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Over the last years, important progress has been achieved in EU-SILC. This is the result of the coordinated work of Eurostat and the NSIs, *inter alia* in the context of the EU 'Living Conditions' Working Group and various thematic Task Forces. Despite these significant achievements, EU-SILC data are still insufficiently analysed and used.

In this context Eurostat launched a call for applications in 2008 with the following aims:

(1) develop a methodology for the advanced analysis of EU-SILC data;
(2) discuss analytical and methodological papers at an international conference;
(3) produce several publications presenting methodological and analytical results.

The 'Network for the Analysis of EU-SILC' (Net-SILC), an ambitious 18-partner Network bringing together expertise from both data producers and data users, was set up in response to this call. The initial Net-SILC findings were presented at the international conference on 'Comparative EU Statistics on Income and Living Conditions' (Warsaw, 25-26 March 2010), which was organised jointly by Eurostat and the Net-SILC network and hosted by the Central Statistical Office of Poland. A major output from Net-SILC is a book to be published by the EU Publications Office at the end of 2010 and edited by A.B. Atkinson (Nuffield College and London School of Economics, United Kingdom) and E. Marlier (CEPS/INSTEAD Research Institute, Luxembourg).

This methodological paper is also an output from Net-SILC. It has been prepared by Sophie Ponthieux (INSEE). Gara Rojas González was responsible at Eurostat for coordinating the publication of the methodological papers produced by Net-SILC members.

It should be stressed that this methodological paper does not in any way represent the views of Eurostat, the European Commission or the European Union. The authors have contributed in a strictly personal capacity and not as representatives of any Government or official body. Thus they have been free to express their own views and to take full responsibility both for the judgments

made about past and current policy and for the recommendations for future policy.

This document is part of Eurostat's *Methodologies and working papers* collection, which are technical publications for statistical experts working in a particular field. All publications are downloadable free of charge in PDF format from the Eurostat website (http://epp.eurostat.ec.europa.eu/portal/page/portal/income_social_inclusion_living_conditions/publications/Methodologies_and_working_papers). Furthermore, Eurostat databases are available at this address, as are tables with the most frequently used and requested short- and long-term indicators.

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In-work poverty in the EU

Sophie PONTHIEUX, INSEE[1]

Abstract: The aim of this paper is to discuss two problematical aspects of the statistical approach to the notion of 'working poor': the definition of workers (including the definition used for the European indicator 'in-work poverty risk'); and the two-level construction of the category (worker-individual / at-risk-of-poverty household). It argues that the approach adopted in defining workers might be too narrow to take into account the variety of employment structures in EU Member States, and that the combination of individual and household in the definition makes it difficult to analyse the links between labour market status at the individual level and the risk of poverty. This argues in favour of a more encompassing approach to workers as well as further analysis aimed at gaining a better understanding of the 'labour market' and 'family' dimensions of the phenomenon.

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Introduction

In 2003, a new indicator of 'in-work poverty risk' was added to the European portfolio of social indicators. Its adoption acknowledges that while being in employment appears to be the best prevention against the risk of poverty, it may not be sufficient (cf. Bardone and Guio, 2005). In point of fact, 8 % of the employed population in EU-27 was at risk of poverty in 2008 as in 2007 (Wolff, 2009, 2010).

The 'in-work poverty risk' is measured as the rate of poverty risk among individuals who are 'in-work', meaning individuals who were employed for more than half the reference period. Its analysis is aimed at a better understanding of the factors underlying these situations, be they the family structure or labour market problems.

Section 1 briefly reports on the implementation of the indicator following its presentation in the 'Portfolio of indicators' (European Commission, 2009a) and underlines some of the difficulties encountered. Sections 2 and 3 discuss problematical aspects of the statistical approach to the concept of 'working poor'. The first difficulty lies in the definition of workers. The definition adopted for the European indicator 'in-work poverty risk' is much more selective than those used by the other two main statistical approaches: that of the American Bureau of Labor Statistics; and that used at the beginning of the 2000s by Insee, which emphasises the visibility of the 'household' factor (Section 2). The other difficulty lies in the two-level level construction of the category (worker-individual / at-risk-of-poverty household), which complicates the analysis. This, as well as an exploration of ways to harmonise the approach, is the subject of Section 3. The empirical analysis is based on EU-SILC cross-sectional data 2007.

1. A first look at in-work poverty risk in EU countries[2]

In the 'Portfolio of indicators' (European Commission (EC), 2009a, p.11) the indicator 'in-work poverty risk' is presented as below:

> Definition: 'Individuals who are classified as 'employed' (distinguishing between 'wage and salary employment plus self-employment' and 'wage and salary employment' only) and who are at risk of poverty. This indicator needs to be analysed according to personal, job and household characteristics. It should also be analysed in comparison with the poverty risk faced by the unemployed and the inactive.'
> Breakdown: by sex.

Here, 'employed' refers to the most frequent activity status (hereinafter MFAS) - *i.e*. 'employed' for more than half the income reference period, which is the previous calendar year for all countries except for Ireland and the United Kingdom[3]. On this basis, the indicator is implemented as the percentage of individuals at risk of poverty in the population of individuals of working age who are 'employed'.

As a starting point, Table 1 shows the rates of poverty risk in the whole population of working age, and by most frequent activity status ('in-work' corresponds to the MFAS 'employed').

The differences in poverty risk by MFAS are striking. As expected, in all countries it is the lowest for the employed - a re-assessment, if needed, that while the 'employed' face a lower poverty risk, this does not cancel out the risk of being poor. In all countries also, the unemployed are clearly the worst off, except in Sweden, where the rate is highest among the 'not economically active other than retired'.

[2] At the time of writing, Bulgaria, Malta and Romania were not available in EU-SILC 2007 UDB (Users' database); hence only 24 of the 27 countries of the EU are taken into account.
[3] Ireland: 12 months preceding the date of interview; United Kingdom: current year.

Table 1: Poverty risk by most frequent activity status, population of working age* (%), 2007

	All	By most frequent activity status				
		Unemployed	Retired	Other inact.	All 'not employed'	In work
BE	12	34	9	26	26	4
CZ	8	48	7	13	18	3
DK	11	32	8	32	28	4
DE	15	51	21	24	30	7
EE	16	62	37	32	37	8
IE	15	43	33	31	33	6
EL	19	36	11	27	26	14
ES	16	36	15	27	28	11
FR	12	33	7	26	22	6
IT	18	44	10	30	29	10
CY	10	28	28	17	19	6
LV	18	57	43	31	39	10
LT	15	57	22	29	33	8
LU	13	46	10	18	20	9
HU	11	46	11	23	20	6
NL	9	28	5	18	18	4
AT	11	43	10	19	20	6
PL	17	43	5	23	24	12
PT	15	32	18	29	27	9
SI	10	36	12	19	18	5
SK	9	45	8	15	17	5
FI	11	41	17	27	27	5
SE	10	27	8	31	22	7
UK	15	58	28	37	37	8

Source: EU-SILC Users' database from 01-08-09.

* Individuals aged 18-64 at the end of the income reference period; see other technical details at the end of this section.

As recommended in the EC Portfolio, the indicator is then analysed by personal, job and household characteristics. Following the presentation adopted by Bardone and Guio (2005, p.4), tables 2 and 3 show the rate of in-work poverty risk for selected characteristics. Job characteristics distinguish dependent employment from self-employment, full-time from part-time, full-year from less than full-year and, for dependent employment only, permanent contract from temporary contract. Personal characteristics include sex, age group and level of education. Household characteristics distinguish broad types defined by household size and presence of dependent children.

While the figures are not comparable with those of Bardone & Guio (2005), who used the ECHP, they do not add anything more to the analysis of the indicator they developed at the time.

- By employment characteristics (table 2):

  - in all countries but one, individuals who are self-employed (at the time of interview) appear more likely to be at risk of poverty than wage workers.

  - in all countries but one, individuals who are working part-time (at the time of interview) appear more likely to be at risk of poverty than full-time workers.

  - those who have experienced employment instability during the reference period are more at risk of poverty than those who have always been in employment.

Table 2: In-work poverty risk by employment characteristics (%), 2007

	BE	CZ	DK	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT	LU	HU	NL	AT	PL	PT	SI	SK	FI	SE	UK
All																								
	4	3	4	7	8	6	14	11	6	10	6	10	8	9	6	4	6	12	9	5	5	5	7	8
Current employment status																								
Employee	3	3	2	7	6	4	8	7	5	8	6	9	6	9	5	3	5	7	6	4	4	3	5	7
Self-empl.	11	6	18	12	28	14	26	30	17	16	5	21	24	14	11	15	10	29	23	15	11	16	16	18
Current working time status																								
Full-time	3	3	4	6	7	4	13	10	5	9	6	9	7	9	5	4	5	11	8	4	5	3	6	6
Part-time	5	5	5	10	17	12	26	14	12	14	10	28	30	10	17	4	8	20	28	11	11	15	8	13
Employment stability during the period of reference*																								
Yes	4	3	4	7	7	6	13	10	6	9	5	9	8	8	5	5	6	11	9	4	5	4	6	7
No	11	7	10	16	13	7	26	14	13	18	13	21	18	27	14	4	9	19	15	14	13	11	18	27
Employees only																								
Current working time status																								
Full-time	2	3	2	6	6	2	7	6	4	7	6	8	6	8	4	2	4	7	5	3	4	1	5	4
Part-time	5	5	4	9	12	10	19	12	12	13	10	25	19	10	19	4	8	12	22	11	12	15	7	12
Employment contract in the current job																								
Long-term	3	2	*na*	6	6	3	5	5	4	6	5	8	6	9	4	3	5	5	5	4	4	3	5	5
Short-term	9	6	*na*	12	9	6	19	12	12	19	17	17	17	15	13	5	8	13	10	10	8	10	20	10
Employment stability during the period of reference*																								
Yes	3	3	2	6	6	3	6	6	5	8	6	8	6	8	4	3	5	6	6	3	4	2	5	6
No	11	7	12	15	13	8	24	13	12	16	14	22	17	28	14	4	9	17	13	15	13	10	20	24

Source: EU-SILC Users' database from 01-08-09. Population: in-work individuals

* Employment stability means that the activity status is 'employed' for any month in the reference period. This is not the same as the type of employment contract in the current job, which is relevant only for employees.

Given the difference in poverty risk between dependent employment and self-employment, it is interesting to consider employees only. Self-employment is different from dependent employment in several ways. Firstly, it is more heterogeneous than dependent employment. Secondly, the income it generates is of a different type (hence the possibility of zero or negative income) and subject to greater measurement error. Thirdly, it may include unpaid work (family work). Moreover, while for employees the absence of work manifests itself formally in fewer months of employment, this is not generally the case for the self-employed, who remain 'employed' even though their actual activity may not be significant in a given month. Hence, the link between the activity status and the actual 'amount' of activity (and subsequent income) is then less straightforward than in the case of dependent employment. It follows that the poverty rate of those in full-time employment as well as full-year employment is lower when only employees are considered.

- By personal characteristics (table 3):

  - in most countries, the rate of poverty risk tends to be lower for women than for men.

  - no generalised pattern emerges by age group.

  - rates of poverty risk by education level rank as expected: lower levels of education are associated with a higher poverty risk in all countries but one, where the same rate appears at any level of education.

- By household type (table 3):

  - in all countries but one, poverty rates are higher among individuals living in single-parent households than in any other type of household.

Table 3: In-work poverty risk by personal and household characteristics (%), 2007

	BE	CZ	DK	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT	LU	HU	NL	AT	PL	PT	SI	SK	FI	SE	UK
All																								
	4	3	4	7	8	6	14	11	6	10	6	10	8	9	6	4	6	12	9	5	5	5	7	8
Sex																								
M	4	3	5	7	7	6	15	12	7	12	6	9	8	9	7	4	6	13	10	5	5	4	7	8
F	4	3	3	8	9	6	12	9	6	7	7	10	9	9	5	5	6	10	9	4	5	6	6	8
Age group																								
<25	5	3	20	11	4	5	14	7	7	14	5	6	5	11	4	2	5	12	11	4	4	12	19	10
25-<45	4	4	4	8	7	5	12	11	6	10	7	10	9	10	7	5	6	12	8	5	6	5	7	8
45+	4	3	2	6	9	7	18	11	7	10	5	11	8	8	5	4	6	12	11	5	4	4	4	8
Education level[a]																								
Low	7	9	5	14	11	10	26	16	11	16	10	20	17	19	14	6	9	29	12	10	14	7	6	16
Medium	5	3	4	7	9	6	10	11	7	7	7	10	12	7	6	6	6	13	2	5	5	7	6	8
High	2	1	3	5	5	3	6	5	3	4	3	5	5	2	2	2	4	3	0	1	3	2	6	4
Household type[b]																								
1 person	5	6	8	11	11	9	12	11	7	11	12	20	13	12	10	5	8	12	13	10	6	10	14	11
+ no child	2	1	2	6	5	3	11	7	4	5	7	6	4	4	2	2	4	7	8	4	2	3	4	6
Single parent H	14	15	7	20	27	15	23	23	16	18	22	23	24	39	17	22	18	16	20	13	20	12	16	21
2& child+	5	5	4	6	8	7	16	14	6	13	6	12	10	10	9	6	7	14	10	5	8	4	5	9
Other& child	5	3	0	7	6	3	21	12	10	13	2	8	6	11	5	2	5	14	9	3	5	5	4	7

Source: EU-SILC, Users' database from 01-08-09
Population: in-work individuals
[a]: Low= Isced 0-2; Medium= Isced 3; High= Isced 4+
[b]: These household types are the result of grouping the modalities of the variable provided in the UDB: '1 person': one-person household; '+ no child': household of more than one adult, no child; 'Single parent H': single parent household; '2 & child+': household of 2 adults and at least one child; 'Other & no child': household of more than two adults and at least one child'.

1.1 Concluding remarks - section 1

From the above description it is clear that an in-depth analysis would be necessary to interpret the differences between countries, both in the overall level of the indicator and by characteristic. In fact, there are many factors likely to play a role in the explanation: the overall rate of poverty risk, obviously, but also the employment structure (self-employment, part time), the household structure, gender inequalities (especially in labour market participation), unemployment (which affects the selection by its duration in the reference period and its incidence at the time of survey) and, finally, labour market regulation and social policies. Among all these factors, it may be difficult to identify efficient levers to alleviate the risk of in-work poverty. One of the main difficulties lies in distinguishing labour market factors from household factors, since only their interaction is shown by the indicator. This poses serious problems when it comes to cross-country comparisons and understanding the evolution of the indicator. Is it driven by labour market factors, or by changes in

other areas? At the same time, the impact of the household configuration cannot be taken properly into account since only those household members who are in work are included. These issues will be discussed in section 3.

Another problem concerns the relevance of the information about job characteristics as a basis for analysing the link between activity characteristics and poverty. As it is to be implemented (*cf.* EC 2009b), job characteristics are those of the current job, which are not necessarily those which prevailed during the income reference period. In other words, poverty risk is measured on the basis of household incomes during the reference period (year N-1 in most countries), and poverty risk by job characteristics refers to the characteristics of the current situation (year N), leading to a time discrepancy. This means that the overall 'at risk of poverty' rate is calculated on a population larger than the poverty risk by job characteristics, since these characteristics exist only for those who are currently employed. The problem of the time lag is probably attenuated by the fact that the definition of workers selects individuals of whom the majority are in stable situations (*i.e.* for whom it is least likely that there has been a change since the last interview). However, it can be less true for those at risk of poverty.

1.2 Suggested additional indicators for the analysis and methodological details

- Additional indicators

- the recommended analysis omits one crucial characteristic of employment: the income it generates. An indicator of low earnings would be a useful addition. This indicator could be based on the average monthly earnings in the reference period and a threshold of 2/3 of the median monthly earnings;

- an indicator of employment stability (% with months of unbroken employment) and use of a 'full-year employed' / 'part-year employed' breakdown (consistent with the reference period) would be preferable to the type of current employment contract (relevant only for wage workers and for which there are many missing values – Germany, Denmark, Finland, the Netherlands, Sweden and Slovenia);

- an indicator of the share of in-work poor who are the only workers (in-work) in their households could be added to the household characteristics. Alternatively, there could be a breakdown based on household work intensity (*infra*);

- an indicator of the share of the whole population living in in-work poor households would give a more complete idea of the impact of the phenomenon on overall poverty risk in the population.

- Methodological details

- The figures in Table 1 are calculated on the basis of observations relating to those aged 18-64 at the end of the income reference period for which at least 7 months of activity are available (PL070 + PL072 + PL080 + PL085 + PL087 + PL090 > 6), excluding the observations for which the value of any of the following variables is missing: PX050 (most frequent activity status), HX080 (poverty status), PX020 (age at the end of the income reference period), PB150 (gender), HX060 (household type — and value of HX060 different from 16 'other').

- United Kingdom and Ireland: the income reference period is not the previous calendar year as it is for all the other countries. In the case of the UK it is the current year and in the case of Ireland it is the 12 months preceding the time of the survey. Either it is not consistent with the most frequent activity status, which is in principle based on the activity status during the previous year, or it may be not comparable with other countries.

- For the sake of simplicity, it would be preferable to consider only those observations with a total of 12 months rather than those with at least 7 months logged in the retrospective calendar of activity. The difference in the number of observations is very small for the population in work as implemented in table 2. Moreover, from a methodological point of view, it would ensure equal observation time and consistency with the income (annual) taken into account for the poverty threshold.

2. Definitions of workers and subsequent analysis of a working-poor-type phenomenon

As mentioned above, the European indicator of in-work poverty risk adopts a much stricter view of 'workers' than the American BLS or previous studies by French INSEE, both of which take participation in the labour market as the first criterion rather than employment. While there is no generally agreed definition of what exactly a 'worker' is (poor or otherwise, 'worker' is not a statistical category[4]) or which 'workers' have to be taken into account to measure and study working poverty (see Peña-Casa *et al*., 2004, for an illustration of the variety of approaches), this feature makes the European approach unique. This section aims to compare the sizes and characteristics of the populations of workers and working poor obtained with these 3 approaches, with a view to assessing the part this may play in the analysis of the phenomenon.

2.1 Three definitions of workers: active, employed, in-work

In the statistics and analyses published by the BLS on the working poor, workers are defined as individuals who have participated in the labour market for at least half the previous year, either employed or unemployed (*cf.* Klein and Rones, 1989). It is not a 'positive' definition. As the authors make clear, this threshold of half a year is arbitrary and is used merely to exclude individuals who are only marginally active[5].

Before the adoption of the European approach, the definition used in INSEE statistics and studies was based on that of the BLS. However, it was slightly adapted in order to take into account long-term unemployment, an issue that the BLS statisticians had not had to deal with since this category of unemployment is virtually nonexistent in American labour market statistics. Thus the labour market participation criterion applied in the United States selects people who are either in stable employment or who alternate periods of employment and unemployment. When applied to countries where there is

[4] Beyond their differences, all approaches to the working poor have in common that, contrary to what is usual in comparative approaches to economic activity and employment, they do not use ILO statuses but rather situations observed over a longer period, most often the previous calendar year. This has to do with the fact that monetary poverty is calculated on the basis of annual incomes. It is then necessary to take into account the activity status during the same period of reference, and not that observed at a given time in this period or at a date of interview. In addition to this 'chronological' justification, it can be assumed that the idea is to select individuals whose 'normal' situation is to be working, and that their current activity status may differ from this normal situation. On a given date, some people may unusually be in employment (for example, students who only work during the summer), while others may be occasionally out of work. Enlarging the 'window' of observation is a way of getting closer to their 'normal' situation.

[5] Their point of departure is poverty: are the poor devoting efforts to work? In France or Europe, on the other hand, the issue is one of employment: are workers escaping poverty? Does it pay to work?.

long-term unemployment, it also selects people who have not worked at all during the reference period. To avoid mixing up long-term unemployment with alternating employment and unemployment, a condition of one month in employment was added, making it possible to identify the long-term unemployed (Hourriez, 2001). The BLS category corresponds to what French statistics call 'active' (poor) individuals, and within this category the 'unemployed' (no months in work) are distinguished from the 'employed' (at least one month in work). These two definitions are mainly based on a criterion of participation in the labour market.

This is not the case in the European approach (see above), which is based only on a criterion of employment. The scope of the indicator is then profoundly different.

The three definitions are summarised below. In the following discussion, we will refer to the corresponding populations as 'active', 'employed' and 'in-work', and use 'workers' as a generic term when no specific definition is needed.

Box 1: Active, employed, in-work — Definitions

Definition	Criteria	
	Participation in the labour market	Employment
Active (BLS)	More than half the reference period	No
Employed (Insee)	At least half the reference period	At least 1 month in the reference period
In-work (EC, Eurostat)	No	At least 7 months in the reference period + employed at the date of interview

If we are to be in a position to make comparisons, we also have to define a consistent population of reference; the most natural choice is to use the population of working age (18-64 years at the end of the reference period). In order to avoid slight differences due to incomplete calendars, we exclude observations for which the actual number of months logged is less than 12[6]. Apart from the issue of calendars, we have also excluded students and retired people[7], retaining only observations with an equal number of months potentially at work. We refer below to this population as '*potential workers'.* Table 4 shows the proportion of potential workers who are active, employed and in-work.

[6] Given the possibility of incomplete retrospective calendars, the reference period, which in principle should count 12 months, is implemented for the European indicator as the actual number of months logged, provided there are at least 7 logged months. The employment threshold is then adjusted (7 months if 12 logged months, 6 if 10 and 11, etc., down to 4 if only 7 months have been logged).

[7] We have considered as student or retired any observation with at least one month for which the activity status was 'student' or 'retired'. Ideally, persons who are permanently disabled should also have been excluded. It is not that the issue is irrelevant for students and retired people, but it is better to keep the issue of 'in-work poverty risk' separate.

Table 4: Active, employed, in-work (%), 2007

	BE	CZ	DK	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT	LU	HU	NL	AT	PL	PT	SI	SK	FI	SE	UK
% in the population of potential workers																								
Active	84	93	89	88	88	80	80	83	89	77	84	90	88	81	91	85	87	83	88	90	96	94	98	86
Employed	73	86	87	80	84	75	74	77	83	71	83	85	84	79	86	80	83	74	82	87	90	89	96	85
In-work	72	84	86	79	83	73	72	74	80	70	81	83	82	78	84	78	81	71	79	86	88	87	95	84
% of potential workers excluded by a change in the definition																								
Active — employed	11	7	2	8	3	5	6	6	6	7	1	5	4	2	5	5	4	9	7	3	7	5	2	2
Employed — in-work	2	2	1	1	1	2	2	3	3	1	1	2	2	1	2	1	2	3	2	1	1	3	1	1

Source: EU-SILC, Users' database from 01-08-09. Population: potential workers.
Reading note: In Belgium, 84 % of potential workers are 'active', 73 % are 'employed', 72 % are 'in-work' (see definitions above). 11 % of potential workers are active but not 'employed', 2 % are employed but not 'in-work'.

By construction, each definition gives a sub-sample of the population obtained with the former definition. On average, 87 % of potential workers are 'active', 82 % are 'employed' and 80 % are 'in-work'. Not all countries are equally reactive to a change in the definition: shifting from 'active' to 'employed' (i.e. excluding long-term unemployment) eliminates from 1 % to 11 % of potential workers. Changing from 'employed' to 'in-work' eliminates in turn from 1 % to 3 %. All in all, the difference between 'active' and 'in-work' represents from 2 % to 13 % of potential workers.

2.2 Impact on the 'size of the problem'

When applied to the population at risk of poverty, changes in the definition of workers result in wider differences (table 5). On average, 71 % of potential workers at risk of poverty are 'active', 52 % are 'employed' and 47 % are 'in-work'. It is quite clear that the main problems faced by the poor are access to the labour market and stable employment.

Reactions to a change in the definition vary even more from country to country when applied to the population at risk of poverty. Shifting from 'active' to 'employed' eliminates from 5 % to 44 % of poor potential workers, and from 'employed' to 'in-work' eliminates from 2 % to 11 %[8]. In terms of indicators (at risk of poverty rates), similar differences appear between definitions: 'active' poverty risk is higher than 'employed' poverty risk, which in turn is higher than 'in-work' poverty risk (table 6). Here again, the largest difference is between 'active' and 'employed': on average, the poverty rate drops by about 2

[8] In terms of 'headcount', the difference can be quite spectacular: using the 'in-work' approach rather than the 'active' approach can reduce the 'size of the problem' by about one half. This represents up to several million individuals in large countries, where communication on working poverty is based on headcount.

percentage points (pp) between 'active' and 'employed', and by about 0.5 pp between 'employed' and 'in-work'.

Table 5: Active, employed, in-work rate of poverty risk (%), 2007

	BE	CZ	DK	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT	LU	HU	NL	AT	PL	PT	SI	SK	FI	SE	UK
% in the population of poor potential workers																								
Active	62	85	72	79	66	52	70	68	72	58	60	75	69	69	76	72	75	76	69	60	89	85	92	59
Employed	28	42	59	46	51	35	58	54	52	42	56	57	54	61	54	53	53	53	55	45	52	58	84	51
In-work	25	33	57	43	45	31	54	49	46	39	52	52	46	58	45	48	49	47	50	43	48	47	81	49
% excluded by a change in the definition																								
Active — employed	33	44	12	33	15	17	11	14	20	16	5	19	14	8	22	19	22	24	15	15	37	27	8	8
Employed — in-work	3	9	3	3	6	4	4	5	5	3	3	5	9	3	8	4	3	6	4	2	4	11	3	2

Source: EU-SILC, Users' database from 01-08-09.
Population: potential workers at risk of poverty.

Table 6: Indicator: active / employed / in-work poverty risk (%), 2007

	BE	CZ	DK	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT	LU	HU	NL	AT	PL	PT	SI	SK	FI	SE	UK
Active	9	8	5	12	11	9	16	13	9	13	7	13	11	11	9	6	8	16	12	6	8	7	7	9
Employed	5	4	4	8	9	6	15	11	7	10	7	11	9	10	7	5	6	13	10	5	5	5	6	8
In-work(*)	4	3	4	7	8	6	14	11	6	10	6	10	8	9	6	5	6	12	9	5	5	4	6	8

Source: EU-SILC, Users' database from 01-08-09.
Population: Alternatively active, employed, in-work.
(*) Small differences can occur with figures in table 1, as a result of the different population of reference.
Reading note: In Belgium, the rate of poverty risk is 9 % of 'active', 5 % of 'employed' and 4 % of 'in-work' individuals.

2.3 Impact on the analysis of the problem

Working poverty being defined by individuals' activity (or employment) status and their household's disposable income, it is most often analysed in terms of 'labour market' factors and 'household' factors. It can be assumed that the definition of 'work' is likely, by construction, to have an impact on the labour market factors underlying working poverty. Whether or not long-term unemployment and unstable employment are taken into account will of course result in a different analysis, especially in countries where the incidence of one or the other is high. In this section, we will examine the impact of the choice of definition on the employment profiles of the poor, and look at any subsequent effects it may have on other characteristics of the working poor.

2.3.1 Activity profiles

As opposed to the approach taken in section 1, here we describe individuals' employment characteristics on the basis of information from the retrospective calendars of activity (which in principle is consistent with the income reference period), rather than on the basis of information on the current job (which may not be consistent). Combining employment duration status in the reference period and, for full-year full-time employees, low-pay, seven activity profiles are defined:

- Firstly, full-year employment is distinguished from alternations and long-term unemployment. This is a different approach from the one taken by MFAS to the extent that alternations are distinguished. MFAS, which retains only the dominant status (that in which an individual has spent more than half the reference period) eliminates it by construction.

- Full-year employment is broken down by employment status (dependent / self) and within dependent employment by time status (full-time / part-time). There is little point in separating full-time and part-time within self-employment since multi-employment cannot be accounted for.

- Separating dependent employment from self-employment raises a specific difficulty in the case of countries for which detailed monthly retrospective calendars are not available (Finland, Greece, Hungary and Sweden) and countries for which many values are missing (Denmark, the Netherlands, Poland and the United Kingdom). EU-SILC 2007 provides summary variables of the number of months in various statuses[9] but unfortunately does not distinguish between dependent and self-employment. For these countries, the type of employment is assigned on the basis of individual information on income, using criteria of presence (dependent employment) or absence (self-employment) of 'employee cash or near cash income'. For the few observations where several employment or time statuses are combined during the reference period, a dominant status (the one in which they have spent the majority of months) is assigned.

- Finally, full-year, full-time dependent employment is broken down in order to isolate low-paid employment. To identify low-paid employment the low-wage threshold (*i.e.* hourly wage below 2/3 of the median hourly wage) is 'transposed' at the level of wage earnings (total wages received during the reference period). 'Low-pay' is then defined as annual wage earnings below 2/3 of the median annual wage earnings (calculated only among full-year, full-time employees).

[9] Variables PL070 to PL090 in the UDB.

So, if we exclude the economically inactive, this results in six activity profiles: full-year full-time not low-paid dependent employment; full-year full-time low-paid dependent employment; full-year part-time dependent employment; self-employment; alternations (from 1 to less than 7 months unemployed); and long-term unemployment (at least 6 months unemployed, close to MFAS 'unemployed').

The resulting longitudinal activity profiles are detailed for each definition of workers in table 7. As is to be expected, the stricter the definition the higher the proportion in 'full-year employment' and, consequently, the lower the proportion of other profiles. This is more or less automatic. Increasing the number of months of employment required to qualify as a 'worker' reduces the probability that the individuals selected were out of work during a given month. Therefore, when the definition becomes more selective, the proportion of workers in full-year employment increases. Conversely, shifting from 'active' to 'employed' divides long-term unemployment by 2 to 7, depending on the country, and causes it to disappear (by definition) with the 'in-work' approach.

In the final analysis, while lack of employment is an intuitive explanation of workers' poverty, a large majority of individuals in-work and at risk of poverty have been employed throughout the reference period and, with the exception of a few countries, the share of employed full-year is even higher than that observed on average in the whole active population, which seems somewhat incongruous.

The approach adopted also automatically affects the identification of the main problems encountered on the labour market. In the 'active' approach, the modal activity profile of workers at risk of poverty is long-term unemployed in the majority of countries, self-employed in Greece, Spain, Portugal, Denmark and Sweden[10], and low-paid full-time employee in Cyprus, Latvia and Luxembourg. Shifting to the 'employed' approach moves the modal profile from unemployed to full-time low-paid employee, self-employed or part-time employee, depending on the country. Shifting to the 'in-work' approach changes only slightly the distribution of activity profiles, but not their modal value. The United Kingdom is the less reactive: the modal profile remains part-time employee irrespective of the definition.

[10] While this is not surprising in the case of southern countries, it is rather unexpected for Denmark and Sweden (highlighting the advantage of singling out self-employment). In the case of Sweden, it may reflect the specificity of self-employment (any situation in which a worker is not attached to only one employer). In Denmark it seems to correspond to 'freelance' work basically. See contributing articles on these countries in EIRO, 2010. On self-employment in general, see Blanchflower, 2004.

Table 7: Longitudinal activity profiles of the working poor (%), 2007

	BE	CZ	DK	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT	LU	HU	NL	AT	PL	PT	SI	SK	FI	SE	UK
Active at risk of poverty																								
FY Empl	*35*	*34*	*77*	*49*	*61*	*54*	*70*	*66*	*57*	*62*	*68*	*61*	*60*	*72*	*48*	*59*	*56*	*55*	*66*	*61*	*48*	*46*	*80*	*74*
FY FT N-lp	6	7	8	6	12	2	7	14	13	13	23	7	7	9	6	7	7	9	14	15	16	4	8	9
FY FT LP	9	15	25	19	30	8	10	13	12	16	32	38	29	43	21	7	25	13	15	25	19	12	27	20
FY PT	9	1	11	17	4	20	5	7	17	7	5	6	6	14	7	13	11	3	5	2	3	11	15	25
FY Self-Emp	12	11	33	6	16	24	48	32	15	25	8	9	18	7	15	31	13	29	31	19	9	19	29	20
Alternations	6	5	2	5	7	6	8	6	7	5	19	7	7	12	11	9	10	7	6	11	6	9	8	9
LT Unemp.	59	61	21	46	31	40	22	28	36	33	13	32	33	16	41	33	34	38	27	28	46	45	12	17
Employed at risk of poverty																								
FY Empl	*75*	*70*	*93*	*84*	*80*	*81*	*83*	*84*	*80*	*86*	*73*	*81*	*75*	*82*	*69*	*80*	*80*	*79*	*84*	*80*	*82*	*67*	*88*	*86*
FY FT N-lp	13	15	9	10	16	3	8	18	18	19	25	10	9	10	8	10	10	13	18	20	28	6	9	10
FY FT LP	19	31	31	33	38	12	12	16	17	22	35	51	36	49	29	10	35	19	19	33	33	18	29	23
FY PT	19	2	13	30	5	30	6	9	24	10	5	8	7	16	10	18	16	4	7	2	5	16	17	30
FY Self-Emp	25	22	40	11	20	35	57	41	21	35	8	12	23	8	21	43	18	42	40	25	16	28	32	23
Alternations	13	9	3	9	9	9	10	7	10	7	21	10	9	13	16	12	14	10	8	15	11	13	9	11
LT Unemp.	12	21	5	7	11	11	7	9	10	7	6	9	16	5	16	8	6	11	8	5	8	20	4	3
In work at risk of poverty																								
FY Empl	*85*	*88*	*97*	*90*	*89*	*90*	*89*	*92*	*89*	*92*	*78*	*89*	*90*	*86*	*81*	*87*	*85*	*89*	*91*	*84*	*88*	*83*	*91*	*89*
FY FT N-lp	14	19	10	11	18	3	9	19	20	20	27	11	10	11	10	11	11	14	20	21	30	8	10	10
FY FT LP	21	39	32	36	43	14	13	18	19	24	37	56	43	51	35	11	38	22	21	34	36	22	30	24
FY PT	21	3	14	32	6	34	6	9	27	11	5	9	8	16	12	20	17	5	8	2	5	19	18	30
FY Self-Emp	28	27	42	12	23	39	61	45	23	38	9	14	28	8	25	46	20	48	43	26	17	34	34	24
Alternations	15	12	3	10	11	10	11	8	11	8	22	11	10	14	19	13	15	11	9	16	12	17	9	11
LT Unemp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
All active																								
FY Empl	*80*	*86*	*95*	*85*	*89*	*85*	*85*	*84*	*86*	*87*	*87*	*88*	*89*	*92*	*86*	*81*	*85*	*80*	*85*	*91*	*88*	*83*	*94*	*95*

Source: EU-SILC Users' database from 01-08-09.
Population: at-risk of poverty, alternatively active, employed, in-work // All active.
Abbreviations: FY= full-year; FT= full-time; N-lp= not low paid; LP= low paid; PT= part-time; LT=long-term.
Reading note: In Belgium, the share of workers at risk of poverty employed full-year goes from 35 % of the 'active' at risk of poverty to 85 % of the 'in-work' at risk of poverty. It is 80 % among all the 'active'.

Another interesting result of the analysis by activity profiles is that a significant share of workers at risk of poverty are in what can be assumed to be the best possible employment profile: employees, working full-year, full-time and not low paid (FY FT N in table 7), suggesting that underlying 'household factors' have a decisive impact on their poverty. This will be looked at more thoroughly in Section 3.

2.3.2 Household characteristics

Changes in the approach to workers also lead to changes in the household characteristics of workers at risk of poverty. This is due to various composition effects (distribution of unemployment by age group, women's participation in employment, part-time, and general household structure) that only detailed monographs could account for. However, we can at least look at its impact on household type, especially its economic composition.

To take this dimension into account, we have defined a five-modality household type based on the household type variable of EU-SILC[11]: one person household; other type of household without children[12]; lone parent household; other type of household with children, broken down into single-worker and dual-worker families (table 8).

Unlike activity profiles, where changes in the approach to workers had varying effects depending on the countries, there is a general impact affecting all countries. Increased selectivity in the definition of workers results in an increased proportion of sole workers in households with children ('H Type 4' in table 8), excluding lone parents. This is less pronounced in Sweden and the United Kingdom.

Another general effect is the decrease in the share of workers living in one-person households. This effect is noted in most countries (Italy, with a slight increase, being the exception) when the definition of workers becomes more selective, particularly with the shift from 'active' to 'employed'. This suggests that long-term unemployment affects workers who live alone more often than it does workers in other types of household. Conversely, the share of workers living in a household with children increases in almost all countries. The other effects of changing the definition of workers are more country specific and depend on the interaction of national household structures and women's participation in employment.

The analysis by household type also shows that even with the most selective definition of workers the share of workers living in dual 'in-work' families remains significant (from 15 % to 45 %). This would suggest that the financial burden of children is such that a double income is not sufficient. 'In-work' workers living in families with children are actually over-represented in almost

[11] This variable does not provide a precise identification of couples or families: the household type is defined by the number of adults and the number of children. However, most households composed of two (or more) adults and children are 'families'. Note that the typology is based on the current household composition, which can be different from that prevailing during the reference period. This possible mismatch (which affects also the measurement of equivalent income) is not dealt with here. On this issue, see Debels & Vandecasteele (2008).

[12] Children are defined as aged less than 18 or less than 25 and not economically active. The number of 'workers' in the household is counted according to each definition. In other words, a household with one 'active' and one 'in-work' is a dual active household, but a single in-work household.

all countries (except in 4 out of 24), the concentration index is greater than 1, see table 8).

Table 8: Workers at risk of poverty and concentration of poverty risk by household type (%), 2007

	BE	CZ	DK	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT	LU	HU	NL	AT	PL	PT	SI	SK	FI	SE	UK
Active at risk of poverty																								
H Type 1	29	14	41[b]	36	22	15	6	7	19	12	10[b]	15	16	19	10	24	24	6	5[b]	9[b]	8[b]	42	36	18
H Type 2	18	20	14[b]	29	26	21	37	31	23	22	35	30	22	17	20	18	27	23	34	25	17	21	20	29
H Type 3	15	11	[a]	10	13	14[b]	2[b]	2	11	4	[a]	8	8	12	8	13	10	3	4[b]	7[b]	5[b]	8	12	10
H Type 4	15	14	23	10	14	22	19	20	16	28	33	13	19	25	24	18	16	12	19	19	9	10	9	18
H Type 5	24	41	22	16	25	28	36	39	31	33	22	34	35	27	38	27	23	56	39	40	60	19	22	24
All H with children	53	66	45	35	53	64	57	62	58	66	55	55	63	64	70	58	49	71	61	66	75	36	43	53
Employed at risk of poverty																								
H Type 1	19[b]	15	38[b]	29	20	11	5[b]	6	17	13	9[b]	13	13	18	11	15[b]	21	6	4[b]	[a]	[a]	35	36	17
H Type 2	15	16	16[b]	30	22	20	35	29	22	19	36	27	18	15	15	22	23	19	34	33	20	21	21	31
H Type 3	14	11	[a]	8	16	12[b]	[a]	2	11	4	[a]	9	10[b]	12	9[b]	12[b]	9	3	[a]	8[b]	8[b]	8[b]	12[b]	9
H Type 4	26	33	22	17	21	29	28	30	24	46	38	22	27	30	31	23	24	25	32	32	25	13	10	21
H Type 5	26	25	24	15	21	28	32	33	26	17	17	28	32	25	34	29	23	46	30	28	47	23	21	22
All H with children	66	69	45	40	59	69	60	65	61	67	55	60	68	67	74	63	56	75	62	67	80	44	43	52
In work at risk of poverty																								
H Type 1	16[b]	13	37[b]	28	18	11[b]	5[b]	6[b]	17	13	10[b]	14	11	18	10[b]	15[b]	20	6	5[b]	[a]	[a]	31	36	17
H Type 2	16[b]	14[b]	17[b]	31	21	20	35	28	21	19	34	23	18	14	14	20	24	18	33	33	20	21	21	31
H Type 3	12[b]	12	[a]	8	16	13	[a]	2	11	4	[a]	10	11[b]	12	9[b]	11[b]	9[b]	3	[a]	6[b]	8[b]	9[b]	11[b]	10
H Type 4	30	43	21	18	25	26	29	35	26	49	41	26	29	32	35	24	24	28	36	34	30	14	11	21
H Type 5	26	18[b]	25	15	21	30	31	28	25	15	15	27	30	25	32	30	24	45	27	27	42	25	21	22
All H with children	68	73	46	41	61	69	61	66	62	68	56	63	71	69	76	65	57	76	63	67	80	48	43	52
Concentration of poverty risk (in-work at risk of poverty/all active — *see reading note*)																								
H Type 1	1.1	1.8	1.9	1.4	1.4	1.5	0.8	1.0	1.1	1.2	1.9	2.0	1.5	1.3	1.7	0.9	1.3	1.1	1.3	-	-	1.7	2.0	1.3
H Type 2	0.4	0.3	0.5	0.8	0.6	0.6	0.7	0.6	0.6	0.5	1.1	0.6	0.5	0.4	0.4	0.5	0.6	0.6	0.9	0.9	0.5	0.5	0.6	0.7
H Type 3	2.9	4.0	-	2.3	3.4	2.3	-	2.1	2.4	1.8	-	2.5	3.1	4.1	2.9	3.8	2.7	1.2	-	2.7	4.2	2.6	2.5	2.5
H Type 4	6.0	5.9	2.2	2.3	3.1	2.8	2.5	4.6	4.2	4.3	4.1	3.5	4.5	2.7	3.2	3.8	2.8	3.4	4.8	6.3	7.9	2.2	2.4	2.5
H Type 5	0.7	0.4	0.7	0.5	0.5	0.7	0.9	0.7	0.6	0.4	0.3	0.6	0.6	0.6	0.8	0.8	0.7	0.9	0.5	0.5	0.8	0.7	0.5	0.7
All H with children	1.4	1.5	1.0	1.0	1.2	1.2	1.3	1.3	1.2	1.3	0.9	1.1	1.2	1.3	1.4	1.4	1.2	1.2	1.1	1.1	1.4	1.1	0.9	1.2

Source: EU-SILC Users' database from 01-08-09.
Abbreviations: Type 1= one person household; Type 2= other type of household without children; Type 3= single parent household; Type 4= single worker family with children; Type 5= dual worker family with children.
[a]: Less than 20 observations; H Type 1 is grouped with H Type 2 and H Type 3 is grouped with H Type 4.
[b]: 20-49 observations.
Reading note: In Belgium, 29 % of 'active' workers at risk of poverty live alone, 18 % live in a household counting other members but no dependent children, 15 % are single parents, 15 % live in a family with children and where they are the only active worker and 24 % live in a family with children where at least one other member is 'active'. For 'in-work' workers, these proportions are, respectively, 16 %, 16 %, 12 %, 30 % and 26 %. The share of 'in-work' workers at risk of poverty and living alone is 1.1 times higher than that observed on average among 'active' workers.

In most cases, however, there is only one worker 'in-work' in these families. This configuration appears to be significantly higher in Italy than in other countries with almost one in two 'in-work' workers being the only one in-work in a family with children. On the contrary, those living in dual in-work families are under-represented, the two exceptions being Greece and Poland, where the concentration index is close to 1.

All in all, the concentration index shows that workers 'in-work at risk of poverty' living in a household with children tend to be over-represented in almost all countries, but this is especially pronounced for those who are single parents or the only worker in their family (H Type 3 and H Type 4 in table 8). This suggests that single parents are not able to obtain the quantity of work that would obviate the risk of poverty, while in the case of single workers in two-parent families; it is rather the quantity of work of the other parent (*i.e.* the worker's partner) that is at issue.

2.4 Concluding remarks - section 2

Not surprisingly, a comparison of various definitions of workers highlights the importance of the definition. In the first place, the definition affects the understanding of the size of the problem. Secondly, it affects the analysis of the problem. Obviously, an analysis of the link between an individual's activity and poverty will depend to a large extent on the definition of workers. As we have seen, more selective employment criteria will lead to the selection of individuals who are mostly in stable employment. Thus, the household situation of workers stands out as the prominent factor of poverty risk. It also shapes the household characteristics of workers at risk of poverty. Narrowing the definition of workers tends to select individuals who are more likely to be living in families with children. We have also seen that a strict approach to workers tends to increase the share of those who are the only worker in their family. In other words, it highlights the lack of work of the members of their household.

The analysis clearly shows that not all countries react in the same way to changes in the definition of workers. Selectiveness does not work everywhere with the same intensity. On the one hand, this is exactly what is expected in a selection: the selected population is 'comparable'. On the other hand, since the distortion is more severe in some countries than in others, the risk is to focus on artificial, rather than real problems. To some extent, then, comparability is obtained at the cost of relevance. The preceding analysis shows that the 'real problem' of the poor is access to the labour market and to jobs. One may wonder about the pertinence of an analysis of 'labour market factors' based on what remains if this problem is left out. In terms of the expected qualities of an indicator (*cf.* Atkinson *et al*. 2002), it seems to us that the European indicator does not meet expectations, at least if the aim is to capture 'the essence of the problem and have a clear and accepted normative interpretation' (*id*, p.190).

Provided the aim is actually to link employment characteristics and poverty in order to gain a better insight into the factors which are behind workers' poverty, it might be more efficient to adopt a more inclusive definition of workers, taking into account the variety of situations in real labour markets, and not just within segments of them.
It is also questionable whether the approach adopted for the European indicator is appropriate at a time when 'flexicurity' is being promoted as an employment strategy and against the background of the 2008 economic crisis. Employment flexibility may well take the form of more alternation but alternation is, precisely, almost excluded under the European definition of workers. This is even more of a problem because situations which are not accounted for are not covered by other European indicators.

This also raises the question of the quality of the indicator. While selectiveness makes it possible to compare homogeneous sub-populations, it reduces the

scope of the comparison if there are significant structural differences between countries, and if the incidence of categories excluded from the analysis varies too much from one country to another, it becomes less interesting.

Clearly, the underlying issue at stake is as follows. Is the approach meant to measure, at the macro level, the link between the labour market and the risk of poverty, thus encompassing a large share of the labour force and all segments of the labour market, or is it meant to examine, at the individual level, whether the best possible activity status, in terms of the amount of employment, obviates the risk of poverty, thus adopting a selective approach which excludes most employment instability. The latter is perhaps less relevant in times of slow economic growth, high unemployment and employment flexibility.

3. Individuals and households

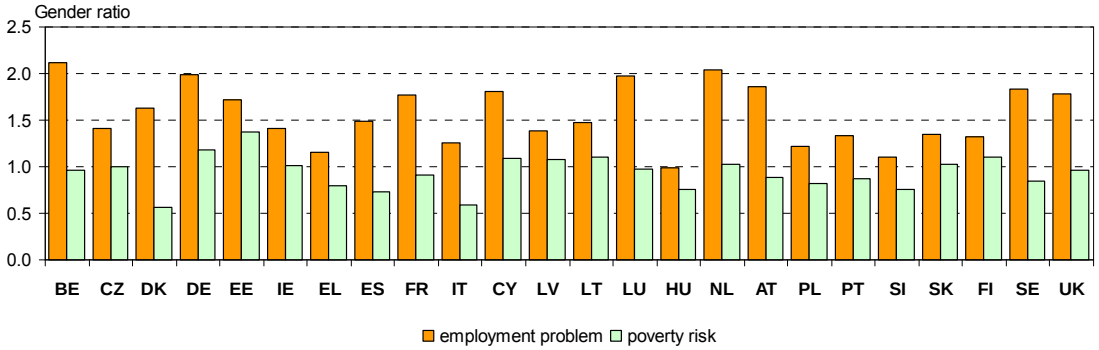
Quite apart from the issue of defining workers, any statistics relating to the 'working poor' are difficult to interpret, since they are constructed by combining activity characteristics, which are individual, and a measure of income computed at the household level (on the assumption of income pooling). It follows that all the individuals in a given household are either poor or not poor; but not all are workers.

Thus, statistics on the working poor are difficult to analyse, because the line between work and poverty is blurred by the household dimension[13]. On the one hand, the poverty of the working poor is not always the result of their individual activity status (the same individual activity may or may not result in poverty, depending on the family configuration, including the labour market status of other members of the household and social transfers determined by household composition). On the other hand, unfavourable situations of activity leading to low earnings no longer fall within the category, whenever (and for as long as) they are counterbalanced within the household. Moreover, a small but not insignificant proportion of the working poor are in stable and not low-paid employment. The 'household factor' works in two ways in the construction of the category. In the first place, earnings are taken into account once they have been pooled together. Of course the case of individuals living in single households is different. There is no income pooling and avoiding poverty depends essentially on social transfers and tax credit schemes. Secondly, since the disposable equivalent income is assumed to be the same for each household member, the equivalence scale acts as a 'multiplier'. Two people who have the same earned income and would be poor if they lived separately can escape poverty if they live together without any other change.

The combination of 'worker / individual' and 'at risk of poverty / household' results also in a now well-known 'gender paradox'. While in almost all countries women face a higher risk than men do of having a less favourable activity status in the labour market (in all countries but one the gender ratio is greater than 1, *cf*. Figure 1), they are not particularly over-represented in working poverty (in most countries the gender ratio is only slightly greater or less than 1). This is a direct result of the household dimension.

[13] For some time now this complexity has been acknowledged as a specific constraint in the analysis of the phenomenon (*cf*. Dantziger & Gottschalk, 1986; Klein & Rones, 1989). This point is discussed in Ponthieux (2004); Ponthieux & Reynaud (2008); Bardone & Guio (2005); Lelièvre *et al*. (2004). On the more general issue of household-based measures, see Jenkins (1991).

Figure 1: Employment problems[a] and poverty risk (ratio of women to men), 2007



Source: EU-SILC Users' database from 01-08-09. Population: individuals 'in-work'
[a] 'employment problem' refers to any activity profile other than full-year full-time not low-paid dependent employment.

The entanglement between individual and household features, which makes working poverty difficult to analyse at the individual level, also increases, for the same reasons, the difficulty of interpreting the indicator – either its evolution or cross-country differences. This is because the same poverty rate of workers may stem from a number of different factors to be found in the labour market situation, the household structure or social and fiscal policies. Moreover, this entanglement confuses the issue being addressed, as it implicitly places the employment norm at the household level, whereas the working poor are identified and analysed as individuals.

In this last section, we look at ways of improving the analysis of working poverty: the first looks at the link between work and the risk of poverty at the individual level; the second –(which does exclude the first) seeks to improve the characterisation of working arrangements within households.

3.1 Exploration of an additional approach in terms of 'poverty in earned income' at the individual level

To analyse the link from work to the risk of poverty at the individual level, we propose a two-stage approach. In the first stage individuals are considered as if they were living alone and only off the earnings they receive from their economic activity. They are tested to see whether they would be at risk of poverty. In the second stage, since they do not necessarily live alone or only off their own earned income, the possible poverty risk is compared with the actual poverty risk[14]. The issue is not new. In fact a similar perspective was behind the distinction made by Rowntree (2000 [1901]) between poverty due to low

[14] A close perspective, although not based on poverty in earned income, is adopted in Gardiner & Millar (2006) and a close approach is undertaken in Gornick & Jäntti (2010).

earnings and poverty due to having a large family[15]. In the analysis of working poverty, it is a way of separating labour market factors from household factors. From a macro perspective, the first stage shows the contribution of the primary distribution of income resulting from an individual's economic activity to the poverty risk at individual level. The second stage shows the ensuing 'correction' from the household structure and social policies.

The core idea of the approach is that of 'poverty in earned income', identified at the individual level by earnings below the poverty threshold. Unlike the usual approach to poverty, which refers to the household income and household composition, poverty in earned income refers only to the individual and his/her earnings. A person is said to be 'poor in earned income' if the income he/she receives from his/her economic activity is below the poverty threshold. Poverty in earned income is conceptually different from low wage or low earnings, because it is not defined relative to the wages or earnings distribution but by reference to the poverty threshold, taken as a social standard[16]. In other words, it identifies those who would not escape poverty if they were living alone and could count only on their own earnings.

After describing the construction of an indicator of poverty in earned income, we illustrate how it can be used, first independently from the analysis of working poverty and then as an additional factor in this analysis.

3.1.1 Construction of an indicator of poverty in earned income

To construct the indicator, we take into account the total amount of earnings from work made by an individual over the reference period. Earned income can be thought of as an extension of the notion of 'wage income' which has been used in recent years at Insee (*cf*. Aeberhardt *et al*, 2007). The rationale is to include all earnings related to being, or having been, in work, in other words the income resulting from employment (wages and salaries and/or self-employed income) and replacement incomes linked to temporary absence (sickness benefits[17]) or previous employment (unemployment benefits[18]):

Earned income (in the reference period) =
wages and salaries + self-employed income + sickness and unemployment benefits.

[15] Atkinson (1969) implemented the same approach.
[16] Other references could be used, based for example on implicit thresholds of means-tested benefits, or an amount of earnings corresponding to an employment norm (to be defined).
[17] This information is not available for Italy.
[18] This could limit cross-country comparability because it is not possible from the data to distinguish between unemployment insurance benefits (linked to previous contributions) and social assistance to the unemployed.

- We speak of 'poverty in earned income' when the total amount of this earned income is below the poverty threshold (using the European standard of 60 % of the median equivalent disposable income):

Poverty in earned income = (earned income < poverty threshold)

- The implementation of the notion raises a specific difficulty because, ideally individual earned income should be net of social contributions and taxes on income and computed 'as if' those of a one-person household and his/her earnings were his/her only source of income (while the observed net income, when available, includes the possible impact of the household composition, especially on taxes).

However, computing 'individual' net incomes requires complex micro-simulations based on detailed information on the rates of social contributions and taxes (which could be done using Euromod). At this stage, which is aimed at exploring the idea, this option has been discarded in favour of one other, certainly less precise, but simpler and less costly to implement. There remains the problem that the poverty threshold is 'net-net', while for about half the countries individual earnings are only available net of social contributions (France) or gross (Cyprus, the Czech Republic, Germany, Denmark, Finland, Hungary, Lithuania, the Netherlands, Slovakia and the United Kingdom). Hence, testing earned income in relation to the poverty threshold would result in under-estimating poverty in earned income for these countries.

With a view to correcting this, one possibility would be to calculate a poverty threshold based on gross equivalent incomes. However, this is not possible either because not all countries provide information on gross income at the individual level (even if it would result in a completely different approach to poverty risk by including social transfers but not their counterpart in social contributions and taxes).

- In the end the option retained was to 'inflate' the poverty threshold to a gross value using the net/gross ratio (NGR below). Poverty in earned income is then computed as:

Earned income < (poverty threshold / NGR),

with NGR equal to 1 for countries where individual incomes are net-net and computed as described below for the others.

For Cyprus, the Czech Republic, Germany, Denmark, Finland, Hungary, Lithuania, the Netherlands, Slovakia and the United Kingdom, where only gross incomes are available at individual level, NGR is computed as the ratio of the weighted sum of total disposable income to the weighted sum of total gross income[19], at household level and considering only households at risk of poverty[20]. For France, where individual earnings are collected and reported already net of social contributions, we apply the average tax rate on incomes in the lowest income tax band for France, using the tax rates of the year of income reference period (2006). This results in the following NGR values :

CY	CZ	DE	DK	FR	HU	LT	NL	SK	FI	UK
0.939	0.938	0.879	0.737	0.972	0.893	0.927	0.844	0.923	0.897	0.878

3.1.2 Poverty in earned income compared with poverty risk

In order to compare poverty in earned income with the usual approach to poverty risk, we start by an implementation at the level of potential workers (Table 9). This means we do not have to worry about the influence of a definition of workers. The approach does not require a definition of workers and the indicator, which measures the proportion of individuals[21] who would be poor if they were to 'live off their work', is meaningful in itself.

Table 9: At risk of poverty and poverty in earned income among potential workers (%), 2007

	BE	CZ	DK	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT	LU	HU	NL	AT	PL	PT	SI	SK	FI	SE	UK
% at risk of poverty																								
	12	8	6	13	14	13	19	16	11	18	10	16	15	13	11	7	10	18	15	9	9	8	7	13
% poor in earned income																								
	29	21	16	36	28	40	40	36	29	36	31	32	27	37	23	33	33	42	28	13	19	20	18	32
Earned income=0	15	10	6	11	7	20	27	20	12	18	15	8	14	20	8	18	10	26	15	4	10	3	3	13
0< Earned income <poverty threshold	14	10	10	26	21	20	13	16	17	18	16	24	13	18	15	15	23	16	13	9	9	17	14	20

Source: EU-SILC Users' database from 01-08-09. Population: potential workers.
Reading note: in Belgium, 12 % of potential workers (for definition see section 2) are at risk of poverty, 29 % of potential workers are poor in earned income, of which 15 % have no earned income and 14 % an earned income higher than zero and less than the poverty threshold.

[19] Negative incomes are expressed as zero.
[20] In order to avoid higher taxation due to property or capital income, households with this type of income are excluded from the calculation, except for Denmark, where this exclusion means that the number of observations is too small.
[21] The approach could also be extended to encompass retirement (by including individuals in receipt of a retirement pension, and pensions in earned income, provided that the data show the difference between earned pensions and old-age social allowances).

As expected, the rate of poverty in earned income is higher than that of poverty risk. The difference between the two measures illustrates the global impact of household structure and social transfers at macro level. The incidence of poverty in earned income ranges from 13 % to 42 % among potential workers, being above 20 % in all but 4 countries, which is a high incidence considering that it is measured among individuals of working age who are neither students nor retired.

Poverty in earned income arises from two situations: some individuals have no earnings at all and others have earned some income but it is below the poverty threshold. The distribution of these two situations is very different from one country to another: in eleven countries the latter accounts for the majority of the poor in earned income; in five countries the incidence of the two situations is broadly the same; and in eight countries most of the poor in earned income do not have any earned income[22]. There are wide differences between countries in the share of potential workers without any earned income (from 3 % to 20 %). These differences broadly reflect the disparity accounted for by women's participation in the labour market.

To conclude the comparison between the two notions, we have broken down the whole population of potential workers into 4 groups, depending on whether they are poor in earned income and / or at-risk of poverty. This gives 4 groups:

1 — neither poor in earned income nor at-risk of poverty;
2 — poor in earned income and at-risk of poverty;
3 — poor in earned income and not at-risk of poverty;
4 — not poor in earned income and at-risk of poverty.

The usual approach to poverty is for groups 2 and 4 to be added together. In the approach in terms of poverty in earned income, groups 2 and 3 are added together.

In all countries, the ordering of the four groups is the same (Table 10), with the majority of potential workers in group 1 (neither-nor). The incidence of this group is essentially driven by the at-risk of poverty rate. The next highest share is that of group 3, where individuals would be poor if they were living alone and only off their own earnings. Group 2, that of poor in earned income and at-risk of poverty, comes next. The lowest incidence is in group 4, which relates to individuals who would not be at-risk of poverty if they were living alone off their own earned income. The composition of each group varies widely by gender: in all countries women are under-represented in group 1, and in most countries over-represented in groups 2 and 3; there is also a striking contrast between groups 3 (large majority of women) and 4 (large majority of men). Among

[22] The absence of an earned income does not necessarily mean there is no economic activity. It may be the case of the self-employed (who may have no income or even a negative income), and of unpaid family workers.

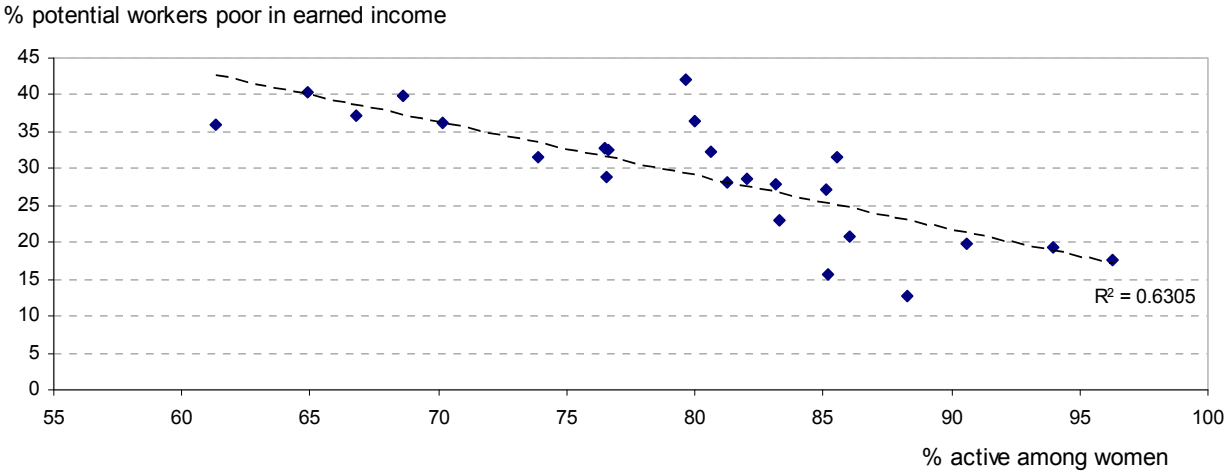
various factors behind these differences, gender inequalities in labour market participation play a crucial role (Figure 2).

Table 10: Combination of poverty in earned income and poverty risk (%), 2007

Poor in earned income	At-risk of Poverty	GROUP	BE	CZ	DK	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT	LU	HU	NL	AT	PL	PT	SI	SK	FI	SE	UK
No	No	1	69	77	83	61	70	58	54	60	69	60	66	65	69	59	74	66	66	54	68	83	78	79	81	65
% women			*41*	*41*	*47*	*39*	*45*	*39*	*36*	*37*	*44*	*39*	*37*	*47*	*48*	*35*	*46*	*38*	*37*	*42*	*44*	*45*	*45*	*47*	*46*	*42*
Yes	Yes	2	9	7	5	11	12	12	13	12	9	14	7	13	11	9	8	6	9	14	11	5	6	7	6	11
% women			*60*	*60*	*34*	*61*	*49*	*62*	*67*	*65*	*62*	*67*	*80*	*50*	*51*	*70*	*55*	*58*	*60*	*53*	*64*	*48*	*54*	*49*	*44*	*59*
Yes	No	3	19	14	11	26	16	28	27	24	20	22	24	19	16	28	15	27	24	28	17	8	13	13	12	22
% women			*76*	*80*	*59*	*74*	*75*	*71*	*79*	*78*	*77*	*80*	*81*	*67*	*65*	*83*	*69*	*79*	*79*	*61*	*74*	*57*	*71*	*64*	*70*	*74*
No	Yes	4	3	2	1	2	3	2	5	4	2	4	3	3	4	4	3	1	1	4	4	4	3	1	2	2
% women			*32*	*37*	*55*	*34*	*60*	*23*	*15*	*17*	*26*	*16*	*19*	*54*	*54*	*14*	*41*	*29*	*14*	*27*	*29*	*40*	*46*	*41*	*54*	*33*
All			100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
% women			*50*	*48*	*48*	*50*	*51*	*51*	*51*	*50*	*51*	*51*	*51*	*52*	*51*	*51*	*50*	*50*	*49*	*48*	*51*	*46*	*49*	*49*	*49*	*51*

Source: EU-SILC Users' database from 01-08-09.
Population: potential workers.
Reading note: in Belgium, 69 % of potential workers (for definition see section 2) are neither poor in earned income nor at risk of poverty – of which 41 % of women; 9 % are poor in earned income and at-risk of poverty — of which 60 % of women; 19 % are poor in earned income but not at risk of poverty — of which 76 % of women; 3 % are not poor in earned income but at risk of poverty – in which 32 % of women. On average 50 % of potential workers are women.

Figure 2: Poverty in earned income and women's participation in economic activity* (%), 2007



Source: EU-SILC Users' database from 01-08-09.
Population: potential workers.
(*) measured as the proportion of women who are 'active' in the meaning of BLS.

3.1.3 Poverty in earned income in the analysis of working poverty

In the analysis of working poverty, the main interest of introducing the notion of poverty in earned income is that the individual and household dimensions can be kept separate; by the same token, the first stage makes it possible to highlight women's employment situations, a large share of which becomes invisible as soon as the household dimension is introduced. Workers poverty in earned income is directly related to their individual employment characteristics. Labour market factors are not biased by the 'household factor' and are more directly identifiable than when they are analysed among the working poor because, by construction, all the poor in earned income have a problem of employment (whether quantity or quality or both), while this is does not hold for the working poor.

Compared with the approach to working poverty, poverty in earned income focuses first on the labour market dimension of poverty risk. It is only in a second stage that the household is taken into account, to test whether it offsets or not this risk. Table 11 compares the incidence of poverty risk and poverty in earned income in the population 'in-work'. As might be expected, since poverty risk is measured on the basis of household - not individual - income, poverty in earned income (when the 'household factor' has not yet operated) is higher than poverty risk[23]. The difference between the two indicators provides a broad illustration of the impact of taking, or not taking, the household into account. This impact is very unequal from one country to another.

Table 11: Poverty risk and poverty in earned income in the population in-work (%), 2007

	BE	CZ	DK	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT	LU	HU	NL	AT	PL	PT	SI	SK	FI	SE	UK
At risk of Poverty (1)	4	3	4	7	8	6	14	11	6	10	6	10	8	9	6	5	6	12	9	5	5	4	6	8
Poor in earned income (2)	10	6	7	21	14	20	18	16	15	11	16	19	13	20	9	17	19	21	13	1	9	10	15	20
(2) / (1)	*2.3*	*1.9*	*1.8*	*2.9*	*1.7*	*3.5*	*1.3*	*1.5*	*2.3*	*1.1*	*2.5*	*2.0*	*1.6*	*2.1*	*1.5*	*3.6*	*3.1*	*1.7*	*1.4*	*0.2*	*1.8*	*2.3*	*2.4*	*2.6*

Source: EU-SILC Users' database from 01-08-09.
Population: Individuals in-work at risk of poverty.
Reading note: in Belgium, 4 % of individuals in-work are at risk of poverty and 10 % are poor in earned income.

Among workers 'in-work' at risk of poverty, the interest in using an additional indicator of poverty in earned income is that it allows the effect of the household factor to be 'weighed'. Table 12 shows the proportion of working poor individuals who are poor in earned income. The lower this share, the higher the impact of the household dimension in the phenomenon of working poverty.

[23] The exception of Slovenia, where exactly the opposite is observed, suggests *a priori* a huge negative impact of workers' household composition; however, it could be due to some problem in the data (not yet identified) and has to be further investigated.

Table 12: Poverty in earned income of workers 'in-work' at risk of poverty (%), 2007

	BE	CZ	DK	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT	LU	HU	NL	AT	PL	PT	SI	SK	FI	SE	UK
All	52	36	77	60	60	67	49	54	59	41	48	64	49	51	48	68	74	60	50		38	77	76	65

Source: EU-SILC Users' database from 01-08-09.
Population: Individuals in-work at risk of poverty.
Reading note: in Belgium, 52 % of individuals in-work at risk of poverty are poor in earned income.

Neat contrasts appear between countries, on average as well as by gender. On average, the share of the poor in earned income ranges from 38 % to 77 % — not counting Slovenia. Two main groups of countries can be distinguished: a first group of 16 countries in which the majority of individuals who are in-work at risk of poverty are poor in earned income; a second group of 8 countries where the majority are not poor in earned income. For the latter, this suggests that a substantial share of the phenomenon is related to the household dimension.

Cross-country differences are largely related to gender inequalities in access to work and in employment quality: women's access to the labour market and work determines the likelihood of observing single / double income households, while gender inequalities in employment (quantity and quality) determine the incidence of low earnings and at the same time the likelihood that it is counterbalanced at household level (except of course in the case of workers who live in single-person households). Gender inequalities being what they are, there is more likely to be counterbalance when the worker is a woman than when the worker is a man. More often than men, women live with a partner who has higher earnings than she has, while more often than women, men live with a partner who has no earnings at all. This can be illustrated by breaking down Table 12 by gender (Table 13).

Table 13: Incidence of poverty in earned income in working poverty by gender (%), 2007

	BE	CZ	DK	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT	LU	HU	NL	AT	PL	PT	SI	SK	FI	SE	UK
Men	42	29	86	49	64	55	34	43	46	32	22	66	50	28	49	60	63	52	37		37	73	79	55
Women	65	45	58	72	58	83	77	76	75	67	79	62	48	83	46	77	91	72	67		39	81	71	76

Source: EU-SILC Users' database from 01-08-09.
Population: Individuals in-work at risk of poverty.
Reading note: in Belgium, 42 % of active men (compared with 65 % of active women) at risk of poverty are poor in earned income.

This breakdown shows the extent of gender asymmetry in working poverty: women's poverty risk appears to be associated, more often than men's, with poor individual employment characteristics; conversely, men's poverty risk appears to be associated, more often than women's, with their household's characteristics — including the poor employment characteristics (or absence of employment) of women in their household.

3.2 Accounting for the household factor

A radical way to acknowledge the household dimension of the phenomenon would be to change the unit of analysis by implementing in-work poverty at the household level. This would lead to greater consistency, to the extent that the economic activity of individuals is linked to their household characteristics, and also contributes to determining their disposable income (assuming income pooling and sharing). Defining the working poor as individuals actually has the effect of neglecting intra-household interactions and the way they shape labour supply behaviours. Moreover, household characteristics determine various social transfers and, in many countries, the tax on income. But while, on the one hand, consistency would be gained, on the other hand, to consider working poor as households would lead to serious inconsistencies, as regards activity: whether employed or unemployed, it is individuals who are in the labour market, not households and this is not necessarily equivalent. This is especially true if one is a man and the other a woman. In other words, household is not a relevant unit in the labour market. Thus a change in the unit of observation would only change the side of the problem. If we do not know how to approach poverty at the individual level, we do not know any better how to approach work at the household level. It could be said that what is missing here is an assumption of 'employment pooling'.

And yet it would be useful to take better into account, and analyse, the household dimension of working poverty. Below we examine possible ways of doing this. One consists simply in measuring the impact of working poverty on the population, that is the share of the population living in households at risk of poverty in which at least one member is a worker (using the European approach to workers). Others are aimed at better describing the economic characteristics of households.

3.2.1 Impact of working poverty on the whole population

One possible, and easy, way to account for the household dimension of the phenomenon consists in measuring its impact on the whole population and/or on the population at risk of poverty, by considering not only the individuals 'in work' but also all the members of their household. This is a way to acknowledge the dual-level definition of working poverty, by including in the approach not only the household income but also the household members.

In the whole population the impact of 'in-work poverty risk' is, of course, lower than the overall incidence of poverty risk (table 14, part a). In the population at risk of poverty, a significant share of individuals are living in a household with at least one individual 'in-work'. It is close to one half on average, increasing in six countries to a large majority of individuals (table 14, part b). Among the individuals affected by 'in-work poverty risk', from 20 % to almost 40 % of them are children under 15.

Table 14: Impact of in-work poverty risk in the population (%), 2007

	BE	CZ	DK	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT	LU	HU	NL	AT	PL	PT	SI	SK	FI	SE	UK
a. % at-risk of poverty and % impacted by in-work poverty risk																								
Poverty risk	15	10	12	15	19	18	20	20	13	20	16	21	19	14	12	10	12	17	18	12	11	13	11	19
In-work impact	4	4	3	6	8	6	13	12	6	11	7	11	9	10	6	5	6	11	10	5	6	4	5	7
b. % at risk of poverty living in households 'in-work'																								
	29	43	28	36	42	33	66	61	49	55	47	51	48	76	50	49	49	63	57	45	60	31	49	38
of which children <15	29	23	31	19	21	29	21	24	26	26	24	22	24	31	27	39	29	25	24	22	22	28	28	26

Source: EU-SILC Users' database from 01-08-09.
Population: a.: All / b.: At risk of poverty.
Reading note: In the whole of the population of Belgium 15 % of individuals are at risk of poverty and 4 % live in a household at risk of poverty which counts at least one individual in-work. In the population at risk of poverty, 29 % of individuals live in households with at least one individual in-work; 29 % of them are children aged under 15.

3.2.2 Economic characteristics of households

In addition to measuring 'impact' as above, it is possible to refine the description of households, either to provide a better analysis of the characteristics of the working poor or to study the risk of poverty attached to various configurations of households. Two types of description of households are implemented below, one using the notion of 'work intensity', the other, more tentative, aimed at reflecting work arrangements within households.

- 'Work intensity'-type breakdown

The work intensity of a household (hereinafter WI) is defined on the basis of the ratio of the number of months worked during the period of reference by all adults in the household to the total number of 'workable' months of all adults in the household[24]. In this calculation, the denominator (number of 'workable' months) is the total number of months the adults in a household have spent in any status (including months of study or retirement). In short, it measures the employment rate of the household (hereinafter ERH)[25]. The corresponding variable in EU-SILC cross-section 2007 can take the following value: (WI=1) if ERH=0, this corresponding to jobless households; (WI=2) if 0<ERH<0.5, *i.e.* less

[24] An 'adult' is defined as a member of the household aged from 18 to 64 who is not a dependent child; households composed only of students are in principle excluded from the calculation.
[25] This approach raises the interesting question of what a 'workable' month is. Earlier in the paper we considered that a potential worker is an individual of working age who is neither a student nor retired. As well as making it possible to define a consistent population of potential workers, the rationale was that including students or retired persons as potential workers is debatable from an economic and social point of view. If students were working instead of studying, it would in the long term result in a decrease in human capital. As for the retired, having to work may just be considered to be unfair, especially if they have worked under difficult conditions. Moreover, since there are in fact students and retired people who do work and who are at risk of poverty, it seems that it is an issue in itself, not to be amalgamated with working poverty in general.

than half 'workable' months are 'worked'; (WI=3) if 0.5≤ERH<1, *i.e*. from half to less than all 'workable' months are 'worked'; (WI=4) if ERH=1, corresponding to a household in which all the adults are employed for a full-year.

The first part of Table 15 below indicates the rate of in-work poverty risk by household's work intensity (since we are looking at individuals in work, work intensity is necessarily above 1). As might be expected, the higher its value, the lower the rate of poverty risk.

Table 15: In-work poverty risk and work intensity of the household (%), 2007

	BE	CZ	DK	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT	LU	HU	NL	AT	PL	PT	SI	SK	FI	SE	UK
Poverty risk by household work intensity																								
WI=2	14	16	5	25	39	14	31	27	32	28	17	40	29	26	20	10	17	26	28	15	21	10	13	50
WI=3	7	5	5	10	10	7	17	15	9	16	9	14	13	16	7	5	7	14	14	8	7	6	9	18
WI=4	3	2	4	6	6	5	10	7	5	5	4	7	6	6	4	4	5	9	6	2	3	4	6	5
Composition of in-work poverty risk by household work intensity(*)																								
WI=2	9	12	0	6	8	6	12	10	10	16	8	9	8	6	13	5	9	11	11	14	12	3	1	6
WI=3	46	51	20	34	40	43	48	55	38	57	58	44	43	54	48	43	43	45	52	54	46	40	24	37
WI=4	46	37	78	59	52	49	39	34	52	27	34	44	49	40	39	53	48	39	37	33	39	57	74	57
Restricted to households other than 1 person or single parent household																								
WI=2	*12*	*16*	*1*	*10*	*12*	*8*	*13*	*11*	*14*	*19*	*9*	*12*	*11*	*9*	*16*	*6*	*12*	*12*	*12*	*16*	*14*	*5*	*2*	*8*
WI=3	*54*	*62*	*33*	*46*	*55*	*50*	*50*	*59*	*45*	*68*	*61*	*52*	*51*	*68*	*55*	*49*	*53*	*47*	*55*	*58*	*51*	*53*	*36*	*44*
WI=4	*34*	*22*	*67*	*44*	*33*	*40*	*36*	*30*	*41*	*13*	*29*	*32*	*38*	*23*	*30*	*45*	*35*	*36*	*32*	*26*	*32*	*42*	*61*	*47*

Source: EU-SILC Users' database from 01-08-09.
Population: Individuals in work / Individuals in work at risk of poverty.
(*): Due to missing values of WI, the total is different from 100 % for DK, IE, LV, PL and SK.
Reading note: In Belgium the rate of poverty risk of individuals in work living in a household where WI=2 is 14 %. In all, 9 % of individuals in work at risk of poverty live in a household where WI=2. This percentage increases to 12 % if individuals living in households other than 1 person or single-parent households are excluded.

The second part of Table 15 shows the distribution of individuals in work at risk of poverty by household work intensity. Most of them belong to households where WI is 3 or 4, depending on the country. In other words, at least half the workable months are worked. The share of those living in households where WI is lower than 3 is slightly higher when the analysis is restricted to individuals living in households where more than one person is likely to be a worker.

However, one limitation of this approach is that it treats all months of work equally, whether full-time or part-time, whether dependent or self-employment, while it is clear that these characteristics do not have the same outcome in terms of earnings. A further limitation is that when households have more than one 'available' adult, the same total number of months can correspond to any combination: one of them working full-year and the other not at all, as well as all of them working a small number of months. There again, it probably does not

have the same implications in terms of earnings[26]. In conclusion, it seems to us that the description is not very informative.

- 'Work arrangement'-type breakdown

In an attempt to obtain a more qualitative description of households from an economic point of view, we have implemented an approach using household types and combinations of activity profiles (as defined in section 1) rather than 'quantities' of months worked. The difficulty here lies in the rather small sample size when considering the population in work at risk of poverty. This is why we do not propose a breakdown which would account for any possible combination, but rather a 'reasoned' list of modalities that we construct in stages:

- firstly, because the question of work arrangement is not relevant in these cases, we isolate individuals living alone and those who are single parents;

- then, in the remaining population, we isolate those who are the only worker (using the in-work approach) in a household counting more than one adult. In this category, it would be especially useful to take this further with a gender breakdown and to distinguish between households with or without children, but there are too few observations for such details;

- in the remaining population, we distinguish (when possible) the following situations:

- at least 2 persons working full year, full time, not self-employed
- at least 1 person working full year, full time and 1 person working full year, part time, none of them self-employed
- at least 2 persons self-employed full year
- other situations (any combination other than the preceding one with at least two adults in work).

As in Table 15, Table 16 shows first the rate of in-work poverty risk and then the distribution of individuals in work at risk of poverty by 'work arrangement'. When the number of observations in a cell was too small, they have been grouped under 'other situations'.

[26] A refined approach to household work intensity was used in a recent report on child poverty in the EU (Tarki SRI, Appendix 1.2, 2010). The authors aimed specifically at distinguishing part-time work from full-time work; to that end they proposed weighting the months of part-time work with a coefficient of less than one. It could be an improvement (even though it still does not deal with self-employment), but since EU-SILC does not provide the actual number of hours of work during the reference period, implementation relies on the information on the current number of weekly hours as declared at the time of interview. This may result in a mismatch if the person is not working at this time, or does work but for a different number of hours (*e.g.* is now working full time).

Table 16: In-work poverty risk and work arrangement of the household (%), 2007

	BE	CZ	DK	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT	LU	HU	NL	AT	PL	PT	SI	SK	FI	SE	UK
Poverty risk by type of household/work arrangement																								
All	4	3	4	7	8	6	14	11	6	10	6	10	8	9	6	5	6	12	9	5	5	4	6	8
One-person H	5	6	8	11	11	9	11	11	7	11	12	20	13	12	10	5	8	13	13	9	6	8	13	10
Single parent	14	15	9	22	21	7	-	26	16	17	-	23	22	52	16	27	23	-	25	15	-	8	17	19
One in work	6	6	5	11	15	14	12	17	10	10	22	18	22	16	8	8	8	14	21	13	10	7	8	16
2 FY FT	0	0	1	3	1	0	1	1	0	1	1	3	1	2	1	1	2	1	0	1	2	1	1	2
2 FY 1FT 1PT	0	0	1	4	4	1	3	5	3	2	4	13	5	4	13	0	3	5	6	7	6	1	2	3
2 Self-employed	13	7	39	19	-	11	29	43	19	8	10	30	28	10	21	17	15	40	37	34	12	21	36	20
Other	5	1	7	6	10	6	12	12	8	6	3	7	10	11	5	4	4	13	8	5	6	5	10	10
Composition of in-work poverty risk by type of household/work arrangement																								
One person H	25	23	37	30	26	12	7	8	22	24	13	16	12	25	15	17	24	9	6	*	*	34	38	19
Single parent	10	9	10	6	11	*	*	2	8	5	*	7	8	12	7	11	9	2	*	6	*	7	13	8
One in work	27	43	15	29	30	49	25	41	34	38	49	41	45	28	37	30	28	26	44	52	32	27	14	33
2 FY FT	*	*	*	9	6	*	*	6	*	7	11	21	8	10	7	*	12	6	2	9	28	5	5	8
2 FY 1FT 1PT	*	*	*	13	*	*	*	5	8	*	*	*	*	10	*	*	7	*	*	*	*	*	5	7
2 Self-employed	*	*	10	*	*	*	35	12	6	5	*	4	7	*	*	13	*	28	19	6	*	7	6	5
Other	38	32	27	13	27	38	33	26	23	22	28	11	19	14	34	29	20	29	29	28	40	21	19	21

Source: EU-SILC Users' database from 01-08-09.
Population: Individuals in work / Individuals in work at risk of poverty.
-: Less than 50 observations.
*: Less than 20 observations.
Reading note: In Belgium the rate of poverty risk of individuals in work living alone is 5 %; that of single parents is 14 %; that of those who are the only worker in their household is 6 %; and that of self-employed who live with at least one other self-employed is 13 %. 25 % of individuals in work at risk of poverty live alone. 10 % are single parents.

The comparison of poverty rates does not really provide any new information. For the most part it reconfirms that living with others who work lowers the poverty risk, except when the worker him/herself and the other workers of his/her household are self-employed. The analysis of household composition soon reaches its limits due to small sample sizes (as shown by the number of empty cells). However, in cross-country comparisons the main interest is to underline the differences in the structure of in-work poverty, pointing to self-employment and, at least it can be assumed, gendered division of work within households.

3.3 Concluding remarks - section 3

In this last section, we have examined various ways to disentangle individual and household in the analysis of working poverty. One angle is to adopt an intermediary indicator of 'poverty in earned income' measured at the individual level only. Unlike the conventional approach, poverty in earned income focuses firstly on labour market factors. Individuals' earned income is taken as the distribution which results from individuals' economic activity. In this interpretation, poverty in earned income can be closely linked to labour market and employment conditions and can be analysed in terms of both employment quantity and employment quality. It is only at a second stage that the household dimension is taken into account, as well as subsequent social transfers. It makes it easier to identify the respective influence of these dimensions in the composition of working poverty and, in cross-country comparisons, to take into account national specificities in each of them. It also makes it possible to take into account gender differences, which are to a large extent cancelled out with the usual approach to poverty risk. From a methodological point of view, this would be consistent with an individual approach to working poverty. The main drawback is that individual activity and subsequent earnings are considered separately from choices of activity, as if family configurations and social transfers did not count, while, in all likelihood, they can at least partly condition these choices[27]. And yet, the basis of the approach is precisely the identification of individuals whose activity characteristics are such that they would be poor if they were living in single households with their earnings as the sole resource. It would be a serious bias if poverty in earned income was to be interpreted as a measure of individual performance, resulting only from choices of activity made in the context of intra-household division of labour (or of their efficiency). The point of view adopted is to consider poverty in earned income as an intermediary indicator of primary income distribution, and hence, at the macro level, a measure of performance of the employment regime, when working poverty combines it with the household structure and income redistribution.

It would be useful to take greater account of the household dimension of working poverty. However, it seems that in most cases the use of either 'work intensity' breakdowns or more qualitative breakdowns are soon limited by small sample sizes, as in the tentative 'work arrangement' implemented above, and only demonstrate the obvious.

[27] But the same type of assumption is made when poverty rates are computed before and after social transfers, as is frequently done in studies on the impact of social protection.

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