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Implications of the EU-SILC following rules, and their implementation, for longitudinal analysis

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Non-technical Summary

All large-scale household-based longitudinal data sets – that is, those which collect information on the same individuals at repeated intervals – make use of a set of "following rules" that define exactly which sample members should be followed up and re-interviewed from one wave of the survey to the next, and which people do not need to be followed. For example, a survey protocol might specify that if a lodger moves into a sample household, he will be part of the survey for as long as he remains living in that household, but will stop being part of the survey if he moves out.

This paper is concerned with the survey protocols of the European Union Statistics on Income and Living Conditions (EU-SILC), a longitudinal survey covering all 27 countries of the EU. Because the survey is administered independently in each of the 27 countries, there are variations between countries in the survey protocols. In terms of following rules, the most important difference is that some countries – which for technical reasons we refer to in the paper as "register countries" – designate only one member of each sample household as a "sample person", with all other residents being designated as "co-residents", who are only eligible to be followed for as long as they live with the sample person. In the "non-register" countries, by contrast, almost all adult members of sample households are designated as "sample persons".

We are also concerned with differences between countries in the degree to which following rules are actually implemented – that is, the percentage of people eligible to be followed, who actually *are* followed and re-interviewed.

Why do following rules, and their implementation, matter? One reason is that the accurate implementation of following rules makes an important contribution to the continuing representativeness of a longitudinal survey. Another reason is that some of the life transitions which are particularly interesting from the perspective of the social researcher are associated with residential moves; it is known that residential moves are associated with an increased risk of attrition from a survey, so following rules, and their implementation, are particularly important in this context.

In this paper, we focus on two groups of people undergoing residential transitions which involve household splits: young people leaving home, and couples undergoing divorce or partnership dissolution. We are interested in the percentage of these groups who are re-interviewed following these transitions, and whether those remaining in the survey constitute a sufficiently high and representative proportion of the groups, for longitudinal analysis of these groups to be feasible.

The news is mixed. We note that the upheaval involved in divorce or separation means that it is difficult to obtain a reliable measure of the numbers of couples whom we *should* observe separating, and it is therefore extremely difficult to reliably calculate the proportion of separating couples which the survey actually *does* follow.

In the case of young people leaving home, we argue that it is possible to obtain a reasonably reliable benchmark of the numbers of young people whom we would expect to observe leaving home, due to the relative stability of the parental generation. We find that the percentages followed are relatively low, at about one third of the total. However, there is substantial variation between countries, with the proportions approaching half in a number of Southern European countries. We conclude that although in this respect the EU-SILC falls short of the following and re-interview rates which we might have hoped for from a large flagship household survey, it is possible to perform analysis, albeit rather cautiously, on young people's transitions in a number of countries.

Implications of the EU-SILC following rules, and their implementation, for longitudinal analysis

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Abstract: This paper examines the following rules in the EU-SILC survey, in terms both of the wording of the regulations, and on how these regulations are interpreted and implemented. We pay particular attention to the percentages of the sample re-interviewed following household splits, and assess the implications of these on the suitability of the EU-SILC for longitudinal analysis of the effects of household splits. Using longitudinal data from the 2003 to 2010 UDBs, we find considerable variations in practice across the countries of the EU-SILC. Among households experiencing a split, large percentages of those remaining in the original sample household are followed, but only very low percentages of those moving to a split-off household. While this does not have a major impact on overall attrition rates, it does mean that the EU-SILC may not be suitable for longitudinal analysis of specific groups. Analysis of individuals leaving the family home following divorce or separation is particularly problematic, while analysis of young home-leavers is possible in a number of countries, though it should be undertaken with caution.

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1. Introduction

In the context of large-scale individual-level data sets, the defining feature of longitudinal data sets is that they collect information on the same people at repeated intervals. In the case of most household panel surveys, this involves re-interviewing sample members at intervals of one year and at the same time interviewing other members of their households, who may or may not themselves be sample members.

Because households are not necessarily stable over time – new members may move into, or be born into, sample households, and existing members of sample households may die or move away to a new home – the terms of reference for a longitudinal survey must include a set of following rules: that is, a set of rules defining which people will be followed and interviewed from year to year, and under what circumstances.

This paper explores the following rules associated with the European Union Statistics on Income and Living Conditions (EU-SILC); the extent to which these rules are actually implemented; and the consequences of these. This is of particular interest in a cross-national survey such as the EU-SILC, because the survey is implemented by a different agency in each country, and substantial variations may arise in the extent to which those individuals eligible to be followed actually are followed. This, in turn, may give rise to differences between national samples, which may affect estimates of a wide range of socio-economic indicators.

Thus, the purpose of this paper is to assess whether there are differences between countries in the way that following rules are implemented, and whether these differences affect the accuracy of estimates made using the data.

The regulations relating to tracing in the EU-SILC are clearly spelled out in Regulation No 1177/2003, Article 8 of which states:

> "In the longitudinal component, individuals included in the initial sample, that is to say, sample persons, shall be followed over the duration of the panel. Every sample person who has moved to a private household within the national boundaries shall be followed up to the new location in accordance with tracing rules and procedures to be defined under the procedure referred to in Article 14(2)."

"Sample Persons" are defined by Article 2 of the same document as:

> "…the persons selected to constitute the sample in the first wave of a longitudinal panel. They may comprise all members of an initial sample of households, or a representative sample of individuals in a survey of persons."

A later Regulation (1981/2003) clarifies the situation, making the following distinction between sample persons and other members of sample households:

> "Sample persons: means all or a subset of the members of the households in the initial sample who are over a certain age."
>
> "Co-residents (non-sample persons): all current residents of a sample household other than those defined above as sample persons."

This is an important distinction: most countries use household-based samples, and in these countries, sample persons are all those over the national age threshold living in a set of households at the time of the first wave of data collection. However, a minority of countries (Denmark, Finland, Iceland, Norway, Sweden, the Netherlands and Slovenia) use administrative registers as the basis for their surveys. In these countries, the initial sample is one of individuals. A large amount of data is taken from the administrative registers for all other members of the household of each sample person. The survey interview is carried out only with the sample person; all other adult household members are defined as "co-residents".

According to the regulations[(1),] co-residents only need to be followed in the next wave of the survey if they remain living in a household containing at least one sample person. Thus, in the register countries, if a household splits into two parts between the first and second waves, only one of the two parts would be followed (as only one part contains the sample person), whereas in non-register countries both parts would be followed (as both contain at least one sample person). In consequence, many members of initially-observed households will not be followed in register countries.

All adult sample members should be followed unless they move to an institution or out of the country; to the extent that this is not done, this may represent (1) non-compliance with the protocols of the EU-SILC, (2) efforts to trace and contact movers which are formally compliant with protocols but which may be insufficiently energetic, or (3) attrition which is to a greater or lesser extent unavoidable. However, tracing and re-interviewing movers in the course of a panel survey is a challenging task which requires thorough and systematic procedures if it is to be done successfully (Couper and Ofstedal 2009; Lynn 2012). For this reason, variation between countries is perhaps to be expected.

In fact, these represent three points on what is really a continuum of practices, and it is not easy to discern, through interrogation of the data alone, the extent to which differences in following rates arise because of differences in the protocols followed by the different statistical agencies. As well as depending on tracing and contacting protocols, success in re-interviewing individuals or households which move may also depend on factors which vary between countries, including how far people tend to move in geographical terms, and how easy it is to trace movers via a range of means.

In this study, we will:

(a) document the degree to which following rules were implemented in each country;

(b) assess the implications of our findings for longitudinal analysis;

(c) make recommendations for the specification and design of following rules in the context of cross-national longitudinal household-based surveys.

We first describe re-interview rates across the survey as a whole and then focus on two particular groups of people who are both of particular interest to policy-makers and at particular risk of residential mobility: young people leaving home, and separating or divorcing couples. We assess the particular issues relating to following these groups in the context of a longitudinal survey, and the impact of following rules and their implementation.

(1) See Appendices A1 and A2 for extracts from the relevant Regulations.

2. The EU-SILC

The EU-SILC[2,3] is an annual survey which provides micro-level data on a range of social indicators including income, poverty, health, social exclusion and living conditions. The first release of data (relating to the year 2004, although four countries began collecting data in 2003) included 13 EU countries (Austria, Belgium, Denmark, Estonia, Finland, France, Greece, Ireland, Italy, Luxembourg, Portugal, Spain and Sweden), plus Norway and Iceland. Countries providing data for the first time in 2005 were Germany, the Netherlands, the UK, and new member states Cyprus, the Czech Republic, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia. Malta and Bulgaria joined in 2006 and Romania in 2007, bringing the number of participating countries to 29.

Cross-sectional and longitudinal EU-SILC data are currently released separately and no means is provided to link them. Germany has so far not released longitudinal data, and is thus excluded from the analysis in this paper.

Unlike its predecessor, the European Community Household Panel Survey (ECHP), EU-SILC is output- rather than input-harmonised: that is, rather than data from all countries being collected via a single standardised survey instrument, a list of variables was agreed, and countries were given a great deal of latitude in terms of how these were to be collected. This output-harmonisation has resulted in differences across a number of domains in EU-SILC. In this paper, we are mainly concerned with differences in sample design and data collection.

The EU-SILC is implemented in most countries as a four-year rolling panel. Under this design, sample households are allocated to one of four "rotational groups". Each household remains part of the sample for four years, being interviewed on four annual occasions. Each year, all households in one of the rotational groups (the group that has just been interviewed for the fourth time) leave the sample, while a new set of households are interviewed for the first time. Thus, one-quarter of the sample (that is, one of the four rotational groups) is replaced each year.

However, participating countries are at liberty to deviate from this design, and several do so. The EU-SILC regulations require only that

> "all sample persons remaining or moving within private households in the national territory covered in the survey shall remain in the EU-SILC sample for a period (panel duration) of at least four years"

So, panels of longer duration than four years are permitted. Luxembourg has implemented a "pure" panel with no replacement; Norway has implemented an eight-year panel, and France a nine-year panel. The remaining countries have adopted the standard four-year rolling panel, although there have been variations between countries in the ways in which rotational groups have been introduced and the way in which they were labelled at the beginning of the survey.

In addition, as mentioned earlier, there are differences between the "register" countries (the Scandinavian countries, the Netherlands and Slovenia) and the "non-register" countries. The latter rely solely on data from surveys, while the former combine register and survey data. As noted previously, this difference in design has implications for the following of individuals within the survey.

(2) For detailed information on EU-SILC, see Eurostat web-site: http://epp.eurostat.ec.europa.eu/portal/page/portal/income_social_inclusion_living_conditions/introduction#. See also: http://www.gesis.org/en/services/data-analysis/official-microdata/european-microdata/eu-silc/about-the-eu-silc/. For more extensive discussion of EU-SILC register and survey data collection methods, see Lohmann (2011).

(3) http://www.gesis.org/en/services/data-analysis/official-microdata/european-microdata/eu-silc/about-the-eu-silc/

2.1 The sample for analysis

Following data collection and cleaning, EU-SILC data are released to users each year. Each release bears the name not of the year in which it was released, but of the last wave of data which that release contains. There are typically multiple versions of each release, which generally differ only in minor respects such as the improvement of weights, additional imputations, improved cleaning of income variables, etc. The analysis in this paper uses data from all six releases (2005 – 2010) of longitudinal data which were available at the time of writing, using the latest available version of each release.

Combining the releases of longitudinal data is not a simple task: if it is done in a naïve manner, many households will be duplicated in the resulting data set. Each release of longitudinal data contains those households for which both of the following criteria hold: (a) they are part of the sample for the latest wave of data collection, and (b) they were also in the sample the year before that. Thus, households which were interviewed for the first time in 2006 will not form part of the longitudinal data set for the 2006 release, because they will have only one wave available; they will make their first appearance in the longitudinal data set in 2007, when they have been interviewed twice. And households interviewed in 2006 will only appear in the 2007 data set if they are also interviewed in 2007 – that is, if their rotation did not finish in 2006.

Figure 1: Annual releases and rotational structure of EU SILC data for Austria

	RG1	RG2	RG3	RG4
2005 release		2004 2005	2004 2005	2004 2005
2006 release	2005 2006		2004 2005 2006	2004 2005 2006
2007 release	2005 2006 2007	2006 2007		2004 2005 2006 2007
2008 release	2005 2006 2007 2008	2006 2007 2008	2007 2008	
2009 release		2006 2007 2008 2009	2007 2008 2009	2008 2009
2010 release	2009 2010		2007 2008 2009 2010	2008 2009 2010

This means that most participating households will be present in multiple releases of the longitudinal data. Figure 1 demonstrates the case of Austria, which is fairly typical. Data collection started with four rotational groups in 2004; three of the groups (2, 3 and 4) were re-interviewed in 2005, while Rotational Group 1 was "refreshed", with a new sample identified and interviewed for the first time. The first (2005) release of longitudinal data contained two

waves of data on each of Rotational Groups 2, 3 and 4, but no data on Group 1. In 2006, groups 1, 3 and 4 were re-interviewed, while a new sample for group 2 was interviewed for the first time. The 2006 release therefore contains three waves of data on groups 3 and 4; two waves of data on group 1; and no data on the (new) group 2, who have only been interviewed once. A similar pattern is available in the later releases.

It is clear from Figure 1 that some interviews are present in more than one release (for example, the 2005 interviews for Rotational Group 1 are present in the 2006, 2007 and 2008 releases), while others (for example, the 2004 and 2005 interviews for Rotational Group 2) are present in only one. In order to work with only one observation per household/year, we select only those years in which each rotational sample appears for the final time before being refreshed. This also corresponds to the longest run of data available for each rotational subsample. The shaded cells in Figure 1 are those selected for analysis.

This selection exercise had to be performed separately for each country, because of different conventions on the naming of rotational groups, different entry dates into the EU-SILC, and other differences in rotational structures.

This generated a data set containing 3.37 million observations on over 1 million individuals in 608,000 households. Of these, 59% of all observations were part of a rotational group which had been present in the data for four waves; 25% were part of a group which had been present in the data for 3 waves; and the remaining 16% formed part of a group which had only been present twice; these percentages vary between countries, with a larger percentage of observations being part of a full four-year rotation in those countries which started their surveys earlier. Note that as the panel matures, the percentages who are part of longer rotations will increase.

2.2 Weighting

A selection of weights is provided with the EU-SILC longitudinal files, including base weights and different sets of longitudinal weights for different longitudinal durations (two-, three- and four-year weights). These weights are not employed in the remainder of Section 2 and in Section 3, where the aim of the analysis is to establish the number and types of household splits observed in the data. However, in Section 4, which analyses differences in the characteristics of individuals who are and are not re-interviewed following a household split, we do use the relevant weights, and this fact is indicated in the tables in these sections.

2.3 Overview of following rates in the EU-SILC

Figure 2 provides a schematic representation of the steps involved between the time when a household is identified as part of a national EU sample, and interview data from that household being available in the User Database (UDB). The first stage of the process is the selection of households into the national sample. Following this, attempts are made to contact and interview sample households for the first time.[(4)] Some of these attempts will be successful and some will not; data on these outcomes are not made available in the UDB, although they are taken into account in the process of generating weights.

(4) In several countries, the units selected initially are residential addresses. It is only at the fieldwork stage that the household(s) resident at each address is identified.

Figure 2: Schematic representation of the path from sample identification to interview

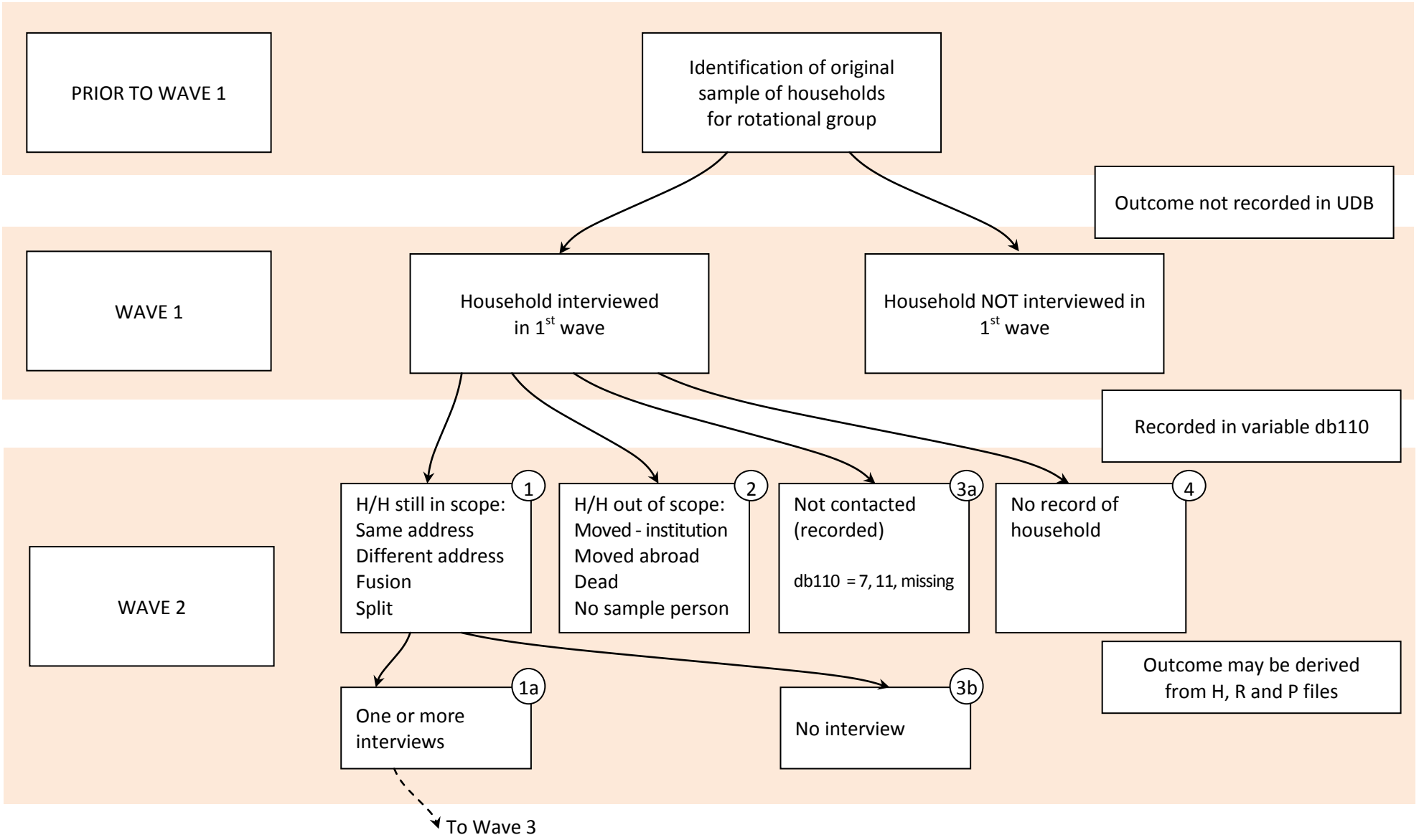
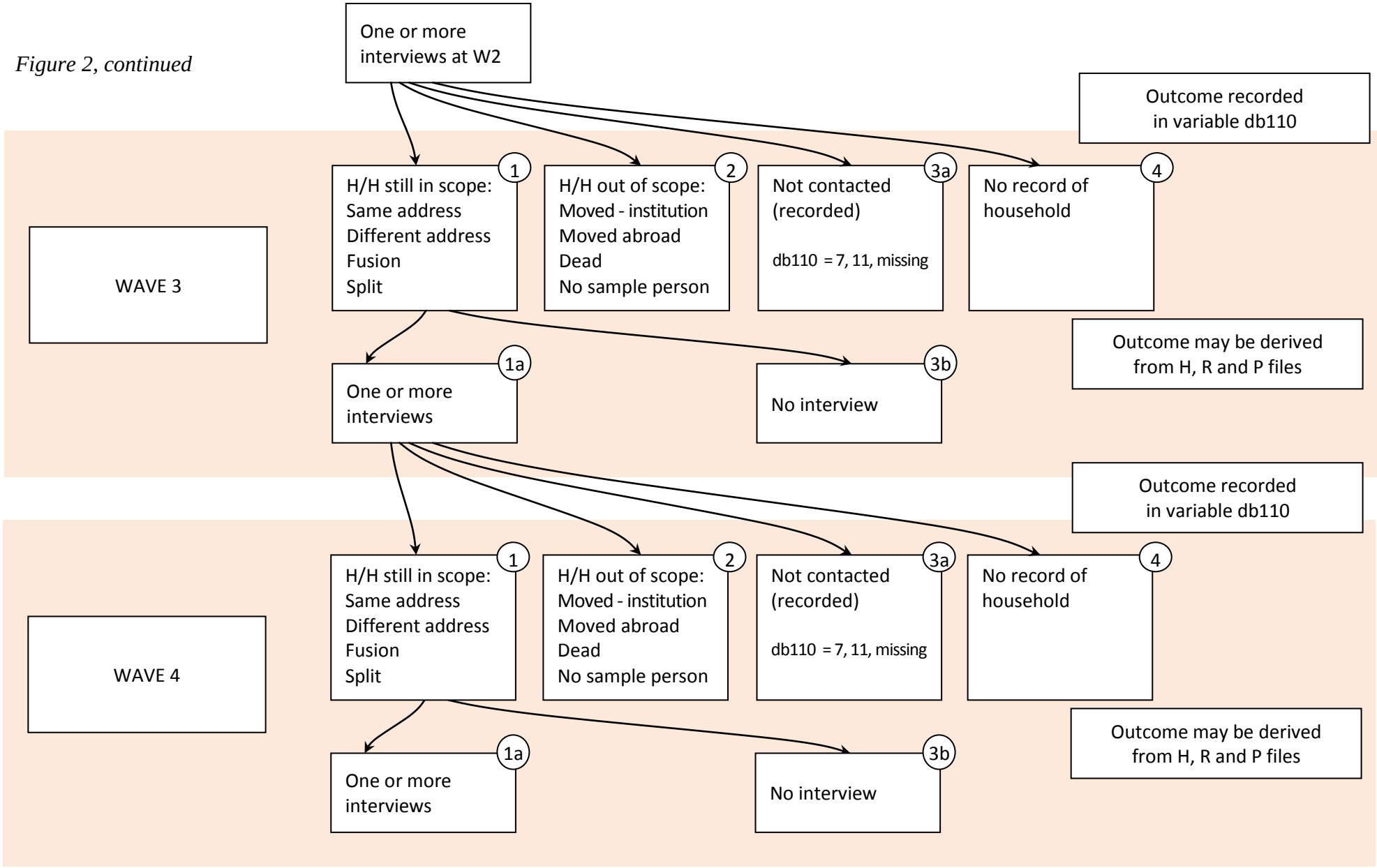


Figure 2, continued



It is in fact possible to identify some of these non-responding households from the UDB, because some households are identified as a "New Address" in the first wave that their rotational group appears, but fail to provide any additional data. However, the inclusion of such households has not been consistent between countries, with the percentages of households in the first-year sample who fail to provide any additional interview data ranging from 0% in Ireland to over 50% in Belgium; since, in addition, we have no way of knowing the numbers of such households not recorded in the UDB, we simply ignore any data relating to this stage of the process.

Over 99% of households which fail to provide any data the first time they are eligible for interview provide no data at all to the EU-SILC. Thus, we drop these (completely non-responding) households from the sample for the remainder of our analysis.

For households which participate in the survey in one year and are eligible to be followed in the next year, variable db110 records a range of outcomes. These form three main groups: (1) households which are still in scope of the survey (meaning that at least one of the sample members in the household is still alive and living in a residential household in the country); (2) those which have moved out of scope (for example, because all sample members have moved into a residential home, or abroad, or have died); and (3) those which are recorded as not having been contacted. To this, we add a further group (4) consisting of households which have simply disappeared from the sample (ie, for which there is no entry in a year when an entry is expected).

Some of the households which are defined as "in scope" actually provide no data whatsoever, and are thus, for practical purposes, non-responding households – in Figure 2 these are marked as type 3b.

Table A3 in the Appendix presents the percentages falling into each of these categories, by country. An average of 87% of households who are contacted in one year are re-contacted the following year, and provide at least some information at interview. Just under 1% of households move out of scope; 2% are recorded as not being contacted, while 10% are recorded as being in scope the following year, but do not provide information. The percentage of households who "disappear" is small, and is only at all substantial in Austria (1.7%) and Ireland (4.4%). Overall, the lowest re-interview rates at the household level are found in the UK (75%) the highest are found in Romania (98%).

2.4 Conceptualising household splits

The main business of this paper is to assess following rates among households that split between two waves of data collection – that is, households whose members are observed living together in year t and who are observed living in two or more separate households one year later, at time t+1.

In the EU-SILC, household splits are conceptualised differently in register and in non-register countries. In the register countries, sample households contain only a single sample person, with all other household members being defined as co-residents. If a household in a register country splits, the household where the sample person lives remains as a sample household, regardless of whether the sample person remains at the same address or moves away, while any members of the original household who no longer live with the sample person are no longer part of the sample, and are not followed. Thus, household splits are not recorded as such in the data, and the only means of identifying splits is to identify households in which some individuals who were resident at year t are no longer resident there at year t+1.

In the non-register countries, household splits may be thought of as falling into two categories: (a) those where one or more members of the "parent" household are still living at the original address in year t+1, while one or more other members have moved to a new address, and (b) those where all members of the "parent" household have moved away from the original address. In the first case, those people remaining at the original address are considered to remain in the "original" household, while those who have moved to a new address are considered to form a "split-off" household. In the second case, one of the two or more new households is designated as the "original" household, while the other(s) are designated as split-off household(s); this is done on the basis of an identified household reference person. In the analysis which follows, we do not distinguish between households where some people stay at their old address and households where everybody moves, since the second group (where all household members move) constitutes only around 5% of observed cases(5).

2.5 Identifying household splits in the data

Identification of household splits in the non-register countries is not a trivial task, since there are different means of recording them. If all countries followed the survey protocols precisely, each household split would be detectable in two ways. First, for a split occurring between waves t and t+1, the original household would be recorded at wave t+1, and a split-off household, identifiable as such because of the relationship between its household identifier and that of the "parent" household, would also be recorded in the household register (D) files in the year following the split. Second, the sample member(s) who had moved to form the split-off household would be recorded in the individual register (R) files of the "parent" household at time t+1, as a member who had left the household. One would be able to identify households where splits had taken place by either of these means, and they would be equivalent.

However, there is considerable inconsistency in implementing these protocols. In some cases – cell (1) in Table 1 – both are applied: the departing household member is recorded in a new household, and also appears in the household registers of the "parent" household. In some cases (2) the departing member appears in the register of the "parent" household, but there is no record of a split-off household. In a third group (3), the reverse is true: the departing individual is recorded at the split-off household, but not in the roster of the parent household. Finally(4) some sample members simply disappear from the rosters of their original household, without being followed to any split-off household. Not all of these will be *bona fide* movers: some will have died, and others may still be present in the household but omitted from the roster for some reason. It may therefore not be correct to consider these as representing household splits. However, we are inclined to do so. We exclude from our analysis the 1-2% of adults in all countries(6) defined as "co-resident," so the analysis is based on sample members. We also exclude people who disappear from the household roster when aged over 60, as these are proportionally more likely to have died rather than moved out. Our estimates of the success at following-up sample members involved in splits are therefore, if anything, somewhat conservative as some genuine movers have been omitted from the base. The remaining individuals who disappear from the rosters are predominantly aged in their twenties, suggesting that these are indeed *bona fide* departures from the household(7).

(5) It is likely that the actual proportion of household splits which result in all household members moving to new addresses is higher than this, but that a higher proportion of these households are lost between waves.

(6) Except the register countries, where everyone who is not the primary respondent is classed as a co-resident, and we have no means of knowing which of these are only transiently connected to the household.

(7) Additional weight is given to this argument by the fact that in the Nordic countries, this group is predominantly made up of people in their late teens and early twenties, while in the Southern and Eastern countries, where home-leaving is typically much later, the group is composed mainly of people in their late twenties and early thirties.

A further potential source of inconsistency lies in the fact that the percentage of individuals reported as "temporarily absent" from a household (reported in Appendix A4) varies markedly between countries. For households in the second, third and fourth years of their rotation, the percentage ranges from zero in Sweden, the Netherlands, Malta and France, up to 4% in Spain, 7% in Cyprus and 9% in Hungary. Although these differences may reflect genuine differences in household circumstances between countries, it is likely that they also reflect a degree of difference in survey protocols, with some national agencies being more likely to report individuals as temporarily absent from a household, and others being more likely to report them as not resident. Where a household member is reported as temporarily absent, we do not define this as constituting a household split (until such time, if at all, as the individual disappears from the household roster, or is reported as no longer a member of the household). This means that our figures may understate the overall numbers of household splits in countries like Cyprus and Hungary, relative to the numbers in countries like Sweden, the Netherlands and Malta; however, we do not believe that our estimates of the percentages being re-interviewed following a household split will be affected.

Table 1 presents the numbers and percentages of sample members undergoing household splits, and the means by which they may be identified in the EU-SILC. The sample consists of individuals who have not come to the end of their rotation (that is, where we would expect an observation the following year). Figures are unweighted and relate to all countries pooled; a breakdown by country is given in Appendix A5. In the non-register countries, the most numerous group, accounting for 50% of household splits, is group (2), where movers are recorded as having moved out of their original households, but are not followed. Group (3), where the split is not recorded in the register file of the parent household, but where the split-off household is recorded at time t+1, accounts for a further 27% of household splits, while groups (1) and (4) account for about 14% and 9% of splits respectively.

For the register countries, where there is no concept of a "split-off" household, only two groups may be defined: group (A), in which some household members are recorded at time t+1 as no longer living in the household, and which accounts for 73% of splits, and group (B), where the split is identified by inference because some members of last year's household are no longer present (27% of splits).

The figures in Table 1 show that many household splits are observed solely because of observations on household members remaining in the "parent" household. It is therefore likely that in the register countries, where a proportion of "parent" households are not followed in the aftermath of a household split, a proportion of splits will be missed.

However, even for the non-register countries, the figures in Table 1 probably overestimate the percentages of separating households which are followed up, for two reasons. First, a number of households drop out of the sample altogether between waves, and we have no way of knowing whether these households would have split or not; if (as one might reasonably suspect) separating households are more likely than other households to drop out of the survey, then this would lead to an overestimate of the percentages successfully followed[(8)].

(8) In fact, a quick back-of-the-envelope calculation reveals that the method we have used for the non-register countries (which gives an estimate of 7% of household splitting in any year) probably does not underestimate the proportion of separating households by very much. A crude estimate of the expected number of transitions over a lifetime might run as follows: If people grow up with on average one sibling, we expect 1.5 splits relating to leaving the parental home as a young adult (1 on leaving home oneself, and 1 for an older sibling leaving home, which we observe 50% of people to experience). We expect 2 splits when our own children leave home, and on average perhaps 1.5 splits for the end of cohabiting relationships or marriages (split unevenly, so that some people will have none, some one, and others, multiple splits). It seems reasonable to add at least another 1 to the average, to take account of spells living with other relatives and non-relatives, multiple returns to the parental home, the departure of one's spouse to a nursing home, etc. This gives an average of 6 household splits over an 80-year lifespan, or a split in about 7.5% of years. This is a very rough exercise, and will vary between countries and between individuals. However, it demonstrates that our calculated figure of just over 7% individuals experiencing a household split in any given year is probably not wildly adrift from the "true" percentage.

Table 1: Household splits in the EU-SILC, and the means of identifying them

		Households which split: Parent household recorded at t+1; movers recorded in the parent household's register files at t+1 as having left the household (rb110 = 5)	**Households which split: Parent household recorded at t+1; movers not recorded as having left household (typically, no record for movers at t+1 in the parent household's register**	**Households which split: Parent household not recorded the following year**	**Households where there is no evidence of a split between t and t+1 and which provide data at both waves**
Survey	**Split-off household recorded at t+1**	(1) 14150 individuals 3626 households 0.8% of all individuals 14.1% of splitting h/holds	(3) 26651 individuals 6924 households 1.6% of all individuals 26.9% of splitting h/holds	Numerically a very tiny percentage	(5) 1,584,716 individuals 608,926 households *[total for cells 1-5: 1,683,688 individuals 634,650 households]*
	Split-off household not recorded at t+1	(2) 49460 individuals 12869 households 2.9% of all individuals 50.0% of splitting h/holds	(4) 8711 individuals 2305 households 0.5% of all individuals 9.0% of splitting h/holds	No estimate of the size of this group, because we cannot tell how many of these households are splits	
Register		(A) 36578 individuals 9668 households 6.9% of all individuals 72.7% of splitting h/holds	(B) 13705 individuals 3628 households 2.6% of all individuals 27.3% of splitting h/holds	No estimate of the size of this group, because we cannot tell how many of these households are splits	(C) 476,898 individuals 177,882 households *[total for cells A, B and C: 527,181 individuals 191,178*

Source: EU-SILC longitudinal files, 2003-2010

Second, the figures in Table 1 relate to the presence of a record in the data set for the year in question. In fact, the presence of a record does not guarantee that the household in question has actually provided any interview data. Table 2 shows the percentages of adult sample members who were re-interviewed following a household split (with a re-interview defined as providing at least some information on the household questionnaire, and a minimum of a fairly basic set of answers to a personal questionnaire).

Re-interview rates for those people who remain part of the "parent" household following the split are very high, at 96% and 98% for non-register and register countries respectively. A moment's reflection indicates that this probably has little to do with the characteristics of people living in households which experience a split, and much more to do with the fact that in order to identify a household split in the first place, we need the household to be observed in two consecutive years – thus, as we mentioned earlier, any splits which occur in households which disappear completely from the sample will be missed altogether.

The second column of Table 2 shows re-interview rates for household members who do not remain part of the "parent" household following the split. In the non-register countries, re-interview rates in Group 3 are very high, at 96%, but they are extremely low in Group 1, at 9%, and by definition they are zero for Groups 2 and 4; overall, in the survey countries, only 26% of adults who move to form a split-off household are re-interviewed. And in the register countries, no adults are followed who do not continue to live in the parent household.

Table 2: Re-interview rates following household splits in the EU-SILC.

	Percentage of adults (aged 17+) eligible for re-interview the following year, who actually were re-interviewed.				
	Household splits: adults who remain in the "parent" household	Household splits: adults who form a split-off household	Household splits: all adults	Non-splitting households: all adults	All households, all adults
Non-register countries - all	95.9%	26.3%	71.6%	84.5%	83.7%
Group 1	98.3%	9.1%	65.0%		
Group 2	97.2%	-	63.2%		
Group 3	91.3%	95.2%	92.6%		
Group 4	98.6%	-	64.6%		
Register countries - all	98.1%	-	57.2%	81.6%	79.1%
Group A	98.0%	-			
Group B	98.5%	-			
All countries and groups	**96.6%**	**16.6%**	**66.8%**	**83.9%**	**82.7%**

Source: EU-SILC longitudinal files, 2003-2010

Following rates by country are presented in Appendix A6. These figures indicate that there are important variations between the countries. In non-register countries, the percentages of adult sample members successfully re-interviewed in a split-off household in the year following a split ranges from 0% in Ireland and 11% in Slovakia, to 38% in Cyprus and 40% in Italy. The re-interview percentages for sample members who stay in the original household following a split display less variation, ranging from 83% in Belgium, up to 99% in Romania, Ireland, Greece, Malta and Cyprus. Overall re-interview rates for all adult sample members following a household split range from 65% (Belgium, Ireland, Latvia and UK) to 78% (Cyprus). In register countries, the aggregate follow-up rate amongst all household members is lower by design than it is in the survey countries; our estimates of the percentage of adults re-interviewed after a household split range from 52% (Norway) to 63% (Slovenia).

How much of a problem do these low following rates pose for the longitudinal analyst? The first point to note is that numerically speaking, the failure to follow household splits does not make a major contribution to attrition rates across the sample in general; because only around 7% of individuals experience a household split in any one year, and because those household members who stay put following the split have high relatively re-interview rates, the low re-interview rates for the movers will not have a very large impact on overall re-interview rates.

However, these low follow-up rates may be problematic for certain types of analysis: they have the potential to create serious difficulties for the analysis of certain household

transitions, and of the dynamics of particular groups of people going through these transitions. These problems cannot easily be ameliorated by adjusted for socio-demographic characteristics by weighting, since the groups in question will be lost to the survey at the very time when these characteristics are liable to change significantly.

To the extent that the lower following rates in register countries are simply an artefact of the survey design, this will not introduce bias in the observed sample of persons subsequent to a household split. But in all countries the failure to observe all persons who should in principle have been followed could introduce bias if the non-respondents are significantly different from the respondents. Such a difference is quite likely if the circumstances of the split tend to contribute to the propensity to be successfully re-interviewed. But an equally-important potential problem is simply that the sample sizes available for analysis may be significantly reduced, causing an increase in the variance of estimates. An additional consideration in register countries is that, by design, we never observe more than one part of a wave *t* household at wave *t*+1 following a between-wave split.

3. Two transitions of interest: leaving the parental home, and relationship separation

In this section we investigate two transitions of particular interest, namely young adults' departure from the parental home, and the breakdown of a marital or cohabiting relationship. We have chosen these because they invariably(9) involve a household split, and they are numerically the most important transitions associated with household splits. As is shown in Table 3, these two transitions together account for almost three quarters of all observed household splits. Young single adults moving out of a home in which their parents are not resident account for an additional 10% of household splits, while older adults leaving their parents' home account for an additional 3%. Figures for each country separately are presented in Appendix A7.

Table 3: The percentage of household splits attributable to a range of transitions

		N	Percent
(1)	Young adult (16-35) leaving parental home	20581	52.7
(2)	Divorce or relationship separation	6649	17.0
(3)	Both (1) and (2) in the same year	1599	4.1
(4)	Older adult (36-50) leaving parental home	1235	3.2
(5)	Young single adult (16-35) leaving non-parental household	3823	9.8
(6)	Elderly adult (60+) moving to an institution	433	1.1
(7)	Indeterminate - missing partner or parent IDs	709	1.8
(8)	Other	3991	10.2
	Total	32923	100.0

Source: EU-SILC longitudinal files, 2003-2010
Note: the unit of analysis is the household in which the split took place, not all individuals living in these households, and not all individuals who left their original households

(9) Strictly speaking, relationship breakdown need not involve a household split, since it is possible for ex-partners to remain sharing a home. However, in a large majority of cases, the separating couple move to different addresses.

3.1 Challenges

In terms of the challenges which are posed by non-contact and non-follow-up, the two transitions we consider are rather different. This is shown in Figure 3. In order for the analyst to assess whether a particular household has split, the sample members in that household need to have responded to two surveys: one just prior to the split, and one just after the split. If households experiencing splits are just as likely as any other household to respond to a survey at both the interview before the split and the interview after the split, we can make fairly accurate estimates of the percentages of households or individuals making the transition in question.

In the case of home-leaving, we believe this is likely to be the case. While home-leaving is frequently an eventful transition, and one which carries various associated stresses, it is also a transition which is considered to be in the natural order of things, and one which is not usually preceded by particularly stressful circumstances. Therefore, when a young person leaves home, there is no particular reason to believe that his or her household would be more likely than the average household not to respond to the survey before the young person's departure; by the same token, there is no reason to believe that the parents' household would be less likely to respond to the survey after the young person's departure. Because the EU-SILC records information on all household members who have moved away between one wave and the next, we only need the responses from the parental household, before and after the young person leaves home, to know whether the young person has left home.

We can also use this information as a basis for understanding the factors associated with the timing of home-leaving. However, if we want to investigate the effects of the home-leaving decision on subsequent events in young people's lives, or the characteristics of young people who have recently left home, the young people themselves need to be traced and re-interviewed. If young home-leavers are not followed in large numbers, these estimates are likely to be unreliable.

The picture is rather different when we consider relationship splits. In this case, the couple is likely to be under considerable stress at the time of the interview prior to the household split, and may thus be at a higher risk of non-response. Following the split, even when one partner remains in the couple's previous home, stress relating to the separation may mean that the household is also more difficult to contact and to gain co-operation from at this time.

Bearing in mind that in order to estimate the percentages of couples splitting up, observations are needed on the household both before and after the split, we conclude that household stress may lead to substantial under-representation of those households which go on to divorce. It would be possible to assess the degree of under-representation by comparing the incidence of divorce in the EU-SILC with official divorce statistics. We do not address this issue in this paper, focusing instead on households where we do know that a split has taken place, and in the issues relating to tracing the partner(s) who move house following the marital split.

3.2 Re-interview rates

We are interested in (a) the percentages of people who are followed and re-interviewed in the aftermath of household splits of various types, and (b) whether these following rates are high enough to feasibly permit research into the household dynamics of the groups in question.

We may write down the proportion of people followed after a household split as:

$$F = \frac{Number\ of\ people\ followed\ after\ a\ split}{Number\ of\ people\ experiencing\ the\ split}$$

The problem with estimating this proportion using survey data is that we do not have an accurate measure of the denominator, since the only household splits we know about are those we observe in the data.

This problem is slightly more tractable in the non-register than in the register countries. As we mentioned in Section 2, household splits in the survey countries may be picked up either because the "parent" household reports the departure of one or more members (or because their departure is evident from the register files), or because the departing member is followed, or both. As we saw in Table 2, household members remaining in the "parent" household were over 3.5 times more likely to be re-interviewed than members moving to split-off households, so the fact that members of the "parent" household always remain part of the sample is clearly important.

By contrast, the register countries follow only one household member – the sample person, randomly selected when the household joins the survey. Thus, in register countries, a maximum of one new household will be interviewed after the split. In cases where the sample person remains at the original address, the chances of observing the split may be reasonably high. But in cases where the sample person moves to a new address, the percentage followed is likely to be substantially lower – and we have no way of assessing how much lower.

Figure 3: challenges presented by home-leaving and relationship splits

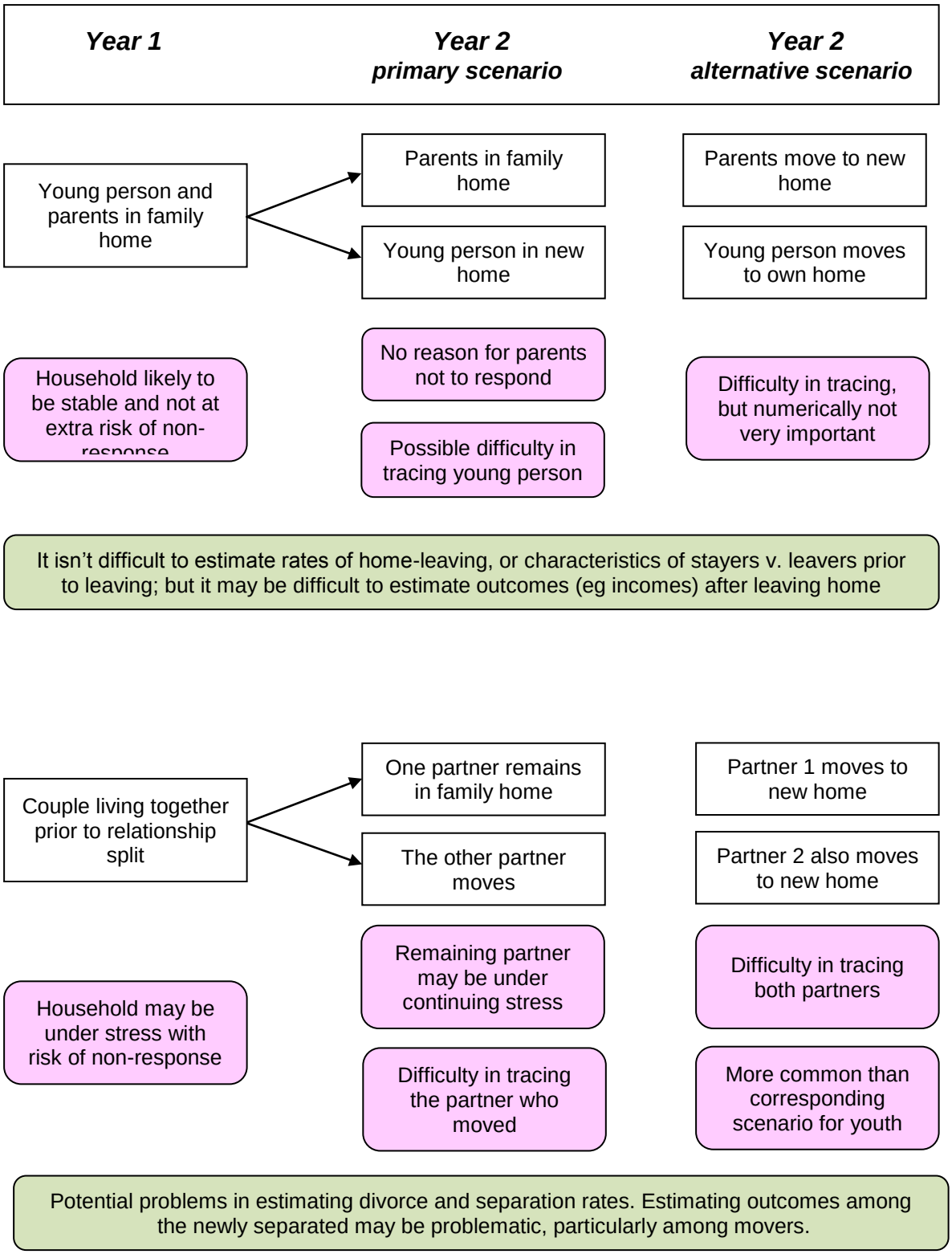


Table 4: Re-interview rates, by type of household split

Non-register countries	Men			Women		
	Re-interviewed	Moved out of scope	Still in scope but not re-interviewed	Re-interviewed	Moved out of scope	Still in scope but not re-interviewed
Young adult (16-35) leaving parental home	28.6	21.1	50.3	33.1	17.7	49.2
Divorce or relationship separation	17.0	17.5	65.4	23.5	16.2	60.3
Older adult (36-50) leaving parental home	28.8	15.3	56.0	33.5	15.0	51.6
Young single adult (16-35) leaving non-parental h/h	11.6	10.3	78.0	15.8	12.4	71.8
Elderly adult (60+) moving to an institution	-	100.0	-	-	100.0	-
Indeterminate - missing partner or parent IDs	0.9	0.0	99.1	1.4	0.0	98.6
Other	30.0	7.2	62.7	31.9	11.0	57.1

Register countries	Men		Women	
	At the same address	Moved to a different address	At the same address	Moved to a different address
Young adult (16-35) leaving parental home	89.3	10.7	89.0	11.0
Divorce or relationship separation	56.0	43.9	56.2	43.8
Older adult (36-50) leaving parental home	51.7	48.2	52.8	47.3
Young single adult (16-35) leaving non-parental h/h	87.5	12.5	87.3	12.7
Elderly adult (60+) moving to an institution	70.0	30.0	72.3	27.7
Indeterminate - missing partner or parent IDs	96.6	3.4	97.6	2.4
Other	37.7	62.3	35.8	64.9

Source: EU-SILC longitudinal files, 2003-2010
Note: the unit of analysis here is the individual who moved; more than one such individual may be present in a household which splits. Where an individual falls into more than one category, they are prioritised as follows: (1) institutionalisation; (2) divorce or relationship separation; (3) young or older adult leaving parental home, or young adult leaving other home (all mutually exclusive); (4) missing partner or parent IDs; (5) other.

Table 4 contains two panels, one for the non-register and one for the register countries. The upper panel, showing data for the survey countries, tabulates outcomes for "movers" – that is, for people who became part of a split-off household following a household split(10). Three

(10) We do not show re-interview rates for "stayers" who remain part of the original household following the split; these form the basis of identifying household splits, and so virtually all are re-interviewed.

outcomes are defined – being re-interviewed, moving out of scope, and remaining in scope but not being interviewed. In the case of young adults leaving the parental home, the "mover" is almost always the young adult; 29% of male leavers and 33% of female leavers are re-interviewed, with the percentages being very similar for older adult children leaving their parents' home. In the case of divorce or separation, the proportions are much lower, with only 17% of male movers and 23% of female movers being re-interviewed.

The lower panel, dealing with register countries, is organised differently, because there is no distinction between people who remain members of the original household or who become members of a split-off household. Instead, we tabulate the percentages of men and women whom we observe in separating households, according to whether they are at their original address at t+1 or have moved to a new address.

In the case of young adults leaving the parental home, only 11% of the followed sample are "movers" – or, in this case, the young adults. In the register countries, young adults about to leave the parental home live, on average, with approximately two other people who would be eligible to be the sample person. Thus, if movers and stayers were equally likely to be re-interviewed, we would expect to observe about 33% of the followed sample moving to a new address; roughly speaking, the 11% we actually observe suggests that perhaps only one third of young adults who are leaving their parents' home and who are eligible to be followed, actually are followed.

In the case of divorce and relationship separation, the maximum true percentage who should be observed at the same address is 50%. This would be the case only if all separations resulted in one persons staying at the same address and one moving. If the proportion of splits in which both people moved to a new address were, say, 20%, then the true percentage of persons remaining at the same address would be 40%. The observed percentage at the same address following a divorce and relationship separation in register countries is around 56% and must therefore be something of an over-estimate, though the extent of the over-estimation is unknown. This implies that the fieldwork agencies in these countries are somewhat less successful in following up movers than stayers following divorce or separation.

Tables 5a and 5b present re-interview rates for young home-leavers and for "movers" in separating couples respectively, by country and by the sex of the mover. We don't present data for the register countries, due to the difficulty of calculating the denominator, and therefore the relevant percentages, correctly. Additionally, we only include movers in our figures for the non-register countries, because re-interview rates for stayers are, as we have already discussed, very high. In Tables 5a and 5b, we also include the percentages of people who are not followed up because they moved out of scope – in the case of the two groups we are considering, this is predominantly moving to another country.

The first point to note is that in some countries, re-interview rates are very low because many movers actually move out of scope. This is particularly the case with young male home-leavers – almost one half of all young male home-leavers in Poland move abroad, while the same is true of around one third of male home-leavers in Bulgaria, Lithuania, Luxembourg, Latvia and Slovakia, and significant percentages of young people in other countries which joined the EU in or after 2005. This phenomenon is also evident in the case of relationship separation, with over half of those in Bulgaria, and substantial numbers in other Eastern European countries, moving out of scope following a separation[(11)]. Moving out of scope is clearly not the only reason for low re-interview rates among people undergoing a household

[(11)] Note that as far as we can tell these *are* genuine separations rather than temporary arrangements where one partner works away, since temporary arrangements would have been coded as "temporarily absent" in variable rb200.

split, but it is clearly a contributory factor, and raises the question of whether, in the context of a cross-national longitudinal survey, people moving across EU borders should be traced and re-interviewed in their new country of residence.

Table 5a: Re-interview rates for people leaving their original household for divorce or relationship separation, by country and sex

	Men		Women	
	Percentage re-interviewed	Percentage moving out of scope	Percentage re-interviewed	Percentage moving out of scope
AT	21.3	14.9	26.6	13.6
BE	26.7	4.8	33.6	3.2
BG	7.1	51.8	10.5	54.7
CY	28.2	23.1	19.6	37.0
CZ	24.4	8.4	29.3	3.3
EE	26.5	17.7	33.6	13.8
ES	17.1	10.2	28.1	10.5
FR	27.7	5.9	38.3	6.1
GR	6.0	11.9	5.5	9.9
HU	11.5	7.9	19.2	8.8
IE	0.0	7.1	0.0	9.5
IT	30.9	12.8	30.6	13.2
LT	3.3	31.5	14.8	34.4
LU	20.3	35.0	19.8	29.2
LV	4.8	23.0	8.6	23.8
MT	16.7	5.6	8.3	8.3
PL	4.6	35.6	15.5	32.6
PT	13.5	36.9	23.9	19.7
RO	0.0	27.3	20.0	30.0
SK	3.5	11.8	3.1	13.9
UK	14.2	6.5	24.8	5.6
All	17.0	17.5	23.5	16.2
N (number interviewed, year after split)	505		542	

Source: EU-SILC longitudinal files, 2003-2010

Looking now at the percentages of movers who are re-interviewed, Table 5b reveals that in the case of divorce or separation, these are extremely low. This percentage stands at under 10% in eight countries; between 10% and 20% in five more; and over 30% in only one country (Italy). Considering the likelihood that a substantial proportion of households undergoing divorce or separation will not be identified in the data at all, due to a higher probability of non-interview either before and/or following the split, these figures indicate that, with the possible exception of a handful of countries, the EU-SILC is probably not suitable for any longitudinal analysis of individuals who leave their households following a

relationship breakdown. Note that the same is not necessarily true of individuals who remain living in their original households following a divorce or separation[(12)].

What about young adults leaving home? It is true that re-interview rates are very low in some countries (fewer than 20% of male leavers are interviewed in 10 countries, and fewer than 20% of female leavers are interviewed in 6 countries. Only in eight countries is the percentage over 30%, and only in two (Italy and Cyprus) is the percentage over 50%. These rates are still low, but they are a great deal higher than the rates for separating couples; added to this, sample sizes are reasonably large, and we do not believe there is likely to be a problem in estimating the number of separating households in this category for the denominator of the relevant fraction.

Table 5b: Re-interview rates for young people (16-35) leaving home, by country and sex

	Men		Women	
	Percentage re-interviewed	Percentage moving out of scope	Percentage re-interviewed	Percentage moving out of scope
AT	36.3	12.0	34.5	11.1
BE	32.2	5.6	36.9	4.2
BG	18.4	38.4	31.1	28.2
CY	52.8	18.0	63.4	15.7
CZ	33.7	17.3	32.0	17.6
EE	40.1	18.6	43.0	19.5
ES	37.9	5.1	42.6	6.1
FR	41.7	9.7	44.1	8.1
GR	18.3	22.0	22.6	5.8
HU	16.7	15.5	25.1	15.8
IE	0.0	23.9	0.0	16.7
IT	48.1	9.4	51.1	6.6
LT	12.5	55.1	19.0	54.0
LU	23.6	31.8	30.2	26.9
LV	9.4	38.3	16.8	30.6
MT	21.0	12.6	41.7	4.6
PL	14.7	48.8	19.2	43.3
PT	38.7	23.5	40.3	17.2
RO	12.4	20.2	11.6	23.3
SK	8.6	31.9	15.8	28.3
UK	18.7	10.7	30.1	11.8
All	28.6	21.0	33.1	17.7
N (number interviewed, year after split)	2346		2561	

Source: EU-SILC longitudinal files, 2003-2010

(12) In the register countries, it is not possible to assess the percentages which are followed, though we observe that re-interview rates are somewhat lower amongst movers than amongst stayers.

3.3. Young home-leavers: are those re-interviewed different from those not re-interviewed?

One final question relating to young home-leavers is whether those who are not followed may be considered as "missing at random", or whether the characteristics of those re-interviewed after the split differ so much from the characteristics of those not followed that the missing at random assumption is not tenable.

Tables 6a and 6b tabulate six key individual or household characteristics, by whether the young person was or was not re-interviewed in the year after leaving home. These characteristics are: employment status (% with a job), sex (% female), mean household size, mean age, education (% with a degree), and income (% living in households whose equivalised income was in the lower two income quintiles for their country of residence). All characteristics are measured at the interview prior to the young person leaving home[(13)]. The means or percentages for each group are given, together with asterisks indicating whether the difference in the mean between the two groups is significant. Table 6a and 6b present unweighted and weighted estimates respectively.

Because we are performing multiple tests, we must treat "significant" results with caution, remembering that on average one of every 20 tests performed would be expected to yield a test statistic significant at the 5% level, even if there were no true differences between the groups. Here, as we are using 20 countries, this translates to one in every column. It is clear that we are observing many more statistically significant results than we would expect if the only source of variation between the two groups was random, because there are on average three or four significant results per column, and some of these are significant at the 1% and 0.1% levels. Those successfully followed are more likely in most countries to have a job, more likely to be female, more likely to have lived in a larger household, likely to be a little older and to have a university degree, and less likely to live in a low-income household.

There is no particular difference between countries with very low re-interview rates (indicated by the shaded rows) and countries with higher re-interview rates; two countries in particular (Spain and the UK) have more significant differences between the two samples than other countries, and only three countries (Austria, Estonia and the Czech Republic) have no significant differences between groups on any of the indicators.

It is possible that the use of weights may correct for differences in characteristics between the two groups. However, table 6b shows that weights do not correct adequately for non-response (this is entirely to be expected, given that weights are produced with the characteristics of the entire sample in mind, and a single set of weights cannot hope to adjust for differential response rates in every single subgroup).

(13) Clearly, we cannot use characteristics measured in the year after the young person leaves home, because these are not measured for anyone who is not re-interviewed.

Table 6a: Characteristics of young home-leavers who were and were not re-interviewed. UNWEIGHTED.

Re-interview? ➔	NO	YES		NO	YES		NO	YES		NO	YES		NO	YES		NO	YES	
	% with a job			% female			Mean household size			Mean age			% with degree			% in bottom 2 h/h income quintiles		
AT	52.9	59.7		49.3	45.5		3.9	4.0		23.5	23.0		14.8	15.2		23.5	28.0	
BE	52.3	53.7		47.7	52.8		3.7	4.0	*	24.0	23.5		37.1	36.0		35.1	31.1	
BG	41.9	53.8		42.9	54.8		4.5	5.6	***	24.3	24.3		22.2	20.5		53.6	33.3	*
CY	74.0	73.2		37.0	48.5	*	4.1	4.6	*	25.8	25.6		45.2	47.6		26.0	21.3	
CZ	66.2	64.3		49.3	46.1		3.9	4.0		24.6	25.4		14.4	15.7		26.4	22.6	
EE	50.6	53.8		45.8	49.1		4.3	4.4		22.7	22.1		15.6	12.7		31.8	34.8	
ES	65.6	70.6	*	46.8	51.9	*	4.1	4.0		26.3	26.8	*	38.2	45.2	***	31.6	28.8	
FR	39.1	42.3		47.6	48.2		4.0	3.9		22.6	22.3		29.4	26.4		40.7	33.7	*
GR	43.2	59.4	***	52.3	52.6		3.9	4.0		24.7	25.8	*	22.9	22.9		34.0	36.8	
HU	65.4	52.5		47.5	55.7		4.0	4.7	**	25.5	25.6		23.8	9.8	*	35.4	47.5	
IT	58.7	61.6		48.8	49.7		3.7	3.8	*	27.6	27.5		19.9	18.6		24.1	28.4	*
LT	48.1	51.4		43.8	60.0	*	3.7	4.2	**	23.7	24.3		20.3	25.7		35.0	32.0	
LU	67.6	80.7	**	45.4	53.3		3.8	4.0		24.6	25.0		29.3	31.5		39.8	28.0	*
LV	62.1	55.6		46.8	58.2		4.1	4.8	*	24.1	24.2		15.5	13.0		28.8	47.3	***
MT	81.7	91.7		48.7	66.7	*	4.0	4.1		27.0	26.1		23.5	35.4		17.4	14.6	
PL	51.7	58.6		49.9	53.3		4.4	4.7	**	24.4	24.7		20.7	23.4		40.9	39.3	
PT	71.1	77.2		49.3	50.0		4.0	4.4	*	26.2	26.2		26.1	26.4		27.9	22.7	
RO	53.4	76.9		29.0	28.6		4.5	4.9		23.4	27.4	***	5.8	7.7		58.1	28.6	*
SK	62.5	65.5		53.1	69.0		4.2	5.0	**	24.6	24.9		27.6	20.7		33.1	24.1	
UK	46.6	67.5	***	41.9	59.1	***	3.7	3.4	**	22.5	23.1		18.4	32.5	***	26.1	22.8	

*Notes: significance is denoted by asterisks, with * = 5% or better, ** = 1% or better, and *** = 0.1% or better*
Greyed-out rows indicate those countries where the number of young home-leavers re-interviewed in the year after leaving home was either fewer than 100 across the whole sample, or fewer than 20% of the total.
All characteristics measured in the interview before the young person leaves home

Table 6b: Characteristics of young home-leavers who were and were not re-interviewed. WEIGHTED.

Re-interview? ➔	% with a job			% female			Mean household size			Mean age			% with degree			% in bottom 2 h/h income quintiles		
	NO	YES		NO	YES		NO	YES		NO	YES		NO	YES		NO	YES	
AT	54.0	62.2		48.0	45.1		3.9	4.0		23.6	23.3		15.2	17.4		22.9	25.6	
BE	50.1	53.1		46.2	51.2		3.8	4.0		23.8	23.5		37.5	33.9		33.4	29.5	
BG	44.9	51.7		45.1	57.7		4.3	5.4	***	24.6	24.3		25.7	23.6		50.7	28.4	*
CY	79.1	75.4		36.0	44.7		3.8	4.3	**	26.0	25.8		43.8	50.1		26.3	18.4	
CZ	65.8	62.4		44.6	44.9		3.9	4.0		25.1	25.7		16.6	15.5		27.1	20.8	
EE	59.5	64.2		40.0	46.6		4.0	3.9		23.7	22.8	*	18.8	18.2		24.4	30.5	
ES	67.5	76.0	***	37.6	39.2		3.9	3.9		26.5	27.1	**	41.0	45.8		29.9	24.7	*
FR	30.8	41.2		48.0	51.6		4.0	3.9		22.3	22.3		37.8	29.1		42.8	32.4	
GR	46.3	70.8	***	51.0	49.1		3.7	3.8		24.9	27.1	***	22.4	21.9		33.3	36.0	
HU	68.7	52.8	*	45.0	55.5		4.0	4.6	*	25.5	25.5		23.5	13.6		31.6	47.1	*
IT	57.0	59.4		48.2	48.9		3.7	3.8	*	27.6	27.4		20.3	19.3		24.9	30.1	*
LT	51.6	58.0		42.5	56.3		3.7	4.2	***	23.9	24.3		21.3	24.6		38.3	36.0	
LU	68.9	75.0		42.1	61.7	***	3.7	3.9	*	24.6	24.8		28.8	36.4		39.9	26.3	*
LV	66.6	54.2		49.3	61.3		4.1	4.8	**	24.3	25.0		14.5	13.8		28.0	44.6	*
MT	85.8	92.7		46.2	67.3	*	3.9	4.1		27.3	26.7		22.7	38.7	*	13.0	14.9	
PL	53.9	61.7	*	50.8	50.3		4.4	4.7	**	24.9	25.1		22.6	23.3		36.2	35.7	
PT	75.6	80.6		49.1	44.7		4.0	4.2		26.5	26.2		30.6	28.8		24.6	22.9	
RO	53.3	69.8		29.2	29.1		4.7	5.5		23.4	26.9	**	5.4	6.4		57.5	29.4	
SK	64.4	63.6		49.2	71.3	*	4.1	5.1	***	24.7	24.6		28.1	17.4		33.2	26.1	
UK	45.6	65.8	***	38.4	57.0	***	3.8	3.5	*	22.4	22.9		16.4	32.3	***	24.4	20.5	

*Notes: significance is denoted by asterisks, with * = 5% or better, ** = 1% or better, and *** = 0.1% or better*
Greyed-out rows indicate those countries where the number of young home-leavers re-interviewed in the year after leaving home was either fewer than 100 across the whole sample, or fewer than 20% of the total.
All characteristics measured in the interview before the young person leaves home

Tables 6a and 6b show that the missing at random assumption does not hold in this case, even if we use weights. In addition, the characteristics of those who fall out of the sample differ between countries, so there is no obvious way to correct consistently for differences in characteristics. Where does this leave us? Are young home-leavers followed in sufficient numbers in the EU-SILC to make it worthwhile analysing their trajectory through life? The answer, as with many things, is "yes and no". Our evidence suggests that only in a handful of countries (notably Spain, Portugal, France, Italy and Cyprus) are young people re-interviewed in sufficient numbers to make this type of longitudinal analysis worthwhile. In most of these countries, it does not appear that there are enormous differences in observable characteristics between those who were and were not re-interviewed, adding weight to the argument that such analysis would be feasible in these countries.

However, the EU-SILC is a cross-national survey, established with the purpose of facilitating comparative research into incomes, wellbeing and family life across all countries of the EU. Although limited research on young adult home-leavers is possible with the EU-SILC, true cross-national comparative research is simply not possible in respect of young home-leavers. Thinking along the lines of Esping-Andersen's (1990 and 1999) welfare regime typology, one welfare regime type (the social-democratic regimes) cannot be analysed because the register structure means we cannot accurately estimate following rates, and because it appears in any case that these are very low in the case of young people. And among the countries of Eastern Europe which joined the EU after 2005, re-interview rates are so low that it also becomes extremely problematic to include them in the analysis. So, the good news is that the data enable a reasonable comparison to be made of young adult home-leavers between the Southern European countries; the bad news is that with the EU-SILC, we might have hoped for much more.

4. Discussion

In this paper, we have explored the implementation of the following rules in the EU-SILC, and assessed the implications of this for research into household transitions. We have paid particular attention to household splits – that is, households in which one or more members leave the other members of their household between one interview and the next, to form a new household.

We have highlighted the difficulties involved in estimating following rates in the aftermath of household splits: in the non-register countries, we believe we can make reasonable estimates of the percentages of young adults leaving home who are followed, but we think it may be difficult to obtain reasonable estimates of the percentages of separating couples who are followed. And in the register countries, it is very difficult to estimate following rates even for home-leavers.

We then focus on two transitions which together account for three-quarters of all household splits: young adults leaving home, and the breakdown of marriages or cohabitations. While a sizeable percentage of household members remaining in the original household are re-interviewed in the year following the household split, the percentages of those household members who move out who are re-interviewed are very much lower. In the case of people moving out because of divorce or separation, the percentages are so low that it becomes unfeasible to undertake longitudinal research on this group of people.

In the case of young adults leaving home, re-interview rates are extremely low in many countries, but high enough in some others to make longitudinal research on young adult home-leavers feasible. While analysis of key characteristics does reveal some differences in characteristics between those who are and are not followed (and which weighting does not correct for significantly), these differences are not enormous, and in the case of countries with higher re-interview rates, they tend not to be statistically significant. Thus, while it may not be wise to use the EU-SILC data for descriptive analysis of the characteristics of young home-leavers, it is probably reasonably safe, for a cluster of five or six countries at least, to use this sample for multivariate analysis.

The bad news is that the countries available for analysis do not form a particularly useful subset of countries. One purpose of cross-national research is to compare the effects of different welfare regimes on the lives of their citizens. Here, entire groups of welfare states must be missed out. The social-democratic countries cannot be used because of very low response rates among home-leavers and because the register structures mean it is all but impossible to calculate following rates. This is particularly problematic, because many of the transitions which involve household splits are supported by the social-democratic welfare states in an entirely different way than in any other welfare regime. Most of the post-2005 entrants to the EU must also be omitted from the analysis (re-interview rates are extremely healthy in Cyprus, but are extremely low in virtually all of the Eastern European countries, with only the Czech Republic and Estonia (which are by no means typical of the other Eastern European countries) re-interviewing more than a quarter of young home-leavers).

This probably falls short of what most cross-national researchers expect from a high quality cross-European data set. However, the news is not all bad. Re-interview rates among most groups of adults are considerably higher than they are for movers following a household split, meaning that a large amount of productive research on many issues can usefully be undertaking with this data set.

This paper represents a straightforward attempt at describing the following rules quantifying some of the issues relating to following rules in the EU-SILC. It is clear that this analysis may be built upon in a number of ways. One is to combine attrition rates among the general population, with the non-response rates which we have estimated in this paper, to produce estimates of the percentages of all those undergoing household splits are re-interviewed, including those who we never identify as making a split. Another way in which we hope this work will be extended is to compare the following rates in EU-SILC with those in other longitudinal surveys, to compare performance in the EU-SILC with a range of measures of the "industry standard".

We hope that future initiatives will enhance compliance with the EU-SILC following rules and will improve response rates amongst movers. This would benefit researchers and would greatly enhance the value of the EU-SILC datasets.

References

Couper, M. P. and Ofstedal, M. B. (2009). Keeping in contact with mobile sample members. In P. Lynn (ed.), *Methodology of Longitudinal Surveys*(pp 183-203) Chichester: Wiley.

Esping-Andersen, G (1990). *The three worlds of welfare capitalism*. Cambridge: Polity Press.

Esping-Andersen, G (1999). *Social foundations of postindustrial economies*. Oxford: Oxford University Press.

Eurostat (2003). Regulation (EC) No 1177/2003 of the European parliament and of the Council of 16 June 2003 concerning Community statistics on income and living conditions (EU-SILC). *Official Journal of the European Union*, 3.7.2003. Retrieved from http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:165:0001:0009:EN:PDF

Eurostat (2003). Commission regulation (EC) no 1981/2003 of 21 October 2003 implementing Regulation (EC) no 1177/2003 of the European Parliament and of the Council concerning Community statistics on income and living conditions (EU-SILC) as regards the fieldwork aspects and the imputation procedures. *Official Journal of the European Union*, 17.11.2003 L 298/23. Retrieved from http://168.160.200.41/claw/en/flaw!fetch.html?libcode=flaw&id=36064d0a-f4cb-4d76-9582-eff9136a01c3.

Eurostat (2008). EU-SILC user database description Version 2006-1 from 01-03-08 Retrieved from http://circa.europa.eu/Public/irc/dsis/eusilc/library?l=/data_dissemination/udb_user_database/2006/description_01-03-08pdf/_EN_1.0_&a=d

Lohmann, H. (2011). Comparability of EU-SILC survey and register data: The relationship among employment, earnings and poverty. *Journal of European Social Policy*, 21, 37-54.

Lynn, P. (2012). Failing to locate panel sample members: minimising the risk. Paper presented at the International Workshop on Household Survey Nonresponse, Ottawa, Canada, September 2012.

Appendix A1: Extract from COMMISSION REGULATION (EC) No 1982/2003 of 21 October 2003

6. FOLLOW-UP OF SAMPLE PERSONS, SAMPLE HOUSEHOLDS AND CO-RESIDENTS IN THE EU-SILC LONGITUDINAL COMPONENT

1. To study changes over time at individual level and to calculate the social cohesion indicator on persistent income poverty, all sample persons remaining or moving within private households in the national territory covered in the survey shall remain in the EU-SILC sample for a period (panel duration) of at least four years.

2. By the way of exception to paragraph 1, in those Members States using a rotational design, the panel duration may vary from one to at least four years for the replications introduced in the first year.

3. The rules for the follow-up of sample persons, sample households and co-residents are given below.

TABLE 2

Rules for the follow-up of sample persons, sample households and co-residents

Sample persons	To be
Moving to a private household within the national territory covered in the survey	Followed to the new location of the household
Other persons temporarily away but who are still considered as members of the household	Covered in the household they belong to
Persons no longer members of a private household, or those who have moved outside the national territory covered in the survey	Dropped from the survey
Sample households	**To be**
Non-enumerated a single year due to the impossibility of locating the address, the address being non-residential or unoccupied, lost (no information on what happened to the household), or the household refusing to cooperate	Dropped
Non-contacted the first year of the panel or non-contacted two consecutive years due to the impossibility of accessing the address, because the whole household is temporarily away or is unable to respond due to incapacity or illness	Dropped

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Co-residents	To be
Living in a household containing at least one sample person	Followed
Living in a household not containing any sample person	Dropped

(11) The measures necessary for the implementation of this Regulation should be adopted in accordance with Council Decision 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission (1).

(12) The Statistical Programme Committee (SPC) has been consulted in accordance with Article 3 of Council Decision 89/382/EEC, Euratom (2),

HAVE ADOPTED THIS REGULATION:

Article 1

Aim

The aim of this Regulation shall be to establish a common framework for the systematic production of Community statistics on income and living conditions (hereinafter referred to as EU-SILC), encompassing comparable and timely cross-sectional and longitudinal data on income and on the level and composition of poverty and social exclusion at national and European levels.

Comparability of data between Member States shall be a fundamental objective and shall be pursued through the development of methodological studies from the outset of EU-SILC data collection, carried out in close cooperation between the Member States and Eurostat.

Article 2

Definitions

For the purpose of this Regulation, the following definitions shall apply:

(a) 'Community statistics' shall have the meaning assigned to it in Article 2 of Regulation (EC) No 322/97;

(b) 'production of statistics' shall have the meaning assigned to it in Article 2 of Regulation (EC) No 322/97;

(c) 'year of survey': means the year in which the survey-data collection, or most of the collection, is carried out;

(d) 'fieldwork period': means the period of time in which the survey component is collected;

(e) 'reference period': means the period of time to which a particular item of information relates;

(f) 'private household': means a person living alone or a group of people who live together in the same private dwelling and share expenditures, including the joint provision of the essentials of living;

(g) 'cross-sectional data': means the data pertaining to a given time or a certain time period. Cross-sectional data may be extracted either from a cross-sectional sample survey with or without a rotational sample or from a pure panel sample survey (on condition that cross-sectional representativeness is guaranteed); such data may be combined with register data (data on persons, households or dwellings compiled from a unit-level administrative or statistical register);

(h) 'longitudinal data': means the data pertaining to individual-level changes over time, observed periodically over a certain duration. Longitudinal data may come either from a cross-sectional survey with a rotational sample where individuals once selected are followed up or from a pure panel survey; it may be combined with register data;

(i) 'sample persons': means the persons selected to constitute the sample in the first wave of a longitudinal panel. They may comprise all members of an initial sample of households, or a representative sample of individuals in a survey of persons;

(j) 'target primary areas': means the subject areas for which data are to be collected on an annual basis;

(k) 'target secondary areas': means the subject areas for which data are to be collected every four years or less frequently;

(l) 'gross income': means the total monetary and non-monetary income received by the household over a specified 'income reference period', before deduction of income tax, regular taxes on wealth, employees', self-employed and unemployed (if applicable) persons' compulsory social insurance contributions and employers' social insurance contributions, but after including inter-household transfers received;

(m) 'disposable income': means gross income less income tax, regular taxes on wealth, employees', self-employed and unemployed (if applicable) persons' compulsory social insurance contributions, employers' social insurance contributions and inter-household transfers paid.

Article 3

Scope

The EU-SILC shall cover cross-sectional data on income, poverty, social exclusion and other living conditions as well as longitudinal data restricted to income, labour and a limited number of non-monetary indicators of social exclusion.

Article 4

Time reference

1. The cross-sectional and longitudinal data shall be produced annually as from 2004. In any given Member State, the timing of collection shall be kept the same from one year to the next as far as possible.

2. By way of exception to paragraph 1, Germany, the Netherlands and the United Kingdom may start the annual cross-sectional and longitudinal data collection in 2005. This will be the case provided that those Member States supply comparable data for the year 2004 for the cross-sectional common European Union indicators, which have been adopted by the Council before 1 January 2003 in the context of the open method of coordination and which can be derived on the basis of the EU-SILC instrument.

(1) OJ L 184, 17.7.1999, p. 23.
(2) OJ L 181, 28.6.1989, p. 47.

Appendix A3: Percentages of households eligible for re-interview next year which are (and are not) re-contacted.

	1 Household in scope and providing some data	2 Household moved out of scope	3 Household recorded non-contact	3b Household in scope but supplied no data	4 Household disappeared
AT	80.1	1.0	1.3	16.0	1.7
BE	81.2	0.5	0.1	18.1	0.0
BG	91.2	1.3	1.4	6.1	0.0
CY	92.8	1.5	0.1	5.7	0.0
CZ	93.1	1.0	0.7	5.2	0.0
DK	89.1	0.5	1.4	9.0	0.0
EE	89.6	1.0	1.7	7.7	0.0
ES	85.5	0.8	1.4	12.4	0.0
FI	91.9	1.0	0.1	7.0	0.0
FR	87.8	1.0	2.0	9.2	0.0
GR	88.3	0.7	1.8	9.3	0.0
HU	87.3	1.1	1.4	10.2	0.0
IE	83.8	0.3	3.0	8.6	4.4
IS	91.9	0.8	0.4	7.0	0.0
IT	85.9	0.9	1.4	11.8	0.0
LT	91.5	1.0	0.7	6.7	0.0
LU	84.2	2.2	0.8	12.9	0.0
LV	85.0	1.4	4.6	8.9	0.0
MT	85.0	0.5	2.3	12.3	0.0
NL	81.0	0.4	7.8	10.7	0.0
NO	89.0	0.1	2.6	8.1	0.3
PL	90.3	0.9	1.1	7.7	0.0
PT	90.0	1.2	0.2	8.6	0.0
RO	98.2	0.7	0.2	0.9	0.0
SE	88.6	1.5	3.1	6.8	0.0
SI	79.9	1.1	1.8	17.2	0.0
SK	92.7	0.5	0.7	6.0	0.0
UK	75.2	0.4	6.0	18.5	0.0
	86.8	0.9	1.9	10.2	0.2

Source: EU-SILC longitudinal files, 2003-2010

Appendix A4: Percentage of individuals reported as being "temporarily absent" from sample households (variable rb200), by country.

	Percentage of individuals in sample households who are reported as being "temporarily absent"		Percentage of temporary absentees for whom data is provided via proxy interview	
	First year of rotation	2nd or subsequent year of rotation	First year of rotation	2nd or subsequent year of rotation
AT	5.6	1.0	75.1	89.2
BE	0.4	0.5	43.6	54.7
BG	5.5	2.1	66.1	79.2
CY	6.1	7.2	99.8	99.7
CZ	1.1	0.7	87.8	92.2
DK	0.2	0.2	86.5	68.3
EE	2.1	2.1	81.8	92.3
ES	0.8	4.4	59.0	77.2
FI	0.4	0.5	98.7	97.1
FR	0.0	0.0		
GR	0.8	0.9	77.8	76.3
HU	7.7	8.8	95.1	98.2
IE	0.3	0.1	87.0	62.5
IS	1.3	1.0	100.0	100.0
IT	1.3	1.1	93.9	94.5
LT	1.1	0.9	69.6	88.3
LU	2.1	1.5	92.2	93.1
LV	1.1	0.8	53.8	66.5
MT	0.1	0.0	66.7	100.0
NL	0.0	0.0		
NO	11.3	1.1	95.5	77.0
PL	2.2	1.9	43.3	33.4
PT	0.6	0.6	77.2	68.5
RO	1.6	1.0	82.4	73.1
SE	0.0	0.0		
SI	1.1	0.7	92.8	95.3
SK	1.7	1.7	95.3	94.5
UK	4.4	3.0	30.0	54.7

Source: EU-SILC longitudinal files, 2003-2010

Appendix A5: Table 1B (same information as Table 1 in the main text, by country). Household splits in the EU-SILC, and the means of identifying them, by country

		(1) Split-off household recorded the following year; movers recorded as having left previous household	(2) Split-off household not recorded the following year; movers recorded as having left previous household	(3) Split-off household recorded the following year; movers not recorded as having left previous household	(4) Split-off household not recorded the following year; movers not recorded as having left previous household	Total number of splits
Survey	AT	37.8	23.8	28.3	10.1	1,237
	BE	16.5	31.5	36.5	15.5	1,320
	BG	15.4	60.2	19.9	4.5	397
	CY	8.0	53.4	35.7	2.9	661
	CZ	7.6	56.3	31.7	4.4	774
	EE	33.0	21.8	30.9	14.3	1,266
	ES	13.1	46.7	31.5	8.7	3,464
	FR	18.8	38.9	36.1	6.2	1,871
	GR	13.6	55.2	15.2	16.0	1,305
	HU	8.5	68.2	18.8	4.5	883
	IE	0.0	73.0	0.0	27.0	932
	IT	12.7	37.8	40.5	8.9	3,458
	LT	7.4	69.0	14.9	8.6	743
	LU	26.2	48.0	25.5	0.4	782
	LV	10.6	74.9	11.5	3.0	1,020
	MT	24.1	30.8	42.7	2.4	328
	PL	3.4	75.6	15.7	5.3	2,618
	PT	19.1	41.2	28.3	11.3	873
	RO	2.4	29.2	14.3	54.2	168
	SK	15.4	56.6	12.9	15.1	403
	UK	6.6	67.9	25.1	0.3	1,221
Register	DK	-	15.6	-	84.4	1,596
	FI	-	86.8	-	13.3	2,597
	IS	-	54.9	-	45.1	1,561
	NL	-	96.5	-	3.5	1,097
	NO	-	68.0	-	32.0	1,724
	SE	-	89.0	-	11.0	2,797
	SI	-	82.5	-	17.5	1,924

Source: EU-SILC longitudinal files, 2003-2010

Appendix A6: Table 2B (same information as Table 2 in the main text, by country). Re-interview rates following household splits in the EU-SILC, by country

	Percentage of adults aged 17+ who are re-interviewed following a household split		
	Household splits: adults who remain in the "parent" household	Household splits: adults who form a split-off household	All
Survey countries			
AT	97.4	28.6	71.0
BE	83.0	29.2	65.0
BG	97.9	22.1	69.5
CY	99.3	38.1	77.8
CZ	98.2	31.4	73.5
EE	97.2	32.9	74.5
ES	96.0	30.8	73.6
FR	98.4	35.6	75.9
GR	98.8	15.4	71.1
HU	95. 6	20.2	68.2
IE	99.8	0.5	64.8
IT	95.7	39.8	77.1
LT	97.7	14.8	68.2
LU	98.3	24.0	71.0
LV	97.1	13.0	65.4
MT	99.1	26.6	75.9
PL	93.3	18.7	68.4
PT	96.8	29.1	73.9
RO	99.2	14.2	67.1
SK	98.3	11.5	68.9
UK	91.0	23.0	64.9
Register countries			
DK			59.7
FI			55.1
IS			57.2
NL			61.8
NO			52.2
SE			54.3
SI			62.7

Source: EU-SILC longitudinal files, 2003-2010

Appendix A7: Table 3B (same information as Table 3 in the main text, by country) The percentage of household splits attributable to a range of transitions, by country

	Young adult (16-35) leaving parental home	Divorce or relationship separation	Both (1) and (2) in the same year	Older adult (36-50) leaving parental home	Young single adult (16-35) leaving non-parental household	Elderly adult (60+) moving to an institution	Indeterminate - missing partner or parent IDs	Other	N (all)
AT	48.1	20.7	4.0	2.7	12.3	2.0	0.0	10.2	1,237
BE	46.3	17.4	1.7	3.0	10.6	1.1	0.3	19.7	1,320
BG	47.1	21.7	10.3	4.5	4.0	0.3	0.0	12.1	397
CY	48.6	13.8	2.1	2.9	13.2	2.0	0.0	17.6	661
CZ	57.1	22.6	4.0	2.7	4.3	2.1	0.0	7.2	774
DK	51.7	17.7	2.5	0.9	13.5	0.0	0.3	13.3	1,596
EE	53.0	16.8	3.4	2.0	13.2	1.2	0.0	10.4	1,266
ES	54.6	11.5	1.6	4.9	7.5	1.7	8.8	9.5	3,464
FI	46.0	23.8	8.2	0.8	11.9	0.7	0.0	8.6	2,597
FR	58.4	21.9	2.4	1.0	9.0	1.2	0.0	6.2	1,871
GR	59.8	8.4	2.0	4.6	4.7	0.6	15.4	4.6	1,305
HU	50.5	20.6	6.2	4.0	7.0	1.4	0.0	10.3	883
IE	66.5	5.2	1.0	2.3	16.0	2.6	0.0	6.6	932
IS	45.6	18.3	6.2	1.1	16.1	0.2	0.0	12.6	1,561
IT	52.0	11.4	1.3	9.7	9.2	1.4	0.0	15.1	3,458
LT	61.4	14.7	3.5	2.8	8.9	0.0	0.0	8.8	743
LU	58.6	22.4	2.8	2.7	5.1	1.5	0.0	6.9	782
LV	50.7	17.4	5.0	6.9	7.0	0.9	0.0	12.3	1,020
MT	70.1	10.7	1.2	4.3	3.4	3.4	0.0	7.0	328
NL	63.8	19.4	4.2	0.7	5.8	0.0	0.0	6.0	1,097
NO	39.0	22.5	5.3	0.5	17.3	0.3	9.5	5.7	1,724
PL	70.5	10.4	3.9	2.6	7.0	0.5	0.0	5.2	2,618
PT	47.3	14.1	3.2	3.9	10.4	2.9	0.0	18.2	873
RO	61.3	8.3	1.8	5.4	6.0	0.0	0.0	17.3	168
SE	37.7	29.3	6.5	0.3	12.8	0.3	1.1	11.9	2,797
SI	54.1	12.9	9.5	4.2	5.8	2.7	0.0	10.9	1,924
SK	57.8	15.4	10.9	4.0	2.7	0.5	0.0	8.7	403
UK	55.3	19.5	2.5	2.5	9.9	1.4	0.1	8.9	1,221
N (all)	20581	6649	1599	1235	3823	433	709	3991	39020

Source: EU-SILC longitudinal files, 2003-2010