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LOW INCOME AND LOW PAY IN A HOUSEHOLD CONTEXT (EU-12)

This "Statistics in Focus" deals with the issue of low income and low pay in 1993 in a household context. It draws on European Community Household Panel data collected in 1994 in the then 12 European Union Member States (EU-12).

In the European Union of the Twelve, 10% of the population living in prime-age households (i.e. households where the reference person is 18 to 54 years old) are members of workless households.

Although the risk of low income is highest for members of workless households, the presence of some work in the household is not always sufficient to escape low income. The position of individuals in the income distribution depends largely on the employment profile of their households. The presence of at least one person in full-time employment throughout the year means in most cases that a household has an income in the upper quintiles of the income distribution.

Not surprisingly, full-time employees in low-income households are often in low-paid jobs. However, the majority of low-paid full-time employees do not live in low-income households. At EU-12 level, some 60% live in households that have incomes in the upper quintiles of the income distribution.

When considering the economic well being of individuals, it may be more appropriate to focus on households rather than individuals. For instance, the risk of economic distress for non-employed individuals may depend largely on the degree of support they receive from other members of their households. The present report, therefore, examines the relationship between an individual's position in the income distribution and the labour market characteristics of his or her household.

The emphasis is placed on the following questions: what is the employment profile of low-income households? What is the impact of joblessness on household income? And where there is access to earned income, what is the overlap between low pay and low income?

The data used in this analysis originate from the first wave of the European Community Household Panel (ECHP) and refer to 1993. This report attempts to exploit the potential of the ECHP to provide compa-

table and inter-related information on household structures, employment patterns and income from earnings, social transfers and other sources. (See Technical box, pages 6-7).

In the European Union (EU-12), 24% of the population live in workless households

In the analysis below, the "employment intensity" of a household distinguishes between "workless" and "working" households. "Workless" households are those where no individual was in work at any time during 1993, whether unemployed, retired or inactive for other reasons. "Working" households are split between those where at least one adult member was a wage or salary earner working full-time (i.e., 30 hours or more per week) throughout 1993 and those where members were either self-employed or part-time/part-year employed. The "age of a household" is proxied by the age of the household's reference person.

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Table 1:
Distribution of individuals by "employment intensity" and age of reference person in their households

(as a % of all individuals)

	Members of workless households, with a reference person:			Members of working households, with a reference person:		
	aged less than 55	aged 55 or more	Total	aged less than 55	aged 55 or more	Total
B	10	20	30	64	6	70
DK	7	16	23	66	11	77
D	6	18	24	67	9	76
EL	5	15	19	67	14	81
E	7	13	20	68	12	80
F	8	19	27	68	5	73
IRL	17	10	28	62	10	72
I	5	16	22	66	13	78
L	3	16	19	76	5	81
NL	9	17	26	68	5	74
P	3	11	14	70	17	86
UK	11	17	27	63	10	73
EU-12	7	17	24	66	10	76

As expected, the employment profile of a household depends largely on its age. Of the total EU population, 66% live in prime-age working households, that is households where the reference person is 18 to 54 years old (Table 1). Only 10% live in older working households. Workless households account for 24% of EU citizens (ranging from 14% in Portugal to 30% in Belgium), of which 7% belong to prime-age households and 17% to older households.

Of the 73% of the EU population living in prime-age households (66%+7%, as shown in Table 1), 10% are members of workless households (Table 2). This measure of "risk" is by far the highest in Ireland (22%), followed well behind by the United Kingdom (15%). At 4%, it is much lower in Luxembourg and Portugal.


These figures mainly reflect two underlying factors. First, differences in non-employment rates between countries, that is the proportion of individuals in the prime-age population not in work (i.e. either unemployed or inactive). Second, differences in the relative number of the non-employed who live in households with at least one person in work - a number which, if high, can offset the effect of high rates of non-employment. The structure of the household population is important in accounting for the share of workless households in the total. In particular, a large proportion of single-adult households, for which the risk of non-employment is higher than average, is likely to

increase the share of workless households¹.

Predictably, among members of older households the risk of living in a workless household is much higher than for members of prime-age households. In the European Union, 63% of individuals in households where the reference person is aged 55 years or more do not have access to earned income (Table 2). Most of these are probably retired, though some will be unemployed or inactive for other reasons.

Table 2:
Risk of living in workless households by age of reference person

(as a % of individuals in each household type)

	Members of households with a reference person:	
	aged less than 55	aged 55 or more
B	13	77
DK	10	60
D	8	67
EL	7	51
E	9	54
F	10	78
IRL	22	50
I	8	56
L	4	76
NL	11	76
P	4	39
UK	15	62
EU-12	10	63


In all Member States, the majority of the population live in households with at least one member in a "full-time, full-year" job

When the household has access to some earned income, it is important to distinguish between different degrees of "employment intensity" (Table 3). In the European Union, 75% of individuals in working households either share their dwelling and living arrangements with at least one person in "full-time, full-year" employment (hereafter simply referred to as "full-time") or are themselves "full-time" employees. The proportion is highest, at 85% or more, in Germany, Luxembourg and the Netherlands. In Greece and, to a lesser extent, Italy, a large share of individuals live in households where self-employment is the only source of earned income. Spain records the highest proportion of persons who are members of households with nobody in "full-time" employment, but at least one person in a part-time and/or part-year job.

¹ For a more lengthy discussion and evidence on this issue, see DGV, *Employment in Europe 1996: Analysis of key issues*, OPOCE (Catalogue number: CE-06-97-424), Luxembourg, 1997 and OECD, *Employment Outlook*, Paris, 1998 (forthcoming).

Table 3:
Distribution of individuals in working households by “employment intensity”

(as a % of individuals in working households)

	Members of full-time full-year employed households	Members of part-time, part-year employed households	Members of self-employed households
B	78	10	12
DK	79	16	5
D	85	10	5
EL	50	13	38
E	66	17	17
F	77	14	9
IRL	67	15	17
I	67	11	22
L	86	6	9
NL	85	9	7
P	75	7	18
UK	75	15	9
EU-12	75	12	13

Adjusted income, income quintiles and low income

Adjusted income facilitates comparisons between households' incomes. The “adjustment” of the total household income takes account of the varying size of households.

Income quintiles (and low income) are calculated for each country as follows: individuals are first ranked from lowest to highest by the adjusted income of the household in which they live. Then, they are divided into 5 groups of equal size. Thus, the bottom quintile group comprises the 20% of individuals with the lowest income, and is referred to as the “low income” quintile.

Table 4 looks at the *risk* for individuals of being in the low income quintile: 14% of EU citizens living in working households have a low income. By contrast, Table 5 looks at the *distribution* of individuals with low income: 53% of EU citizens with a low income are members of working households.

Individuals in prime-age workless households are those most likely to have a low income


In the European Union as a whole, 39% of individuals belonging to workless households are in the lowest income quintile (Table 4). Members of workless households are particularly exposed to the risk of low income in Ireland (52%), as well as Denmark and Portugal (both 50%). Where at least one household

member has been in employment at any time during the year, this proportion falls to 14% at EU level and 8% in Ireland.

Among individuals living in workless households, the risk of low income is lower for members of older households than for those in prime-age households, with the exception of Greece and Portugal. This may be the combined result, for older households, of the absence of dependent children and the receipt of old age pensions. The risk of low income among old workless households is lowest in Italy and Luxembourg, where pension coverage is relatively generous.

Table 4:
Risk of low income by “employment intensity” and age of reference person in the household

(as a % of individuals in each household type)

	Members of workless households, with a reference person:			Members of working households
	aged less than 55	aged 55 or more	Total	
B	66	33	44	10
DK	50	50	50	11
D	59	34	40	14
EL	35	40	39	16
E	46	29	35	16
F	51	29	36	14
IRL	60	39	52	8
I	57	26	34	16
L	58	24	30	18
NL	67	28	41	13
P	45	51	50	15
UK	63	34	45	11
EU-12	57	32	39	14

The presence of some work in the household is not always sufficient to escape low income


While the risk of low income is highest for individuals in households with no earnings, working households still account for a considerable share of all low-income individuals (Table 5).

For the EU as a whole, 53% of low-income individuals live in households with some employment. Across EU countries, between one-third and two-thirds of the low-income population are members of households that contain one or more adults either employed or self-employed for at least one month during the year, with this share being particularly high in Luxembourg, and low in Ireland and Belgium. The distribution of low-income individuals by the employment status of their households partly reflects of course the distribution of the overall population by the employment patterns of their households shown in Table 1. Coun-

tries where a high proportion of the population live in workless households are more likely to have a high proportion of all low-income individuals also living in these households.

Table 5:
Distribution of low-income individuals by “employment intensity” and age of reference person in their households

(as a % of all low-income individuals)

	Members of workless households, with a reference person:		Members of working households
	aged less than 55	aged 55 and more	
B	32	34	34
DK	17	41	41
D	17	31	52
EL	8	29	63
E	16	20	64
F	20	27	52
IRL	52	20	28
I	15	21	64
L	9	19	72
NL	29	24	47
P	6	28	66
UK	33	28	39
EU-12	21	27	53

Employment intensity within households is a key variable for the position of individuals in the income distribution

In fact, the position of individuals in the income distribution largely depends on the employment intensity within their households (Table 6). In the European Union, 75% of individuals belonging to households with at least one full-time wage or salary earner have an adjusted income in the three upper income quintiles. In Ireland, this figure is 86%. Few individuals in such households are in the bottom quintile: 7% in the European Union.

In all Member States, individuals in working households where there is no full-time employment are more evenly distributed across the income distribution. Around 33% of them are in the lowest income quintile, showing that earnings from a part-time/temporary job or from self-employment are often not sufficient to shift households out of the bottom quintile.

The share of wages and salaries in total household income provides another angle from which to examine the income distribution (Table 7). In all countries except Luxembourg, less than one-third of the income available to low-income households comes

from wages and salaries. This share is much larger for households in the higher income quintiles, where wages and salaries account for between 46% (in Greece) and over 70% (in Denmark and Portugal) of total household income.

Table 6:
Distribution of individuals in the income distribution by household “employment intensity”

(as a % of individuals in each household type)



	Full-time, full-year employed households			Other working households		
	1st quintile	2nd quintile	3d to 5th quintile	1st quintile	2nd quintile	3d to 5th quintile
B	4	14	81	28	22	49
DK	5	16	79	30	27	43
D	9	19	72	39	18	43
EL	4	15	81	27	24	49
E	6	16	78	35	23	42
F	9	18	73	34	22	44
IRL	2	12	86	20	24	56
I	8	18	74	33	19	48
L	15	18	67	32	13	55
NL	9	19	72	33	19	48
P	6	18	76	42	22	36
UK	5	14	81	28	23	50
EU-12	7	17	75	33	21	46

Table 7:
Share of wages and salaries in total household income by income quintile

(%)

	1st quintile	2nd quintile	3rd to 5th quintile
B	13	34	63
DK	19	45	71
D	30	53	68
EL	11	30	46
E	26	43	61
IRL	6	24	61
I	28	46	57
L	47	49	63
NL	28	57	67
P	22	52	72
UK	15	35	65
EU-12

NB: France is not included in this Table because French earnings data are gross of income taxes while total household income is net.

If the level of earnings is indeed a major determinant of the economic well being of workers and their households' members, what is the relationship between low pay and low income?

Employees in low-income households are often in low-paid jobs

Earnings, earning quintiles and low pay

Earnings: in order to avoid the additional complication of disentangling differences in time worked and differences in wage/salary rates, only earnings of full-time, full-year wage or salary earners are considered.

Earning quintiles (and low pay) are calculated for each country as follows: full-time, full-year employees aged 18 and over are first ranked by their earnings from lowest to highest, and then divided into 5 groups of equal size. Thus, the bottom quintile group comprises the 20% of full-time, full-year employees with the lowest earnings, and is referred to as the "low pay" quintile.

Table 8 looks at the *risk* for individuals in each income quintile of being low paid (i.e., in the low pay quintile), whereas Table 10 looks at the *distribution* of low-paid employees by income quintile.


The vast majority of those in low-income households with a job are low paid (Table 8). For the EU as a whole, some two-thirds of full-time employees living in low-income households are in low-paid jobs whereas less than 1 in 6 full-time employees in higher-income households are low paid. The chances of workers in low-income households having low pay is particularly high in Greece, Ireland and the UK and well below the EU-12 average in Luxembourg and the Netherlands.

Low-paid employees are not only found in low-income households

The distribution of low-paid employees across in-

Table 8:
Risk of low pay by income quintile


(as a % of full-time, full-year employees in each quintile)

	1st quintile	2nd quintile	3rd to 5th quintile
B	71	32	17
DK	68	42	14
D	64	35	13
EL	81	31	17
E	72	29	16
F	63	41	15
IRL	79	28	18
I	68	27	16
L	54	29	13
NL	52	21	17
P	63	34	15
UK	84	42	15
EU-12	66	35	15

come quintiles is not only a function of the risk of low pay in each quintile, but also of the share of total employment accounted for by individuals in each quintile. While a high proportion of full-time workers in low-income households have low pay (66%, as shown in Table 8), they account for only a relatively small share of total full-time wage/salary employment: 5% in the European Union (Table 9).

Table 9:
Distribution of full-time, full-year employees by income quintile


(as a % of all full-time, full-year employees)

	1st quintile	2nd quintile	3rd to 5th quintile
B	3	11	86
DK	4	13	83
D	7	16	77
EL	3	11	86
E	4	12	83
F	6	15	79
IRL	1	8	91
I	5	13	82
L	12	14	73
NL	6	12	82
P	4	14	82
UK	3	11	86
EU-12	5	13	81

It is therefore not too surprising that in all EU countries, low-paid workers in full-time employment are spread across all income quintiles (Table 10). At EU level, some 60% have household incomes in the 3rd to 5th income quintiles, with only Germany and Luxembourg having figures significantly below this. In nearly all countries, with the notable exception of Luxembourg, around 1 in 5 or less of all low-paid employees live in low-income households.

Table 10:
Distribution of low-paid employees by income quintile

(as a % of all full-time, full-year employees who are low paid)

	1st quintile	2nd quintile	3rd to 5th quintile
B	10	17	73
DK	15	27	58
D	22	27	50
EL	10	18	72
E	16	18	66
F	18	27	55
IRL	5	11	84
I	18	17	65
L	32	21	47
NL	16	13	71
P	13	23	63
UK	14	22	65
EU-12	18	23	60

TECHNICAL BOX

The **European Community Household Panel (ECHP)** is a survey that involves annual interviewing of a representative panel of households and individuals in each country, covering a wide range of topics: demographics and employment characteristics, income, health, education, housing, etc. The longitudinal structure of the ECHP makes it possible to follow up and interview the same households and people over several consecutive years. The survey is based on a harmonised questionnaire, the Community version of which was drawn up by Eurostat, and subsequently adapted by "national data collection units" depending on the institutional peculiarities of each country. The first wave of the ECHP was conducted in 1994, in the then 12 EU Member States. The sample totalled some 60,500 households (about 170,000 individuals) selected randomly. Austria (in 1995) and Finland (in 1996) have joined the project since then. For a detailed description of the ECHP methodology, see *"The European Community Household Panel (ECHP): Volume 1 - Survey methodology and Implementation"*, Theme 3, Series E, Eurostat, OPOCE, Luxembourg, 1996.

Readers are reminded that survey results are estimates, the accuracy of which, everything being equal, rests upon the sample size and the observed percentage.

For the purposes of the ECHP, a **household** is defined in terms of two criteria: sharing the same dwelling; and common living arrangements. These can include meals taken together or a shared room, and/or a joint budget, and/or the use of common equipment.

The **reference person in the household** was decided on the following order of criteria: the head if economically active; otherwise the head's spouse or partner if economically active; otherwise the oldest economically active person. In a household without any economically active person, the head was automatically selected as the reference person.

The **employment intensity of an individual's household** is characterised with respect to the degree of paid employment as follows:

- *Full-year/full-time employed households*: there is at least one adult member in the household who was a wage or salary earner on a full-time basis (i.e., 30 hours or more per week) during at least 10 months during the year.
- *Part-time/part-year employed households*: there is no adult member of the household working full-time, full-year for a wage or salary, but there is at least one adult member who was in wage or salary employment on a part-time and/or part-year basis at some time during the year.
- *Self-employed households*: there is no adult member of the household in wage or salary employment, but there is at least one adult member who was self-employed at some time during the year.

It should be noted that the first group of households can contain some members who work part-time/part-year and/or who are self-employed during the year; the second group can contain self-employed members.

Working households are those belonging to any of the three groups described above. In **workless households** there are no adult members of the household who were either in wage/salary employment or self-employed at any time during the year. In all cases, adults refer to persons aged 18 and over.

Since income data refer to receipts during the year preceding the interview, that is, 1993, the labour force characteristics of households also refer to that year, except for the Netherlands. In this country, information on the labour force situation of households during the year preceding the interview was not asked and the employment profile characteristics of persons and households relate to a reference week in the year of the survey (i.e., 1994).

Total net monetary income: this concept covers all monetary market incomes (wages, self-employment income, investment income, rent received) plus monetary social transfers received, including all types of pensions plus private transfers received, minus social insurance contributions and income taxes deducted at source. Some of the components were missing for a number of households and these had to be imputed. Those 2% of households for which imputation was not possible and no income information was available, were excluded from the analysis. Imputed rent (i.e., the rent owner-occupiers would have to pay if they did not own the dwelling they live in) as well as personal income taxes are not taken into account. For France, all income taxes, including those remitted by households and individuals, are taken out.

Adjusted income ("per equivalent household member") is derived by dividing total net monetary income of the household (see above) by the number of adult equivalents. In particular, the adjusted income of an individual i who is a member of household j (W_{ij}), is defined to be:

$$(1) \quad W_{ij} = Y_j / S_j^{0.5}$$

where Y_j is the value of total net household income, S_j is the number of members in household j and 0.5 is the equivalence elasticity. It follows from (1) that all members of the same household have the same level of "adjusted" household income (W_{ij}). The equivalence scale $S_j^{0.5}$ incorporates diminishing weights for each additional person in the household and is therefore flatter than both the "modified OECD scale" (used in the Eurostat "Statistics in Focus" 1997/6: *Income Distribution and Poverty in EU12 - 1993*) and the "standard OECD scale". Like these two latter equivalence scales, it takes an intermediate position between the measure of per capita household income (where total household income is simply divided by the number of household members) and the case of no adjustment for household size. The underlying assumption is that household income is equally shared by its members and that it needs to rise less than proportionally with the number of household members in order to maintain the same level of adjusted income. See EUROSTAT, *Poverty Statistics in the late 1980s: Research based on micro-data*, Theme 3, Series C, OPOCE, Luxembourg, 1994 and OECD, *Income Distribution in OECD Countries*, Paris, 1995.

It should be noted that Eurostat in its analyses of income and poverty distribution normally uses the "modified OECD scale". However, for this Statistics in Focus, written jointly with the OECD, the equivalence scale $S_j^{0.5}$ has been chosen. This was done with a view to maintaining consistency with the analyses contained in the 1998 OECD *Employment Outlook* (forthcoming), for which Eurostat provided ECHP data applying this scale.

Earnings refer to annual net earnings (net of social security contributions and income taxes deducted at source) including all overtime payments, paid leave, monthly and annual bonuses, etc. For France, because of the particular nature of its taxation system, annual earnings are net of social security contributions deducted at source but not of income taxes. For Tables 8 and 10 therefore, it should be borne in mind that although income quintiles are based on "net" total income, French earnings are "gross of income taxes". This is likely to affect comparisons of French results with those of other countries.

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