the average and range of OECD NRRs (the vertical position is irrelevant for these latter measures).

**Figure 1.2. Net Replacement Rates (NRR) from different sources (cont.)**

"Typical households" versus entire population



Source : OECD Tax-Benefit Models and EUROMOD data used in Immervoll and O'Donoghue (2003) and Immervoll and O'Donoghue (forthcoming, 2004b)

Note: Densities of NRRs derived from EUROMOD (grey bars) are shown against the left axis. The features of this distribution can be compared to the horizontal position of the average and range of OECD NRRs (the vertical position is irrelevant for these latter measures).

## 2. TYPOLOGY OF HOUSEHOLD POPULATIONS ACROSS COUNTRIES

### 2.1. Overview

48. Rather than aiming at a general and comprehensive account of the structure of household populations, the purpose of this section is to compare the importance of selected family typologies across countries, focussing on the six household types introduced in Section 1. In particular, the aim is to provide contextual information that can be used to better judge the potential relevance of specific features of the tax-benefit system. For instance, tax-benefit models may show that the interaction of the tax system with a particular benefit can give rise to high levels of marginal effective tax rates and that this benefit is only available to families with children. In order to assess the policy relevance of the mechanisms discovered by the tax-benefit models (and, of course, for many other purposes), it is therefore useful to know the number of families with children. This information allows one to assess the number of families in a given country that may potentially be affected by the discovered mechanism.

49. A breakdown of the population into the main six family types listed in the previous section can be done straightforwardly using any source of representative household micro-data. The problem with such a rough classification is that it only provides a very limited impression of the population characteristics that are important determinants of taxes and benefits. Many other dimensions will potentially influence the outcome of existing tax-benefit systems: Heterogeneous populations combine with complex tax-benefit rules to create a complicated web of family types, each of which may potentially be affected by different features of the tax-benefit system. In terms of the example introduced above, the high marginal effective tax rate may only affect low-income families with children of a certain age and who receive a certain type of other benefit at the same time. It is clear, therefore, that the number of potentially relevant dimensions quickly prohibits any attempt to provide a comprehensive description of *all* relevant population characteristics and their permutations. This problem is even more acute in a multi-country context since the type of characteristics that matter in the calculation of taxes and benefits will differ across countries.

50. This explains why tax-benefit calculations based on a number of “typical households” cannot be made representative of a country’s entire population: Even if we succeed in establishing precisely how many of each of the chosen households exist in the population, there will be many other households that have not been considered and who may be subject to very different taxes or benefit payments. The full heterogeneity of populations can only be accounted for by using microsimulation models that directly compute taxes and benefits for observations in a representative household micro-dataset.

51. Investigating the prevalence of a range of chosen “typical” households is nevertheless useful. While tax-benefit models based on “typical households” cannot represent every single node in the “web” of existing household types, household micro-data can be used to investigate its structure. By establishing the number of households falling into certain broader categories, one can determine the proportion of the population that is *potentially* affected by particular features of the tax benefit system and how these proportions vary across countries. When interpreting the resulting numbers, the qualification “potentially affected” is essential: the number of families with children does not tell us how many families are subject to the high marginal effective tax rates mentioned in the above example. However, a large number of families with children would, in this case, point towards a need to analyse more carefully how the tax-benefit system might affect families of this type.

52. The starting point of the data analysis is thus the set of six household types listed above. In a second step, and subject to the existence of statistically meaningful numbers of observations, the categorisation is then refined further to include household characteristics likely to be important determinants of tax and benefit payments, including

1. ages of children,
2. household sizes,
3. employment status,
4. working hours of family members, and
5. levels of earnings.

53. In addition, the next section then looks in some detail at different dimensions of benefit coverage. In particular, it clarifies the reach and scope of existing benefit systems and analyses the number of benefit recipients as well as which types of benefits are received by which types of households.

## **2.2. Data Sources**

54. Given the focus on multi-country comparisons, it is essential to describe household populations using comparable data. Available sources include the European Community Household Panel (ECHP) and the Luxembourg Income Study (LIS) as well as Labour Force Surveys.

55. Labour Force Surveys (LFS) are particularly attractive for this type of analysis as they combine large sample sizes with detailed employment-related information and therefore allow data on employment status and working hours to be shown separately for different family types. However, information on family structures are only available in a limited number of LFS datasets. For instance, the surveys for Denmark, Finland, Ireland and Sweden are based on individual units rather than households which would be needed to construct relevant data on family typologies. Household data provided by the ECHP and LIS are generally characterised by smaller sample sizes but contain more detailed information on demographic characteristics and, in particular, household incomes. In the analysis below, LIS data are used to derive detailed distributions of earnings and income levels for a number of different family types. Compared to the ECHP, LIS data are available for a wider range of countries, including several new EU Member States. In addition, LIS data files contain information on gross earnings, which is ideal for the purpose of this section, while the ECHP records incomes net of taxes and social contributions. ECHP data, however, often provide more recent information. Future analyses based on the ECHP would therefore be a valuable complement to the information presented here.

## **2.3. Family structures and work attachment: Evidence from Labour Force Surveys**

56. Figure 2.1 shows a basic breakdown of household populations in terms of the family types discussed earlier (the full set of data used for these figures, including a breakdown by gender, is available from Table A2 in the annex). The analysis is limited to the situation of “working-age individuals” defined here as ages 15 to 64. Data relate to 2002. The right-hand bar shows the percentage of working-age individuals sharing the same household with other adults. The left-hand bar in each country indicates the fraction of working-age individuals who do not live with other adults. Each bar is broken down by the number and ages of any children living in the same household with the bottom component indicating no children. Using the breakdown provided in Figure 2.1, the situations of all working-age individuals can easily be related to the six basic family categories used in the OECD tax-benefit calculations. But the number of families in each country that actually resemble the six “typical” households will depend on a

number of other characteristics such as employment status or earnings levels. To what extent there is variation of these and other relevant characteristics within the broad categories shown in Figure 2.1 will be analysed below. Before extending the data analysis in this direction it is, however, useful to briefly discuss the basic patterns across countries.

57. A large number of Austrian (18 percent), French (17 percent), German (21 percent) and UK (18 percent) working-age individuals live in single-adult households (note that the bars indicate percentages of individuals rather than the number of households). In southern countries, and in Portugal and Spain in particular, single-adult households are much less common. Among single-adult households, the number of - predominantly female - lone parents is largest in the United Kingdom (with just under 3 percent of working-age individuals) followed by Belgium (2.5 percent) as well as Austria, France and Germany (around 2 percent). The proportion of working-age adults living without any children ranges from around 40 percent in Italy, Portugal and Spain to about 60 percent in Germany and the Netherlands.

58. Work patterns differ across family types. Figure 2.1 provides a first indication of how work attachment varies by country and household circumstances by showing the proportion of working-age individuals not in employment or self-employment (diamond-shaped markers). These are shown separately for men and women and reveal marked differences by country, family type and gender. In all countries, men who are married or cohabiting are more likely to be in employment than men living in single-adult households. With the exception of Belgium, the Netherlands and the United Kingdom, the reverse is true for women. Non-employment among married or cohabiting women is particularly high in Greece, Italy and Spain with more than half of these women not working. In six of the eleven countries shown (Greece, Italy, Luxembourg, the Netherlands, Portugal, Spain), female non-employment rates in the “2+ adults” case are twice the rates for men or higher. In Luxembourg and Spain, married or cohabiting women are more than three times as likely to be without work than married or cohabiting men. In the case of single-adult households, gender differences are smaller but women are still considerable less likely to be in employment, especially in Greece and Italy.

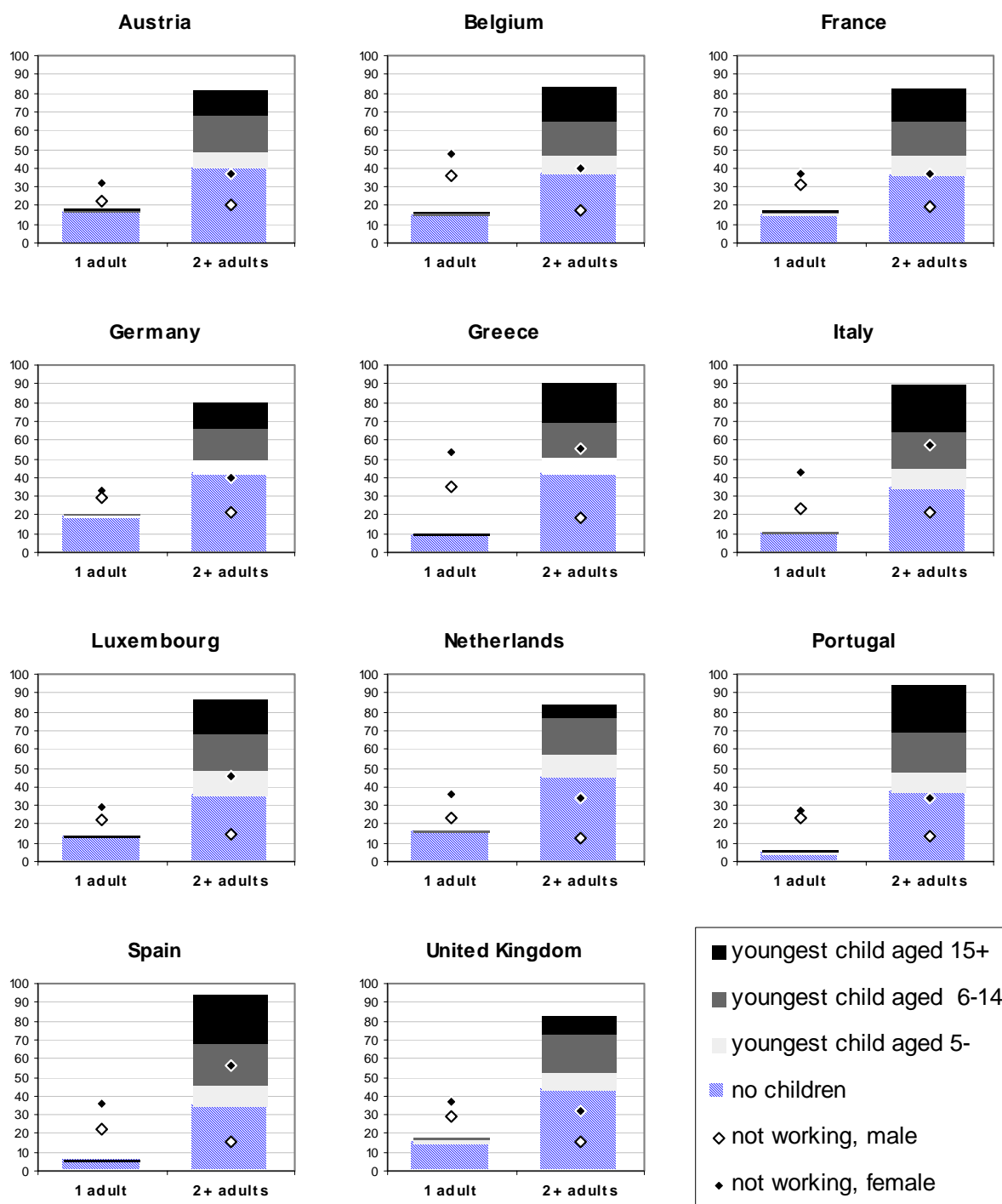
59. To better understand which employment situations are particularly relevant in each of the various family situations, it is necessary to look at work patterns in more detail. Employment rates for the entire working-age population as well as distributions of usual working hours are shown in Figure 2.2. Since no breakdowns are shown by household type, and contrary to Figure 2.1, the figure also includes those countries for which only individual-level data are available in the LFS. Countries are sorted by employment rates (including self-employment), which range from around 50 percent in Poland to 80 percent or more in Switzerland and Iceland. Working hours are longest in Iceland, Switzerland and the Slovak Republic, where around half of all employees and self-employed report usual weekly working hours above 40. The traditional 35-40 hours working week is most common in Austria, the Czech Republic, Hungary and Luxembourg (more than 70 percent of working individuals). Non-employment is lowest among Scandinavian countries, Iceland, the Netherlands, Switzerland and the United Kingdom. While, among southern countries, Portugal has the largest proportion of working-age individuals in the workforce, the share of part-time work (less than 35 hours per week) is low and comparable to Greece and Spain. Part-time employment is most common in the Netherlands. At less than a third of the Dutch rate, the largest share of part-time work among the southern countries is reported for Italy (combined with the second-highest levels of non-employment among the countries shown).

60. These overall employment patterns mask potentially large differences between different population groups and these are important when interpreting tax-benefit indicators that relate to particular household types. Figure 2.1 has shown that employment rates for women, in particular, are likely to be influenced by the family situation. Figure 2.3 below takes a closer look at the distribution of non-employment, part-time and full-time employment among women living in different family circumstances (men's employment patterns are less variable as shown in the full breakdown of working-hours data in the annex, Table A2.)

61. In most countries, married or cohabiting women are significantly less likely to work than those living in single-adult households. The difference is particularly pronounced in Italy, Spain and Luxembourg. Single mothers are least likely to work in Belgium, France, the Netherlands and the United Kingdom. In Belgium, France, the Netherlands and the United Kingdom, employment rates are in fact higher for married or cohabiting mothers than for women raising children without a spouse or partner. Full-time work is generally more common among single women. The largest shares of women working 35 hours or more are reported for Portugal while full-time employment among women is least common in France (with high non-employment rates) and the Netherlands (with moderate rates of non-employment and the largest share of part-time employment).

**Figure 2.1. Family and work situation of working-age individuals**

Percent of working-age (15-64) individuals living in different types of household, 2002.

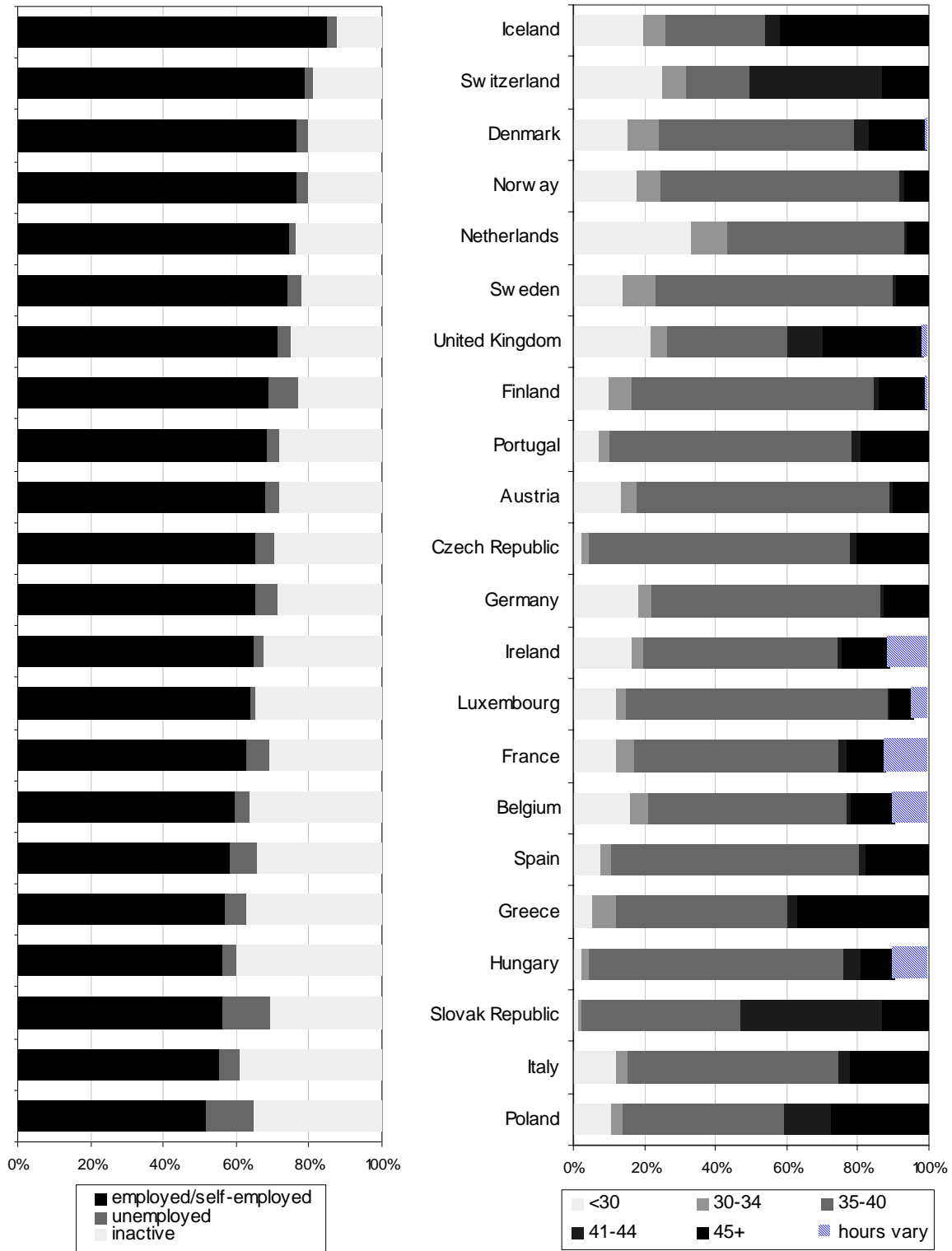


Source: Special tabulations provided by Eurostat based on the European Labour Force Survey.

Note: Excludes individuals who are neither the head of household nor the spouse of the head of household.

**Figure 2.2. Employment rates and usual working hours**

Individuals aged 15-64, 2002

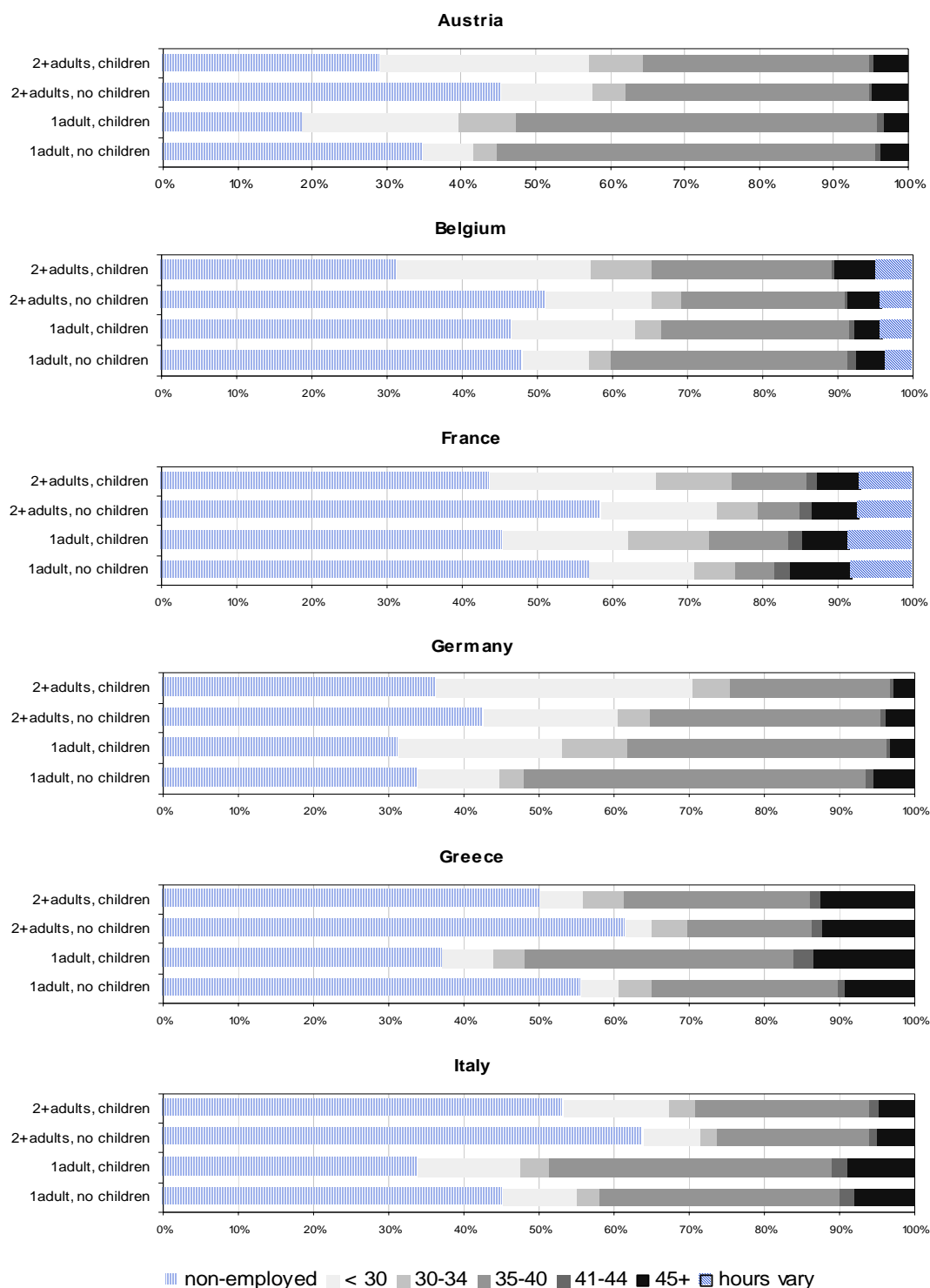


Source : Special tabulations provided by Eurostat based on the European Labour Force Survey.



**Figure 2.3. Employment rates and usual working hours by family type**

Women aged 15-64, 2002

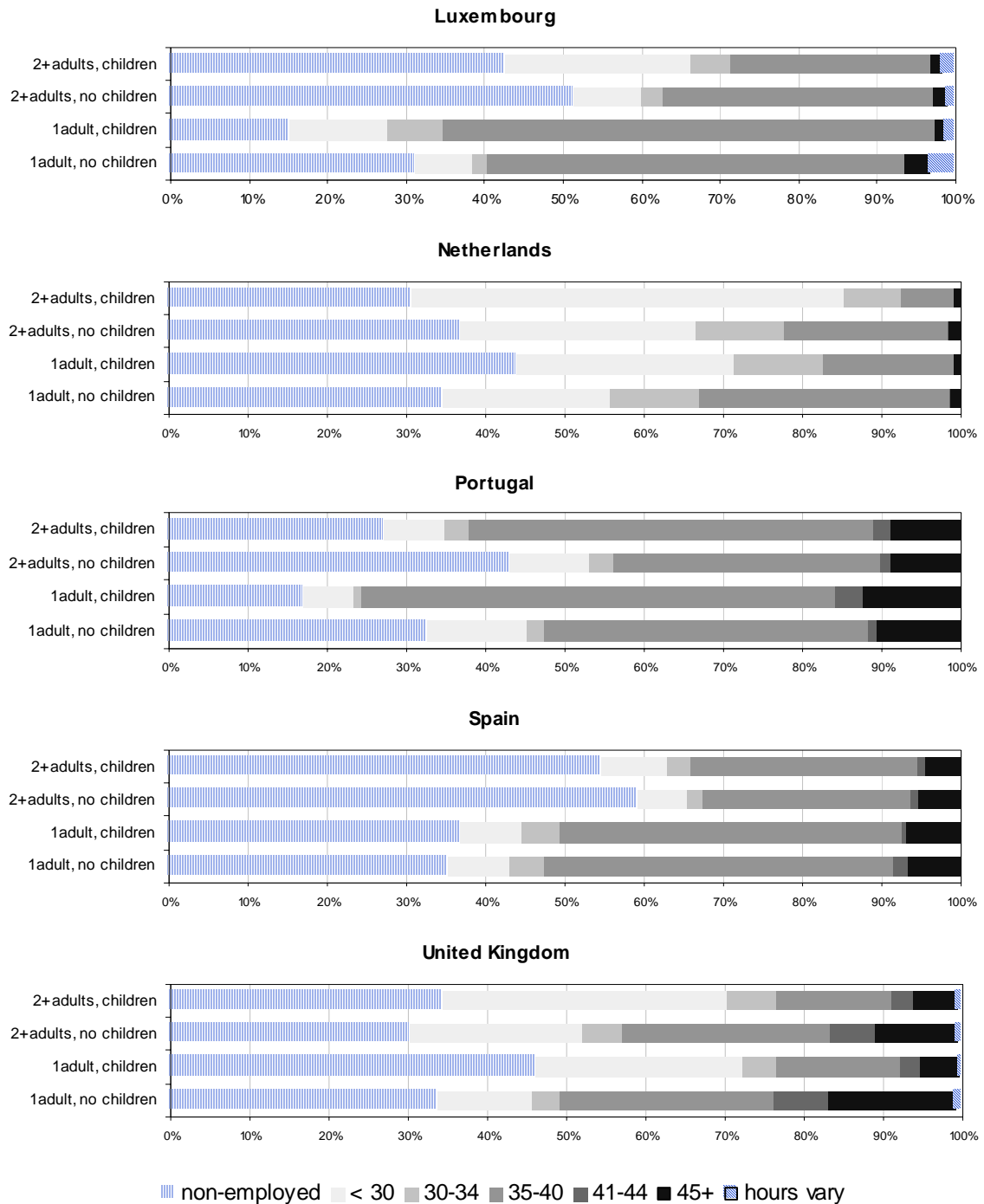


Source : Special tabulations provided by Eurostat based on the European Labour Force Survey.

Note: Excludes individuals who are neither the head of household nor the spouse of the head of household.

**Figure 2.3. Employment rates and usual working hours by family type (cont.)**

Women aged 15-64, 2002



Source : Special tabulations provided by Eurostat based on the European Labour Force Survey.

Note: Excludes individuals who are neither the head of household nor the spouse of the head of household.

## 2.4. Family structures, earnings levels and other sources of market income: Evidence from household income surveys

62. In addition to household-level information provided by Labour Force Surveys for some countries, data from the Luxembourg Income Study (LIS) also contain valuable information on household circumstances. These data are available for a larger number of countries and provide detailed income information at the household level. This section analyses the latest available waves of LIS data focussing on the earnings levels of households with at least some employment income. It also presents available data on the extent to which different types of “employed” households rely on other sources of market income, such as income from capital or self-employment, highlighting the need for more reliable and comparable data in this area. When interpreting the results, it should be kept in mind that LIS data refer to different years and that observed results may therefore reflect differences across countries as well as changes over time.<sup>8</sup>

### *Family structures and earnings levels*

63. The family categories chosen are similar to those used for the LFS analysis above and the population structure in terms of these family types is shown in Figure 2.4. It is important to note, however, that the information shown is different from that presented in Figure 2.1 above. The evidence from Labour Force Surveys focuses on *individuals* and relates to all working-age individuals, whether employed or not. In this section, all frequencies relate to numbers of *households* instead and only show “non-elderly” households (nobody aged 65 or above) where employment incomes are greater than zero (the situation of all “non-elderly” households receiving benefits, including those without employment incomes, is discussed in more detail in Section 3). Frequencies of households are shown separately for households receiving and not receiving income replacement benefits in addition to employment incomes. The types of benefits considered for this purpose include means-tested benefits plus all public transfers that replace earnings while out of work.<sup>9</sup>

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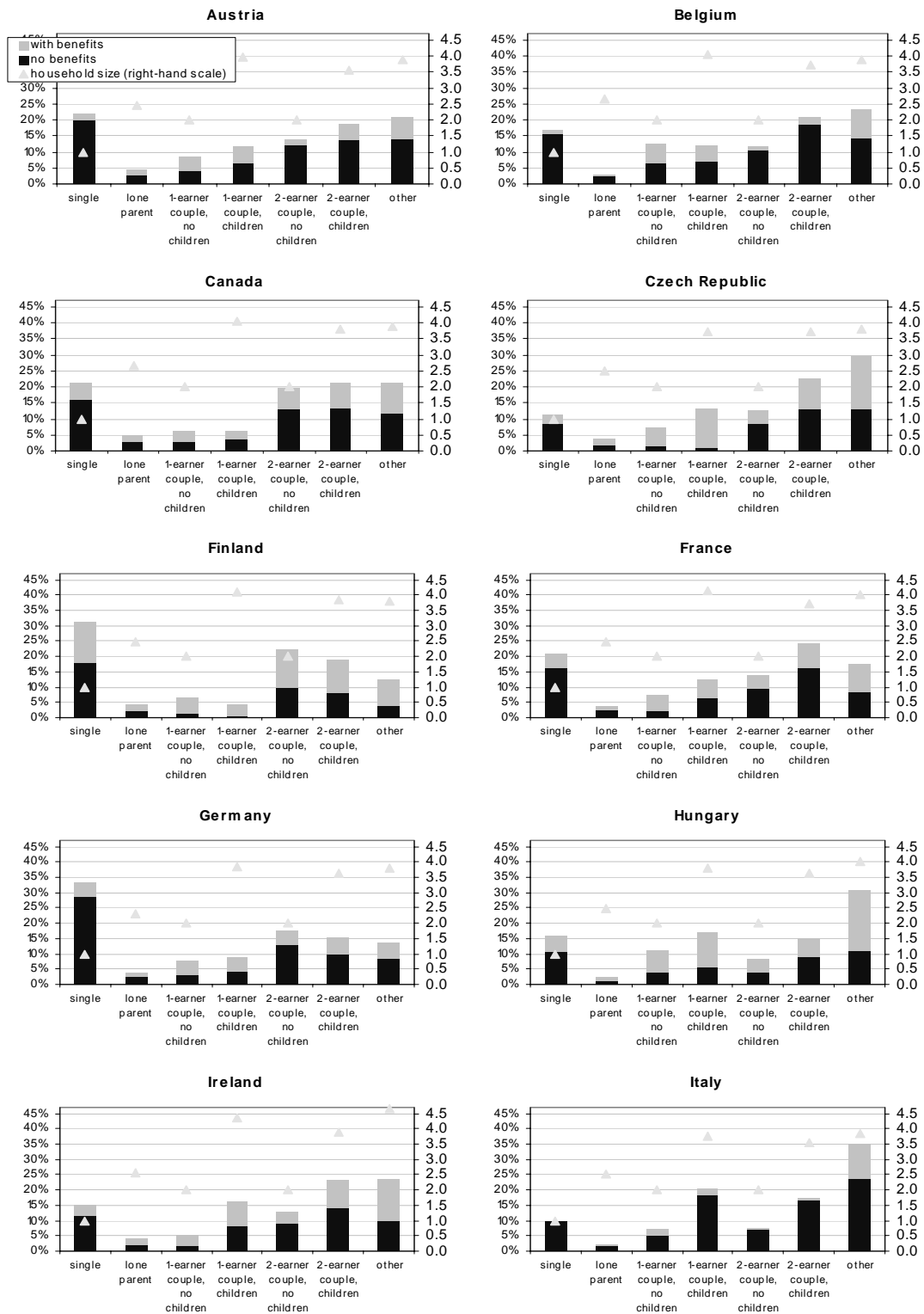
8 LIS Data for the following countries and time periods are used in this section: Austria (1997), Belgium (1997), Canada (2000), the Czech Republic (1996); Finland (2000); France (1994); Germany (2000); Hungary (1999); Ireland (1996); Italy (2000); Luxembourg (1994); the Netherlands (1999); Norway (2000); Poland (1999); Spain (1990); Sweden (2000); Switzerland (1992); the United Kingdom (1999); and the United States (2000). Details on data sources are available from [www.lisproject.org](http://www.lisproject.org).

9 The following benefits are taken into account: Social retirement benefits (LIS variable V19), unemployment compensation (V21), sick pay (V16), accident pay (V17), disability pay (V18), maternity pay (V22), military/veteran/war benefits (V23), other social insurance benefits (V24) and means-tested cash benefits (V25). For the US, child allowances (V20) are included since the main instrument in this category (Temporary Assistance for Needy Families, TANF) functions in a similar way as social assistance benefits in other countries. V24 is excluded in the case of Canada where most households receive tax credits and other payments recorded in this category.

64. The structure of a large majority of households is closely related to the six family types used in OECD tax-benefit analyses. “Other households”, comprising those with more than two adults (aged 18 or above), are however an important group, especially in Southern and Eastern European countries. Households of this type include families with young adults (such as university students) living at home and are much less prevalent in Scandinavian countries as well as Germany and the Netherlands. In most of these latter countries, single households with employment income are particularly frequent with the share of single households exceeding 30 percent and reaching 40 percent in Sweden. A substantial number of working single adults have access to social transfers but in a few countries (Italy, Poland), benefits for employed individuals are almost exclusively targeted towards multi-person households. In comparison, employed lone parents are more likely to receive benefits. Comparing across countries, working one-parent households are most common in Norway, Sweden and the United States with more than 5 percent of all “employed” households in this category. With the exception of Hungary, Italy, Poland and, particularly, Spain, two-earner couples are more common than one-earner couples. In Finland and the United Kingdom, two-adult households without children represent a larger proportion of “employed” households than two-adult households with children while the opposite is true for all other countries shown here.

**Figure 2.4. Households with employment income: family types and household size.**

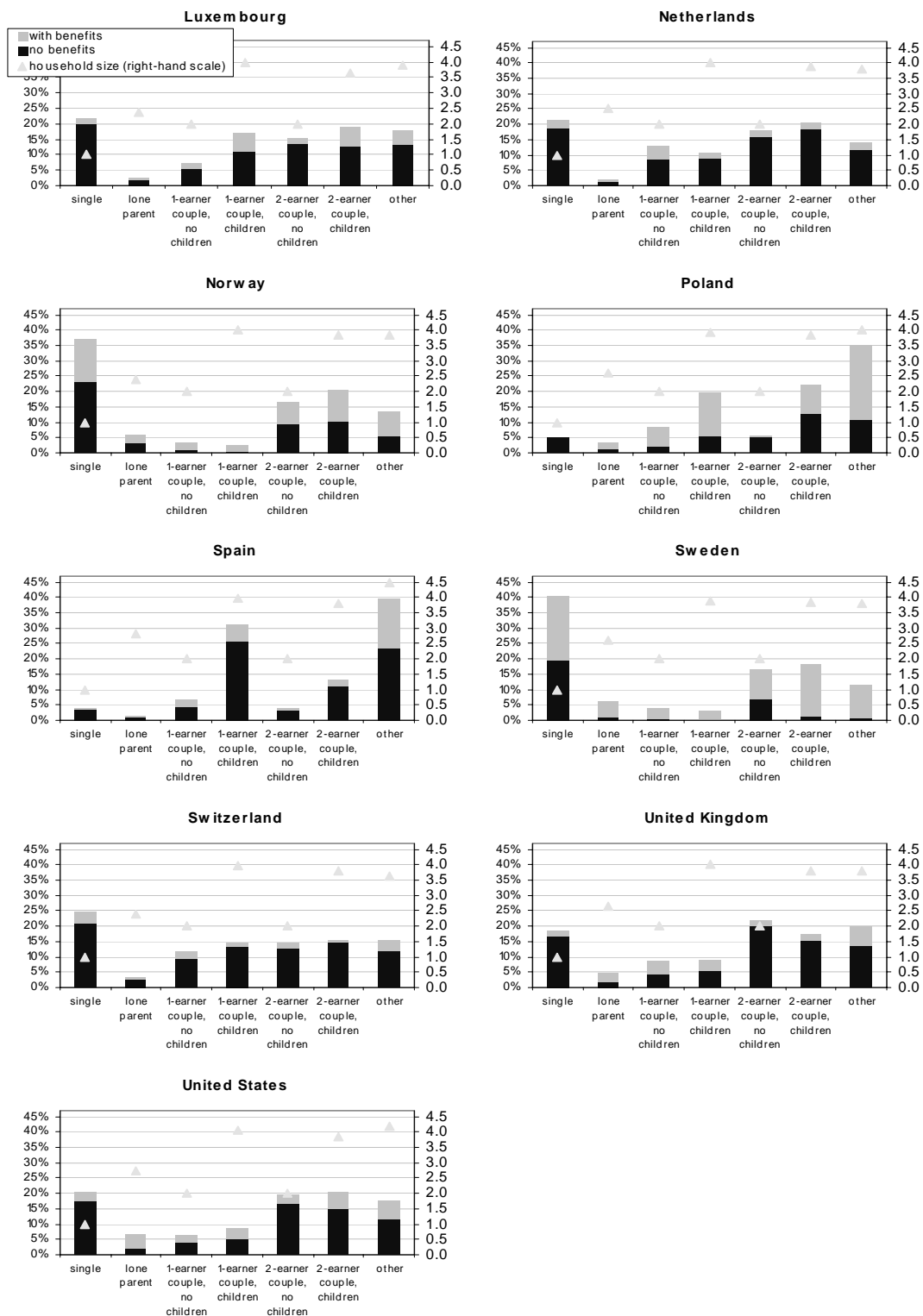
Share of “employed” households (left-hand scale) and household size (right-hand scale)



Source: Tabulations from Luxembourg Income Study data files. See footnote 8 for reference years.

**Figure 2.4. Households with employment income: family types and household size (cont.)**

Share of “employed” households (left-hand scale) and household size (right-hand scale)



Source: Tabulations from Luxembourg Income Study data files. See footnote 8 for reference years.

65. Turning to the information on average household sizes (right-hand scale), it is evident that the assumption of two children in the OECD's typical household models is a good approximation of the average situation of "employed" two-adult households: in all countries, two is the typical number of children (individuals aged 17 and below) for this household type. The number of children in two-earner households is usually smaller than in the case of one earner. Exceptions are the Czech Republic and Sweden, where the difference is small. Two-adult households with one earner are largest in Ireland with, on average, 2.4 children per family among households with at least one child. Compared to two-parent households, working lone parents have fewer children in all countries. The average number of children in this type of household is highest in Spain (1.8) and the United States (1.7).

66. The tax-benefit calculations introduced in Section 1 relate to particular earnings' levels expressed in terms of percentages of Average Production Worker (APW) earnings. It is therefore useful to analyse how typical given earnings levels are for each of the relevant household types. This information is shown in Figure 2.5. The left-hand panel relates to households receiving at least one of the benefits mentioned above. It shows the proportion of households (horizontal axis) of each type with total household earnings of a given percentage of Average Production Worker (APW) earnings. The right-hand panel shows the same information for households not receiving any of the benefits. Income information does not relate to a particular month but shows the incomes received by households during an entire year. Households classified in the "with benefits" category will therefore include those who have received benefits for part of the year only. Similarly, levels of in-work earnings are shown in relation to the year as a whole. As a result, the "67 to 100%" category, for instance, includes single employees who have earned 80 percent of APW during 12 months of the year but also those who have worked for only six months with a wage at twice this level.

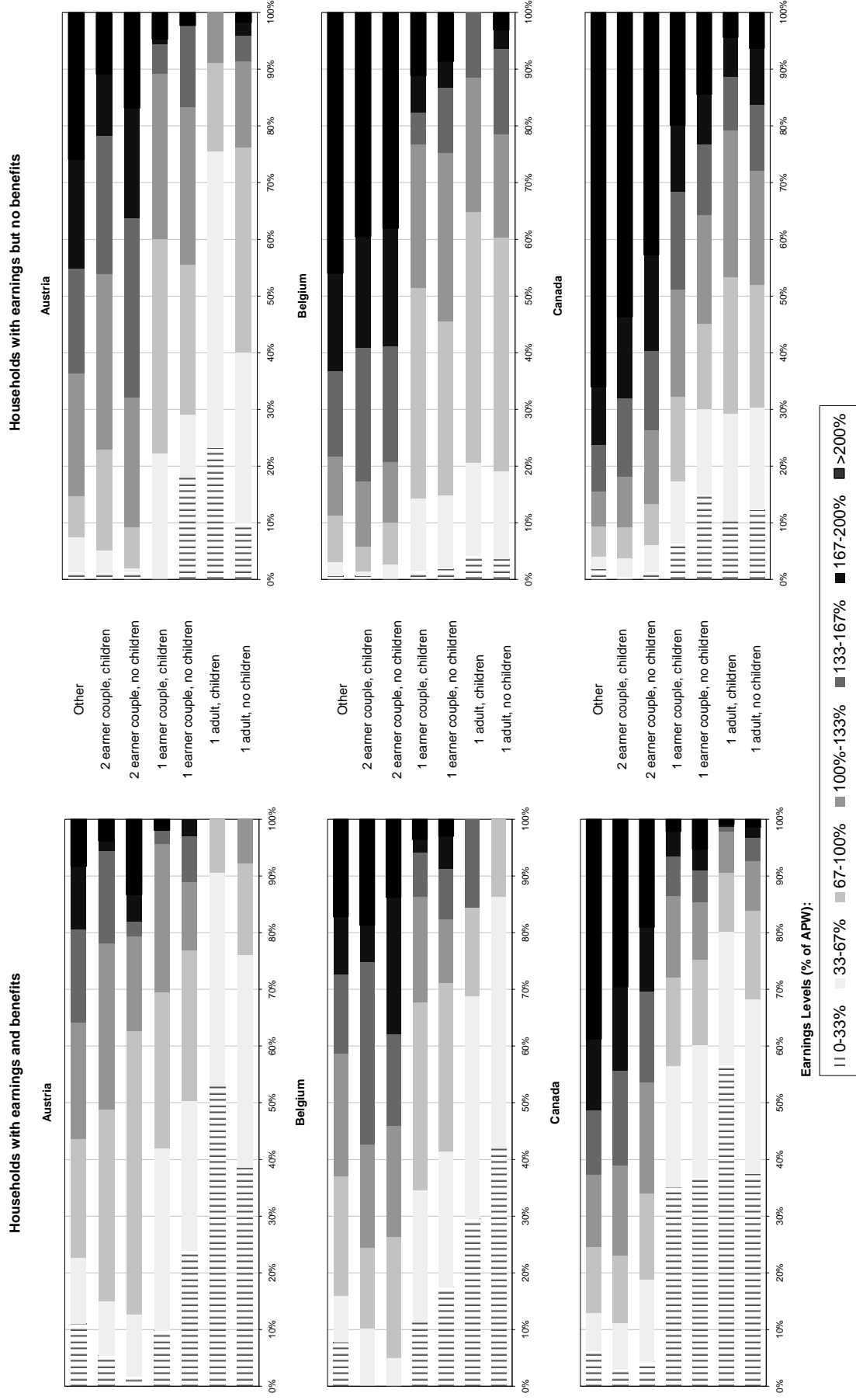
67. In part, the patterns shown in Figure 2.5 reflect genuine country-differences differences between the distributions of (annual) earnings. At the same time, they are also influenced by the definition of the APW and how representative the type of employees covered by the APW concept is in each country. A "low" average earnings level of workers in the production sector relative to other employees will tend to increase the shares of "high" earnings shown in Figure 2.5 and vice versa. A study of the representativeness of the APW has been carried out in OECD (1999).

68. In most countries, the majority of single adults not receiving any benefits (right-hand panel) earn between 67 percent and 167 percent of APW over a year. The largest fraction of single employees in this earnings range is found in Scandinavian countries (above 80 percent in Norway and Sweden), Belgium (74 percent) and the Czech Republic (73 percent). The shares of the 67-167 earnings range are smallest in Hungary (43 percent), Italy (46 percent) and Poland (43 percent). These latter three countries also show the largest shares of single employees earning less than 67 percent (50, 54 and 49 percent in Hungary, Italy and Poland, respectively). While the relative shares of employees with "low" earnings shown on the right-hand panel may be a result of country differences in the *overall* frequency of low wages, another important influence is the structure of benefit systems. Countries with less generous benefits for single employees will tend to have large numbers of low-wage employees not receiving any benefits while the number of low-wage employees entitled to benefits (left-hand panel) will tend to be lower compared to countries operating more generous benefit systems. This "composition effect" is, for instance, apparent in Sweden where only 7 percent of single "no-benefit" employees earn 67 percent of APW or less, whereas the share is more than 65 percent in the case of employees entitled to income replacement benefits. These differences between the "benefit" and "no benefit" scenarios are much smaller in countries where the concurrent receipt of employment income and benefits is less typical (Italy, Poland).

69. Looking across family types, the lowest overall earnings levels are often found for lone-parent households although in several countries (Belgium, France, Poland, Sweden, United States), the incidence of very low earnings can be even higher for single employees without children. Given the considerable variation in observed earnings patterns, it is striking that in all countries, one-earner households without children tend to have lower overall earnings than one-earner households with children. For two-earner households, the pattern is more differentiated with a sizable minority of countries showing a higher incidence of very high earnings among families without children (e.g. Austria, Germany, United Kingdom). As a result of the number of adults in the household, the “other households” group is often found to have high overall earnings. At the same time, this group comprises a sizable number of households with very low earnings, particularly among those households receiving income replacement benefits as well.

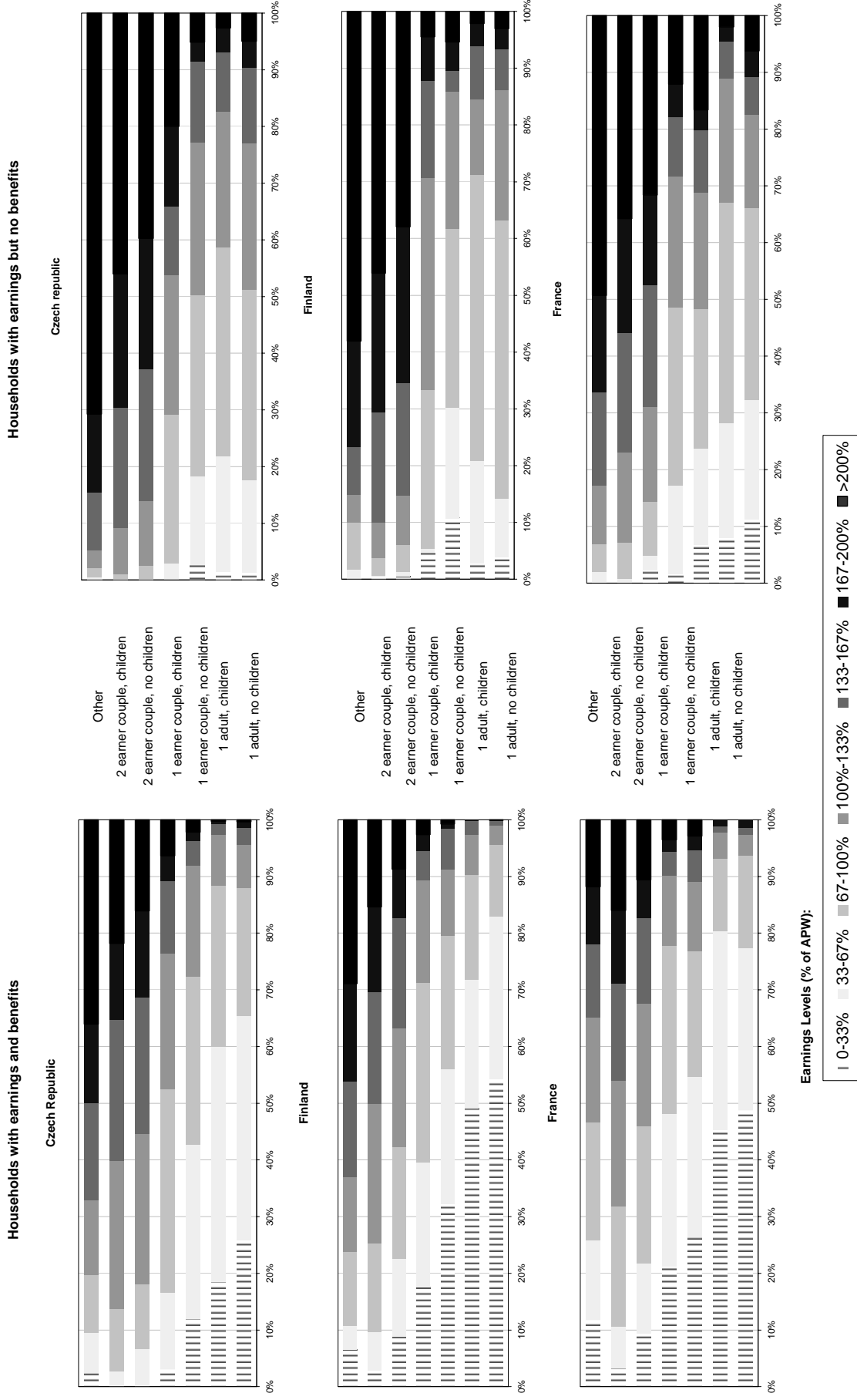


Figure 2.5. Households with employment income: family types and earnings levels (% of APW).



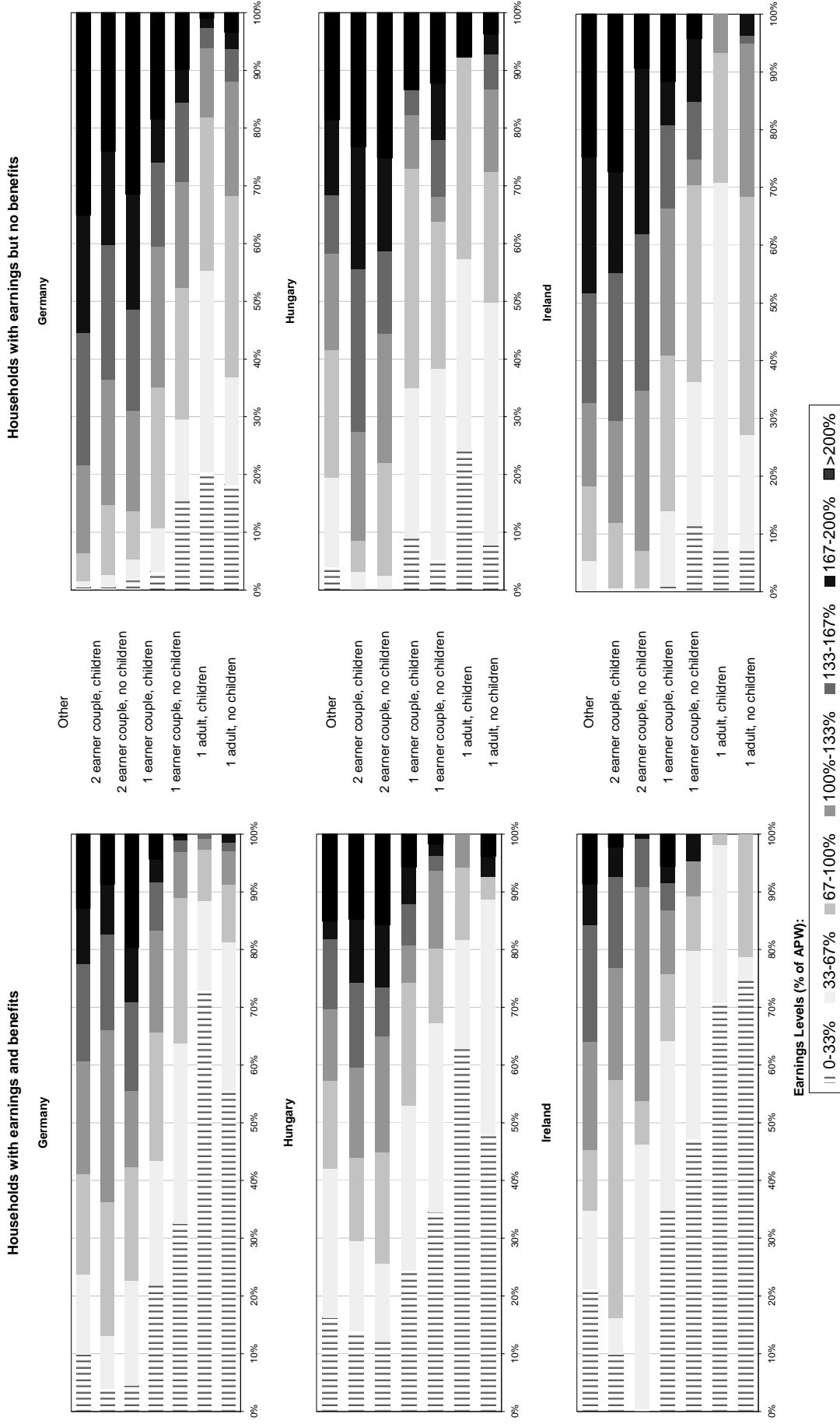
Source: Tabulations from Luxembourg Income Study data files. See footnote 8 for reference years.

Figure 2.5. Households with employment income: family types and earnings levels (% of APW) (cont.)



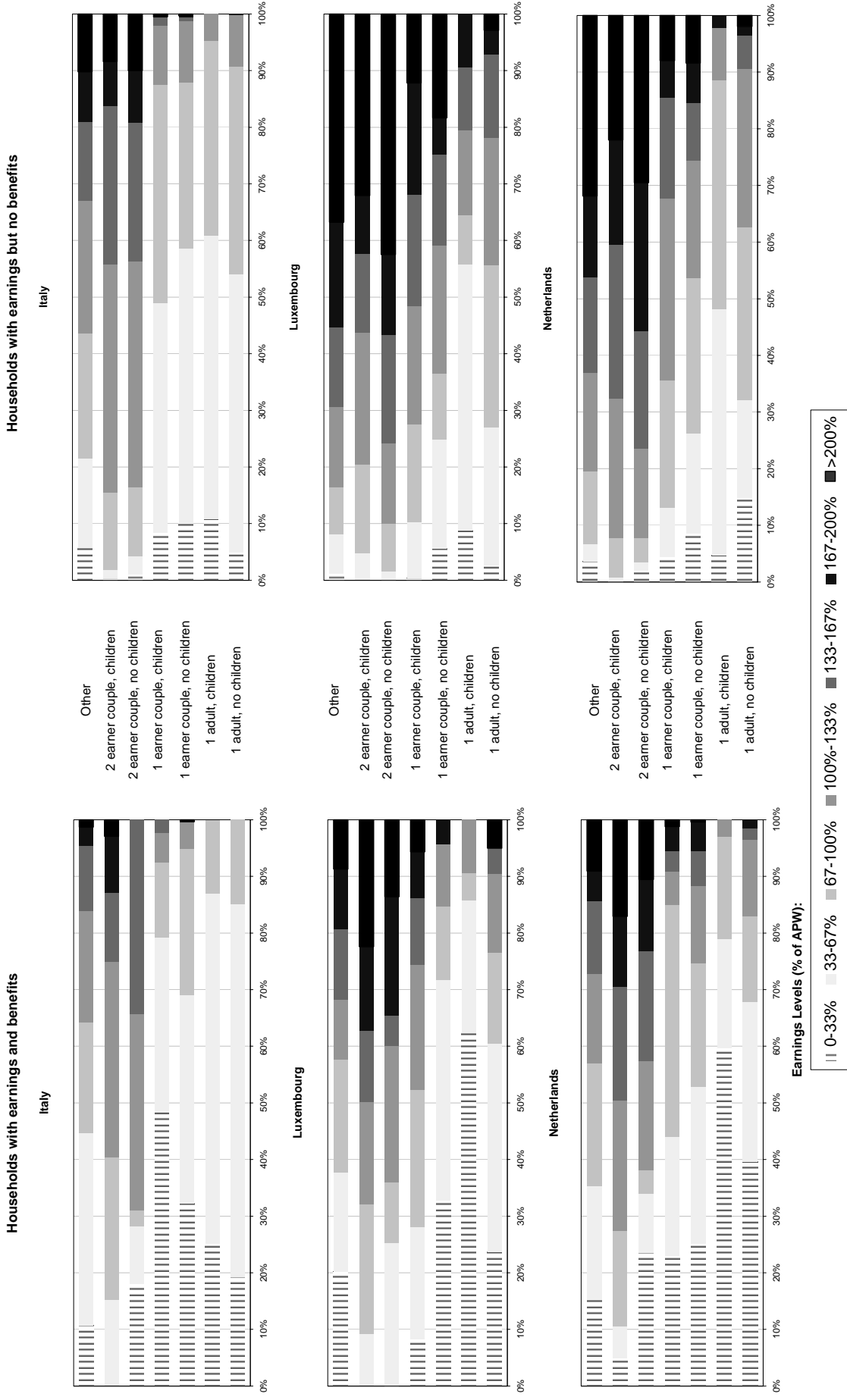
Source: Tabulations from Luxembourg Income Study data files. See footnote 8 for reference years.

Figure 2.5. Households with employment income: family types and earnings levels (% of APW) (cont.)



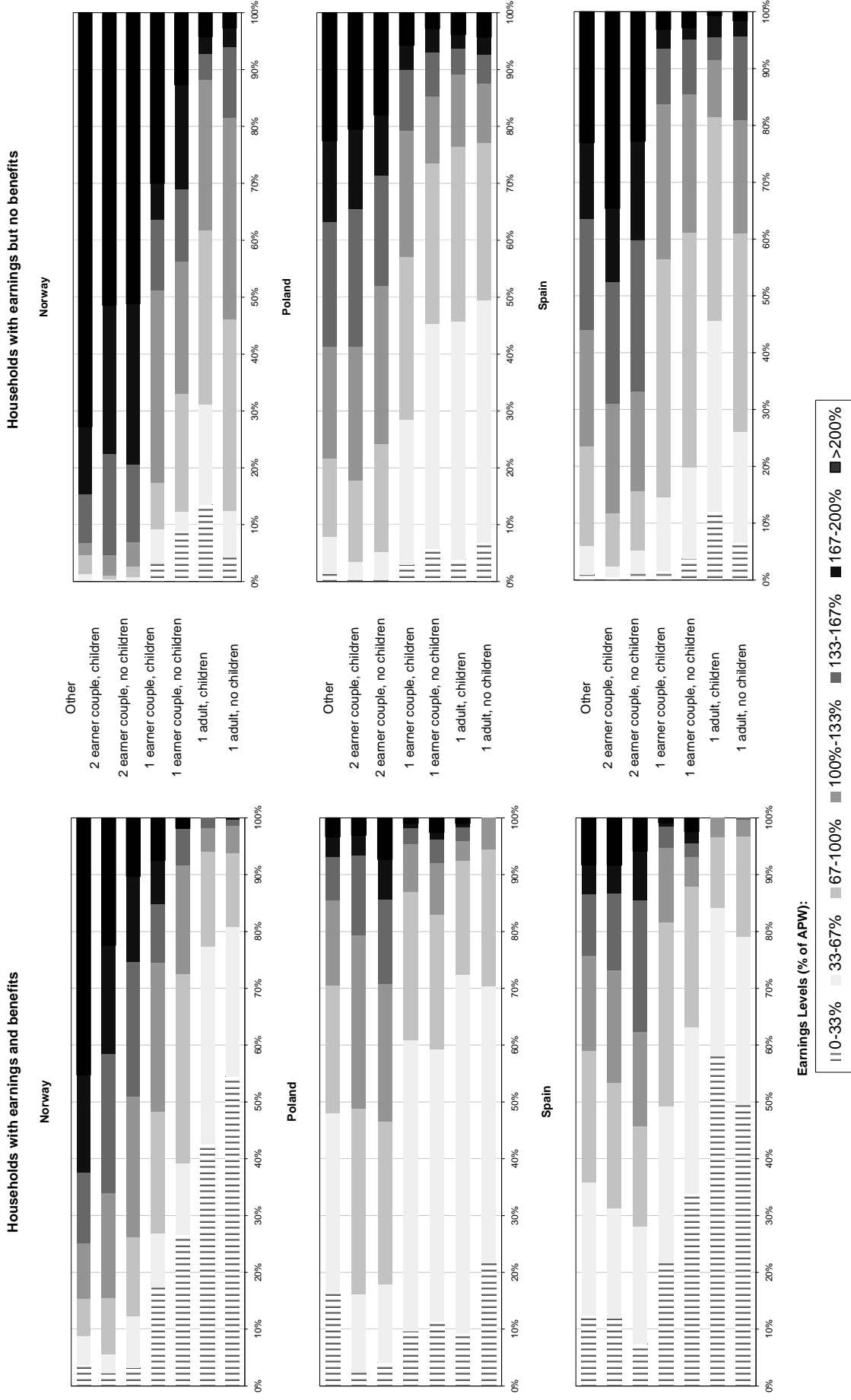
Source: Tabulations from Luxembourg Income Study data files. See footnote 8 for reference years.

Figure 2.5. Households with employment income: family types and earnings levels (% of APW) (cont.)



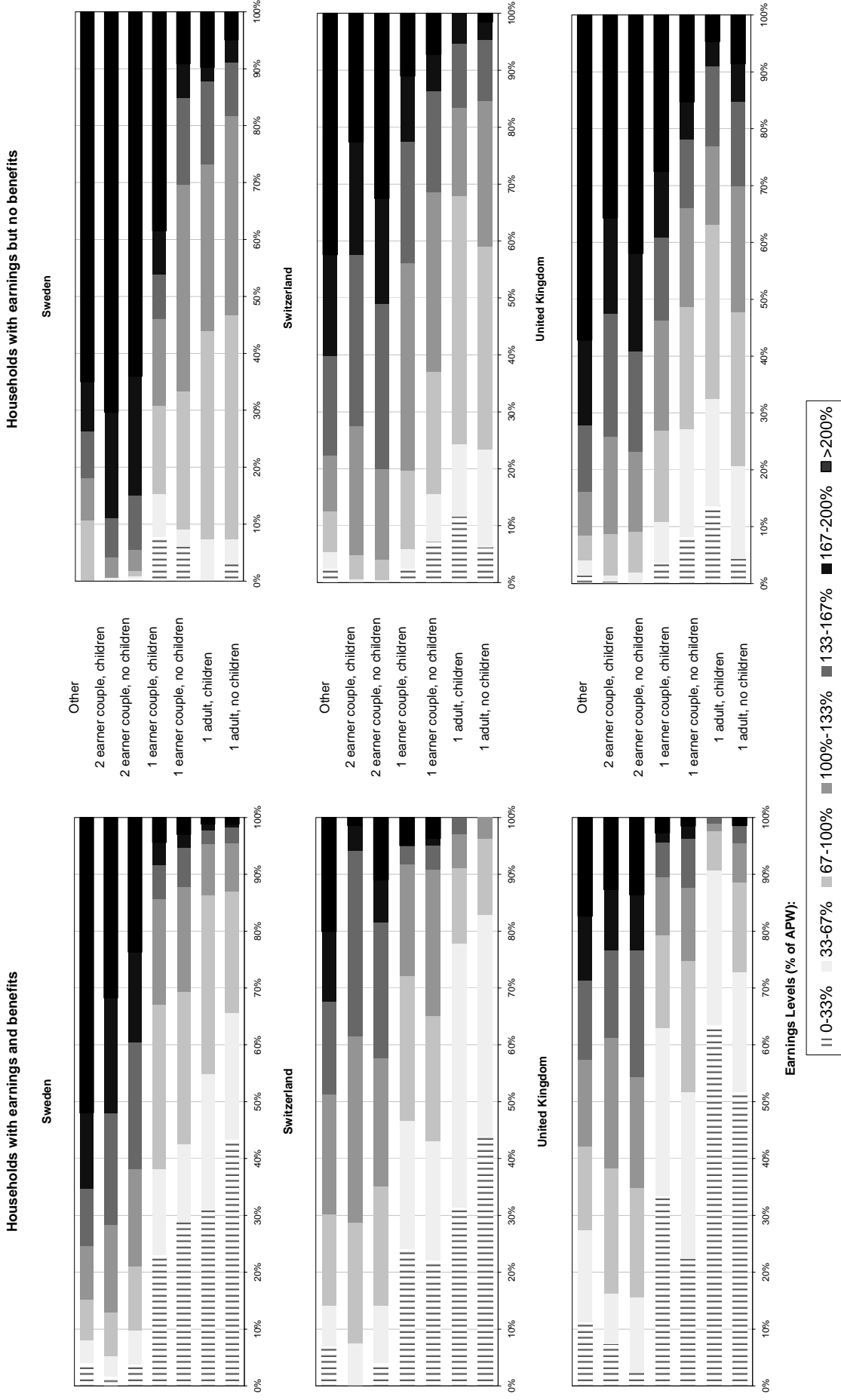
Source: Tabulations from Luxembourg Income Study data files. See footnote 8 for reference years.

Figure 2.5. Households with employment income: family types and earnings levels (% of APW) (cont.)



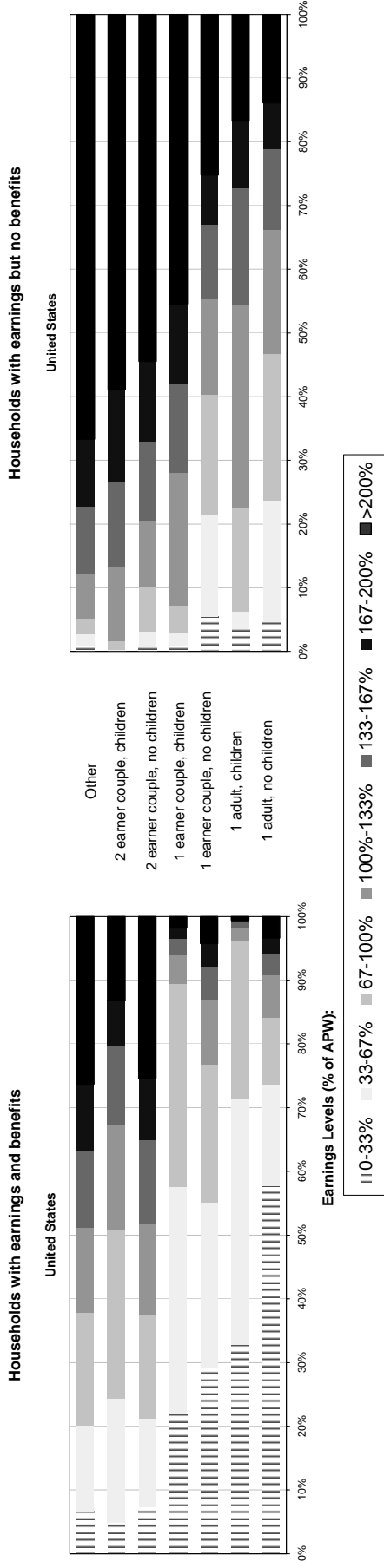
Source: Tabulations from Luxembourg Income Study data files. See footnote 8 for reference years.

Figure 2.5. Households with employment income: family types and earnings levels (% of APW) (cont.)



Source: Tabulations from Luxembourg Income Study data files. See footnote 8 for reference years.

Figure 2.5. Households with employment income: family types and earnings levels (% of APW) (cont.)



Source: Tabulations from Luxembourg Income Study data files. See footnote 8 for reference years.

***Relevance of non-wage market incomes: Variation across family types***

70. Earnings levels are major determinants of tax burdens and benefit entitlements. However, other possible income sources may have an additional influence on the financial situation of families – and on the operation of tax and benefit rules that apply in a specific case. The default “typical households” used in OECD tax-benefit calculations assume that earnings are the only source of market income. However, in several OECD countries, market incomes from sources other than salaries and wages play a significant role. For instance, Figure 2.6 reveals that in 9 out of 28 OECD countries, more than 15 percent of the non-agricultural working population report being self-employed in 2002 (defined here as being either “own-account workers” or employers). Moreover, the proportion of self-employed among working individuals has been increasing in recent years, particularly among women (OECD, 2000).

71. It is therefore useful to analyse to what extent other types of market income play a role and how their importance varies across family types and countries. For several reasons, this is, however, not straightforward. Whether based on surveys or administrative data, information on these types of income is generally significantly less reliable than data on wages and salaries. In addition, the degree of non-reporting and under-reporting on self-employment and capital incomes will vary across countries so that cross-country comparisons are often not feasible.

72. Keeping in mind that data quality can be severely limited, analysing the distribution of non-employment market incomes can nevertheless reveal information that is helpful in the context of this paper. Rather than providing a reliable picture of the relative size of self-employment and capital incomes across countries, information on the variation *within* each country is both valuable and, unless the degree of under-reporting varies substantially and systematically between population sub-groups, also less affected by measurement error. The dispersion provides an indication of the feasibility of including any one “typical” amount of self-employment or capital income in “typical household” tax-benefit calculations. In addition, it shows to what extent the importance of non-employment market incomes varies across the household types introduced in Section 1.

73. Figure 2.7 presents average amounts (dark bars) of “other market income”, mainly from self-employment, savings and property, for families with at least some employment income. Amounts are shown in percent of average production worker (APW) earnings. It should be noted that the scaling is not the same across countries. The very large scaling differences immediately reveal that self-employment and capital incomes as reported in LIS data files vary enormously across countries. However, for reasons discussed above, the focus here is on the dispersion within countries rather than between. One general pattern that emerges is that “other market incomes” tend to be smallest for single employees, both with and without children. One-earner couples and, particularly, “other” families tend to have the largest incomes from capital or self-employment. In the case of one-earner couples, the non-employed partner may have income from self-employment activities. In the case of “other” families, which include multi-generation households, incomes of older people, including income from investments and savings, are therefore likely to play a role.

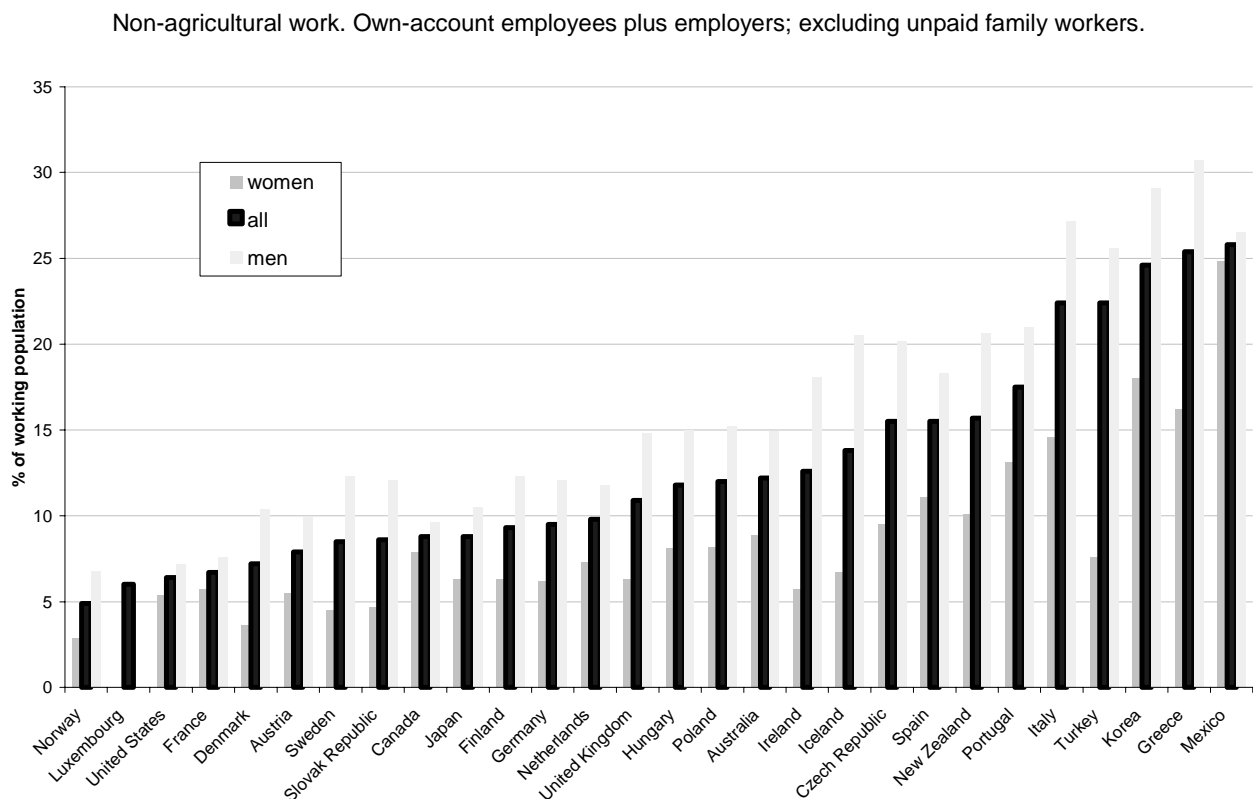
74. The light grey bars in Figure 2.7 show standard deviation of “other market income” among households with employment income. The extremely large dispersions indicate that it can be very difficult to incorporate “realistic” levels of self-employment and capital incomes in “typical household” tax-benefit models. Even if the dispersion was smaller, severe data quality problems inhibit any reliable assessment of how these incomes affect the comparability of model results across countries. However, these data limitations also affect tax-benefit calculations that are not based on typical households but directly on micro-data. Indeed, given existing data quality issues, the assumption of no self-employment or capital income, as in the default household types used in OECD tax-benefit models, is arguably more transparent in this respect. In any case, assumptions about levels of other types of market incomes earned alongside



wages, salaries or benefits will necessarily have to remain largely ad-hoc unless and until better data on self-employment and capital income become available.

75. The rising number of self-employed workers does, however, indicate an important role for assessing tax burdens and benefit entitlements of those who do rely on self-employment as the *main* or *only* source of income. While a recent analysis by the OECD (2000) has shown that inflows from unemployment into self-employment are still small, certain types of “own-account employment” do represent an increasingly relevant form of non-standard employment. The tax and, particularly, social insurance contribution treatments of these types of work generally differ significantly from those applying to more traditional forms of employment. Indeed, these differences, as well as associated differences in social protection, may be one of the main factors facilitating a substitution between standard and non-standard work arrangements. While limited empirical information on levels of self-employment earnings does represent an obstacle to a detailed assessment of the tax-benefit position of self-employed individuals, comparisons between employees and the self-employed at *given* earnings levels are feasible. Despite recent increases in the number of self-employed, standard forms of work remain the main focus of employment-related policies. Indicators of tax-benefit systems should therefore continue to emphasise the income situation of employees earning salaries and wages and how these compare to incomes while out of work. However, a proper understanding of the options facing working-age individuals calls for a careful assessment of how relevant tax-and benefit rules differ across alternative types of work arrangement. Tax-benefit models based on “typical households” calculations would contribute to such an assessment. Indeed, calculations based on hypothetical, but plausible, cases appear particularly useful in a situation where detailed and reliable data are not readily available.

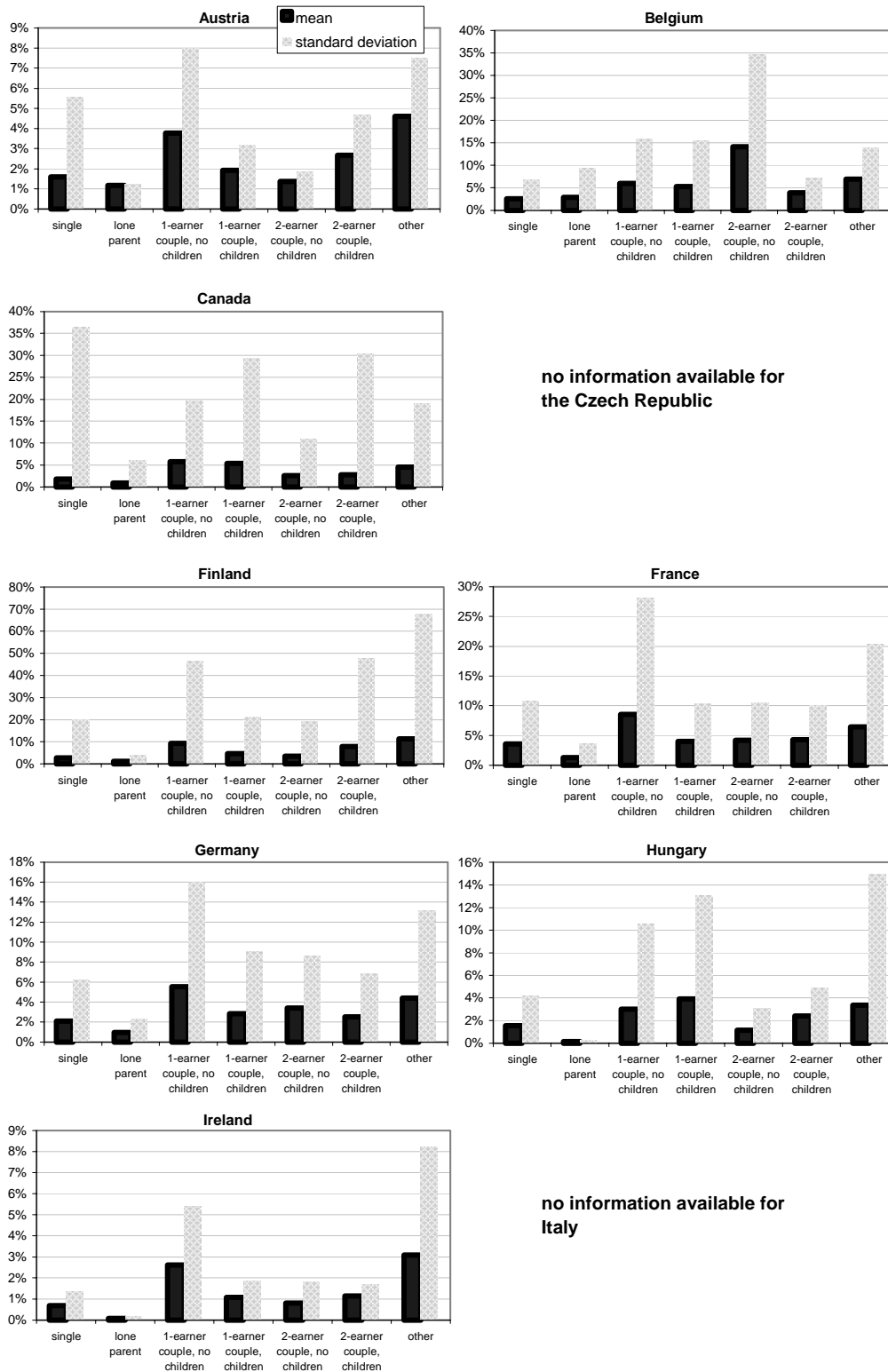
**Figure 2.6. Number of self-employed, 2002**



Source: OECD database on annual labour force statistics (see OECD, 2000 for definitions and further details).

**Figure 2.7. Households with employment income: receipt of other market incomes**

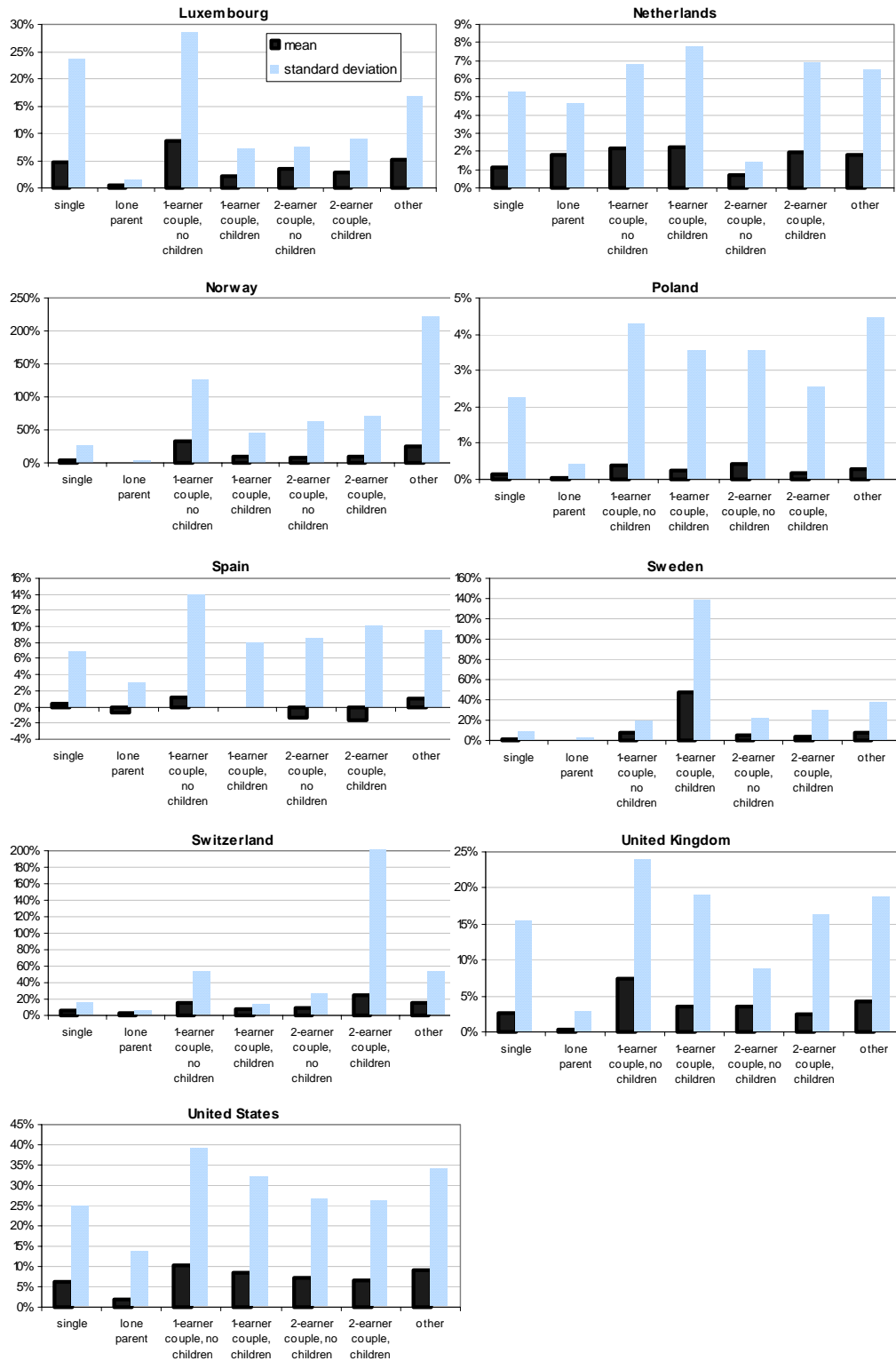
Levels in % of APW. Data not comparable across countries.



Source: Tabulations from LIS data files. See text for explanations and discussion of data quality.

Figure 2.7. Households with employment income: receipt of other market incomes (continued)

Levels in % of APW. Data not comparable across countries.



Source: Tabulations from LIS data files. See text for explanations and discussion of data quality.

### 3. EVIDENCE ON THE RECIPIENCY OF SOCIAL PROTECTION BENEFITS

#### 3.1. Overview

76. This section brings together evidence about the number and characteristics of beneficiaries of social protection programmes using a variety of statistical information. The main goal is to compare estimates from alternative sources of the number of persons of working-age (again 15 to 64) who participate in social programmes within each country.<sup>10</sup> The primary focus is on unemployment-related and low-income related benefits — *i.e.* unemployment insurance, unemployment assistance and social assistance — but information on other benefits (*e.g.*, early retirement, disability and others) is also presented, as these may significantly complement income from other transfer programmes. In addition to information about the number of beneficiaries of such benefits, this note brings together information about a range of characteristics of these individuals and their families. This is important as, for example, comparisons between in-work and out-of-work income vary significantly according to individual and family characteristics, and depending on the interrelationship between different types of benefits (OECD, 2004). Survey evidence is used to shed light on these issues.

77. The concepts of benefit *reciency*, benefit *dependency* and benefit *coverage* are related but different. Although the term “coverage rate” is not always used consistently, it usually refers to the proportion of those affected by a specific contingency who receive a benefit payment that is conditional on that contingency. In the case of unemployment benefits, the coverage rate would be the proportion of unemployed people receiving this type of transfer. “Benefit dependency” is defined as a situation where benefits are the main source of income. While the concepts of both benefit dependency and benefit coverage represent important information for a number of purposes, a broader perspective is desirable when assessing and comparing the relevance of different types of benefits for household incomes across countries. Those not receiving unemployment benefits may, for instance, have access to other social transfers. In fact, for particular groups, certain benefits, such as disability or sickness payments, may act as substitutes for unemployment benefits. In addition, in order to compare the importance of a particular type of benefit across countries, it can also be desirable to assess the number of benefit recipients in relation to some wider group of people and not just relative to those facing the contingency. For these reasons, we adopt a broad view on benefit reciency although it also presents results that correspond to coverage rates and benefit dependency as commonly defined.

#### 3.2. Evidence on benefit reciency

78. Three statistical sources on benefit recipients are used in this note: administrative records, labour force surveys and household income surveys. Each of these sources allows one to look at different aspects of the discussion about reciency of social protection benefits.

79. Before reviewing the evidence, some general considerations are in order about the meaning and interpretation of benefit reciency rates. First, changes in these rates will be affected by changes in the frequency of contingencies (*e.g.*, risks of unemployment) that these benefits are designed to address.

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10 Two main reasons justify a specific policy focus on the working-age population. First, transfers received by the working-age population are a key influence on the functioning of the labour market. Second, because of the general scope of public pension programmes, reciency rates for this type of programme among the elderly show little variation across countries. (Information about reciency of old-age pensions among the elderly is presented and discussed in OECD, 2001).

80. Second, the reciprocity rates discussed in this section relate the number of beneficiaries of social programmes to the total population of working age, irrespectively of the rules that govern eligibility to the various programmes. Because of this, differences across countries in the level of benefit reciprocity rates, as well as trends in these levels within individual countries, will reflect changes in both the rules determining access to the various programmes and in the decisions of eligible individuals (and administrative agencies) to apply for benefits (and to grant access to them).<sup>11</sup>

81. Last, focus is on reciprocity of cash *benefits*, *i.e.* they exclude payments that are provided through tax credits to individuals and households as well as social services provided in kind. Because of this, the data will understate the number of persons receiving social support, as well as the size of support, where this is provided through the tax system (as in the case of in-work benefits, family allowance and several types of child-care subsidies) and subsidised service provision.

### ***Recipients of income-replacing benefits: evidence from administrative data***

82. A new data series has recently been developed at the OECD to measure dependency on social protection benefits (OECD, 2003a).<sup>12</sup> This series counts *persons* who depend on social protection benefits as their main income source. The focus is on those benefits that, in principle, *replace* (rather than complement) earnings and other types of market incomes. This work is the largest and most comprehensive effort to date to provide consistent and comparable information about the number of benefit recipients in a large sample of OECD countries. The underlying data are administrative records in individual countries.

83. Looking at benefits that *replace* market incomes is both conceptually and methodologically convenient. It is the avowed aim of many countries to reduce labour market exclusion and to increase potential labour supply. By focussing on persons without employment that depend on social protection, this approach reveals the extent of benefit dependency and the potential gains from successfully addressing it. Methodologically, this approach also has the advantage of providing a suitable 'scale' for comparisons — a person receiving unemployment benefit will be counted as well as a person who is receiving disability benefit, because in each case they are not working. Furthermore, it provides a readily-understandable and logical way of treating *multiple* benefit receipt: even when a person is receiving both unemployment benefits and housing or social assistance benefits, there is still only one out-of-work person who is being supported.<sup>13</sup>

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11 The relationship between "reciprocity rates" (the object of this note) and "eligibility rates" can be described on the basis of the following identity:

$$BR/P = EP/P * BR/EP$$

where BR/P (the number of benefit recipients, as a share of the working-age population) is the reciprocity rate, and the two terms on the right side are the eligibility rate (the number of eligible persons, as a share of the working-age population) and the take-up rate (the number of benefit recipients, as a share of eligible persons). Evidence about the level and determinants of the take-up of social protection benefits among the eligible population is reviewed in Hernanz et al. (2004).

12 The OECD data series on benefit dependency builds on the methodology and results from a study undertaken by the Dutch Ministry of Social Affairs (Arents et al., 2000),

13 However, while a focus on income-replacing benefits is appropriate for making internationally-comparable studies of dependency, it is less so for other types of analysis. For example, when looking at trends in social expenditures, a distinction between beneficiaries of social protection according to whether they are out of work or in work may be less appropriate. Also, a focus on income-replacing benefits cannot, by definition, reveal much about trends in other non-income replacing benefits.

84. Because of this specific focus, the information presented in this section refers to persons who receive income-replacing social benefits paid at regular intervals and regulated by law. Numbers of benefit recipients are expressed in full-time equivalents (or *benefit years*) to account for part-year receipt of benefits, benefits received from multiple schemes, and benefits received by families rather than individuals. Data on benefit recipients distinguish between eight types of social benefits. In comparison to the broader range of benefits reported in the context of social spending data, they exclude benefits that represent secondary sources of income (such as child allowances, other family benefits, housing benefits, payments that reimburse health care costs), and benefits with an income replacement character (*i.e.* scholarships, student grants, and payments for participation to active labour market programmes) available to students and full-time workers.<sup>14</sup> Some of the methodological issues that are raised when translating into practice these general criteria are further described in Box 1.

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14 The matching of the different programme categories is, however, only partial. Some categories covered by OECD (2003a) do not have a counterpart in the OECD Social Expenditure Database (SOCX), and vice versa. Also, SOCX includes spending irrespectively of the age-limit implemented in OECD (2003a), *i.e.* for some countries, “disability cash benefits” include benefits paid to persons above 65, while these fall outside the scope of OECD data on benefit dependency which are limited to the working-age population. Even when an apparent counterpart between the two classification schemes exists, detailed information may differ (*e.g.*, the OECD database on benefit dependency classifies some unemployment-related benefits as old age benefits, and some social assistance benefits as unemployment or disability).

**Box 1. Methodological issues raised by the calculation of benefit dependency rates from administrative data**

Two main features characterise the definition of benefit dependency rates used in the data presented here and in OECD (2003a): *i)* the focus on *income- or earnings-replacing benefits* (*i.e.* periodic benefits paid in the event of a loss of income or earnings), rather than on all benefits; and *ii)* the measurement of beneficiary numbers in *full-time equivalents*, rather than persons. Both features find their rationale in the goal of identifying those individuals who rely on social protection benefits as their main income source. In turn, this implies allocating each person to mutually excluding categories (*i.e.* workers, student or benefit recipients) and to count each individual as one full-time unit.

Converting administrative data into benefit-years requires reliance on a number of assumptions and approximations:

- *Multiple benefit recipiency.* As the same individual may receive more than one benefit, adjustments for multiple benefit recipients are required. However, information on this aspect may not always be available to all agencies administering the programmes, or with the same level of detail. In the case of persons receiving two benefits, double counting is avoided sometimes by reporting beneficiary totals in full-time equivalents terms (*e.g.*, when partial unemployment and disability benefits are reported), sometimes by allocating people who are receiving two or more benefits only to their “main” benefit category. Where information was lacking, individuals receiving two benefits were assigned to old-age with priority over disability benefits and to disability with priority over survivors’ benefits. Individuals receiving both social assistance and insurance benefits were assigned to the category of their insurance benefit, on the ground that the latter identifies the social risk being compensated.
- *Individualisation of benefits.* In the case of benefits designed to replace family rather than individual income, adjustments are required to “individualise” benefits. This implies counting only the beneficiary whose social risk generates the entitlement to the benefit.<sup>15</sup>
- *Other corrections to allot individuals to mutually exclusive groups.* Because of the need to allot individuals to separate categories (full-time worker, full-time student, full-time benefit recipient), social assistance beneficiary numbers exclude, where possible, full-time employed persons receiving such benefits. Also, where possible, all beneficiary numbers count part-time workers receiving such benefits at half the normal rate (*e.g.*, part-time workers receiving benefits are counted as equivalent to half benefit-year).

Three aspects of the methodology warrant further consideration, and may require refinements in the future:

- *Universe of the benefits covered.* While the focus on income-replacing benefits is warranted by the labour market perspective of this work (see OECD, 2003a), information about the recipients of other social protection benefits without an income-replacing character (*e.g.*, housing) may be useful for other purposes. This points to the need of progressively expanding the range of programmes for which information on beneficiaries is collected, and of better aligning the programme categories used for reporting social spending and beneficiary numbers.
- *Persons receiving benefits.* Expanding the boundaries of social programmes beyond income-replacing benefits raises questions on how to classify persons who are simultaneously working full-time and receiving benefits. In the OECD database on benefit dependency, these persons are excluded from the count of benefit-years. An alternative, which may be appropriate in some contexts, is to collect information on *all* persons receiving social protection benefits, irrespective of their employment status and of the periods over which benefits are received.

15 Attempts to “individualise” benefits often require confronting borderline cases, where different classifications are possible. For example, in the OECD data on benefit dependency, children receiving Temporary Assistance to Needy Families (TANF) in the United States have been excluded from the calculation of benefit-years for the working-age population, even if adult carers make decisions on the use of these benefits.

- *Benefits delivered through the tax systems.* The focus of OECD work on benefit dependency is on benefits paid in cash by administrations. However, the diffusion of earnings-supplements delivered through the tax systems (e.g., Earned Income Tax Credit in the United States, whose spending is recorded in the OECD Social Expenditure Database) points to the importance of collecting information on the number of beneficiaries of these programmes.

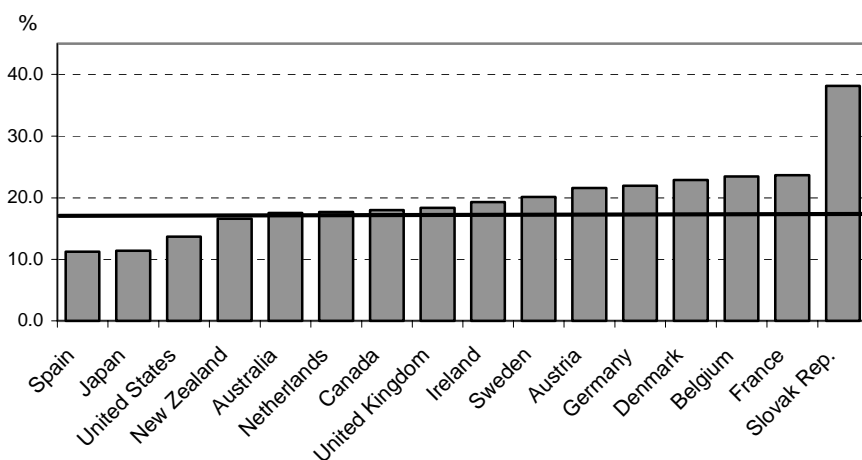
The Secretariat plans to give further consideration to these questions and to progressively refine the methodology of collection and classification of the beneficiary data.

### *Cross-country differences in dependency rates for income-replacing benefits*

85. Data from administrative sources are summarised in Figures 3.1 and 3.2. A simple (unweighted) average, across the 16 countries included in Figure 3.1, shows that a little less than 20% of the working-age population were full-time recipients of some type of income-replacing benefit in 1999. There are, however, large differences in recipiency of income-replacing benefits for the working-age population across the countries reviewed, with rates in 1999 ranging from around 11% in Japan and Spain to over 38% in the Slovak Republic.

86. When considering different benefit types within the total, disability (4.2%), unemployment (4.1%) and old-age benefits (3.6%) paid to persons of working-age are the largest categories. Lone parents and non-categorical social assistance (2.4%), sickness (2.0%) and survivor benefits (1.3%) each have between half and a third as many beneficiaries as the first three largest categories. Those relying on maternity and parental benefits (0.8%), and on care and labour market leave benefits (0.2%), represent a much smaller share of the working age population.

**Figure 3.1. Dependency on income-replacing benefits among the population of working age, 1999**



Note. The dark horizontal line shows the average value across the 16 countries shown. Countries are ranked, from left (the lowest) to right (the highest), according to the rate of benefit dependency in 1999.

Source: NEI-SZW database, partially revised and augmented by OECD. See OECD (2003a).

### *Trends over time in dependency rates for income-replacing benefits*

87. Total dependency rates for income-replacing benefits increased in most countries throughout the period: on average, across the 16 countries shown, benefit dependency rates were around 40% higher by 1999 than in 1980 (Figure 3.2, Panel A). Most of this increase was concentrated in the 1980s.<sup>16</sup> In the

16 Excluding the Slovak Republic, around 80% of the average (across countries) increase in benefit dependency rates recorded since 1980 occurred in the 1980-90 period.



1990s, on the contrary, growth in total benefit dependency nearly stopped, with increases in the first part of the decade followed by declines in the second. Since the mid-1990s, total benefit dependency rates declined by around 20% in Canada, Spain, the United Kingdom and the United States, and by around 12% in Denmark, Ireland and the Netherlands, while they further increased in Japan (from low levels) and the Slovak Republic (from high levels). Over time, there is little evidence of convergence in benefit dependency rates across the countries covered.<sup>17</sup>

88. Trends in dependency rates differed among the various benefit categories.

- Dependency on *disability benefits* across the 16 countries covered increased strongly until mid-1990s, stabilising thereafter. Only in a few countries (Australia, Belgium and France) did this increase continue after the mid-1990s.
- Dependency on *unemployment benefits* increased sharply until the mid-1990s, followed in many countries by strong declines. When comparing years corresponding to cyclical peaks, dependency on unemployment benefits stabilised on average; and in four of the 16 countries shown dependency rates for unemployment benefits were lower in 1999 than in 1980.
- Dependency on *old-age benefits* among the working age population increased strongly since 1980 in many countries, but then declined in several countries over the 1990s. This decline in the most recent period reflects a progressive tightening of early retirement programmes.
- Growth in dependency rates for *lone parents and social assistance benefits* came to a halt in most countries after 1997, with strong declines in some countries (Canada, the Netherlands, the United Kingdom and the United States) but little sign of abatement in others (Australia, Austria and Ireland).
- Dependency on *survivor benefits* by the working age population declined throughout the period, on average and in most countries. Exceptions are Australia and Canada, where the decline started only in the later part of the 1990s; France, Germany, Ireland, where rates were broadly stable; and Japan, where dependency rates increased throughout the period.
- Dependency rates for *sickness benefits* were broadly unchanged over the period. The declines recorded in a few countries (Austria, Belgium, France, Japan and the United Kingdom) were in most cases accompanied by improved incentives for employers to monitor sickness absences (*e.g.*, by obliging employers to pay benefits for the first weeks of leave).
- Dependency rates for *maternity and parental benefits*, where they exist, increased strongly, on average and in individual countries (with the exceptions of Germany, Japan, and the United Kingdom). This increase generally reflected longer periods of benefit entitlements.
- Benefits for *care and labour market leave*, which exist only in a few countries, increased throughout the period, although from a very low base.

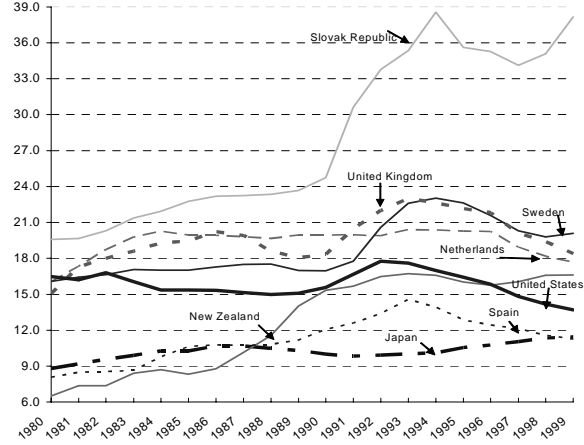
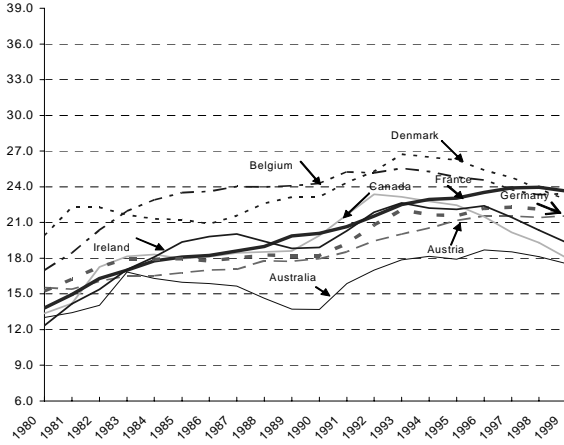
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17 When excluding the Slovak Republic from the sample, the coefficient of variation of benefit dependency across the 15 countries shown in Figure 2 declined from 1980 to 1990, and stabilised from 1990 to 1999.

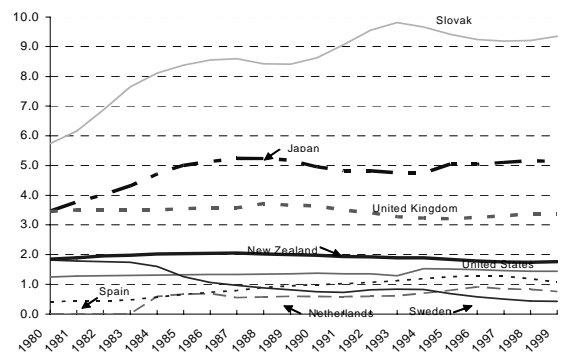
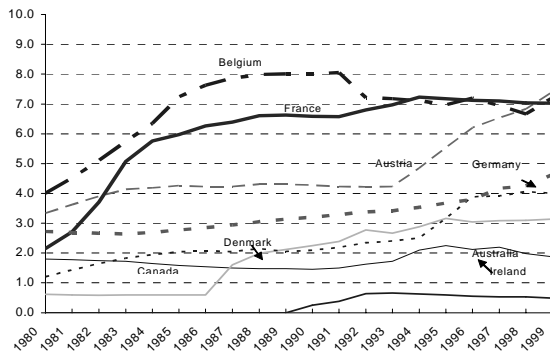
**Figure 3.2. Trends in dependency on income-replacement benefits among the population of working age by type of benefits, 1980-1999**

Percentages

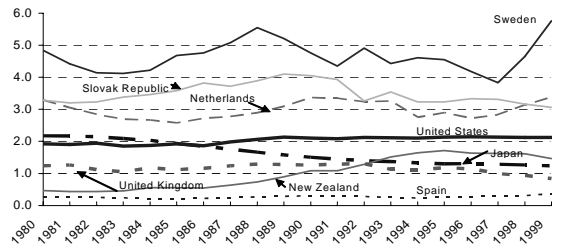
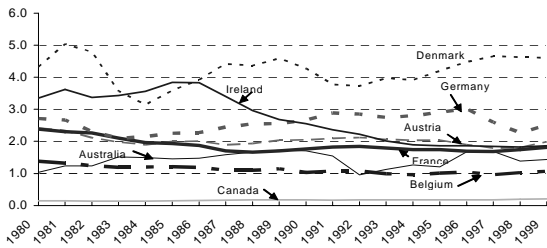
**A. Total benefit dependency**



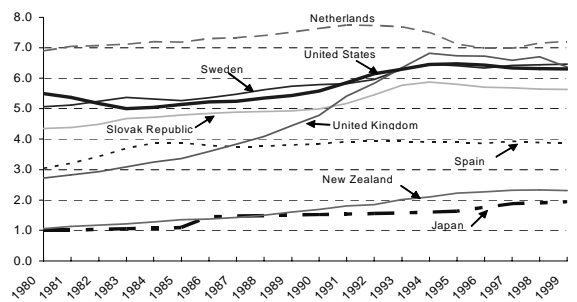
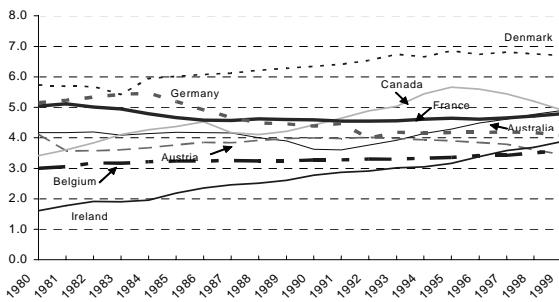
**B. Old-age and early retirement benefits**



**C. Sickness benefits**



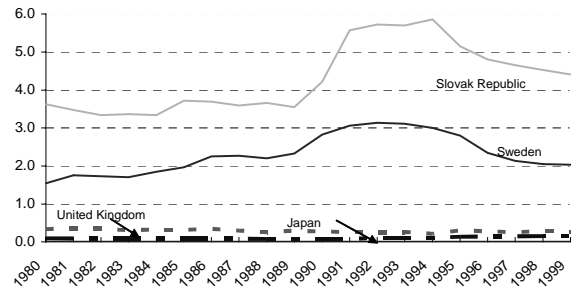
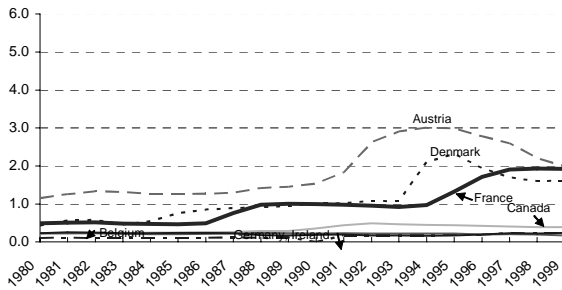
**D. Disability benefits**



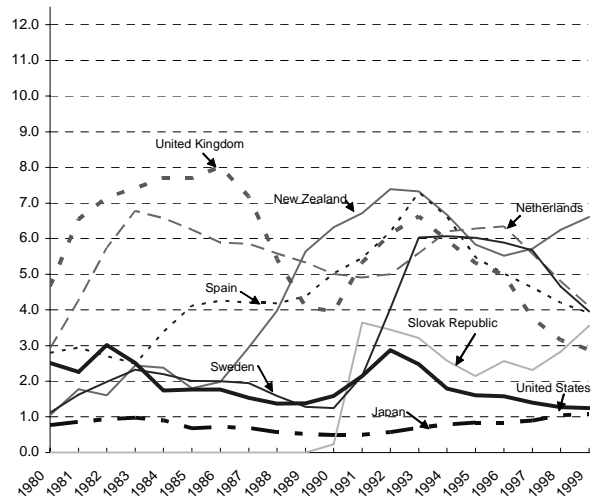
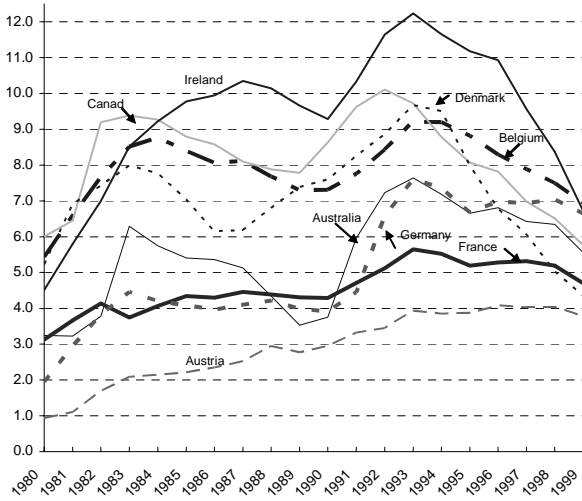
**Figure 3.2. Trends in dependency on income-replacement benefits among the population of working age by type of benefits, 1980-1999 (cont.)**

Percentages

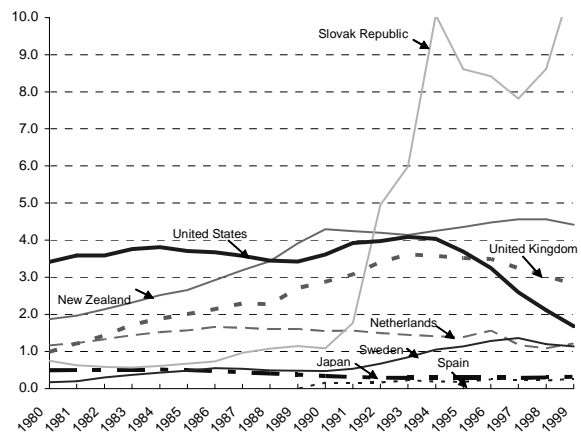
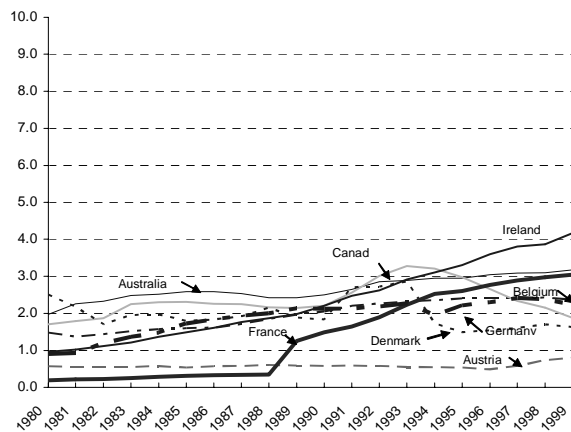
**E. Maternity and parental benefits**



**F. Unemployment benefits**



**G. Lone-parent and non-categorised social assistance benefits**



Source: NEI-SZW database, partially revised and augmented by OECD. See OECD (2003a).

89. Anecdotal evidence provided in OECD (2003a) suggests that, in several cases, changes in benefit dependency rates followed reforms altering the parameters governing eligibility to individual programmes. The lags between changes in programmes rules and in the number of beneficiaries appear to be very long: between 7 to 10 years in the case of unemployment benefits, and longer for lone-parents and social assistance programmes. OECD (2003a) attributes these long lags to “learning” by individual agents of changes in the operation of social benefit systems, and to the slow adaptation of community norms and individuals’ perceptions about their own conditions (e.g., disability) to the rules governing access to individual schemes. However, the difficulties in disentangling the relative importance of various factors, and in establishing directions of causation, make it difficult to interpret changes in benefit dependency rates in any simple way.<sup>18</sup>

### *Recipients of social protection benefits: evidence from surveys of individuals and households*

90. Administrative records are the preferred source of information for describing levels and trends in benefit dependency rates across countries: information refers to individual programmes within countries, and can be easily matched with the corresponding spending data. However, they often provide little information on the characteristics of benefit recipients and of their families; on the extent to which different types of benefits are received at the same time; and on the value of these benefits relative to non-benefit income. In order to throw more light on these issues, a range of different survey data is used below.

91. Surveys of individuals and households, as available for several OECD countries, offer a high degree of accessibility and cross-country standardisation. In addition, labour force surveys provide precise measurement of unemployment, while income surveys present information on other household members and non-benefit income. However, surveys are not without limits when used to analyse benefit reciprocity. In particular, they are often affected by underreporting and misclassification of some income components relative to the administrative data. These limits have to be kept in mind when reviewing the data provided below: for example, when non-reporting of social benefits in household surveys is significant, the breakdown of benefit recipients according to various characteristics is also likely to be affected, as non-reporting may differ across various groups of respondents. Different data sources may, however, complement each other and allow gaining a more comprehensive picture of benefit recipients and of their situation. In line with the focus on benefit-years for persons depending on social protection benefits in the previous section, this section describes, first, evidence on *individuals* receiving a specific type of benefit (unemployment);<sup>19</sup> and, second, evidence on *households* receiving a broader range of benefits.

### *Recipients of unemployment benefits: evidence on individuals*

92. One category of social programmes that draws significant attention is that of unemployment benefits. Beyond information about the number of individuals receiving such benefits, the characteristics of these individuals, as they pertain to both their demographic characteristics and labour market conditions, are of importance for policy design and implementation. Information on individuals receiving unemployment benefits and their characteristics is available from the regular Labour Force Surveys of many member countries or from special supplements of these surveys.

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18 Within an individual country, an increase in dependency rates following a relaxation in eligibility rules for a given benefit (e.g., unemployment) may reflect both an endogenous increase in the size of the population meeting eligibility conditions and an increase in the share of the target population (for a given size) that gains access to the benefit. Similarly, across countries, a positive correlation between prevalence of a given condition (e.g., self-reported disability) and dependency rates for benefits targeted at that condition (disability benefits) may reflect both the effect of lax eligibility rules in altering self-perceived conditions and the greater prevalence of factors leading to disability in countries with higher benefit dependency.

19 Unemployment benefit is the only category identified in Labour Force Surveys.

## Differences in survey features and cross-country comparability

93. Differences in the wording of survey questions limit data comparability across countries (Box 2 provides details on the survey questions of different countries). This is especially the case with respect to the reference period over which benefit reciprocity is assessed. In most European countries, reciprocity of unemployment benefits is assessed with respect to the reference week of the survey.<sup>20</sup> In other cases, however, reciprocity of unemployment benefits is assessed over a previous period (the previous month in Italy and Switzerland, the previous calendar year in the United States). In the latter case, data on the number of persons receiving unemployment benefits will exceed what would have been measured had reciprocity been assessed at a point in time.

94. Differences in the reference period over which reciprocity is assessed also influence comparisons with the number of benefit years from administrative records. This is because survey data on persons who received unemployment benefits in a previous period include persons irrespectively of the length of reciprocity, while data on benefit-years weigh these persons according to the number of months over which benefits have been received. Differences with respect to the period over which reciprocity is assessed also affect comparisons on the labour force status of beneficiaries. When reciprocity is assessed at the time of the survey, respondents can be classified according to their *current* labour force status. However, assessment of reciprocity over a previous period introduces a discrepancy between the current labour force status of respondents and their status when unemployment benefits were perceived.

**Box 2. Labour force survey questions on individuals receiving unemployment benefits**

**Austria.** Questions refer to unemployment benefit recipients during the survey reference week and are addressed to persons aged 15 year or more who are registered at a public employment office.

**Belgium.** Questions in the national labour force survey refer to reciprocity of various types of unemployment benefits (*chômage, prépension, chômeur âgé, chômeur en dispense*, etc.) at the time of the survey. Questions are addressed separately to employed and non-employed persons.

**Czech Republic.** Questions refer to reciprocity of unemployment benefits during the survey week. They are addressed to non-employed persons aged 15 years or more who look for jobs and are registered at a public employment office.

**Denmark.** No question on receipt of unemployment benefits is asked in the labour force survey. Data on persons receiving unemployment benefits, as available from the European Labour Force Survey data files, are based on the unemployment statistics register (CRAM). They refer to persons aged 15 or more registered at central or local employment offices.

**Finland.** Questions refer to persons who are currently receiving unemployment benefits (earnings-related unemployment allowance from unemployment insurance funds, and basic daily allowance from Social Security). Questions are addressed to non-employed persons of working age who are registered at a public employment office.

**France.** Questions in the national labour force survey refer to reciprocity of unemployment benefits at the time of the survey. The question is addressed to the (survey) unemployed, those registered at a public employment office, those with a job that will start later, and those who, while not seeking a job, indicate that they would like to work.

20 For EU countries, the European Labour Force Survey provides tabulations — generally based on national labour force surveys conducted in the spring of each year based on standard guidelines — on the number of persons of working age (whether seeking employment or otherwise) who receive unemployment “benefits or assistance” (excluding other social benefits). However, national labour force surveys differ in the exact wording of their questions (See Box 2).

**Germany.** Questions refer to recipients of unemployment benefits during the survey week. The question is addressed to persons aged 15 years or more registered at a public employment office who are employed, looking for another job or non-employed jobseekers

**Greece.** Questions in the national labour force survey refer to receipts of "benefit and assistance" paid by public employment offices. The question is addressed to persons registered at the public employment office.

**Hungary.** Questions refer to reciprocity of unemployment benefits during the survey week. They are addressed to all persons aged 15 years or more registered at the National Labour Centre.

**Ireland.** Until 1997, the labour force survey asked all persons aged 15 years or more about reciprocity of unemployment allowance or unemployment benefit during the survey week. However, with the introduction of the new *Quarterly National Household Survey* in October 1997, questions on benefit reciprocity are not asked anymore.

**Italy.** Questions in the regular labour force survey refer to reciprocity of ordinary and special unemployment benefits, mobility allowances, and payments from the Earning Supplementation Fund in the month preceding the survey. The question is addressed to all persons aged 15 or more.

**Luxembourg.** Questions refer to reciprocity of unemployment benefits at the time of the survey. Questions are addressed to all persons registered at the public employment office (which is responsible for payment of unemployment benefits).

**Netherlands.** No questions on benefit reciprocity are asked in the Dutch Labour Force Survey. Until 1999, data in the European Labour Force Survey were compiled using registration data on reciprocity of unemployment benefits.

**Poland.** Questions refer to reciprocity of unemployment benefits during the survey week. They are addressed to all persons aged 15 years or more registered at a public labour office.

**Portugal.** Questions refer to reciprocity of unemployment benefits at the time of the survey. They are addressed to all persons registered at a Job Centre [*Instituto do Emprego e Formação Profissional*].

**Slovak Republic.** Questions refer to reciprocity of unemployment benefits during the survey week. They are addressed to all persons aged 15 years or more registered at a public employment office.

**Spain.** Questions refer to reciprocity of unemployment benefits at the time of the survey. Respondents are asked whether they are registered at a public employment office and receive benefits from it.

**Sweden.** Questions refer to reciprocity of unemployment benefits during the survey week. They are addressed to persons not gainfully employed who are registered at an employment office as seeking work. Unemployment benefit include compensation from an unemployment fund ("A-kassa") or a cash unemployment allowance ("KAS").

**Switzerland.** Questions refer to unemployment benefit recipients during the past four weeks. They are addressed to persons aged 15 years or more who are registered at a labour office during the same period.

**United Kingdom.** Questions refer to reciprocity of Job Seekers Allowance and National Insurance Credits in the survey reference week ending on Sunday. The question is asked to all persons aged 16 to 69.

**United States.** The March supplement to the Current Population Survey complements information on the labour force status of respondents with data on their household income. The survey asks all individuals responding to the questionnaire whether, at any time during the year, they received any State or Federal unemployment compensation.

95. Other survey features affect data on persons receiving benefits from labour force surveys and the way these compare to administrative data on benefit-years. Surveys often differ in terms of whether questions are addressed to all persons or to sub-groups of the population (most often, in the case of European countries, to those registered at a public employment office). Also, labour force surveys are often ambiguous as to which benefits are included: early retirement benefits paid on grounds of unemployment are included in Belgium, as are insurance credits in the United Kingdom, while the language used in labour force survey questionnaires is often ambiguous with regard to categorical forms of social assistance for the unemployed (payments of minimum income or other benefits for which the authorities require the beneficiary to register at the public employment office and to be available for work) and payments to formerly unemployed persons who participate in labour market programmes. Finally, labour force surveys may differ with respect to whether interviews are held over a single week (results from which are attributed to the full year or quarter), or are spread continuously over the period (with results being more representative of what has occurred in the full period and, in principle, more comparable with administrative data).

96. These influences are difficult to disentangle. Annex Figure A.1 compares data on individuals receiving unemployment benefits from labour force surveys to benefit-years based on administrative data as described above, for the subset of countries for which both type of data are available. The differences, while often significant, are not always in the same direction. The number of survey respondents indicating that they received an unemployment benefit *exceeds* by a large margin that of benefit years from administrative sources in the case of the United States — reflecting the inclusion, in labour force survey data, of benefits received during part of the year, and the importance of short spells of unemployment.<sup>21</sup> A positive, although much smaller, difference between the number of survey-respondents declaring having received unemployment benefits and that of benefit-years also occurs in Belgium, Denmark, France and Sweden (on average around 40%). This may reflect *misclassification* of benefits, in particular for benefits perceived by persons who are not counted as unemployed in these surveys (e.g., people who “consider” themselves unemployed receiving non-employment benefits such as social assistance, sickness, disability or early retirement benefits).<sup>22</sup> Conversely, in Austria, Germany, Ireland, Spain and the United Kingdom, the number of labour force respondents who declare having received unemployment benefits is *lower* than the number of benefit-years from administrative sources. This difference, which on average is close to 20%, suggests *non-reporting* of unemployment benefits in labour force surveys. Beyond differences in the number of persons receiving unemployment benefits and benefit-years in 1999, Figure A.1 also shows that the two series tend to move in sympathy, although there are some exceptions.<sup>23</sup>

#### Survey recipients of unemployment benefits by labour force status

97. Many individuals who receive unemployment benefits are not classified as unemployed by labour force surveys. Figure 3.3, which shows information on persons receiving unemployment benefits according to their (ILO) labour force status, suggest that although most recipients of unemployment benefits are classified as “unemployed” in these surveys, significant numbers are either employed or inactive (Panel A shows the breakdown of the proportion of labour force respondents who declare receiving unemployment

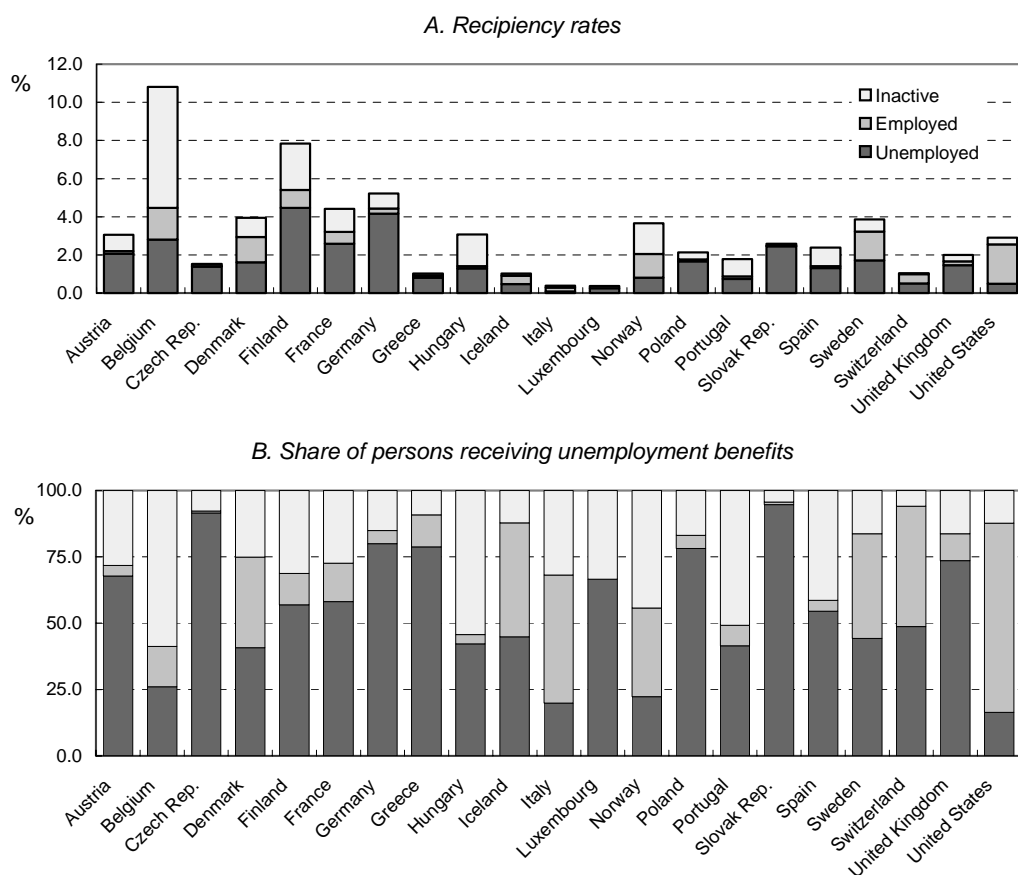
21 In 2000, the share of short-term unemployment (persons who have been continuously unemployed for less than 6 months) in the total ranged between 80% or more in the United States, Canada, Norway, Korea and Mexico; to less than 20% in the Czech Republic, Ireland, Italy and the Netherlands (OECD, 2002).

22 In the case of Sweden, the high level of persons receiving unemployment benefits in the survey, relative to administrative records, may also reflect the inclusion of persons who participate in training and employment programmes.

23 In the case of Belgium, for example, the growing divergence between administrative records and survey data in Figure A.1 is likely to reflect the growing importance of benefits (e.g., *pré-pensions*) that, while considered in the labour force survey, are reclassified under old-age in the administrative data.

benefits among the survey unemployed, employed and inactive persons; Panel B shows the share of these three groups among all those who declare receiving such benefits). In around half of the countries shown, the number of employed<sup>24</sup> and inactive persons declaring that they receive an unemployment benefit outnumbers the unemployed.<sup>25</sup>

**Figure 3.3. Persons receiving unemployment benefits by labour force status, 2001**



Source: Tabulation from Labour Force Surveys.

98. Figure 3.3 sheds some light on the scope for activation policies in reducing dependency from unemployment benefits. Across the countries covered in Figure 3.3, close to one fourth of all those receiving unemployment benefits did not satisfy the ILO criteria for being counted as “unemployed” (*i.e.* persons who, in the survey reference week, did not have any job, searched for work in the four weeks preceding the interview, and were available to take up work if an offer were to be found). In some countries such as Belgium, Hungary and Portugal this proportion exceeds 40%, while only in the Czech and Slovak Republics is the share of the inactive among those receiving unemployment benefits less than 10%.

24 The existence of workers (persons who in the survey week declare that they worked for at least one hour) receiving unemployment benefits may reflect the success of past policy reforms aimed at “activation” and the existence of special provisions within programmes that allow beneficiaries to combine unemployment benefits with earnings from part-time and occasional work.

25 The number of persons receiving unemployment benefits who are classified as employed is especially large in the United States because of the long reference period used in the U.S. survey (*i.e.* many respondents indicating that they received unemployment compensation in the past year could have been unemployed when receiving benefits but changed their labour force status since that time).



### Recipients of unemployment benefits by gender and age of individuals

99. The probability of receiving an unemployment benefit is likely to differ according to the age and gender of individuals. However, the direction of this influence is, *a priori*, difficult to establish. In most OECD countries women and youths are overly represented among the unemployed but, because of their shorter (or no) employment history, they are also less likely to have contributed to unemployment insurance long enough to qualify for benefits. Although most OECD countries have unemployment assistance schemes that provide unemployment benefits irrespective of previous contributions (and some of them have special programmes, or specific rates and conditions within their general unemployment programme, to provide support to young people)<sup>26</sup> whether these measures are effective in granting protection to the groups more exposed to unemployment risk remains an open question.<sup>27</sup>

100. As a result of this complex set of influences, cross-country indicators do not follow a consistent pattern. The proportion of women receiving unemployment benefits is higher than that of men in less than half of the countries shown in Figure 3.4 (Panel A). The proportion of the working-age population receiving unemployment benefits increases with age in most countries, but in other countries this proportion is either highest among prime-aged persons or it declines with age (Panel B). When men and women of different ages are further broken down according to their labour force status, the share of inactive persons receiving unemployment benefits appears to be especially large, in several OECD countries, among older men (Figure 3.5), as unemployment benefits are used to ease complete withdrawal from the labour force.<sup>28</sup>

### Recipients of unemployment benefits among the survey-unemployed

101. Not everyone who is classified by labour force surveys as unemployed receives an unemployment benefit. According to Figure 3.6, which shows recipients of unemployment benefits among the (survey) unemployed in two points in time, around a third of all unemployed persons received unemployment benefits in 2001. This proportion ranges from around 70% in Austria, Belgium and Germany; to around 20% or less in Greece, Italy, Norway, Poland, Slovak Republic and Spain.<sup>29</sup> Only in a minority of countries, more than half of the (survey) unemployed received unemployment benefits. The shares of unemployed women and youths receiving unemployment benefits are — on average, across the countries covered — only 40% and 70%, respectively, of the corresponding values among prime-aged

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26 See OECD (forthcoming 2004).

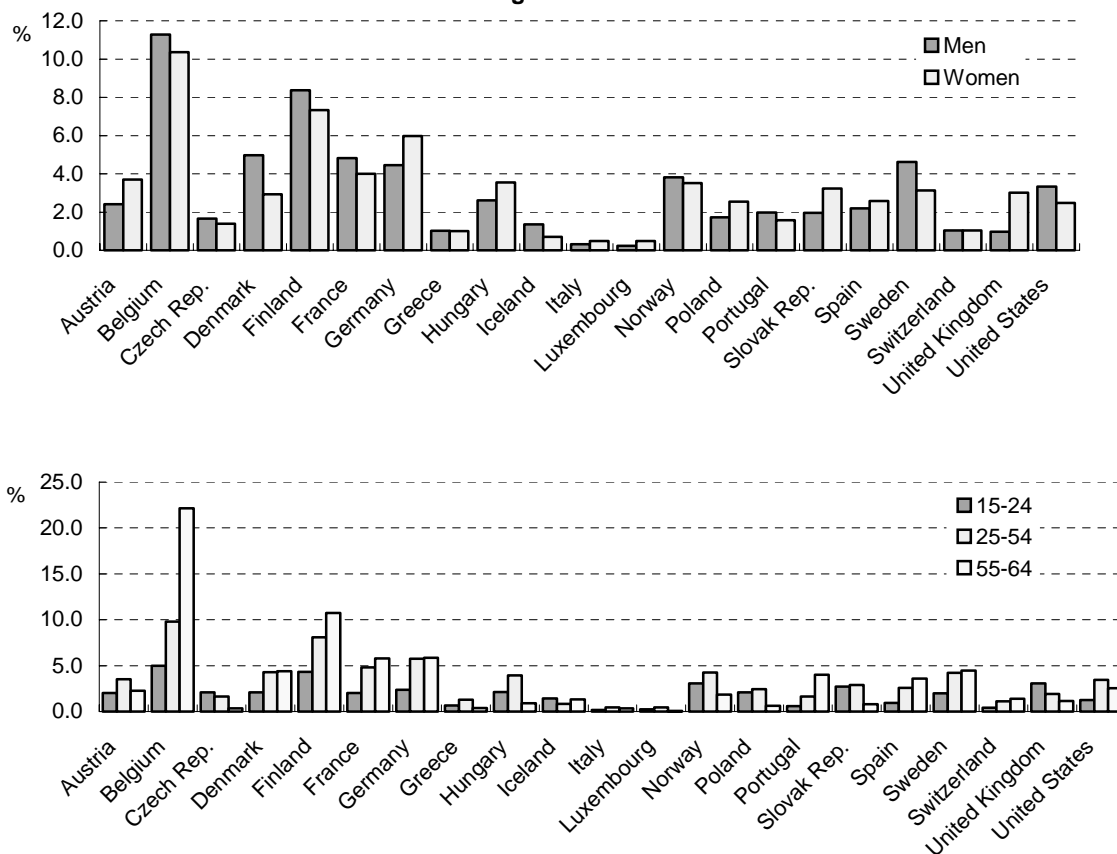
27 Moreover, in some OECD countries such as Austria unemployment assistance can only be received after exhaustion of insurance benefits, so that persons who are not eligible to unemployment insurance are also excluded from unemployment assistance.

28 The very high share of older men receiving unemployment benefits in Belgium reflect the inclusion, in labour force survey data, of persons receiving *pré-pension*, an early retirement benefit available to older workers who qualify for unemployment benefit in case of dismissal.

29 For European countries, survey estimates of the proportion of the unemployed receiving benefits are also provided in Alphametrics (2002). However, these estimates — which are based on data from the European Community Household Panel for the years 1995 to 1997 — differ in important ways from those reported in this paper: i) persons unemployed are identified on the basis of questions about the “main current status” of respondents (rather than applying the ILO criteria used by labour force surveys); ii) benefits include all benefits received by these individuals and other family members, with the exception of family benefits (rather than the more narrow range of unemployment benefits considered in labour force surveys); and iii) benefits are those received during the previous year (rather than those received at the time of the interview, as in labour force surveys of most European countries). According to these data, the coverage of unemployment compensation (simple average of 12 European countries) was around 67% in 1997, as compared to 50% in the labour force surveys of the same countries.

men. Also, in most countries, the proportion of those counted as unemployed in labour force surveys who received unemployment benefits was lower in 2001 than in 1995, this decline being especially large in the Czech Republic, Denmark, Finland, Sweden, Switzerland and the United Kingdom. Panel B and C also show that, in a majority of countries, a much higher proportion of unemployed persons with previous work experience report receiving unemployment benefits while, conversely, coverage rates are much lower among the unemployed without previous experience (with the exception of Austria, Belgium, the Czech Republic and Sweden).

**Figure 3.4. Share of the population of working age in receipt of unemployment benefits in 2001, by gender and age of individuals**

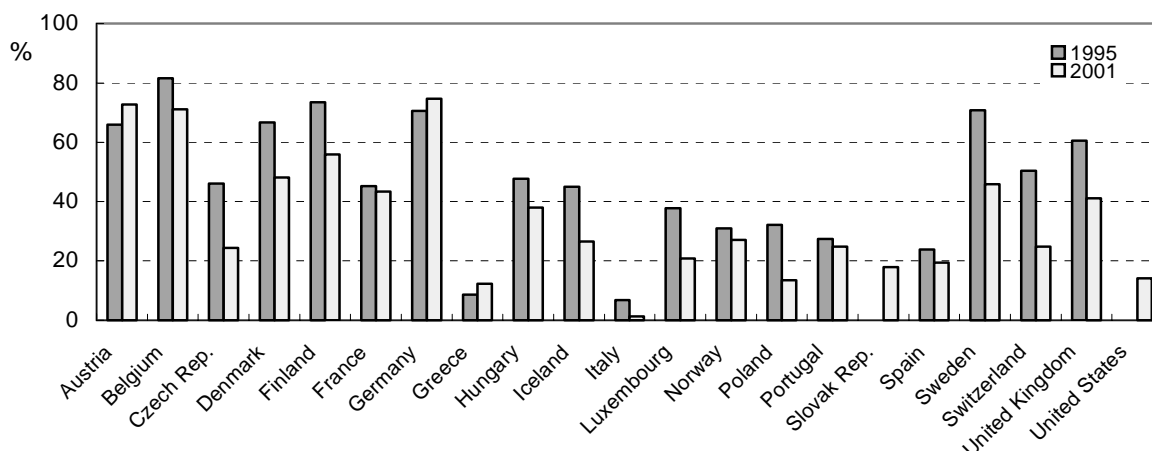


Source: Tabulations from Labour Force Surveys.

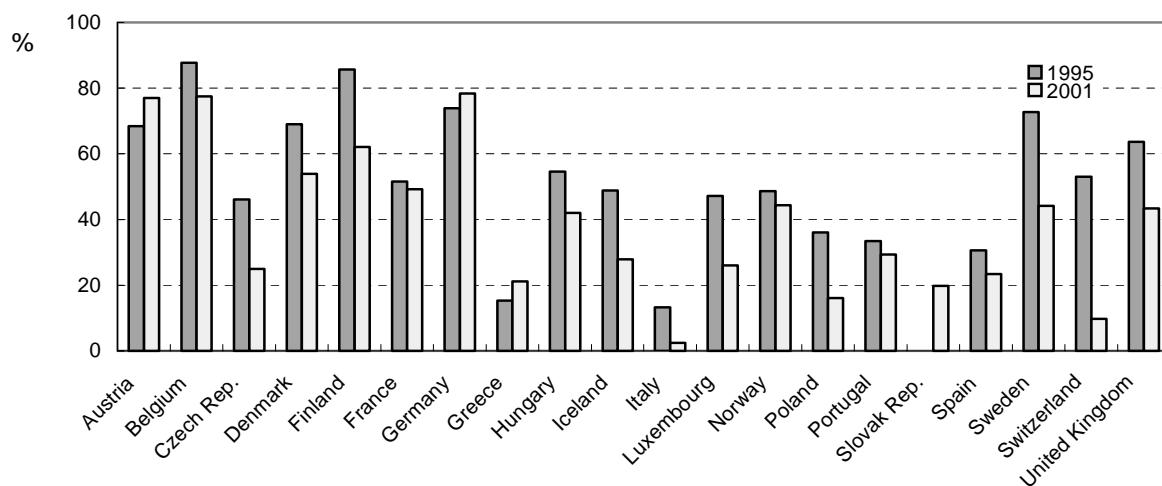


**Figure 3.6. Proportion of ILO unemployed receiving unemployment benefits**

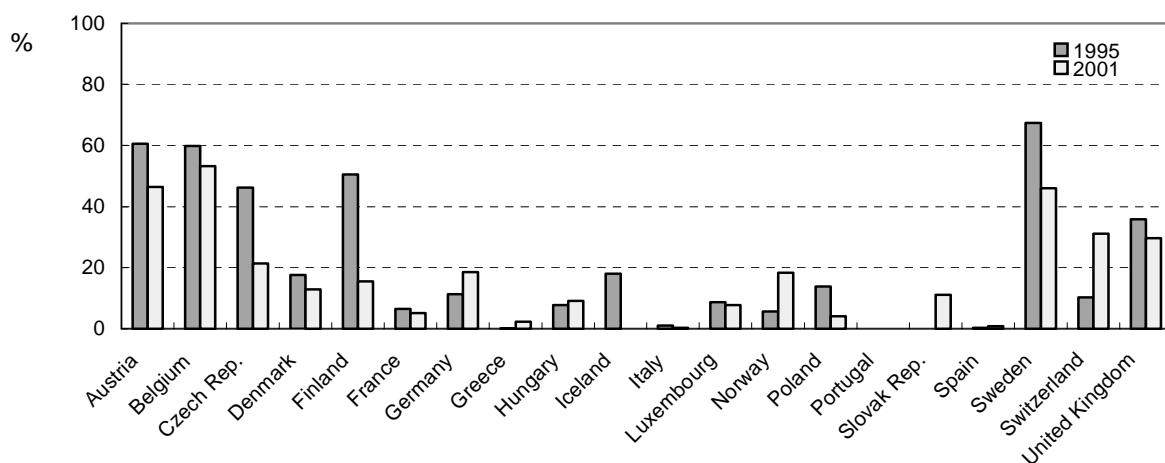
*A. Total unemployed*



*B. Unemployed persons with previous work experience*



*C. Unemployed persons without previous work experience*

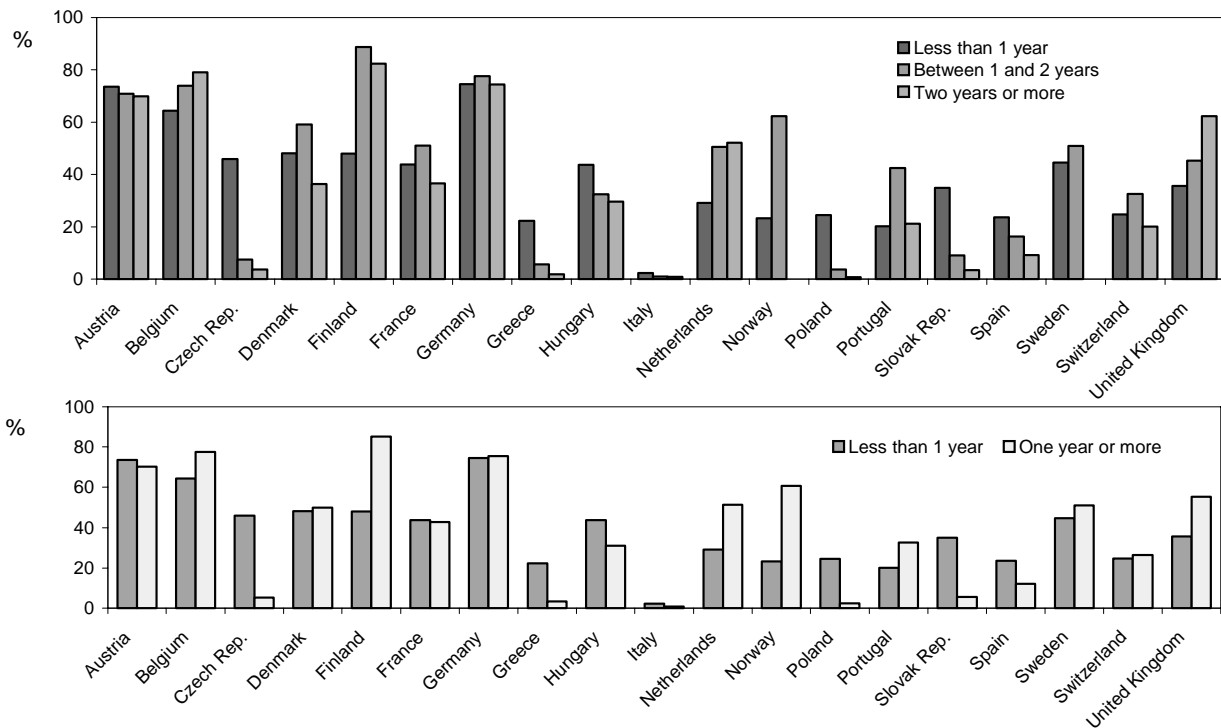


Note. Unemployed persons not answering questions about previous work experience are included among those "without previous work experience".

Source. Tabulations from Labour Force Surveys.

102. Reciprocity of unemployment benefits also differ according to the duration of the unemployment spell of individuals, although there is much variation in country experiences. Figure 3.7, which shows reciprocity of unemployment benefits among the survey-unemployed classified by three durations of their unemployment spells, shows that in some countries (Belgium, the Netherlands, Sweden and the United Kingdom) the probability of receiving unemployment benefits increases monotonically with the duration of unemployment. In these countries, persons who have been unemployed for only a short period are less likely to receive benefits, because of a combination of lack of previous work experience and of features of the unemployment benefit systems (*e.g.*, waiting periods for entitlements to benefits). Those experiencing long spells of unemployment are more likely to have incomes and assets that are sufficiently low to qualify for means-tested assistance benefits. However, due to a combination of limited durations of insurance benefits and less-developed assistance benefits, probabilities of receiving unemployment benefits in several eastern and southern European countries decline with the duration of unemployment, and very few persons who have been unemployed for 2 years of more receive unemployment benefits.

**Figure 3.7. Reciprocity of unemployment benefits by duration of unemployment in 2001**



Source: Tabulations from Labour Force Surveys.

103. Overall, these differences in the proportion of unemployment-benefit recipients among groups with different demographic and labour force characteristics are unlikely to be fully accounted by the non-reporting and misreporting of unemployment benefits. These data show that not everyone counted as unemployed in labour force surveys receives unemployment benefits, and that a significant share of those receiving such benefits is made up of persons who are either employed or inactive. This point to the scope for using activation policies to reduce the number of recipients of unemployment benefits, but also to the need to ensure that the coverage of unemployment benefit programmes is sufficient to support those more exposed to unemployment risks.

*Recipients of a broader range of social benefits: evidence on households*

104. The information from labour force surveys presented above is limited to unemployment benefits. Also, these surveys often fail to provide information about the characteristics of households where benefit recipients live (*e.g.*, the work status of other household members), on whether individual benefits are cumulated with other types of transfer income, and on the value of transfer benefits received. Household income surveys allow some of these issues to be addressed. In particular, household income surveys allow gathering information on those receiving more than one benefit, and on the amount of benefit received. These surveys record information on income from a range of sources over the year preceding the interview. As in Section 2, LIS data are used in this section to complement the information extracted from Labour Force Surveys.<sup>30</sup> While the analysis in Section 2 has focussed on the circumstances of “employed” households, the aim here is to assess the number of households in receipt of a range of social benefits and compare characteristics of these households across countries.

105. Most information on benefit reciprocity as available in LIS refers to “households” rather than to “individuals” living in each of them.<sup>31</sup> While individuals are the natural unit of reference when aiming to assess the potential labour supply that may be mobilised (as in OECD, 2003*a*), a household focus will be the preferred one when considering income adequacy and incentives to take up work in the light of labour attachment of other household members. The focus on households within this section obviously implies that estimates of benefit reciprocity rates will be far larger than those previously reviewed, as the presence of one person with an individual benefit entitlement means that the household will be classified as receiving benefits, even if all other adults within the same household do not. Also, information about benefits in household income surveys generally refer to benefits perceived at some point during the year, irrespectively of their duration: this will also inflate estimates of reciprocity rates relative to those shown in previous sections. For the purpose of our analysis, LIS basic transfer programmes have been regrouped in 10 main categories:<sup>32</sup>

1. Old-age benefits
2. Survivors benefits
3. Sickness benefits

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30 Data from the Luxembourg Income Study used in this section are derived from the 1994 Australian Income and Housing Survey for Australia; the 1997 European Community Household Panel for Austria; the 1997 Panel Survey of the Centre for Social Policy for Belgium; the 1998 Survey of Labour and Income Dynamics for Canada; the 1996 Microcensus for the Czech Republic; the 1997 Income Tax Survey for Denmark; the 2000 Income Distribution Survey for Finland; the 1994 Family Budget Survey for France; the 2000 German Social Economic Panel Study for Germany; the 1999 Hungarian Household Panel for Hungary; the 2000 Bank of Italy Survey on Household Budgets for Italy; the 1994 Luxembourg Social Economic Panel for Luxembourg; the 1996 National Household Survey on Income and Expenditure for Mexico; the 1994 Socio-Economic Panel for the Netherlands; the 1995 Income and Property Distribution Survey for Norway; the 1995 Household Budget Survey for Poland; the 2000 Income Distribution Survey for Sweden; the 1999 Family Resource Survey for the United Kingdom; and the 2000 March Supplement to the Current Population Survey for the United States.

31 At the level of individuals, LIS reports data on reciprocity of only two benefit categories: “unemployment compensation” and “social retirement” (each of them further broken down in sub-components).

32 Some of the categories listed here have no counterpart in those based on administrative records (*e.g.*, “training, placement and resettlements benefits”); in other cases, the matching is only partial (*e.g.*, beneficiaries of some social assistance programmes that are available to unemployed and disabled people may be classified as “social assistance” in household income surveys, and as “unemployment” or “disability” in the data on benefit dependency based on administrative records).

4. Disability benefits
5. Maternity and parenting benefits
6. Training, placement and resettlement benefits
7. Unemployment benefits
8. Social assistance benefits
9. Housing benefits
10. Other non-work related benefits

106. The tabulations shown below refer to the proportion of *households* that are receiving different types of benefits. Three restrictions are imposed on the data. First, the analysis is limited to “non-elderly households” (*i.e.* households where all members are aged less than 65). Second, to avoid double counting within the “main benefit categories”, data refer to households receiving at least one of the (LIS) basic programmes. Third, information refers to households where at least one member receives benefits: hence, when several members of the same household receive the same type of benefits, these will be only counted once.

107. A general limit of household income surveys is that respondents often under-report benefit income. Such under-reporting is likely to be important in general purpose surveys that are not specifically tailored to (low income) beneficiaries of social programmes. To avoid this bias, surveys in some countries “over-sample” benefit recipients and other low-income groups.<sup>33</sup> Beyond the sampling design of different surveys, researchers often integrate the raw survey data with micro-simulation models that correct for under-reporting.<sup>34</sup> No similar correction has been applied to the data shown below. This limit has to be kept in mind when interpreting the evidence.

How many households receive each type of benefit?

108. A high proportion of non-elderly households receive at least one benefit within each of the main categories. This is shown in Figure 3.8, which plots the proportion of non-elderly households receiving at least one of the “basic” (LIS) benefit programmes falling under each of the “main” categories. Because of the quasi-universal nature of the category “Other non-work related benefits”, these are not shown in Figure 3.8.<sup>35</sup> The last panel of Figure 3.8 shows the proportion of non-elderly households receiving *at least* one of the remaining nine main benefit categories.

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33 This is the case for some of the surveys used by LIS (e.g., the Family Resources Survey for the United Kingdom) but not for others (e.g., the Survey on Household Budgets for Italy).

34 In the United States, for example, estimates of benefit reciprocity from the Urban Institute are based on information from the National Surveys of America's Families (NSAF), further integrated with micro-simulation models that correct for under-reporting of government benefits, add the value of food stamps and EITC, impute taxes, and estimate out-of-pocket child care expenses (Urban Institute, 2000).

35 Across the 19 countries considered in Figure 8, a little more than 45% of non-elderly households report receiving “non-work related benefits”. There is, however, large variation around this average level (from less than 10% in Italy and Mexico, to more than 70% in Canada and Finland, and a value above 90% in Denmark).

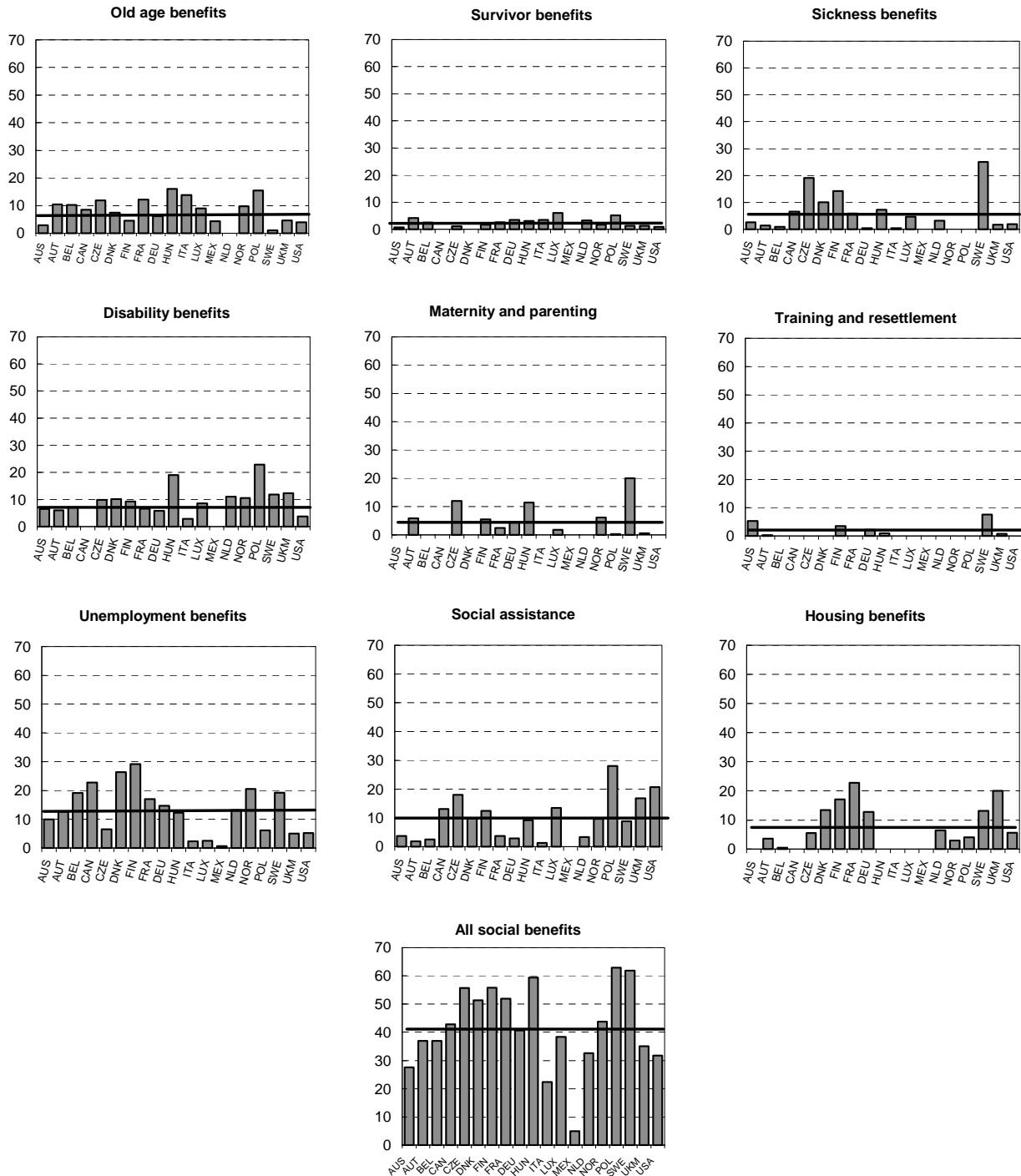
109. On average across the 19 countries shown in Figure 3.8, a little more than 40% of non-elderly households received some type of social benefits in the second half of the 1990s. Across the countries covered, this value ranges between less than 10% in Mexico to 50% or more in the Czech Republic, Denmark, Finland, France, Hungary, Norway, Poland and Sweden. When looking at individual benefit categories, around a tenth of non-elderly households report having received unemployment (13%), social assistance (10%), disability (10%) and old age benefits (8%). Relatively high proportions of non-elderly households also report having received housing (10%), sickness (8%) and maternity and parenting benefits (7%), but these programmes exist only in a smaller number of countries. Much lower proportions of non-elderly households receive survivors (3%), and training, placement and resettlements benefits (3%).<sup>36</sup>

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36 Some benefit programmes are not identified in national income surveys and in the LIS datasets, although they exist in the countries concerned. This seems to be the case of survivor benefits in Austria; of maternity and parenting benefits in Belgium; and of disability benefits in Canada.



Figure 3.8. Share of non-elderly households in receipt of social benefits, by type of benefits



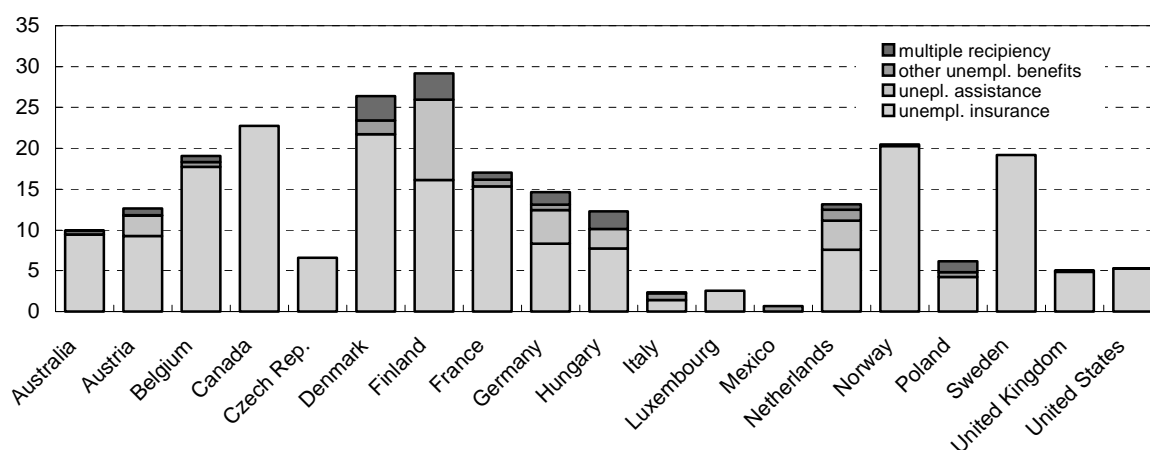
Note. The dark line within each panel indicates the (unweighted) average value across countries with a programme belonging to each of the 9 main benefit categories. "All social benefits" exclude the category "Other non-work related benefits", which are generally available on a quasi universal basis. Survey data are grossed up to the total number of households in the country.

Source: Tabulations from Luxembourg Income Studies datafiles. See footnote 30 for sources and reference years.

## Multiple reciprocity among households receiving unemployment benefits

110. Many of the (non-elderly) households that receive benefits from each of the “main” categories receive other benefits at the same time. To shed some light on the issue of multiple benefit recipients, this section focuses on households who report having received unemployment benefits. Even when considering only unemployment benefits, the issue of multiple benefit reciprocity has several dimensions. The first relates to reciprocity of different benefit programmes within the broad “unemployment benefit” category. In the case of unemployment benefits, this relates to the possibility of combining support from different types of unemployment-related programmes. While in most OECD countries unemployment assistance becomes available only after an individual has exhausted his entitlement to unemployment insurance, the two benefits may be received by the same person during different periods of the survey year, or they may be received by two members of the same household. Figure 3.9 suggests that a small proportion of households relies on different types of unemployment benefits in a given year (multiple recipients are those in the upper part of the stacked bar), although this proportion is significant in Austria, Denmark, Finland, Germany, Hungary and the Netherlands.

**Figure 3.9. Share of non-elderly households receiving unemployment benefits by type of unemployment benefit received**

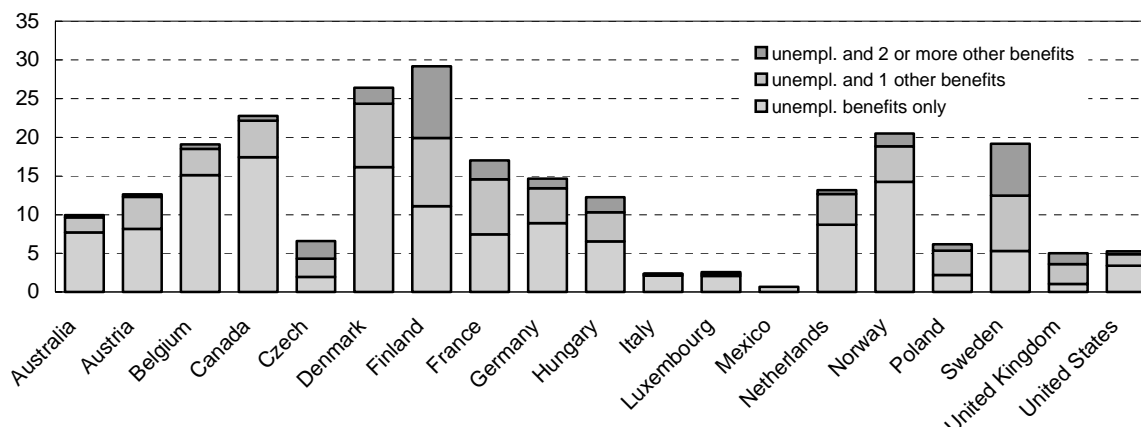


Note. Survey data are grossed up to the total number of households in the country.

Source. Tabulations from Luxembourg Income Studies datafiles. See footnote 30 for sources and reference years.

111. The second, and much more common, dimension of multiple benefit reciprocity relates to the possibility of combining unemployment-related benefits with other types of benefits (such as housing). Evidence on this type of multi-benefit reciprocity, shown in Figure 3.10, suggests that in most countries large proportions of (non-elderly) households supported by unemployment related benefits also received some other types of social protection benefits over the same year.<sup>37</sup> While in most countries less than half of households cumulated unemployment benefits with other welfare programmes, much higher proportion are observed in some countries. On average, across the 19 countries shown, around 29% of non-elderly households receiving unemployment benefits received one other type of benefit in the same year; another 14% received two or more benefits. Annex Table A.3, which provides details on the combination of the various benefits, shows that unemployment benefits are most often combined with housing, sickness and, to a lesser extent, social assistance and training, placement and resettlement benefits.

<sup>37</sup> This analysis of multiple benefit reciprocity among household supported by unemployment benefits excludes “non work-related benefits” (such as family benefits) that are available on a quasi-universal basis.

**Figure 3.10. Multiple benefit recipients among non-elderly households receiving unemployment benefits**

Note. Data refer to the number of non-elderly households who report having received in the previous year both unemployment benefits and one of the other benefit categories shown in Figure 3.7 (*i.e.* excluding quasi-universal “other non-work related benefits”). Survey data are grossed up to the total number of households in the country.

Source. Tabulations from Luxembourg Income Studies datafiles. See footnote 30 for sources and reference years.

### Transfer and non-transfer income among households receiving unemployment benefits

112. Beyond information on the proportion of households covered by different types of benefits, it is also revealing to look at the value of the benefit received. This paper does not perform an in-depth analysis of this issue, which has been well researched elsewhere (OECD, 2004). It limits the analysis to households receiving unemployment benefits, and looks at the level of benefit and non-benefit income across household with different characteristics. The analysis follows a standard classification of households, distinguishing by: *i*) number of adults in the household; *ii*) presence of children (defined as those aged less than 18); and *iii*) work attachment (status) of household members.<sup>38</sup> Figure 3.11 shows the level of (equivalised) disposable income<sup>39</sup> of individuals living in households where at least one member receives an unemployment benefit, as a percentage of the median disposable income of all non-elderly households; and the share of (net) benefit income (separately for unemployment benefits and for other social protection benefits) in the disposable income of beneficiaries.

113. In most countries, households receiving unemployment benefits record a level of (equivalised) disposable income that is between 80 and 100% of the median (with an average value, across the 19 countries shown, close to 90%, Panel A). However, in a few of them (Canada, Denmark and the United States) their income level exceeds the median, while in Australia, Italy and the United Kingdom relative income of these households is below 80% of the median. Finally, in all countries shown, transfer income accounts for less than earned- (non-transfer) income. Although factors influencing these results are not further investigated, these include differences across countries in average duration of unemployment, in the degree to which unemployment is concentrated on particular groups of workers (*e.g.*, the low skilled) and households, in the previous earnings of the unemployed (when benefits are earnings related) as well as other parameters of the benefit system.

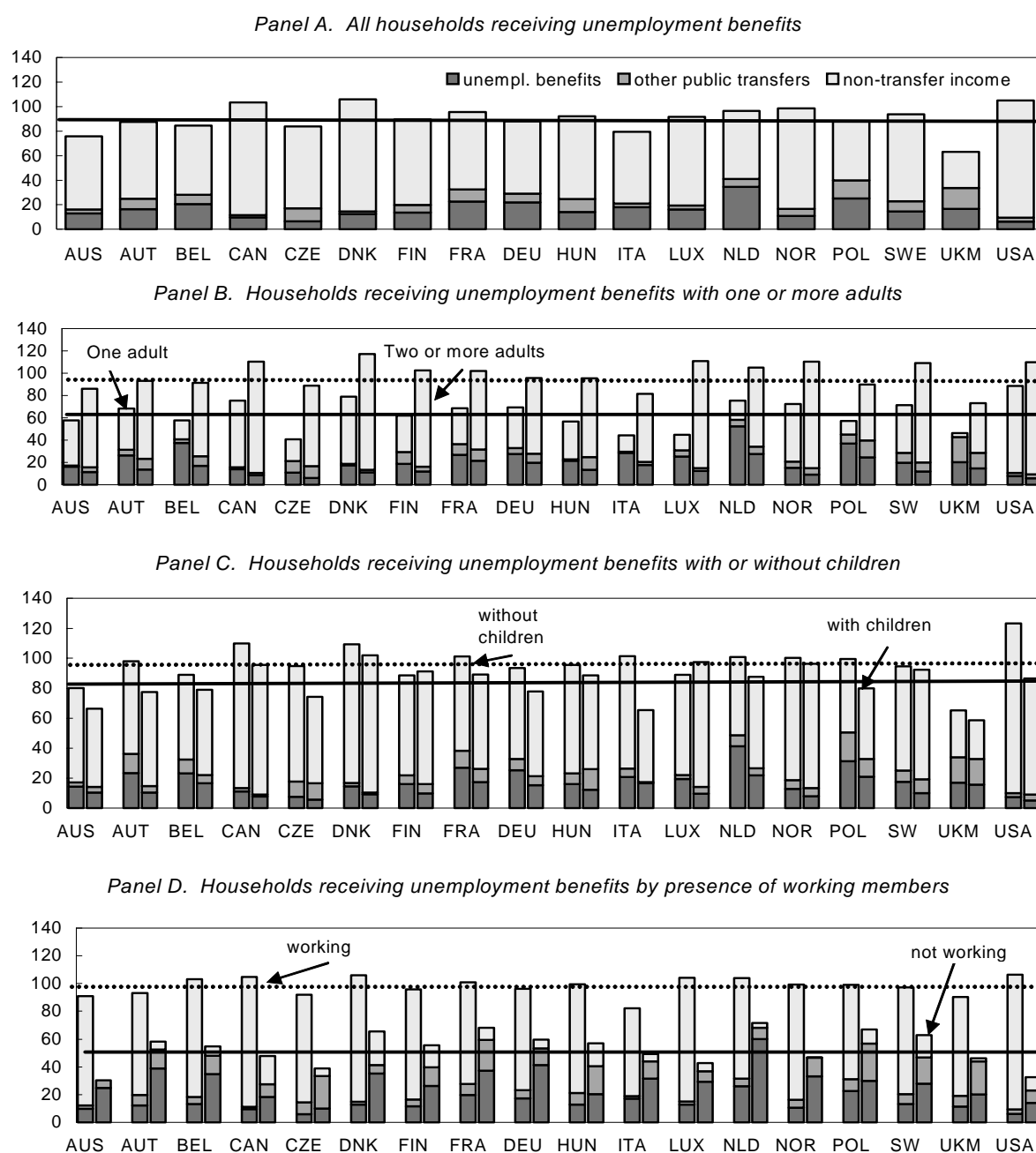
38 In the LIS reporting system, households are classified as “working” if any household member received earnings or self-employment income over the previous year.

39 Each person’s household income is adjusted to reflect differences in household size by using an equivalence scale of 0.5.

114. There is, however, much diversity in both the levels and composition of (equivalised) disposable income levels among different types of households receiving unemployment benefits. Persons receiving unemployment benefits most often live with other family members and have access to other sources of income. In all of the countries covered in Figure 3.11, non-elderly households receiving unemployment benefits are mainly composed of two or more adults (close to 70% of the total, Annex Table A.4). Conversely, households with only one adult represented a little more of one fourth of households receiving unemployment benefits across the 19 countries shown (but more than a third in Australia, Sweden and the United Kingdom), and their relative income was slightly above 60% of the median (as compared to almost 100% for two-adults households receiving unemployment benefits, Panel B). Close to half of all households receiving unemployment benefits had children, and their relative disposable income (at 83% of the median, across the 19 countries of Panel C) is generally lower than that of households without children (96%).

115. Differences in both income levels and structure are more significant when distinguishing households receiving unemployment benefits by the presence of working adults. Households on unemployment benefits where no one worked over the previous year represent less than one fifth of the total, but much larger shares in the case of the United Kingdom and, to a lesser extent, Belgium and Poland. For this category of recipients of unemployment benefits, relative disposable income is generally a little higher than half of the median, but with large variation across countries — from values of less than a third in Australia and the United States to more than 60% in Denmark, France, the Netherlands, Poland and Sweden (Panel D). Among these families, unemployment benefits generally represent the largest source of income, but they are often complemented by income from other social benefits. Among households where the earnings of other members complement benefit income, relative disposable income is close to 100% of the median in most countries, and market income represent the dominant share.

**Figure 3.11. Relative disposable income and public transfers among households receiving unemployment benefits**



Note. As a percentage of median (equivalised) income of non-elderly households. Income components are net of income tax payments and social security contributions paid by workers (*i.e.* gross income data have been adjusted by the effective tax rates paid by each household group). “Other public transfers” include *all* benefit categories (except unemployment benefits). The thick line within each panel is the simple average (across 19 countries) for all households (Panel A), households with one adult (Panel B), households with children (Panel C) and households with no other adult working (Panel D); dashed lines are averages for households with two or more adults (Panel B), households with no children (Panel C), and households where other adults work (Panel D). Survey data are grossed up to the total number of households in the country.

Source: Tabulations from Luxembourg Income Study datafiles. See footnote 30 for sources and reference years.

## CONCLUSION

116. This paper has combined information on demographic characteristics, work attachment and benefit reciprocity from a number of different sources in order to assess the representativeness of “typical” household situations used as the basis of OECD and European Commission indicators of the tax-benefit system.

117. The results have shown that the structures of household populations vary substantially across countries and that these differences matter for the purpose of computing and comparing tax-benefit indicators across countries. Given the large number of individual and household characteristics that influence tax burdens and benefit entitlements, it is to be expected that resulting indicators are sensitive with respect to the choice of particular household circumstances. For tax-benefit analyses based on “typical household” calculations, the practical consequences of this sensitivity are two-fold.

- First, it is important to provide contextual information aiding in the interpretation of results across countries. The data presented here represents a useful basis for such comparisons. They document a large range of individual and household characteristics that are likely to be relevant for a number of tax-benefit related analyses. In addition, and depending on the purpose for which tax-benefit indicators are used, other dimensions of individual and family circumstances (e.g. information on how housing costs or childcare arrangements differ across countries and family types) may be of interest and can usefully complement the data presented here.
- Second, the appropriate household situations should be selected depending on the purpose of the analysis. While a range of “standard” household types does provide a good overall picture of many features of tax-benefit policy, particular family types may be subject to other, and possibly significantly different, tax-benefit rules. In particular, specific policy measures are sometimes targeted towards “non-typical” households. In order to be able to analyse these, the tax-benefit models used to compute tax-benefit indicators should be as flexible as possible. It is therefore desirable that these tools are maintained and refined in order to enable users to compute tax burdens and benefit entitlements for a wide range of family circumstances.

118. Tax-benefit calculations for the range of “typical” households used in this paper describe relevant and well-defined aspects of the overall impact of tax-benefit systems, are conceptually clear and operational in different country contexts and can be implemented in a consistent way over longer periods of time. These are essential pre-requisites for high-quality indicators and tax-benefit calculations based on “typical” households are therefore of considerable use for the purpose of monitoring policy developments. At the same time, it is clear that, as with all indicators, it is important to understand their limitations and, in particular, the type of situations which are beyond their scope. This is necessary both for a responsible use of existing indicators and for devising possible extensions of the range of situations covered by the calculations.

119. Indicators constructed from tax-benefit calculations are frequently used for analysing the financial consequences of work transitions. The types of benefits received while out of work play a decisive role in this context. To better understand the scope of benefit systems and the relevance of different patterns of benefit receipt, this paper has provided information on the number and circumstances of benefits recipients across countries. Unemployment benefit coverage varies enormously between

countries with the fraction of “non-elderly” households reporting receipt of unemployment benefits in EU Member States and most OECD countries ranging between 2 percent and 30 percent. In half the countries analysed, fewer unemployed than employed and inactive people declare receiving benefits. The observed patterns also vary significantly by age. While young persons (aged 15-25) frequently do not have access to the same type of out-of-work benefits, unemployment benefit receipt among individuals aged 55-64 is particularly high in a number of countries where these benefits are frequently used as a transitional benefit before (early) retirement. Recent data from Labour Force Surveys show that coverage rates, i.e. the numbers of persons receiving unemployment benefits as proportions of those reporting to be unemployed, range from under 5 percent to about 70 percent.

120. As unemployment benefits are clearly not available to all those facing joblessness, these differences point towards the need to compute tax-benefit indicators under a range of different assumptions about benefit receipt. This conclusion is further underlined by results on benefit receipt among “non-elderly” households. While, taken across all countries, households receiving unemployment benefits are the largest group, this is not true for each country individually. In a number of countries, the proportions of “non-elderly” households reporting receipt of social assistance, disability or old-age benefits are several times the number of households receiving unemployment benefits.

121. The general family types used in calculating tax/benefit indicators cover most of the population. Something close to 80 percent of “non-elderly” households are either single or two-adult households, with or without children. However, there are significant differences across countries in the relative sizes of particular sub-groups such as lone parents and one- and two-earner couples. Much the same can be said about the assumptions concerning earnings' levels and hours of work. Indicators based on working full-time with average earnings or 2/3 of average earnings are representative to the extent that the majority of men work full time and have earnings adjacent to one or other of these earnings' levels, or they are actively seeking full-time work which would pay them a similar level of income. They are much less satisfactory as summaries of the situation facing women, who are in general much more likely to be inactive, to work part-time and to earn less than 2/3 of average earnings. Looking at different individuals in a household context leads to another form of variation across countries, with two full-time working adults being common in some countries, but relatively rare in others.

122. The comparison of the OECD's tax-benefit measures with those computed for representative samples of households shows that “typical” household calculations provide essential information about the functioning of countries' tax-benefit systems. They characterise the situation of certain “typical” families and individuals and how their incomes are affected by the operation of taxes and benefits. In general, the indicators of average effective tax rates (AETR) and net replacement rates (NRR) generated by the tax-benefit models for “typical” cases are close to the modal values of these indicators for the working age population as a whole. However, there are some countries where this does not seem to be the case and a number of reasons for these differences have been discussed. They can be attributed to several differences in modelling assumptions but also to variations in household structures across countries, which are not captured when the same “typical” cases are used across countries.

123. Rather than indicating general weaknesses in any one of the approaches, observed divergences between different sources of tax-benefit indicators point towards a need for employing a range of different methods depending on the question to be addressed. Complex models that take into account the full heterogeneity of household populations capture all possible effects of tax-benefit policies on individual households. They are needed for analysing the distributional of given policy configurations. Relevant *outcome indicators* include those measuring income inequality or poverty levels and, more generally, how many individuals or households are facing particular socio-economic circumstance. These models can also be used to study the number of people likely to gain or lose following a given policy reform.

124. Tax-benefit calculations that focus on a smaller number of synthetic households are useful as *policy indicators*. They provide detailed information on the mechanics of tax-benefit rules which is needed. This is necessary for policy monitoring purposes and in order to understand the links between policy design and policy outcomes. The heterogeneity of populations, and the importance of household structure for tax burdens and benefit entitlements, highlights the need to provide such tax-benefit calculations for a range of different family types. Calculations based on household types that do not change over time provide a stable point of reference and are particularly useful monitoring policy developments. The variation of tax-benefit designs across countries and over time can be established straightforwardly since there is no need to separate observed changes into those that are a direct effect of policy reforms and those that are due to differences in underlying populations (which can themselves be influenced by policy choices). Furthermore, analyses employing “typical household” models are not limited by data availability. They can be used to analyse any situation of interest. While, in the case of data-based models, the effects of policies can only be seen to the extent that they affect households contained in the relevant data, synthetic households can be given any set of characteristics. And by varying these, it is possible to establish the particular circumstances under which policy features become relevant.

125. When interpreting results for “typical household” models, it should be remembered that they should be seen as representative of the population at large even in cases where result for the “typical” cases are close to population averages. Given the complexity of tax-benefit systems and the heterogeneity of household populations, results for typical families are not intended to summarise the situation faced by entire populations. Rather, they should be seen as being representative of features of the tax and benefit *system*. They describe these features and quantify their effects in a consistent way across countries by showing how taxes and transfers affect family incomes under a range of circumstances. Results for *specific* household situations, such as lone-parenthood or low wage levels, aid in examining the effectiveness of policies directed towards individuals facing these situations. In addition, results for the *full range* of different household types, or indicators based on them, can be used to gain an overview of the functioning of tax-benefit systems as a whole.



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## ANNEX

126. APW levels for 2001 are shown in Table A1. Statutory Minimum wages are shown alongside in countries where they exist and information is available.

**Table A.1. APW earnings and statutory minimum wages, 2001 (1)**

In national currency (2)

	APW	Minimum wage	Minimum wage in % of APW
Australia	44,215	21,497	49
Austria	23,401	--	--
Belgium	30,032	13,570	45
Canada	37,627	14,061	37
Czech Republic	192,024	60,000	31
Denmark	293,000	--	--
Finland	27,045	--	--
France	21,371	13,254	62
Germany	32,384	--	--
Greece	10,961	5,469	50
Hungary	956,412	480,000	50
Iceland	2,496,507	--	--
Ireland	23,762	12,017	51
Italy	20,901	--	--
Japan	4,310,304	1,370,720	32
Korea	20,428,200	5,057,880	25
Luxembourg	30,303	15,388	51
Netherlands	29,484	14,009	48
New Zealand	38,078	16,016	42
Norway	278,000	--	--
Poland	24,118	9,120	38
Portugal	7,985	4,010	50
Slovak Republic	125,860	52,000	41
Spain	15,716	5,196	33
Sweden	231,134	--	--
Switzerland	62,726	--	--
United Kingdom	18,950	7,904	42
United States	31,220	10,712	34

Source : OECD APW and Minimum Wage databases

1. All amounts are shown on a full-time basis (assuming 40 weekly working hours in countries where hourly minimum wages apply).
2. Euro for Euro area countries.

Table A.2. Family situations and employment status: Working-age individuals (aged 15-64), 2002

Family status	age of youngest child	sex	total	usual weekly hours worked in the main job							
				hours vary							non-employed
				<30	30-34	35-40	41-44	45+	hours vary		
<b>Austria</b>											
1 adult, no child	no child	Female	7.6%	6.7%	3.1%	51.0%	0.7%	3.7%	0.0%	34.9%	
		Male	8.7%	2.9%	1.9%	60.9%	1.0%	10.5%	0.0%	22.9%	
2+ adults, no child	no child	Female	21.1%	12.4%	4.4%	32.6%	0.6%	4.7%	0.0%	45.3%	
		Male	18.8%	2.1%	1.1%	51.9%	1.0%	10.7%	0.0%	33.2%	
1 adult, children	<6 years	Female	0.4%	30.5%	10.7%	44.5%	1.1%	2.6%	0.0%	10.7%	
		Male	0.0%	0.0%	0.0%	72.2%	0.0%	0.0%	0.0%	27.8%	
	6-14 years	Female	0.8%	22.5%	7.8%	46.9%	0.7%	4.8%	0.0%	17.3%	
		Male	0.1%	0.0%	0.0%	85.2%	0.0%	11.4%	0.0%	3.4%	
	>14 years	Female	0.6%	11.7%	5.6%	53.4%	0.7%	2.0%	0.0%	26.5%	
		Male	0.1%	5.4%	5.8%	49.9%	1.5%	24.9%	0.0%	12.4%	
2+ adults, children	<6 years	Female	4.4%	29.4%	6.7%	33.9%	1.0%	2.2%	0.0%	26.8%	
		Male	4.3%	2.0%	1.1%	76.2%	1.3%	11.0%	0.0%	8.3%	
	6-14 years	Female	10.2%	31.2%	7.1%	25.4%	0.5%	4.8%	0.0%	31.2%	
		Male	9.5%	1.4%	0.7%	75.2%	1.2%	14.1%	0.0%	7.5%	
	>14 years	Female	7.0%	23.1%	7.6%	35.2%	0.6%	6.1%	0.0%	27.4%	
		Male	6.3%	1.5%	0.8%	71.3%	0.5%	15.4%	0.0%	10.4%	
<b>total</b>			<b>100.0%</b>	<b>10.6%</b>	<b>3.4%</b>	<b>48.3%</b>	<b>0.8%</b>	<b>8.1%</b>	<b>0.0%</b>	<b>28.8%</b>	
<b>Belgium</b>											
1 adult, no child	no child	Female	6.3%	8.9%	2.7%	31.5%	1.1%	4.1%	3.6%	48.1%	
		Male	7.9%	5.0%	0.5%	40.5%	0.9%	9.9%	7.3%	35.9%	
2+ adults, no child	no child	Female	17.6%	14.2%	3.9%	21.7%	0.6%	4.5%	4.1%	51.1%	
		Male	19.6%	4.4%	2.1%	47.1%	1.2%	10.5%	8.1%	26.6%	
1 adult, children	<6 years	Female	0.5%	14.2%	0.0%	20.9%	0.0%	4.6%	1.5%	58.9%	
		Male	0.1%	0.0%	0.0%	92.4%	0.0%	0.0%	0.0%	7.6%	
	6-14 years	Female	0.7%	19.1%	4.2%	31.0%	2.3%	2.4%	3.3%	37.8%	
		Male	0.1%	6.0%	4.8%	33.3%	0.0%	0.0%	13.4%	42.5%	
	>14 years	Female	0.9%	15.6%	4.6%	22.8%	0.0%	4.2%	6.1%	46.7%	
		Male	0.2%	13.6%	4.3%	46.3%	0.0%	1.1%	0.0%	34.7%	
2+ adults, children	<6 years	Female	4.6%	24.4%	11.1%	28.7%	0.4%	4.4%	3.0%	28.0%	
		Male	4.9%	3.2%	1.1%	63.4%	1.4%	14.8%	9.4%	6.7%	
	6-14 years	Female	9.3%	27.0%	7.3%	23.2%	0.3%	5.8%	5.4%	30.9%	
		Male	8.7%	3.6%	1.4%	57.2%	1.3%	16.9%	11.7%	8.0%	
	>14 years	Female	9.6%	25.3%	7.4%	22.3%	0.7%	5.9%	5.3%	33.2%	
		Male	8.9%	4.4%	1.4%	53.7%	1.0%	15.8%	11.7%	12.1%	
<b>total</b>			<b>100.0%</b>	<b>11.7%</b>	<b>3.6%</b>	<b>37.4%</b>	<b>0.9%</b>	<b>8.9%</b>	<b>6.9%</b>	<b>30.7%</b>	
<b>France</b>											
1 adult, no child	no child	Female	7.1%	9.4%	3.6%	36.0%	1.5%	5.5%	5.5%	38.5%	
		Male	7.9%	3.9%	2.1%	42.4%	2.2%	9.5%	8.8%	31.1%	
2+ adults, no child	no child	Female	18.8%	11.3%	4.1%	30.9%	1.0%	4.7%	5.2%	42.8%	
		Male	16.9%	3.1%	1.5%	39.8%	1.7%	10.5%	11.0%	32.4%	
1 adult, children	<6 years	Female	0.5%	11.3%	6.4%	36.6%	1.1%	2.4%	3.0%	39.3%	
		Male	0.0%	7.1%	4.8%	47.6%	0.0%	15.8%	4.7%	20.0%	
	6-14 years	Female	0.8%	9.7%	8.8%	45.9%	0.9%	3.3%	6.3%	25.1%	
		Male	0.1%	5.1%	4.9%	49.0%	1.0%	11.9%	9.8%	18.3%	
	>14 years	Female	0.6%	11.2%	4.5%	45.0%	1.3%	6.1%	6.2%	25.7%	
		Male	0.2%	2.8%	2.8%	44.8%	3.5%	12.7%	11.1%	22.4%	
2+ adults, children	<6 years	Female	5.7%	14.0%	7.0%	35.2%	0.9%	3.5%	4.4%	34.9%	
		Male	5.5%	3.3%	2.0%	56.7%	2.5%	13.7%	13.1%	8.7%	
	6-14 years	Female	9.6%	17.9%	8.4%	29.8%	1.0%	4.5%	5.3%	33.1%	
		Male	8.9%	2.4%	2.0%	54.6%	2.5%	14.8%	14.8%	8.9%	
	>14 years	Female	9.3%	16.9%	7.0%	32.6%	1.1%	4.9%	5.8%	31.7%	
		Male	8.3%	2.3%	1.6%	50.5%	2.1%	16.1%	14.5%	12.9%	
<b>total</b>			<b>100.0%</b>	<b>8.5%</b>	<b>3.8%</b>	<b>39.4%</b>	<b>1.6%</b>	<b>8.4%</b>	<b>8.6%</b>	<b>29.7%</b>	
<b>Germany</b>											
1 adult, no child	no child	Female	8.3%	10.8%	3.4%	45.4%	1.1%	5.5%	0.0%	33.9%	
		Male	10.5%	5.5%	1.5%	49.9%	1.6%	12.6%	0.0%	29.0%	
2+ adults, no child	no child	Female	21.7%	17.7%	4.3%	30.8%	0.5%	4.0%	0.0%	42.7%	
		Male	19.7%	3.4%	0.8%	49.6%	1.3%	13.5%	0.0%	31.5%	
1 adult, children	<6 years	Female	0.5%	20.6%	7.1%	25.3%	0.2%	1.6%	0.0%	45.2%	
		Male	0.0%	7.9%	0.0%	43.7%	1.2%	3.8%	0.0%	43.4%	
	6-14 years	Female	0.8%	26.5%	10.4%	34.3%	0.5%	3.2%	0.0%	25.0%	
		Male	0.1%	8.8%	4.1%	56.1%	0.6%	11.6%	0.0%	18.9%	
	>14 years	Female	0.5%	16.0%	7.7%	43.1%	0.6%	4.7%	0.0%	27.9%	
		Male	0.1%	4.2%	2.5%	50.3%	3.0%	15.7%	0.0%	24.4%	
2+ adults, children	<6 years	Female	4.2%	27.0%	3.5%	24.9%	0.3%	1.7%	0.0%	42.7%	
		Male	4.2%	2.7%	1.3%	68.2%	1.7%	16.6%	0.0%	9.5%	
	6-14 years	Female	8.5%	39.2%	4.8%	16.7%	0.3%	2.4%	0.0%	36.7%	
		Male	8.1%	2.5%	1.0%	67.2%	1.6%	18.1%	0.0%	9.6%	
	>14 years	Female	6.6%	32.3%	6.2%	25.5%	0.5%	4.1%	0.0%	31.5%	
		Male	6.2%	2.3%	0.8%	64.2%	1.2%	17.5%	0.0%	14.0%	
<b>total</b>			<b>100.0%</b>	<b>13.4%</b>	<b>2.8%</b>	<b>42.6%</b>	<b>1.0%</b>	<b>9.2%</b>	<b>0.0%</b>	<b>30.9%</b>	

Source: Special tabulations provided by Eurostat based on the European Labour Force Survey.

Note: Excludes individuals who are neither the head of household nor the spouse of the head of household.

Table A.2. Family situations and employment status: Working-age individuals (aged 15-64), 2002 (cont.)

Family status	age of youngest child	sex	total	usual weekly hours worked in the main job							hours vary	non-employed
				<30	30-34	35-40	41-44	45+				
Greece	1 adult, no child	Female	4.5%	5.2%	4.3%	24.7%	0.9%	9.3%	0.0%	55.6%		
		Male	4.4%	2.7%	3.2%	31.6%	2.5%	25.0%	0.0%	35.0%		
	2+ adults, no child	Female	23.9%	3.4%	4.8%	16.6%	1.2%	12.4%	0.0%	61.6%		
		Male	18.2%	1.6%	3.3%	31.0%	1.8%	30.7%	0.0%	31.6%		
	1 adult, children	<6 years	Female	0.1%	9.3%	0.0%	44.3%	3.7%	7.9%	0.0%	34.7%	
			Male	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	
		6-14 years	Female	0.3%	9.9%	5.1%	39.7%	1.8%	20.0%	0.0%	23.4%	
			Male	0.0%	0.0%	12.8%	58.2%	6.0%	23.0%	0.0%	0.0%	
		>14 years	Female	0.4%	4.4%	4.3%	32.4%	3.1%	10.2%	0.0%	45.6%	
			Male	0.1%	0.0%	0.0%	26.8%	2.5%	32.0%	0.0%	38.7%	
	2+ adults, children	<6 years	Female	4.3%	7.6%	6.4%	26.0%	1.1%	8.3%	0.0%	50.6%	
			Male	4.3%	2.5%	3.2%	45.4%	2.2%	42.8%	0.0%	4.0%	
		6-14 years	Female	9.3%	6.1%	5.5%	26.2%	1.3%	13.7%	0.0%	47.1%	
			Male	8.9%	2.4%	2.9%	46.9%	2.1%	40.5%	0.0%	5.2%	
		>14 years	Female	11.3%	4.5%	4.7%	23.2%	1.5%	13.4%	0.0%	52.7%	
			Male	10.2%	2.2%	3.1%	42.3%	2.5%	36.0%	0.0%	13.9%	
	<b>total</b>			<b>100.0%</b>	<b>3.4%</b>	<b>4.1%</b>	<b>29.0%</b>	<b>1.6%</b>	<b>22.4%</b>	<b>0.0%</b>	<b>39.3%</b>	
	Italy	1 adult, no child	Female	4.3%	9.8%	2.9%	32.0%	1.9%	8.0%	0.0%	45.3%	
			Male	5.5%	4.9%	1.9%	46.6%	2.4%	20.8%	0.0%	23.5%	
		2+ adults, no child	Female	18.6%	7.6%	2.1%	20.1%	1.1%	5.1%	0.0%	64.0%	
Male			15.0%	2.6%	1.2%	37.6%	2.4%	18.1%	0.0%	38.1%		
1 adult, children		<6 years	Female	0.2%	14.9%	2.8%	35.7%	2.4%	9.9%	0.0%	34.2%	
			Male	0.0%	0.0%	0.0%	44.4%	0.0%	44.1%	0.0%	11.4%	
		6-14 years	Female	0.4%	13.4%	5.4%	44.8%	1.7%	10.0%	0.0%	24.7%	
			Male	0.1%	8.3%	3.9%	52.5%	4.0%	14.1%	0.0%	17.3%	
		>14 years	Female	0.5%	13.1%	3.1%	33.6%	2.4%	7.7%	0.0%	40.2%	
			Male	0.1%	3.7%	0.8%	43.6%	1.0%	17.2%	0.0%	33.7%	
2+ adults, children		<6 years	Female	5.4%	15.4%	4.0%	26.9%	1.2%	5.0%	0.0%	47.5%	
			Male	5.3%	3.6%	2.0%	55.9%	3.8%	28.4%	0.0%	6.3%	
		6-14 years	Female	10.0%	15.6%	3.7%	23.6%	1.1%	4.4%	0.0%	51.6%	
			Male	9.7%	3.6%	1.4%	56.1%	3.6%	27.4%	0.0%	8.0%	
		>14 years	Female	13.0%	12.6%	3.4%	21.0%	1.2%	5.1%	0.0%	56.8%	
			Male	11.9%	4.0%	1.6%	48.7%	2.9%	23.5%	0.0%	19.3%	
<b>total</b>				<b>100.0%</b>	<b>7.7%</b>	<b>2.3%</b>	<b>34.6%</b>	<b>2.0%</b>	<b>13.6%</b>	<b>0.0%</b>	<b>39.8%</b>	
Luxembourg		1 adult, no child	Female	5.0%	7.3%	2.0%	53.2%	0.0%	3.3%	3.2%	31.1%	
			Male	7.3%	2.5%	0.5%	60.3%	1.5%	10.3%	3.4%	21.6%	
		2+ adults, no child	Female	17.7%	8.5%	2.9%	34.4%	0.0%	1.6%	1.2%	51.4%	
	Male		17.0%	0.9%	0.6%	59.0%	0.5%	5.1%	5.1%	28.9%		
	1 adult, children	<6 years	Female	0.2%	22.3%	14.9%	62.9%	0.0%	0.0%	0.0%	0.0%	
			Male	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	
		6-14 years	Female	0.4%	14.4%	9.6%	66.1%	0.0%	0.0%	3.1%	6.8%	
			Male	0.1%	0.0%	0.0%	70.7%	0.0%	18.1%	0.0%	11.2%	
		>14 years	Female	0.3%	5.7%	0.0%	59.1%	0.0%	3.4%	0.0%	31.8%	
			Male	0.1%	0.0%	0.0%	70.5%	0.0%	0.0%	0.0%	29.5%	
	2+ adults, children	<6 years	Female	7.1%	20.9%	5.6%	36.9%	0.0%	1.0%	1.5%	34.1%	
			Male	7.2%	2.1%	0.0%	80.7%	0.2%	10.4%	2.9%	3.7%	
		6-14 years	Female	9.9%	25.8%	5.8%	21.3%	0.4%	1.8%	2.0%	43.0%	
			Male	9.6%	1.6%	0.3%	82.1%	0.1%	8.5%	3.9%	3.5%	
		>14 years	Female	9.3%	23.8%	3.8%	20.8%	0.1%	1.3%	1.8%	48.4%	
			Male	8.9%	1.0%	0.6%	73.5%	0.7%	9.5%	5.2%	9.5%	
	<b>total</b>			<b>100.0%</b>	<b>9.0%</b>	<b>2.2%</b>	<b>50.7%</b>	<b>0.3%</b>	<b>4.9%</b>	<b>3.0%</b>	<b>30.0%</b>	
	Netherlands	1 adult, no child	Female	6.7%	21.3%	11.2%	31.6%	0.1%	1.4%	0.0%	34.5%	
			Male	8.7%	13.2%	6.3%	51.6%	0.3%	5.3%	0.0%	23.3%	
		2+ adults, no child	Female	23.3%	29.7%	11.2%	20.6%	0.1%	1.6%	0.0%	36.8%	
Male			21.5%	7.6%	5.2%	59.4%	0.4%	8.6%	0.0%	18.7%		
1 adult, children		<6 years	Female	0.3%	25.2%	7.8%	9.3%	0.0%	0.7%	0.0%	57.1%	
			Male	0.0%	38.5%	12.2%	19.4%	0.0%	12.5%	0.0%	17.5%	
		6-14 years	Female	0.4%	28.7%	16.3%	21.8%	0.0%	1.2%	0.0%	32.1%	
			Male	0.1%	17.0%	1.8%	54.7%	0.0%	0.0%	0.0%	26.5%	
		>14 years	Female	0.2%	28.5%	7.7%	18.0%	0.0%	0.3%	0.0%	45.6%	
			Male	0.1%	3.7%	8.7%	56.6%	0.0%	7.9%	0.0%	23.1%	
2+ adults, children		<6 years	Female	6.1%	57.7%	8.3%	5.8%	0.0%	0.7%	0.0%	27.5%	
			Male	6.0%	3.9%	7.2%	72.7%	0.4%	11.5%	0.0%	4.3%	
		6-14 years	Female	10.2%	56.9%	6.6%	5.7%	0.1%	0.8%	0.0%	29.8%	
			Male	9.6%	4.4%	5.6%	71.6%	0.7%	11.9%	0.0%	5.8%	
		>14 years	Female	3.6%	42.5%	6.7%	11.2%	0.0%	1.5%	0.0%	38.0%	
			Male	3.2%	4.9%	5.0%	63.7%	0.6%	13.1%	0.0%	12.7%	
<b>total</b>				<b>100.0%</b>	<b>23.1%</b>	<b>7.7%</b>	<b>39.0%</b>	<b>0.3%</b>	<b>5.2%</b>	<b>0.0%</b>	<b>24.7%</b>	

Source: Special tabulations provided by Eurostat based on the European Labour Force Survey.

Note: Excludes individuals who are neither the head of household nor the spouse of the head of household.

**Table A.2. Family situations and employment status: Working-age (aged 15-64) individuals, 2002 (cont.)**

	Family status	age of youngest child	sex	total	usual weekly hours worked in the main job						
					<30	30-34	35-40	41-44	45+	hours vary	non-employed
Portugal	1 adult, no child	no child	Female	2.3%	12.6%	2.2%	40.7%	1.2%	10.6%	0.0%	32.7%
			Male	2.0%	3.5%	1.6%	51.0%	1.6%	17.9%	0.0%	24.5%
	2+ adults, no child	no child	Female	20.7%	10.1%	2.9%	33.7%	1.4%	8.9%	0.0%	43.0%
			Male	16.7%	4.1%	2.4%	47.1%	1.6%	20.7%	0.0%	24.2%
	1 adult, children	<6 years	Female	0.3%	4.1%	0.0%	69.0%	7.2%	0.0%	0.0%	19.7%
			Male	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
		6-14 years	Female	0.4%	2.2%	0.0%	71.7%	3.3%	18.1%	0.0%	4.7%
			Male	0.1%	5.7%	0.0%	63.9%	0.0%	30.4%	0.0%	0.0%
		>14 years	Female	0.6%	10.2%	2.2%	46.9%	1.7%	14.4%	0.0%	24.6%
			Male	0.1%	4.3%	2.6%	42.5%	0.0%	42.8%	0.0%	7.8%
	2+ adults, children	<6 years	Female	5.2%	4.4%	1.7%	63.1%	1.9%	7.9%	0.0%	20.9%
			Male	5.1%	1.5%	0.4%	72.4%	2.6%	20.5%	0.0%	2.6%
		6-14 years	Female	10.9%	7.2%	3.3%	53.8%	2.2%	9.1%	0.0%	24.4%
			Male	10.3%	0.9%	1.2%	62.2%	2.4%	27.5%	0.0%	5.8%
		>14 years	Female	13.4%	9.3%	3.2%	44.4%	2.3%	9.1%	0.0%	31.7%
Male			11.9%	2.4%	1.3%	59.6%	2.6%	23.0%	0.0%	11.1%	
<b>total</b>			<b>100.0%</b>	<b>5.9%</b>	<b>2.3%</b>	<b>50.0%</b>	<b>2.0%</b>	<b>15.4%</b>	<b>0.0%</b>	<b>24.5%</b>	
Spain	1 adult, no child	no child	Female	2.0%	7.8%	4.3%	44.2%	1.7%	6.8%	0.0%	35.3%
			Male	2.8%	2.6%	2.3%	53.6%	1.7%	17.2%	0.1%	22.4%
	2+ adults, no child	no child	Female	18.6%	6.4%	1.9%	26.3%	0.9%	5.4%	0.0%	59.1%
			Male	15.6%	0.9%	1.0%	53.9%	1.5%	17.1%	0.0%	25.6%
	1 adult, children	<6 years	Female	0.1%	7.8%	3.1%	45.2%	0.0%	7.3%	0.0%	36.6%
			Male	0.0%	0.0%	0.0%	42.6%	0.0%	23.1%	0.0%	34.4%
		6-14 years	Female	0.3%	8.8%	5.0%	53.2%	0.9%	7.7%	0.0%	24.4%
			Male	0.0%	0.0%	0.0%	54.2%	8.3%	22.3%	0.0%	15.3%
		>14 years	Female	0.4%	7.2%	5.0%	36.1%	0.0%	6.4%	0.0%	45.3%
			Male	0.1%	1.2%	0.0%	53.4%	2.9%	19.1%	0.0%	23.3%
	2+ adults, children	<6 years	Female	5.9%	8.8%	3.2%	34.3%	1.1%	3.2%	0.0%	49.3%
			Male	5.8%	1.2%	1.2%	67.0%	1.8%	21.9%	0.0%	6.8%
		6-14 years	Female	11.1%	9.2%	3.3%	28.9%	0.7%	4.9%	0.0%	53.0%
			Male	10.7%	1.2%	1.5%	63.5%	1.8%	24.1%	0.0%	7.8%
		>14 years	Female	14.0%	7.2%	2.9%	26.2%	0.7%	5.0%	0.0%	57.9%
Male			12.5%	0.9%	1.4%	58.8%	1.4%	22.1%	0.1%	15.3%	
<b>total</b>			<b>100.0%</b>	<b>4.5%</b>	<b>2.1%</b>	<b>43.1%</b>	<b>1.2%</b>	<b>12.5%</b>	<b>0.0%</b>	<b>36.7%</b>	
United Kingdom	1 adult, no child	1 adult, no child	Female	6.6%	12.0%	3.4%	27.0%	7.1%	16.1%	0.8%	33.6%
			Male	8.4%	4.5%	1.4%	25.4%	9.6%	29.6%	0.9%	28.6%
	2+ adults, no child	2+ adults, no child	Female	21.5%	21.8%	4.9%	26.2%	5.8%	10.4%	0.6%	30.2%
			Male	20.8%	4.8%	1.6%	28.3%	10.5%	34.4%	1.3%	19.1%
	1 adult, children	1 adult, child	Female	1.0%	25.4%	3.6%	12.3%	1.6%	2.4%	0.5%	54.3%
			Male	0.1%	9.0%	0.0%	23.1%	14.0%	24.4%	0.0%	29.6%
		1 adult, child	Female	1.1%	29.3%	5.3%	15.9%	3.5%	5.8%	0.3%	40.0%
			Male	0.2%	9.1%	5.0%	19.8%	10.4%	18.1%	1.3%	36.3%
		1 adult, child	Female	0.4%	20.2%	4.0%	21.8%	1.9%	8.3%	1.1%	42.6%
			Male	0.1%	9.8%	0.0%	21.7%	5.4%	26.7%	2.2%	34.1%
	2+ adults, children	2+ adults, child	Female	4.8%	34.3%	4.6%	13.2%	2.2%	4.6%	0.5%	40.7%
			Male	5.0%	3.1%	1.8%	29.9%	12.4%	42.9%	1.5%	8.3%
		2+ adults, child	Female	10.9%	38.7%	6.9%	13.9%	2.5%	5.2%	0.5%	32.3%
			Male	9.9%	3.1%	1.7%	27.4%	11.2%	45.2%	1.9%	9.4%
		2+ adults, child	Female	4.9%	31.2%	6.8%	17.5%	3.2%	7.6%	0.6%	33.1%
Male			4.3%	3.6%	1.8%	26.1%	8.8%	41.1%	1.9%	16.7%	
<b>total</b>			<b>100.0%</b>	<b>15.6%</b>	<b>3.5%</b>	<b>24.2%</b>	<b>7.5%</b>	<b>22.7%</b>	<b>1.0%</b>	<b>25.5%</b>	

Source: Special tabulations provided by Eurostat based on the European Labour Force Survey.

Note: Excludes individuals who are neither the head of household nor the spouse of the head of household.

**Table A.3. Share of non-elderly households receiving unemployment benefits only, or combining unemployment benefits with other social benefits**

% non-elderly households receiving unemployment benefits	Unemployment benefits only	Unemployment benefits combined with:										Unemployment benefits combined with one or more benefits	Unemployment benefits combined with two or more benefits
		1.	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	2. (sum a to h)		
sum (1 to 3)		Old age	Survivors	Sickness	Disability	Maternal and parenting	Training, placement and resettlements	Social assistance	Housing				
Australia	7.7	0.3	0.0	0.3	0.5	..	0.7	0.1	..	1.9	0.3	0.3	
Austria	8.2	0.8	0.3	0.1	0.6	0.8	0.1	0.4	1.1	4.2	0.3	0.3	
Belgium	15.1	1.3	0.2	0.3	1.1	..	..	0.4	0.1	3.4	0.6	0.6	
Canada	17.4	1.0	..	1.7	..	..	..	1.9	..	4.7	0.6	0.6	
Czech Rep.	6.6	0.2	0.0	0.7	0.3	0.2	..	0.9	0.1	2.3	2.3	2.3	
Denmark	16.2	0.7	..	4.8	0.3	..	..	1.1	1.3	8.1	2.1	2.1	
Finland	11.1	0.3	0.2	2.1	0.7	0.5	1.5	1.0	2.5	8.8	9.3	9.3	
France	17.0	1.0	0.2	0.7	0.5	0.1	..	0.4	4.2	7.1	2.4	2.4	
Germany	14.7	0.7	0.5	0.1	0.6	0.2	0.7	0.1	1.7	4.5	1.2	1.2	
Hungary	6.5	0.3	..	0.8	0.9	0.8	0.1	1.0	..	3.8	1.9	1.9	
Italy	2.1	0.1	0.0	0.0	0.0	..	..	0.0	..	0.2	0.0	0.0	
Luxembourg	2.0	..	..	0.2	..	..	..	0.0	..	0.3	0.2	0.2	
Mexico	0.7	0.0	..	..	..	..	..	..	..	0.0	..	..	
Netherlands	13.2	..	0.3	0.9	1.1	..	..	0.2	1.4	3.9	0.5	0.5	
Norway	20.5	0.8	0.4	..	1.0	0.6	..	1.8	0.1	4.6	1.7	1.7	
Poland	6.1	0.4	0.1	..	0.7	0.0	..	1.7	0.1	3.1	0.8	0.8	
Sweden	19.2	0.0	0.0	2.1	0.1	1.7	2.3	0.3	0.5	7.2	6.7	6.7	
United Kingdom	5.0	0.0	0.0	0.0	0.1	..	0.0	0.1	2.2	2.5	1.4	1.4	
United States	3.4	0.1	0.0	0.1	0.1	..	..	1.1	0.1	1.5	0.4	0.4	
Average	7.4	0.5	0.2	0.9	0.5	0.5	0.8	0.7	1.1	3.8	1.8	1.8	

Note. Average value across the 19 countries shown (including only countries with programme of the given type).

Source. Tabulations from Luxembourg Income Studies datafiles. See footnote 30 for sources and reference years.

**Table A.4. Distribution of non-elderly households receiving unemployment benefits and of all non-elderly households, by household type**

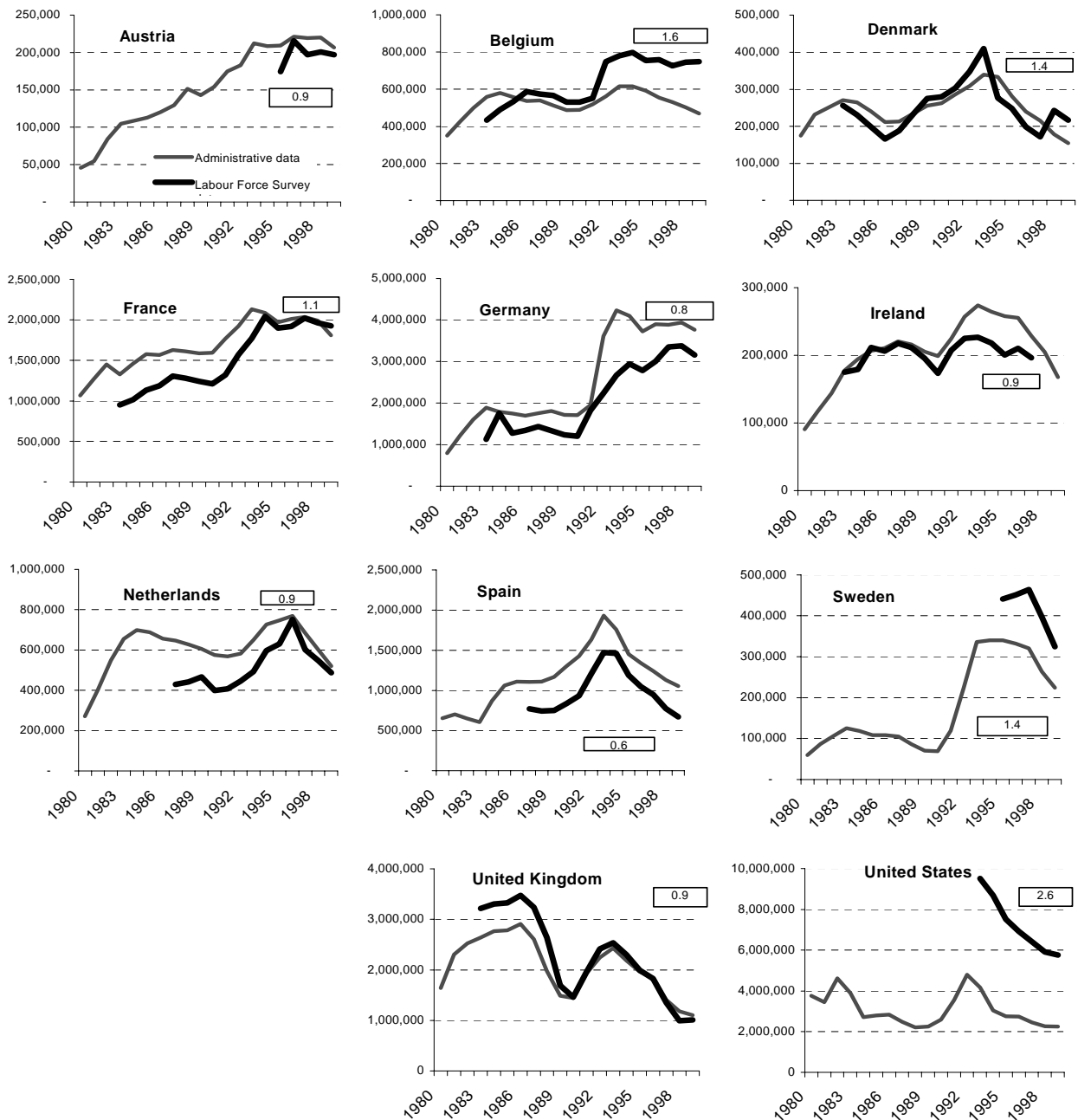
		One adult	Two or more adults	No children	One or more children	No worker	One or more workers
Australia	Households receiving unemployment benefits	36.6	63.4	68.9	31.1	25.1	74.9
	All households	35.5	64.5	60.7	39.3	15.1	84.9
Austria	Households receiving unemployment benefits	22.2	77.8	47.0	53.0	15.8	84.2
	All households	30.0	70.0	60.2	39.8	10.6	89.4
Belgium	Households receiving unemployment benefits	20.2	79.8	55.8	44.2	38.4	61.6
	All households	23.2	76.8	59.9	40.1	19.2	80.8
Canada	Households receiving unemployment benefits	19.9	80.1	55.3	44.7	2.3	97.7
	All households	32.0	68.0	60.2	39.8	9.8	90.2
Czech	Households receiving unemployment benefits	10.5	89.5	47.1	52.9	15.1	84.9
	All households	18.0	82.0	52.1	47.9	9.7	90.3
Denmark	Households receiving unemployment benefits	29.3	70.7	55.2	44.8	0.4	99.6
	All households	45.0	55.0	68.3	31.7	7.8	92.2
Finland	Households receiving unemployment benefits	32.0	68.0	63.4	36.6	15.5	84.5
	All households	38.6	61.4	65.9	34.1	11.3	88.7
France	Households receiving unemployment benefits	19.3	80.7	53.2	46.8	16.1	83.9
	All households	26.8	73.2	55.2	44.8	13.8	86.2
Germany	Households receiving unemployment benefits	26.4	73.6	58.8	41.2	19.1	80.9
	All households	30.6	69.4	60.4	39.6	9.8	90.2
Hungary	Households receiving unemployment benefits	9.1	90.9	49.8	50.2	17.4	82.6
	All households	21.2	78.8	57.8	42.2	23.1	76.9
Italy	Households receiving unemployment benefits	5.1	94.9	39.6	60.4	7.7	92.3
	All households	14.4	85.6	53.6	46.4	11.9	88.1
Luxembourg	Households receiving unemployment benefits	28.8	71.2	66.9	33.1	20.2	79.8
	All households	18.5	81.5	52.2	47.8	11.8	88.2
Mexico	Households receiving unemployment benefits	4.3	95.7	14.0	86.0	..	100.0
	All households	8.8	91.2	19.4	80.6	4.3	95.7
Netherlands	Households receiving unemployment benefits	29.8	70.2	66.0	34.0	23.4	76.6
	All households	27.5	72.5	63.2	36.8	17.0	83.0
Norway	Households receiving unemployment benefits	31.3	68.7	58.4	41.6	1.4	98.6
	All households	41.7	58.3	60.9	39.1	7.9	92.1
Poland	Households receiving unemployment benefits	6.3	93.7	40.3	59.7	35.1	64.9
	All households	14.9	85.1	42.9	57.1	21.0	79.0
Sweden	Households receiving unemployment benefits	41.0	59.0	58.4	41.6	10.2	89.8
	All households	49.2	50.8	66.3	33.7	9.7	90.3
United Kingdom	Households receiving unemployment benefits	37.5	62.5	69.2	30.8	61.4	38.6
	All households	29.7	70.3	60.4	39.6	20.0	80.0
United States	Households receiving unemployment benefits	22.7	77.3	50.5	49.5	1.8	98.2
	All households	29.3	70.7	55.5	44.5	6.9	93.1
<i>Average</i>	<i>Households receiving unemployment benefits</i>	<i>22.2</i>	<i>72.5</i>	<i>51.1</i>	<i>43.6</i>	<i>17.8</i>	<i>78.4</i>
	<i>All households</i>	<i>27.2</i>	<i>67.5</i>	<i>53.8</i>	<i>40.9</i>	<i>12.2</i>	<i>82.6</i>

Note. Unweighted average across the countries shown. Survey data are grossed up to the total number of households in the country.

Source: Tabulations from Luxembourg Income Study datafiles.



**Figure A.1. Recipients of unemployment benefits:  
a comparison between administrative and force survey data**



Note: The values within boxes are the simple ratio between the number of persons who declare receiving an unemployment benefit in labour force surveys (as numerator) and the number of unemployment benefit-years from administrative surveys (as denominator) in 1999.

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