

**Methodology of European labour force surveys:
(1) Scope and sample size**

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Abstract

This paper is the first of a set of three Working Papers the common objective of which is to provide a systematic and comparative exposition of various aspects of the methodology of labour force surveys in 27 countries of the European Union, plus the three EFTA and the two Candidate Countries. The present paper explains the labour force framework and basic characteristics of household surveys of the labour force. The concepts, definitions, survey population and units, and the sample sizes used in the labour force surveys in European countries are tabulated and discussed.

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1 Introduction

Labour force surveys are among the most important social surveys on economic activity of the general population. Most countries in the world, all developed countries as well as many developing countries, undertake regular labour force surveys – annually, and increasingly on a quarterly or even monthly basis. These surveys tend to be relatively large-scale surveys of the whole population; they are often national in scope and have an official status. Such major operations can be undertaken generally only by national statistical offices. Because of their official status and national scope, labour force surveys are likely to be subject to stringent methodological and operational requirements, such as concerning timing, data accuracy and internal consistency, especially consistency of the time-series generated by the continuing type of survey. These requirements can only be met by probability samples of fairly large size, drawn from a good frame covering the whole population in a representative way. The survey estimates have to be as consistent as possible with data from other official sources.

In comparison with many other types of social surveys, labour force surveys tend to be quite standardised and comparable across countries. This, above all, is because these surveys follow the common and agreed international standards laid down by the International Labour Organisation (ILO, 1982; also see technical elaboration in Hussmanns, Mehran and Verma, 1990). In EU countries, the national labour force surveys are further standardised on the basis of various framework and technical regulations laid down by the European Commission (European Commission 1998, 2000), which closely follow the ILO standards.

This paper is the first of a set of three Working Papers the common objective of which is to provide a systematic and comparative exposition of various aspects of the methodology of labour force surveys in 27 countries of the European Union, plus the three EFTA countries (Iceland, Norway, Switzerland) and the two Candidate Countries (Croatia, Turkey).²

The papers discuss in turn the following aspects of the methodology of European labour force surveys:

- (1) Scope and sample size
- (2) Sample design and implementation³
- (3) Sample rotation patterns⁴

The present paper explains the labour force framework and basic characteristics of household surveys of the labour force. It also tabulates and discusses the concepts, definitions, survey population and units, sample sizes etc., used in the labour force surveys in European countries. The two complementing Working Papers analyse, respectively, first the sampling designs and aspects of the data collection methodology of the surveys, and then various aspects of the structure of surveys over time such as the reference period, the distribution of data collection and the pattern of sample rotation over time.

A major task involved in the research leading to these papers has been the compilation of information on national LFS methodologies from a variety of sources, both from published material and from data and documentation accessible through the internet, and the analysis of this

² Throughout this document, for simplicity the term ‘EU countries’ is used to cover 32 countries, including EU Member States (27), EFTA (3) and Candidate Countries (2).

³ Gagliardi, Verma and Ciampalini (2009)

⁴ Verma, Gagliardi and Ciampalini (2009)

information in a comparative context. We hope that the material presented in this set of papers can also serve as a resource for teaching purposes on the subject.

Section 2 of the present paper identifies basic characteristics of household surveys of the labour force, different types of such surveys, and the labour force framework underlying these surveys.

Section 3 explains the basic concepts and definitions used in the labour force surveys in European countries, in particular the establishment of continuous quarterly surveys.

Section 4 discusses the coverage of the EU labour force surveys, nearly all of which are carried out quarterly on a continuous basis. The section describes the survey population and units, and the central concept of 'household'.

Finally, Section 5 discusses the achieved sample sizes in EU labour force surveys in relation to the national population sizes.

2 Labour force surveys: basic characteristics

2.1 Household surveys of the labour force

The sources of statistics on the economically active population may be grouped into three broad categories: (1) population censuses and household sample surveys; (2) establishment censuses and establishment sample surveys; and (3) various types of administrative records, such as public sector payrolls, employment exchange registers, unemployment insurance and social security records. These various sources may differ in the type and detail of information they provide, in coverage and periodicity, in concepts, definitions and measurement units, in cost of the operations, and quality and timeliness of the results. Each of these sources has its own particular advantages and limitations. Generally, one source tends to be stronger where the others are weaker, and vice versa. Statistics derived from one source may usefully be linked with those derived from other sources or compared for the purposes of evaluation, provided that concepts, definitions, classifications and reference periods used are consistent.

Nevertheless, household surveys have a special role in generating statistics on the labour force. The international standards are in practice better suited to data collection through household surveys. In fact, some of the criteria specified in the international standards can be implemented precisely only in personal interviews, i.e. through household surveys.

Household surveys enjoy a number of advantages as compared with other sources (Husmanns, Mehran and Verma, 1990): (1) They are the most flexible of all data collection instruments. (2) Such flexibility makes household surveys particularly suited to serve different users' needs and to provide *internationally comparable* results. (3) They can cover virtually the entire population of a country, all branches of economic activity, all sectors of the economy and all categories of workers. (4) In addition, household surveys are the only data source which allow joint and mutually exclusive measurement of the employed, unemployed and the economically inactive. (5) Data on economic activity can be related to supplementary information not only on individuals but also on households or families obtained from the same or a linked source. (6) By measuring individual changes between and within labour force categories, household surveys can be designed to provide data not only on stocks at a given time, but also data on flows and gross changes over time. (7) In many countries other sources, such as establishment surveys or administrative records, are non-existent or unacceptably incomplete; given the existing statistical infrastructure, the development of a household survey system may be a more immediate and less demanding prospect than developing alternative sources.

It should be mentioned that data collection through household surveys does have certain negative implications as to cost, data quality and ability to provide data for small areas or groups. The relative advantages and limitations of the various sources need to be compared in actual practice.

2.2 Different types of household-based labour force surveys

A variety of designs and arrangements are possible in household surveys of the economically active population. The primary determining factors are the substantive objectives of the survey, i.e. the content, complexity and periodicity of the information to be collected.

It is useful to distinguish between the two basic types of labour force surveys:

- (a) one-time or occasional surveys aimed at obtaining information of longer-term interest, pertaining to average conditions or patterns prevailing over a period of time; and
- (b) continuing surveys aimed primarily at obtaining current estimates of levels and trends.

One-time or occasional surveys

Comprehensive surveys of the economically active population may be conducted less frequently to obtain benchmark data and detailed structural information. This may include, for example, detailed information on the economically active population by industry, occupation, status in employment, on activity patterns over the year, work experience, multiple job-holding, education and training, hours worked, income from employment, and so on. Similarly, the population not economically active may be classified by type and various socio-economic and demographic characteristics.

If data collected for specific periods during the survey are to be applied more generally to a longer period of interest, then the specific periods should in some sense be representative of the longer period. By the same token, the survey period should be long enough to capture seasonal and other variations in time. Furthermore, to estimate as well as to properly average out seasonal and other variations, the survey period should be divided into smaller time segments (subrounds), over each of which a spatially representative sample is enumerated.

Continuing surveys for current estimates

In a continuing survey, the objective is to produce current estimates (as well as estimates of change) with a specified frequency, such as every month, quarter or year. Therefore, the survey is typically organised in the form of an ongoing series of rounds, each round being designed to produce separate estimates covering a period defined by the frequency of reporting. A survey round may be further divided into subrounds. Basic design issue in continuing survey is the degree to which samples for different rounds should be independent and the extent to which they should be correlated or overlapping. This is determined by the “rotation pattern” adopted for the survey. Another choice concerns the survey content: it may be detailed and specialised to give information, for example, on the dynamics of the labour force or gross flows between different labour force categories; in contrast, the survey may be confined to a few basic characteristics of the labour force, such as the levels of employment and unemployment. These substantive considerations will determine the appropriate timing, frequency, reference period, sampling arrangements and other aspects of the survey structure.

Among continuing surveys, two types of field-work arrangement are commonly found: (i) conducting the field-work on a *continuous* basis, or (ii) a survey with *intermittent* field-work concentrated over relatively short intervals, such as a few weeks each quarter. Both systems have their practical and substantive merits and disadvantages.

The establishment of a continuing labour force survey can be a major and relatively expensive undertaking. Once in place, the survey can be usefully exploited as a vehicle for covering additional topics and for supporting various household surveys in other areas. A number of national LFS in the EU provide such examples.

Occasionally, more specialised surveys may be undertaken to investigate in-depth certain relationships, special phenomena, problems and issues, or population groups of special interest. Possible examples are relationships between labour input, training and experience on the one hand, and income from employment, family income and welfare, on the other. Such surveys tend to be quite complex in content and involve special arrangements, specialised staff, and relatively heavy cost and effort.

Sometimes survey objectives require the collection of additional information on particular population groups of special interest such as the handicapped, migrants, female household heads, unemployed young persons or underemployed workers. Where such groups are small, special arrangements such as multi-phase sampling with screening may be required to include sufficient numbers of respondents. In continuing surveys, there is also the possibility of accumulating such cases from several rounds.

Short and long reference period

For the measurement of current activity status a short reference period of one week or one day is required; for the measurement of usual activity status, a long reference period covering a whole year is used. The short reference period will normally be appropriate for the continuing type of survey aimed primarily at generating current indicators. In less frequent surveys aimed at structural characteristics of longer-term interest, the use of both a long and a short reference period in combination may be considered. The long reference period and usual status approach may be particularly appropriate for in-depth surveys where the objective is to investigate complex underlying relationships between economic activity and other variables.

Current and usual status

With reference to surveys where both the usual activity status and the current activity status are measured, the international standards (ILO, 1982) recommend that the economically active population should be cross-classified by usual and current activity status. The difference between usual and current activity status is of particular relevance in analysis and policy-making and may be used to identify those persons who are usually active but are not in the labour force during the current reference period. The cross-classification of usual and current activity status also identifies those persons who, though not usually active, are currently in the labour force, e.g. new entrants to the labour force, students working during a vacation period. The cross-classification can be extended to more detailed categories, distinguishing, for example, the categories “employed”, “unemployed” and “not active” for the current activity status, and the categories “usually active”, “students”, “homemakers”, “income recipients (pensioners, renters, etc.)” and “others” for the usual activity status. For instance, the combination unemployed/homemakers would give the number of housewives currently trying to re-enter the labour force, while the combination employed/income recipients would give the number of pensioners engaged in some economic activity during the reference week (Husmanns, Mehran and Verma 1990).

The various concepts relating to the ‘time dimension’ of labour force surveys referred to in the above paragraphs will be elaborated in a separate Working Paper (Verma, Gagliardi and Ciampalini, 2009).

2.3 Common characteristics of surveys on the economically active population

National practices in conducting labour force surveys vary greatly; nevertheless, a number of common features encountered in many countries can be identified:

(1) As noted at the beginning, labour force surveys tend to be relatively large-scale surveys of the whole population, often national in scope with an official status, and generally conducted only by national statistical offices. Consequently, they are subject to stringent requirements of timing, data accuracy and internal consistency. Consistency is also required with data from other official

sources. These requirements can only be met by large probability samples representative of the whole population, not only geographically but also over time.

(2) Most developed countries, as well as many developing countries, undertake labour force surveys on a continuing basis with the objective of measuring current levels and changes; mostly countries conduct the survey annually, quarterly or even monthly. Some developing countries have undertaken surveys which aim at providing more detailed structural information of longer-term interest; but perhaps the usefulness of this type of surveys in the situation of developing countries has not been always appreciated, and there has been too much emphasis on the production of current statistics, at the expense of structural information of longer-term interest.

(3) In most developing countries, information pertaining to households and individuals in labour force surveys is collected through face-to-face interviewing by field staff visiting survey respondents in private households. In developed countries, telephone interviewing is increasingly used. It is common in these countries to have the first interview face-to-face, and use the telephone for any subsequent interviews with the same respondent.

2.4 The labour force framework

As noted, most labour force surveys are based on the concept of the currently active population. The concepts of usual activity status and long reference period will not be discussed further in this paper since most labour force surveys, and all the European ones, are concerned with current status based on a short reference period.

The *currently active population*, or synonymously the *labour force*, comprises all persons above a specified minimum age who fulfil the requirements for inclusion among the employed or the unemployed. The currently active population (or labour force) is the most widely used measure of the employment situation. It is based on a short reference period, such as one week, and used for measuring the current employment and unemployment situation of the economy and the current employment characteristics of the population. Current changes over time can be monitored when measurement is repeated at sufficiently frequent intervals.

The measurement of the currently active population is based on the labour force framework. The basic categories of the framework are persons “employed”, “unemployed” and “not in the labour force”. On the basis of a specific set of rules, the labour force framework classifies, at a given moment of time, the population above a specified minimum age into the above-mentioned three mutually exclusive and exhaustive categories for the purpose of measuring the economically active population. The employed and unemployed categories together make up the labour force, or the currently active population, which gives a measure of the number of persons furnishing the supply of labour at a given moment in time. The third category (not in the labour force), to which persons below the age specified for measuring the economically active population are added, represents the population not currently active. These relationships may be expressed as :

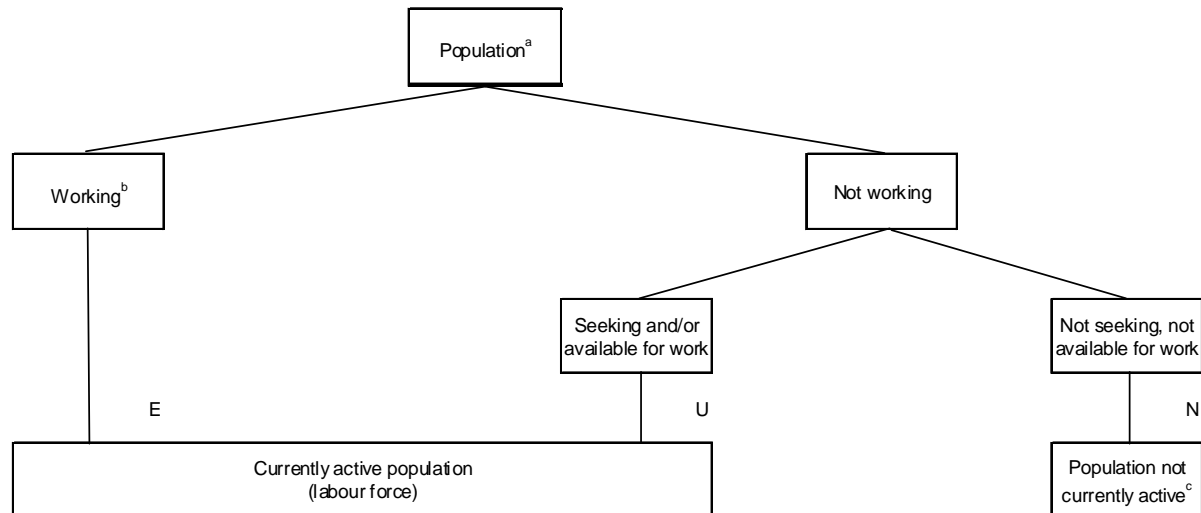
$$\begin{aligned}\text{Population} &= && \text{Labour force} + \text{Not in the labour force,} \\ \text{Labour force} &= && \text{Employed} + \text{Unemployed.}\end{aligned}$$

The exact contents of the categories depend on how each is defined. The international standards (adopted by 13th International Conference of Labour Statisticians, ILO, 1983; and technically elaborated in Hussmanns, Mehran and Verma, 1990) define employment in terms of paid employment and self-employment: paid employment covers persons who during the reference period performed some work for wage or salary, in cash or in kind, as well as persons with a formal attachment to their job but temporarily not at work; self-employment covers persons who during the

reference period performed some work for profit or family gain, in cash or in kind, and persons with an enterprise but temporarily not at work. The standard definition of unemployment covers persons who were (a) without work during the reference period; (b) currently available for work during the reference period and a certain period following it; and (c) seeking work during the reference period and a certain period preceding it.

The basic elements of the labour force classification scheme are shown in Figure 1.

Figure 1. Labour force classification scheme: basic elements



Notes: ^a Or working-age population; ^b At work or temporarily absent from work; ^c Including persons below working age
 E=Employed; U=Unemployed; N=Not in the labour force
 Source: Hussmanns, Mehran and Verma (1990).

In application this scheme requires elaboration in several directions, including the following. The framework has to be flexibly but has to be applied, observing the basic underlying principles, to borderlines between categories and to heterogeneity within categories. Employment can be further distinguished between paid employment and self-employment, and each according to whether the person is actually at work or is temporarily absent from work. Employed persons are also distinguished according to hours of work (or full-time versus part-time work) and degree of “adequacy” of work (e.g. sufficient quantity, quality and remuneration). As to unemployment, the international standards provide for relaxation of the “seeking work” criterion in situations where the conventional means of seeking work are of limited relevance. Persons not in the labour force (population not currently active) need to be categorised by reason of inactivity. And so on.

The working-age population is identified as the population above a specified minimum age. Embedded in the labour force framework are certain rules for sorting this population into the basic categories of employed, unemployed and not in the labour force. These rules have three main features. The first feature is the notion of a *reference period* which must be short enough to reflect the labour supply situation at a specified moment of time. The second feature is the concept of *activity status*, according to which the population is classified into the three categories on the basis of activities performed during the specified short reference period: a person to be included in the labour force must be either employed (working or, more precisely, having a job or enterprise in which he or she normally works), or unemployed (seeking and/or available for work). The third feature of the labour force framework is the use of a set of *priority rules* for ensuring that each person is classified into only one of the three basic categories of the framework.

The priority rules for classifying the working age population into the basic categories of the framework give precedence to employment over unemployment and to unemployment over economic inactivity. Thus, a person who is both working and seeking work is classified as employed, while a student who is attending school and also seeking work is classified as unemployed. Under these priority rules, employment always takes precedence over other activities, regardless of the amount of time devoted to it during the reference period; a person working even for only one hour during the reference period will be classified as employed on the basis of the labour force framework, though he or she may at the same time be seeking additional work or going to school. The priority rules provide unambiguous criteria ensuring that a single labour force status is ascribed to each person. They limit the concept of unemployment to total lack of work. Furthermore, they permit a consistent link between employment, hours of work and income from employment. These concepts and rules are generally quite appropriate for the conditions of developed and industrialised economies. But they certainly can have the effect of making unemployment figures rather meaningless in poorer countries where, in the absence of social security, most people have to *do something* to survive.

In contrast to the concept of current activity, an alternative measure of the economically active population, called the *usually active population* in the international standards, refers to the main activity status of persons over a *longer reference period* such as a year. This corresponds to more structural information of longer-term interest. It can be particularly useful in the conditions of many developing countries, but unfortunately is not very commonly used in labour force surveys in those countries.

3 EU labour force surveys

3.1 Basic concepts and definitions in EU-LFS

The main statistical objective of EU-LFS is to divide the working age population into three mutually exclusive and exhaustive groups – persons in employment, unemployed persons and inactive persons – and to provide descriptive and explanatory data on each of these categories. Respondents are assigned to one of these groups on the basis of objective information obtained through the survey questionnaire, which principally relates to their actual activity within a particular reference week. The concepts and definitions used in the survey are based on those contained in the *Recommendation of the 13th International Conference of Labour Statisticians*, convened in 1982 by the International Labour Organisation (technically elaborated in ILO publication by Hussmanns, Mehran and Verma, 1990). These are adapted for EU-LFS by *Council Regulation (EC) No 577/98*. To further improve comparability within the EU, *Commission Regulation (EC) No 1897/2000*, gives a more precise definition of unemployment; this definition remains fully compatible with the ILO standards.

The report *Labour force survey in the EU, Candidate and EFTA Countries. Main characteristics of the national surveys 2005* (Eurostat, 2007a) describes the main characteristics of the labour force surveys in all the 27 Member States of the European Union, plus the three EFTA countries and the two Candidate countries.⁵ The EU-LFS measures the labour status and other characteristics of the population in an average week in each quarter, in most countries by spreading the sample uniformly over all the weeks of the quarter. In 2005 Germany became the last Member State to implement the continuous quarterly survey. Information on basic concepts and definition of the EU-LFS are in the publication Eurostat (2003) *The European Union Labour Force Survey – Methods and definitions 2001*; this is supplemented by Eurostat (2004) *Labour Force Survey in the Acceding Countries –*

⁵ These are regular publications: on main characteristics of the 2006 surveys, see Eurostat (2008).

Methods and definitions 2002. A concise summary, definition of rates and indicators published by Eurostat appears in *LFS Series – Quarterly survey results*. For a summary of the data quality of EU-LFS, see *The European Union Labour Force Survey, Quality Report, 2005*.⁶

Labour status and main dimensions are defined as follows for EU-LFS.

The *economic active population* comprises employed and unemployed persons. *Employed* persons are persons aged 15 year and over⁷ who during the reference week performed work, even for just one hour a week, for pay, profit or family gain or were not at work but had a job or business from which they were temporarily absent because of, e.g., illness, holidays, industrial dispute or education and training. *Unemployed* persons are persons aged 15-74⁸ who were without work during the reference week, were currently available for work and were either actively seeking work in the past four weeks or had already found a job to start within the next three months. *Inactive* persons are those who neither classified as employed nor as unemployed.

Further details on the definition of *employment* and *unemployment* used in EU-LFS are as follows. The framework is illustrated in Figure 2.

Employment: special categories of persons in employment are identified, such as conscripts, seasonal workers, persons on maternity, paternity or parental leave, unpaid family workers, lay-offs, long-term absent from work.

Unemployment: it comprises persons who were: (1) without work during the reference week, i.e. neither had a job nor were at work (for one hour or more) in paid employment or self-employment; (2) currently available for work, i.e. were available for paid employment or self-employment during the reference week and two following weeks; and (3) actively seeking work, i.e. had taken specific steps during the reference week or the 4 weeks preceding it to seek paid employment or self-employment; also included are those who found a job to start later, i.e. within a period of at most 3 months. Specific steps for finding work are specified to include: having been in contact with a public employment office or with a private agency; applying to employers directly; asking among friends, relatives, unions, etc.; placing or answering job advertisements; studying job advertisements; taking a recruitment test or examination or being interviewed; looking for land, premises or equipment; applying for permits, licences or financial resources.

Professional status categories include: employer employing one or more employees, self-employed person not employing any employees, employees, and family workers.

Economic activity is specified according to Statistical Classification of Economic Activities (NACE Rev.1.1), based on the 3-digit level for the main job and 2-digit level for other job descriptions.

Occupation follows International Standard Classification of Occupations – ISCO-88 (Com) based on 4-digit level for the main job and 3-digit level for the previous occupation.

Full-time/part-time distinction refers to the main job. The distinction between full-time and part-time work is based on a spontaneous response by the respondent⁹. Establishing a more precise distinction between full-time and part-time employment has not been considered possible, since working hours differ from one Member State to another and from one branch of activity to the next.

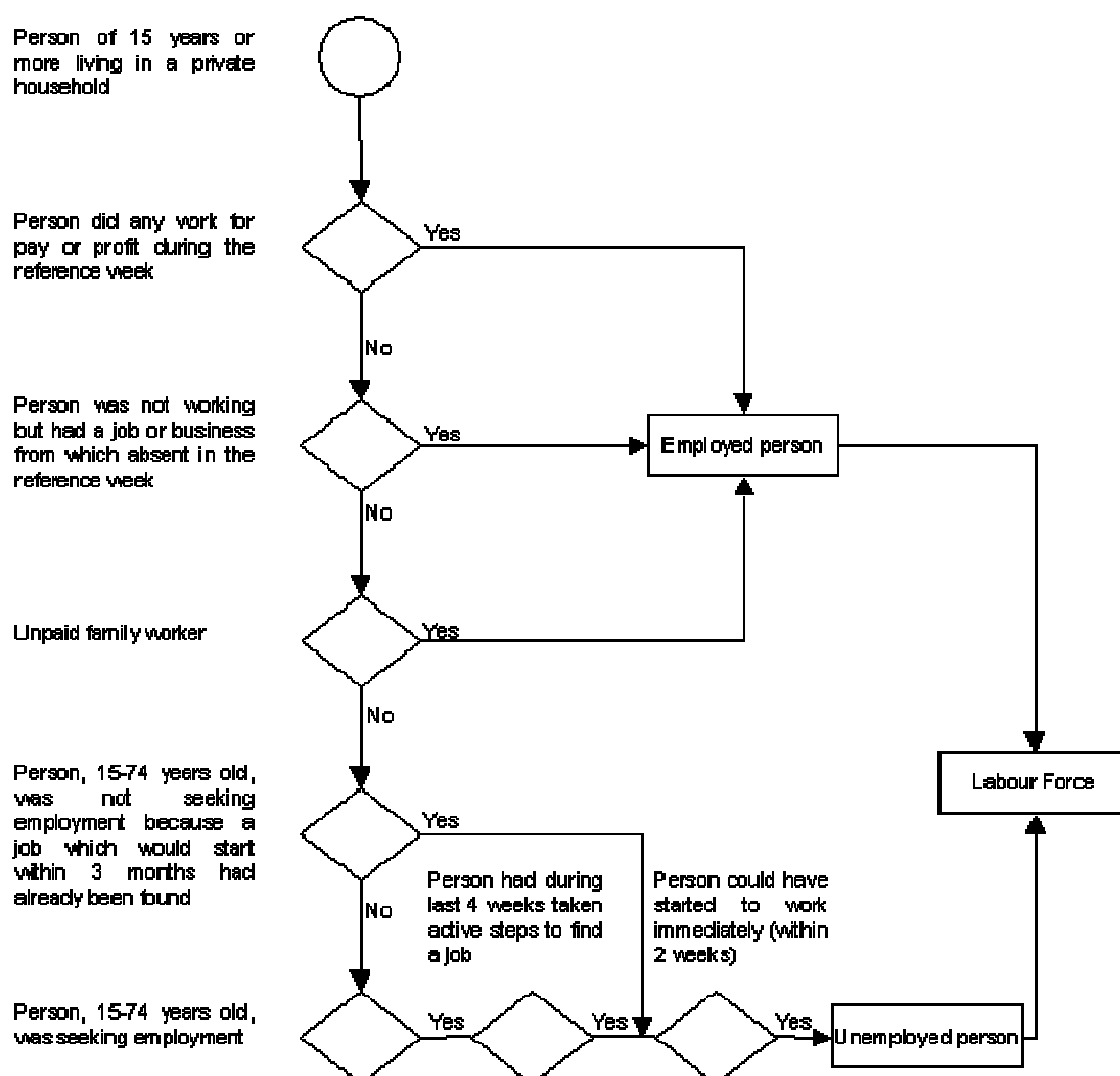
⁶ These are also regular publications, the above being the most recent available at the time of writing this paper.

⁷ Exceptions: 16 and over in Spain, UK; 15-74 years in Denmark, Estonia, Hungary, Latvia, Finland, Norway, Sweden; 16-74 in Iceland.

⁸ Exceptions: 16-74 in Spain, Norway, UK and Iceland.

⁹ Exceptions: part-time if < 35 hours per week in Netherlands, Iceland, Norway; in Sweden this criterion is applied to the self-employed.

Figure 2. Labour force classification in the European Union Labour Force Survey



Source: Eurostat Circa website.

Other variables covered in EU-LFS include the following.

Whether employee with fixed-term contract, or whether with a temporary job or work contract of limited duration.

Working time; number of hours usually worked per week; number of hours actually worked during the reference week.

Duration of unemployment, defined as the duration of search for a job, or the length of the period since the last job was held (if shorter than duration of search for a job).

Involuntary part-time employment – when respondents declare that they work part-time because they are unable to find full-time work.

Working at home.

Asocial working time – evening or night work, Saturday or Sunday working, shift-work.

Socio-demographic dimensions: age, nationality, marital status, degree of urbanisation.

Population in education or training (ISCO 1997): this includes items on initial education, additional education, continuing or additional training, training in enterprises, apprenticeships, on-the-job training, seminars and workshops, distance education, evening classes, self-learning, etc.; also are included all forms of learning and training courses undertaken out of personal interest only.

Purpose of education or training: information on participation in training under a specific employment measure; individual perception of purpose of such scheme.

Highest level of education or training successfully completed (ISCO 1997).

Whether a dependent child, meaning a child of the household reference person (or of her/his spouse) aged less than 15. The definition is based purely on parental relationship and age, i.e. excluding all other dimensions (income dependency, for instance).

3.2 The establishment of continuous quarterly surveys

Internationally, the first labour force survey was introduced in the United States in 1940 (on a monthly basis) with a new conceptual framework designed to provide information on relevant labour market characteristics. The movement towards the use of labour force surveys was somewhat slower in Europe, at least in part due to the existence of alternative sources of information such as comprehensive unemployment registers. However, in time, European countries began to initiate labour force surveys of the general population, starting with France in 1950; the Federal Republic of Germany initiated an annual series of labour force surveys in 1957 (the Mikrozensus), and Sweden in 1959 developing it into a quarterly series in 1963. The first attempt to carry out a labour force survey covering the European Community was made in 1960, and a series of annual surveys with incomplete coverage of Member States took place during 1968-1971.

Labour force surveys with comprehensive coverage and in accordance with international standards began from 1982 when the 13th *International Conference of Labour Statisticians*, convened by the International Labour Organisation, passed a Resolution concerning statistics of the economically active population, employment, unemployment and underemployment, containing exact definitions of the various categories of the population which labour force surveys were designed to measure. The EU Member States agreed to apply these recommendations in a new series of annual *Community Labour Force Surveys*. During the course of this series from 1983 to 1991, a substantial and coherent collection of labour market microdata (individual observations) was built up.

A new series of surveys was introduced in 1992. The survey continued to be conducted annually, but for the first time a criterion of statistical reliability at *regional level* was introduced. The list of variables covered was revised, so as to include topics relevant to the Single Market (such as labour mobility across national boundaries), innovative working patterns (working at home, second jobs or other economic activity outside the traditional forty-hour week), and recent developments in the area of education and vocational training. The continued commitment to the ILO recommendations ensured a high degree of comparability between the results from the surveys.

Table 1 shows countries according to the year a regular (generally an annual) labour force survey was established, the year a continuous (generally a quarterly) LFS was started, and the gap between the two events. As in most other tables in this paper, this table covers all 27 EU Member States, plus the three EFTA countries (Iceland, Norway, Switzerland) and two Candidate countries (Croatia, Turkey).

The second panel of the table provides the same information, but with countries arranged according to the year of start of a quarterly survey. The earliest continuous quarterly survey was in the UK (1992), and the most recent in Hungary (2006). Between these years, continuous quarterly surveys were introduced in all countries, with only a few minor exceptions (Luxembourg, Switzerland, Turkey).

Table 1. Year of start of regular and continuous labour force surveys in EU countries

Starting period					Starting period		
Country	Regular survey*	Continuous survey	gap (years)		Country	Regular survey*	Continuous survey
1 AT Austria	1995	2004	9		27 United Kingdom	1973	1992
2 BE Belgium	1983	1999	16		23 Slovakia	1993	1993
3 BG Bulgaria	1993	2003	10		5 Czech Republic	1992	1994
4 CY Cyprus	1999	2004	5		6 Denmark	1984	1994
5 CZ Czech Republic	1992	1994	2		22 Romania	1993	1996
6 DK Denmark	1984	1994	10		29 Norway	1972	1996
7 EE Estonia	1997	2000	3		13 Ireland	1997	1997
8 FI Finland	1959	2000	41		24 Slovenia	1993	1997
9 FR France	1950	2003	53		11 Greece	1983	1998
10 DE Germany (West)	1957	2005	48		21 Portugal	1983	1998
Germany (East)	1991	2005	14		31 Croatia	1996	1998
11 GR Greece	1983	1998	15		2 Belgium	1983	1999
12 HU Hungary	1992	2006	14		20 Poland	1992	1999
13 IE Ireland	1997	1997	0		25 Spain	1964	1999
14 IT Italy	1959	2004	45		26 Sweden	1959	1999
15 LV Latvia	1995	2002	7		7 Estonia	1997	2000
16 LT Lithuania	1994	2002	8		8 Finland	1959	2000
17 LU Luxembourg	2003	2003 (1)			19 Netherland	1987	2000
18 MT Malta	2000	2004	4		15 Latvia	1995	2002
19 NL Netherland	1987	2000	13		16 Lithuania	1994	2002
20 PL Poland	1992	1999	7		3 Bulgaria	1993	2003
21 PT Portugal	1983	1998	15		9 France	1950	2003
22 RO Romania	1993	1996	3		28 Iceland	1991	2003
23 SK Slovakia	1993	1993	0		1 Austria	1995	2004
24 SI Slovenia	1993	1997	4		4 Cyprus	1999	2004
25 ES Spain	1964	1999	35		14 Italy	1959	2004
26 SE Sweden	1959	1999	40		18 Malta	2000	2004
27 UK United Kingdom	1973	1992	19		10 Germany (East)	1991	2005
28 IS Iceland	1991	2003	12		Germany (West)	1957	2005
29 NO Norway	1972	1996	24		12 Hungary	1992	2006
30 CH Switzerland	2003 (2)	(2)			17 Luxembourg	2003	2003 (1)
31 HR Croatia	1996	1998	2		32 Turkey	1988 (3)	2000 (3)
32 TR Turkey	1988 (3)	2000 (3)			30 Switzerland	2003 (2)	(2)
average gap (years)			16				

* Start of regular (at least annual) survey

(1) LU

Since the beginning (2003) the survey is continuous, but it provides only annual estimates because of small sample size.

(2) CH

The survey is only annual, not quarterly; was extended in 2003 to cover two parts:

a) the standard sample based on registered phone numbers; and

b) an extra sample based on the register of foreign persons.

Part (a) covers 90% of the population, and accounts for 70% of the sample cases.

(3) TR

Earlier surveys since 1966, but these were not regular annual surveys.

Quarterly since 2000, but fieldwork confined to 15 days each month.

Source: Compiled from Eurostat publications on EU-LFS covering 2005 and 2006 national surveys.

In the mid-1990's a number of concurrent developments became apparent and new statistical requirements emerged. In response, a new European Commission regulation was adopted laying down a target structure for a *continuous survey providing quarterly and annual results* in most Member States by 2003. A number of variables were introduced in order, for instance, to obtain a better picture of the composition of a household, to measure visible under-employment ("wish to work more than the current number of hours" and "number of hours of work wished for"), and to test whether potentially underemployed persons are available to take an extra job. The variable "main labour status" was introduced to give the respondents' own view of their main labour status, supplementing the information on current status. The education and training module was re-structured in order to cover new requirements and to provide better coverage of the type of education or training received during the past four weeks. A new module on income (for employees) was introduced in order to obtain a better picture of the relations between level of income and type of employment.

Most significantly, a programme of *ad hoc modules* on specific subjects was initiated. The EU-LFS questionnaire has a modular structure, comprising modules to be added to the main questionnaire according to an agreed schedule. For instance, Table 2 lists the main topics covered in the annual modules since 1992.

Table 2 List of special modules included in EU-LFS

1999	Accident at work and occupational diseases
2000	Transition from school to working life
2001	Length and patterns of working time
2002	Employment of disabled people
2003	Lifelong learning
2004	Work organisation and working time arrangements
2005	Reconciliation between work and family life
2006	Transition from work into retirement
2007	Transition from work and work -related health problems
2008	Labour market situation of migrants and their immediate descendants

4 Survey population and type of units

4.1 Survey population

The definition of the population to which the sample results are to be generalised is a fundamental aspect of survey planning and design. While basic decision about the nature and scope of the population to be covered are taken early in the survey planning process, the content and extent of the population has to be specified more precisely at the stage of technical design. This specification is in terms of the following dimensions.

Population *extent in space*, i.e. the boundaries of its geographical coverage.

Various considerations may result in the exclusion of certain areas from geographical coverage of the survey; examples are remote and sparsely populated areas.

Population *content*, i.e. the type and characteristics of the elementary units comprising it.

The categories or types of households or persons which may be included or excluded depending on the rules adopted in the survey are, for example, collective, institutional, foreign, diplomatic, or non-civilian households; homeless persons or families; persons temporarily abroad; and persons above or below certain age limits. In labour force surveys covering the general population, the population elements of interest are generally individual persons with some specified characteristics, and the households and other social groupings in which they live. To define the population to be covered, it is necessary therefore to specify (a) the characteristics determining inclusion or exclusion of individuals in the target population for the survey; (b) the type of households and other social groupings to be included; and (c) the rules for associating individual persons with those groupings (e.g. defining what constitutes a ‘household’).

Population *extent in time*, i.e. the time period to which it refers.

Units and their characteristics change with time, and the population covered in any survey is also bounded in time, even though these boundaries may not be as sharply defined as geographical boundaries.

Table 3. Survey coverage and target population

Country	Geographical coverage	Household coverage	Residential requirements	Age limits
1 Austria*	Whole country	Only private households	Survey base is the Register of Residents: resident population comprises persons with main residence in the country during reference week.	15-74
2 Belgium	Whole country	Only private households	Survey base is the National Register of Persons, which is derived from communal population registers.	15+ (#)
3 Bulgaria	Whole country	Private households, including persons living in students' and workers' hostels	Resident population includes all usual residents, including persons temporarily abroad (for <1 year). All members including conscripts are covered in households.	15+
4 Cyprus	Areas controlled by the Government, Republic of Cyprus	Only private households	Resident population comprises usual residents, and those intending to stay for 12+ months; excluded are students studying abroad and foreign armed forces and foreigners working in embassies or diplomatic missions.	15-74
5 Czech Republic	Whole country	Only private households. People in student or worker's homes are normally included.	Target population comprises all usual residents. People living abroad are excluded. Conscripts are surveyed for demographic background only.	15+
6 Denmark	Whole country, excluding Greenland and Faroe Islands	Private and collective households	Survey base is the Central Population Register. Persons with domicile in the country are covered.	15-74
7 Estonia	Whole country	Private and collective households	People who have lived or intend to live in the country for more than one year are included.	15-74
8 Finland	Whole country including the Autonomous Territory of the Åland Islands	Private and collective households	Target population contains persons registered as permanent residents, including those temporarily abroad for <1 year, members of the armed forces, and the institutional population. Also included are foreign nationals living or intending to live in the country for 1+ years.	15-74
9 France	French metropolitan territory	Private households, plus persons with close family ties living in collective households	Resident population comprises usual residents in the country.	15+
10 Germany*	Whole country	Private and collective households except for military quarters. National service personnel and students included in parents' household.	Resident population includes all inhabitants with the main place of residence in the country. Foreign armed forces and members of diplomatic corps and their families are excluded.	15-74
11 Greece*	Whole country	Only private households	Resident population comprises persons who usually reside on national territory, meaning persons spending most days and nights there.	15+
12 Hungary*	Whole country	Only private households	Included are persons living abroad if they have common income/consumption with the surveyed household. The institutional and unsettled population is excluded, as well as conscripts.	15-74 (#)
13 Ireland	Whole country	Only private households	All persons who usually reside on Irish territory are included.	15+
14 Italy	Whole country	Only private households	The resident population is that recorded in the Population Registers of Italian communes	15-74
15 Latvia	Whole country	Only private households	The target population includes persons with permanent residence in the country. Persons temporarily absent for one year or more are excluded.	15-74
16 Lithuania	Whole country	Only private households	Target population covers all residents in the country including those who are temporarily abroad for a period of <1 year. The population also includes foreign nationals living in the country for 1+ years.	15+
17 Luxembourg	Whole country	Only private households	The resident population comprises persons registered as residing in one of the communes of the country.	15-74

Table 3.(cont.) Survey coverage and target population

Country	Geographical coverage	Household coverage	Residential requirements	Age limits
18 Malta	Whole country	Only private households	Persons residing in the country during the reference week are covered. Also included is a person who is abroad during the reference week but who visits the country on a regular basis (i.e. at least 2 times a year).	15+
19 Netherland	Whole country	Only private households	The resident population is simply the persons residing in the country.	15+
20 Poland	Whole country	All non-institutional households	Target population covers all usual residents. Persons living in institutions, students living away and persons living in another country for over 2 months are excluded.	15+
21 Portugal	Whole country, excluding Madeira and Azores	Private households, plus persons with close family ties living in collective households	The resident population consists of individuals residing in a private dwelling during the reference week, including those absent for a short period.	15+
22 Romania	Whole country	Only private households	Target population includes all persons normally resident in the country (2006 LFS methodology). In earlier methodology, target population was confined to resident citizens.	15+
23 Slovakia	Whole country	Only private households, including students in hostels and boarding schools, and persons living temporarily in worker homes.	Target population are persons living in private households without regards to permanent, temporary or unregistered stays. Foreign citizens with temporary stay and domestic servants are not surveyed.	15+
24 Slovenia	Whole country	Only private households	Members of private households temporary in an institution and persons living in other countries are excluded. Foreign nationals are included if members of a private household.	15+
25 Spain	Whole country	Only private households	The population residing in private households (including domestic servants) is covered. Foreign nationals are included in the resident populations if they have or intend to live in Spain for more than one year.	16+
26 Sweden*	Whole country	Private and collective households	Resident population comprises persons who are domiciled in the country according to the Population Register.	15-74
27 United Kingdom	Whole country	Only private households	Included are all persons resident at a private address in the country - i.e., who regard a private address as their main address or have lived at a private address for 6+ consecutive months. Persons not at a private address for six months or more are excluded.	16+
28 Iceland**	Whole country	Private and collective households	The resident population comprises persons registered with domicile, plus Icelandic personnel in missions abroad. Excluded are persons attached to foreign missions, and registered persons living abroad for >6 months.	16-74
29 Norway*	Whole country	Private and collective households	The definition of resident population is the de jure one based on the Central Population Register.	16-74
30 Switzerland*	Whole country	Only private households	The survey covers only the permanent resident population - meaning all persons officially resident for the entire year. Nationals, foreign citizens holding a residence permit (permanent or valid for 1+ years), international civil servants, diplomats and their family members all fall into this category. Some foreign persons are excluded.	15+
31 Croatia	Whole country	Only private households	Target population comprises all usual residents and persons intending to stay in the country for 12+ months.	15+
32 Turkey	Whole country, excluding villages with <100 inhabitants.	Only private households	The population surveyed covers all persons resident in the country.	15+

* EU-LFS 2005: Source Website www.ilo.org; ** For IS source is www.statistic.is.

BE: age limits for 2nd (follow-up) wave is 15-64; HU: Demographic information is collected on all persons without age restrictions.

Table 3 defines the population covered in the national labour force surveys in EU countries in terms of four criteria, (1)-(4) below.

(1) Completeness of geographical coverage of the country

Nearly all national labour force surveys in the EU cover the whole territory of the country concerned. Some minor exceptions may be noted. In Cyprus only areas controlled by the Government of the Republic are covered, of course. The French survey is confined to the Metropolitan territory, and Madeira and Azores are excluded in Portugal. Turkey excludes small villages with fewer than 100 inhabitants. Beyond that, there are only a few minor exclusions of very remote places with little population, such as those in Denmark and Finland.

(2) The type of households and related living arrangements covered in the survey

A majority of the surveys are confined to private households: persons living in collected households or institutions are not included, and consequently the LFS results do not apply to them. A few countries also include persons living in students' and workers' hostels (Bulgaria, Czech Republic, Slovakia), or persons not in a private household but with close family ties with it (France, Portugal). Persons living in collective households are covered more comprehensively in a number of countries (Denmark, Estonia, Finland, Germany, Poland, Sweden, Iceland, Norway).

(3) Residential status requirements for an individual meeting the above criteria to be included in the survey

This concerns residential requirements for an individual to be included in the *target population*. This consideration is different from the question whether or not, for the purpose of being included in the sample, the person is a "resident" of the *particular household or address* which may have been selected into the sample. (See Section 4.3 for further comments).

Criteria of eligibility for inclusion in the target population in terms of the residential status are often quite complex. Various situations and categories of persons may require case-by-case treatment, with many borderline cases.

A basic distinction in the EU labour force surveys is between countries where inclusion is based on *de jure residence* in terms of some legal or formal criterion such as being recorded in a population register, and countries where it is defined more on a *de facto* basis in terms of actual or usual residence. Example of the former in Table 3 are Austria, Belgium, Denmark, Finland, Italy, Latvia, Luxembourg, Sweden, Iceland, Norway and Switzerland, amounting to around a third of the countries shown.

The remaining countries, using more or less the concept of (de facto) usual residence, do not necessarily form a uniform group. The interpretation of what is considered *usual residence* can differ, particularly in the presence of temporary absence for various reasons and durations. For instance, in a number of countries persons absent (or intending to be absent) abroad for less than a year continue to be included. Other countries, the United Kingdom for instance, use a 6-months limit for both categories, while Poland uses only a 2-month limit.

(4) Age limits for an individual to be eligible for the LFS interview

The lower age limit of eligibility for the LFS individual interview is 15, the only exceptions in Table 3 being four countries (Spain, United Kingdom, Iceland and Norway), where the lower limit is 16. Concerning upper age limit for eligibility, there is no such limit in a majority (around 60%) of the surveys, while in the remaining (around 40% of the surveys) persons aged 75 and over are excluded.

4.2 Types of survey units

A survey may involve units of various types.

(1) Elementary units

Firstly, there are elementary units (such as individuals) comprising and defining the study population. The units for which information is collected and the units for which it is analysed may differ from the elementary units, and sometimes from each other. A household survey may be designed to collect and analyse information on more than one of these types of units. For instance, while a labour force survey collects information primarily on individual persons, information on income, housing and other socio-economic characteristics pertaining to families, households, earning or spending units, communities or other social groupings may also be collected. Furthermore, data collected at lower levels may be aggregated and analysed for units at a higher level or, alternatively, data collected for higher units may be ascribed to each lower stage unit and analysed at that level.

(2) Sampling units

Secondly, in a multi-stage design, sampling units of various types are involved. Typically they constitute a hierarchy of area units, with housing units, households or persons at the last stage. The sampling units may or may not be the same as the units of collection and analysis.

(3) Data collection units

Thirdly, there is often also a distinction between the above-mentioned types of unit and units which actually provide the information. For instance, information on households may be provided by any adult resident or by some specifically designated person; similarly, information on an individual may be provided by the individual concerned, or by the proxy response of some other person or persons. The units providing the information may be determined in accordance with respondent rules established for the survey.

Because of the various types of units involved in a survey, it is necessary to establish appropriate rules of association between units. The objective of these rules is to ensure a probability sample, i.e. to ensure that every elementary unit and hence every analysis unit in the population has a known, non-zero probability of appearing in the survey. Rules of association are required (a) between different levels of sampling units; (b) between ultimate sampling units and elementary units; (c) between elementary units and units of collection and analysis; and finally (d) between collection units (in respect of which information is collected) and the survey respondents (who provide the information).

In EU labour force surveys four types of ultimate sampling units are employed: (1) persons, (2) households, (3) dwellings/addresses; in addition, the final sampling units can be (4) groupings of above types of units, or ultimate area units themselves within which every element is enumerated.

The last-mentioned option is referred to as ‘compact cluster’ sampling. No subsampling within clusters or ultimate area units is involved. The advantage of this scheme is greater stability of units and lower coverage errors. The main disadvantage of compact cluster sampling is the increased design effect and sampling error. This results from homogeneity within areas or clusters: persons residing in the same area may have similar labour force characteristics. The effect tends to be stronger in designs involving physically small and compact clusters as sampling units.

Examples of the use of various types of USUs are: persons (Denmark); households (Italy); dwellings/addresses (Czech Republic); and clusters of households (Ireland, France, Germany). The type of units serving as the ultimate sampling units (USUs) in European labour force surveys are described in more detail in Section 3.2 of Gagliardi, Verma, Ciampalini (2009).

4.3 The household

The basic units of data collection and analysis in EU-LFS are the household and its members. How the household and household membership have been defined in the survey is important for two reasons.

Firstly, when household is used as a unit for *selection of the sample*, the household definition adopted influences the coverage of the population in the survey. The objective is to define the households such that each person in the study population belongs to one and only one household - so that a sample of households properly covers the entire population of interest and, conversely, a sample of persons provides a proper sample of households associated with them.

The second consideration is the definition of the household as a *substantive unit*. While the household as a substantive unit may be more central in surveys of income and consumption which are basically household (rather than individual) level variables, the concept of household is also important in labour force surveys. Many important variables for analysis, such as ‘membership of a work-less household’, can be defined for an individual only at the household level.

Hence the definitions of household and household membership, and how these definitions have been implemented in different Member States, has consequences for the comparability between countries.

Despite the harmonisation of many aspects of labour force surveys in the EU, there is no common definition of household adopted for uniform application in all countries for these surveys. Member States have chosen the definition they consider most suitable for their national needs and circumstances. This is different from the case of certain other harmonised EU-level surveys: for instance, EU-SILC (EU Statistics on Income and Living Conditions) framework regulation provides a general definition of private household to mean “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”.

Despite having the household as the common survey unit, countries differ in the manner in which it is defined for the national labour force survey. The practice in national labour force surveys in EU and related countries is summarised in Table 4.

Table 4. Formal definition of household in terms of shared criteria

Country	(1) Accommodation	(2) Expenditure, Housekeeping	(3) Income	(4) Family/ emotional ties
1 Austria	x			
2 Belgium	x			
3 Bulgaria	x		x	
4 Cyprus	x		x	
5 Czech Republic	x			
6 Denmark	not defined (Individual used as the unit throughout)			
7 Estonia	x		x	
8 Finland	x		x	
9 France				
LFS	x			
HBS	x			
EU-SILC	x	x		
10 Germany	x	x		
11 Greece	not available			
12 Hungary	not available			
13 Ireland	x		x	
14 Italy				
LFS	x			
HBS	x	x	x	x
EU-SILC	x	x	x	x
15 Latvia	x	x	x	
16 Lithuania	x		x	
17 Luxembourg	x			
18 Malta	x	x		
19 Netherlands	x		x	
20 Poland	x			
21 Portugal	x		x	
22 Romania	x	x	x	x
23 Slovakia	x	x		
24 Slovenia	x	x		
25 Spain	x			
26 Sweden	x	x		
27 United Kingdom	x			
28 Iceland	x	x		
29 Norway	x	x		
30 Switzerland	x			
31 Croatia	x	x		x
32 Turkey	x	x	x	

Source: EUROSTAT (2007a). Labour force survey in the EU, Candidate and EFTA Countries. Main characteristics of the national surveys 2005.
Luxembourg: Office for Official Publications of the European Communities.

Practically all surveys require rules linking or associating individual persons with households in the survey. Persons in a household share certain amenities, resources and relationships. Specifying what aspects must be shared by individuals for them to constitute the same private household provides a formal definition of what a “household” is. Table 4 provides the definition used in different national labour force surveys in terms of four sharing criteria. Increasingly restrictive definitions of what constitutes a household can be achieved by adding criteria from (1) to (4) below:

- (1) sharing of accommodation, i.e. co-residence or living together in the same dwelling unit;
- (2) sharing of expenditure and housekeeping, i.e. joint provision of (i) food, and of (ii) other essentials of living;
- (3) pooling of income and resources; and also
- (4) the presence of family or emotional ties.

The formal requirement to share accommodation – criterion (1) – is present in all cases though, as will be seen below (Table 5), temporary absence from this sharing does not necessarily preclude household membership, nor does temporary presence at the common address always imply household membership.

The definition is least restrictive (and consequently the resulting household size is maximised) when only the sharing of accommodation is involved in qualifying for household membership. This for instance is the case for the LFS household definitions adopted in around a third of the countries (Austria, Belgium, Czech Republic, France, Italy, Luxembourg, Poland, Spain, UK, Switzerland).

In any case, in a majority of the EU labour force surveys sharing of some facilities in addition to accommodation is required for household membership.

At the other extreme from membership defined only in terms of accommodation, confining common household membership solely to persons with family or emotional ties is very uncommon – it is reported only in two countries for the LFS (Romania, Croatia) - though Italy applies this restricted criterion for household definition in social surveys other than the LFS, such as EU-SILC and EU-HBS (EU Household Budget Surveys).

The other two criteria – sharing of expenditures/housekeeping and sharing of income – are more common, though generally only one or the other of these two has been applied in the formal definition of household. (Both these criteria seem to be included in a few cases: in Latvia, Romania and Turkey for LFS, and in Italy only for EU-SILC and HBS.)

The table brings out the lack of uniformity in the formal definition of household adopted in labour force surveys in EU countries. As noted, there is in fact no common, EU-level, definition adopted for EU-LFS formally, unlike the practice in the case of other harmonised surveys such as EU-SILC.

It is also interesting to note that within the same country different surveys may use different household definitions. For example, France uses household definition in terms of accommodation only for LFS and HBS, but the sharing of expenditure is included in the definition for EU-SILC so as to meet the common EU standards stipulated for that survey. In Italy the LFS uses the least restricted definition in terms of accommodation only, while the most restricted definition incorporating all the four sharing criteria is used in Italy for EU-SILC and HBS.

Hence it is clear that a standard definition of household and household membership is not, or cannot be, followed exactly in all countries for the LFS. Furthermore, even when the formal definition of household is the same in different countries, there are departures in the treatment of particular categories of persons and circumstances. Simply adopting an identical formal definition of household is not sufficient for the purpose of ensuring or assessing comparability. A general definition needs to be supplemented by specification of how various types of persons and situations are to be treated in concrete terms. For instance, the formal household definition in EU-SILC commission regulations is supplemented by clarifying the treatment concerning household membership of certain special categories of persons in particular circumstances. The special categories covered include the following:

- (1) (a) persons usually resident, related to other members; and (b) persons usually resident, not related to other members;
- (2) (a) resident boarders, lodgers, tenants; live-in domestic servants, au-pairs; and (b) visitors;

(3) persons usually resident, but temporarily absent from the dwelling for reasons of holiday travel, work, education or similar;

(4) (a) children of the household being educated away from home; and (b) persons absent for long periods, but having household ties, including persons working away from home; and

(5) persons temporarily absent but having household ties, including persons in hospital, nursing homes or other institutions.

Persons in some of the above categories may be included as household members if they satisfy certain conditions specified in the regulations. For instance, according to EU-SILC regulations, they are included if, in addition to sharing expenses, they also satisfy certain additional conditions. These are as follows in EU-SILC (Eurostat, 2003a, 2003b). No additional conditions apply in the case of category (1). Concerning category (2), such persons must currently have no private address elsewhere; or their actual or intended duration of stay must be six months or more. In category (3), the persons must currently have no private address elsewhere and their actual or intended duration of absence from the household must be less than six months. In (4), irrespective of the actual or intended duration of absence, such persons must currently have no private address elsewhere, must be the partner or child of a household member and must continue to retain close ties with the household and must consider this address to be his/her main residence. Finally, in category (5), the person must have clear financial ties to the household and must be actually or prospectively absent from the household for less than six months.

There are no such common standards specified for EU-LFS. It is not easy to compile from available EU-LFS documentation detailed information on exactly how different categories of persons are treated in the actual application of each national labour force survey. Table 5 provides some useful information. However, the information is not complete. Published information in the form presented here is available only for the 12 New Member States (NMS-12), but not for the older EU-15. For the latter, we have been able to compile only partial information from descriptions in various reports, as shown in Table 5.

The table shows how various categories of persons are treated concerning their household membership in the labour force survey. The categories included are the following:

- (1) temporarily absent persons
- (2) persons in student homes
- (3) persons in workers' homes
- (4) domestic servants
- (5) lodgers
- (6) conscripts
- (7) persons living in institutions
- (8) persons living in other countries.

Table 5. Coverage of particular categories of persons within a household

Country	Temporary absent person	Persons in student homes	Persons in workers homes	Domestic servants
	<u>Included if:</u>	<u>Included if:</u>	<u>Included if:</u>	<u>Included if:</u>
Austria				
Belgium				
Bulgaria	<6 months; always if they are preserving family relations with the household	not included	not included	not included
Cyprus	no longer than 1 year	not included	not included	yes, generally included
Czech Republic	no longer than 1 year absence	no longer than 1 year absence	no longer than 1 year absence	yes, generally included
Denmark				
Estonia	depends on economic relations, contribution to household	depends on economic relations, contribution to household	depends on economic relations, contribution to household	depends on economic relations, contribution to household
Finland	no longer than 1 year absence			
France				
Germany				
Greece				
Hungary	depends on the economic relations, contribution to common budget	depends on economic relations, contribution to household	depends on economic relations, contribution to household	as a separate household
Ireland				
Italy				
Latvia	<1 year; always included if they are preserving family relations with the household	not included	not included	yes, generally included
Lithuania	<1 year	yes, generally included	yes, generally included	yes, generally included
Luxembourg				
Malta	yes, generally included	yes, generally included	yes, generally included	yes, generally included
Netherland				
Poland	<=2 months; ; always included if the job requires it (regardless of the duration)	<=2 months	<=2 months	yes, generally included
Portugal	absent for short periods of time and not occupying another dwelling permanently.			
Romania	<6 months; ; always included if they are preserving family relations with the household	<6 months; ; always included if they are preserving family relations with the household	<6 months; ; always included if they are preserving family relations with the household	yes, generally included
Slovakia	yes, generally included	yes, generally included	yes, generally included	included from 2006 survey; excluded earlier
Slovenia	<6 months	not included	not included	not included
Spain				
Sweden				
United Kingdom				
Iceland	registered person living abroad for less than 6 months. Icelandic person in missions abroad are included.			
Norway				
Switzerland				
Croatia				
Turkey	<6 months; ; always included if they are preserving family relations with the household	not included	not included	yes, generally included

Note: Published information in this form is available only for the new countries (NMS12), but not for the original EU-15 countries.
Source: Eurostat (2004). Labour force survey in the acceding countries. Methods and definitions - 2002.

Table 5. (cont.) Coverage of particular categories of persons within a household

Country	Lodgers	Conscripts	Persons living in institutions	Persons living in other countries
	<u>Included if:</u>	<u>Included if:</u>	<u>Included if:</u>	<u>Included if:</u>
Austria				
Belgium				
Bulgaria	not included	yes, generally included	preserving family relations with the household	for less than one year
Cyprus	not included	yes, generally included	not included	not included
Czech Republic	not included	yes, generally included (only for demographic background)	not included	not included
Denmark				
Estonia	depends on economic relations, contribution to household	depends on economic relations, contribution to household	depends on economic relations, contribution to household	economic relations and contribution if abroad for <1 year
Finland		yes, generally included	yes, generally included	foreign nationals who have been living (or intend to live) in Finland for at least one year
France				
Germany		not included	not included	
Greece				
Hungary	not included	not included	depends on their contribution to common budget	depends on their contribution to common budget
Ireland				
Italy				
Latvia	depend on the economic relations, contribution to the household	yes, generally included	if <1 year	if <1 year
Lithuania	yes, generally included	not included	not included	depends on their contribution to common budget
Luxembourg				
Malta	not included	not applicable	not included	yes, generally included if they come home at least twice a year
Netherland			not included	
Poland	yes, generally included	not included, if more than 2 months	not included, if more than 2 months	not included, if more than 2 months
Portugal				
Romania	not included	if preserving family relation with the household	if preserving family relation with the household	if preserving family relations with the household
Slovakia	yes, generally included	yes, generally included	not included	not included
Slovenia	depend on the economic relations, contribution to the household	not included	not included	not included
Spain				foreign nationals who have been living (or intend to live) in Spain for at least one year
Sweden				
United Kingdom				
Iceland				
Norway				
Switzerland				
Croatia				foreign nationals who reside (or intend to reside) in Croatia for at least one year
Turkey	depends on the criteria used for household definition	not included	not included	not included

Note: Published information in this form is available only for the new countries (NMS12), but not for the original EU-15 countries.
Source: Eurostat (2004). Labour force survey in the acceding countries. Methods and definitions - 2002.

In most cases, the inclusion or exclusion of temporarily absent persons is determined on the basis of the duration or the intended duration of absence. Many countries use one year as the cut-off point, while others use 6 months.

An important category are students living away from parental home. There are differences among countries both in the reality of the living patterns of students and in the statistical treatment of such persons in the survey. Patterns differ by country. Some countries always exclude from current membership students who are living away from their original households (e.g. Lithuania, Malta, Slovakia), while others determine whether to exclude or to include them on the basis of some additional criteria, such as the duration of absence and/or continued dependence on or economic relation with the original household.

Special issues also arise in relation to the treatment of former members who are currently in workers' homes or other institutions.

There are also other special groups the condition and treatment of which needs to be compared – groups such as domestic servants, boarders and lodgers. Are they covered within households where they currently live and work? Or are they treated as a separate household living at the same address? Or do they continue to be treated as members of their original household (where they lived before moving to the household where they now work)? Or are they simply ignored (or covered only partly) in the survey?

Domestic servants, for instance, are treated as members of the household where they work and live in many countries. An alternative to this option is to include domestic servants at the address at which they have been selected, but as forming a separate household from that of the employing family. However, in a few surveys they seem to be excluded from the address where they live and work (examples: Bulgaria, Slovenia, and Slovakia before 2006). Presumably, in these latter cases domestic servants are eligible for inclusion in the survey through some other household to which they belong, and are included in the survey if that *other* household or address is selected into the sample. But it may also be the case in certain countries that such persons get altogether excluded from the survey population.

A comparative research on variations in household definition would involve at least three aspects: identifying the conceptual and operational differences of the survey units used in different countries; determining their extent (i.e., the number of persons in the population affected); and estimating the impact of these differences on substantive measures estimated from the surveys. Currently we are not able to compile from published and internet sources all the information necessary for such assessment.

5 Population size versus sample size

Table 6 shows the sample and population sizes for the EU labour force surveys. Columns of the table are as follows.

Column A. Total national population, 2005 (thousands)

Column B. Average household size

While figures for the population size are readily available in existing demographic sources, data concerning numbers of households are not. This is because of the complexity of the definition of household and its variation from one source to another. In EU countries, data on the population are updated regularly (at least annually), while the information on households mainly comes from population censuses, normally every 10 years or so. Data in Column B are for 2001, the year of the most recent censuses.

Column C. Estimated number of households in the country in 2005 (thousands)

In the absence of more recent data on household size, this number has been computed by taking the average household size in 2005 to be the same as that in Column B for 2001.

Column D. Achieved sample size in terms of the number of households

In most countries, a sample of households is selected, and all working-age persons in each sample household are interviewed for the LFS. In some countries (Denmark, Finland, Sweden, Iceland, Norway, Switzerland), a sample of working-age *persons* is selected instead; normally no more than one such person per household is taken into the sample. For these countries, the number of sample households involved may therefore be taken to be the same as the number persons interviewed in Column E. (Sample designs will be described in Gagliardi, Verma, Ciampalini (2009).)

Columns E-G. These show the population size, sample size and the implied average sampling rate in terms of the number of working-age persons. The age range of persons included in each country was shown in the last column of Table 3.

Columns H-I. These show the 2006 sample sizes in terms of the number of working-age persons interviewed, and the change in the sample size compared to that for the 2005 survey. The sample sizes are quite stable from one year to the other, with a few exceptions where a more significant change occurred (Estonia, Latvia, Lithuania, Sweden).

Table 6. Sample sizes per quarter, and sampling rates (per thousand): EU-LFS 2005, and comparison with 2006

Country	2005 data:			Sample size 2005 Persons			Sample size 2006 Persons		
	Total population (households) (1)	Average household size (2)	Number of households (thousands) (3)	Sample size households (4)	LFS Population (3)	Sample size persons (4)	Sampling rate (per '000) (5)	Sample size persons (5)	ratio of sample sizes (2006/2005)
	A	B	C=A/B	D	E	F	G=F/E	H	I=H/F
Austria	8,207	2.38	3,449	20,400	6,884	38,400	5.6	37,800	0.98
Belgium	10,446	2.36	4,420	11,100	8,651	21,700	2.5	22,600	1.04
Bulgaria	7,761	2.69	2,889	13,700	6,688	27,800	4.2	26,600	0.96
Cyprus	749	3.07	244	3,400	605	7,300	12.1	7,000	0.96
Czech Republic	10,221	2.41	4,241	25,600	8,694	49,000	5.6	49,900	1.02
Denmark	5,411	2.17	2,490		4,014	10,600	2.6	10,300	0.97
Estonia	1,348	2.33	579	1,700	1,049	3,600	3.4	4,200	1.17
Finland	5,237	2.21	2,366		3,942	35,900	9.1	34,800	0.97
France	62,638	2.40	26,054	36,800	50,945	62,200	1.2	61,400	0.99
Germany	82,501	2.16	38,150	78,800	70,576	129,200	1.8	134,600	1.04
Greece	11,083	2.80	3,954	31,600	9,485	60,400	6.4	57,900	0.96
Hungary	10,098	2.58	3,921	30,100	7,842	61,200	7.8	61,400	1.00
Ireland	4,109	2.95	1,394	31,600	3,258	65,900	20.2	62,000	0.94
Italy	58,462	2.60	22,525	68,600	50,207	133,800	2.7	129,400	0.97
Latvia	2,306	2.66	867	2,000	1,813	4,400	2.4	3,800	0.86
Lithuania	3,425	2.55	1,343	3,500	2,840	9,400	3.3	6,900	0.73
Luxembourg	461	2.51	184	2,100	347	4,300	12.4	4,000	0.93
Malta	403	3.10	130	1,900	332	4,200	12.7	4,300	1.02
Netherlands	16,306	2.29	7,107	44,000	13,297	88,900	6.7	90,000	1.01
Poland	38,174	2.84	13,454	18,600	31,797	43,400	1.4	41,800	0.96
Portugal	10,529	2.81	3,747	17,200	8,882	36,500	4.1	34,400	0.94
Romania	21,659	2.92	7,421	26,400	18,222	53,900	3.0	51,500	0.96
Slovakia	5,385	2.61	2,060	9,800	4,466	22,700	5.1	22,300	0.98
Slovenia	1,998	2.85	701	5,900	1,711	14,600	8.5	14,300	0.98
Spain	43,038	2.86	15,037	54,300	36,358	117,500	3.2	121,900	1.04
Sweden	9,011	2.90	3,107		6,631	41,200	6.2	51,700	1.25
United Kingdom	60,060	2.36	25,456	53,000	48,426	89,200	1.8	87,000	0.98
Iceland	294	2.80	105		207	3,100	15.0	3,100	1.00
Norway	4,606	2.29	2,014		3,282	21,300	6.5	21,000	0.99
Switzerland (6)	7,415	2.25	3,303		6,210	46,500	7.5	43,200	0.93
Croatia (7)	4,444	2.99	1,487	3,400	3,716	7,200	1.9	6,900	0.96
Turkey	71,610	4.50	15,913	30,400	51,107	82,000	1.6	86,100	1.05

(1) Total 2005 population (in thousands). Source:

http://epp.eurostat.ec.europa.eu/extraction/evalight/EVALight.jsp?A=1&language=en&root=/theme3/demo/demo_pjan

(2) Figures for year 2001. Main Source: www.britannica.com

(3) The 2005 population (in thousands) within the age limits of eligibility for the LFS (different for each country as given in Table 3).

(4) Source: Labour force survey in the EU, Candidate and EFTA Countries. Main characteristics of the national survey 2005. European Commission, 2007. Refers to persons in the working ages.

(5) Source: Labour force survey in the EU, Candidate and EFTA Countries. Main characteristics of the national survey 2006. European Commission, 2008

(6) Switzerland. Applies for only one quarter of the year, during which the survey is conducted. There is no survey in other quarters.

(7) Croatia. The sample size is for a 6 months period, which constitutes one survey round in Croatia.

The choice of sample size is a complex issue, involving compromises in several dimensions. These include: substantive requirements (scope of the information to be collected, precision requirements, required breakdown and analyses of the results); cost constraints (budget, technical resources, response burden); and practical considerations (feasibility, sustainability, quality control, etc.).

A comparative, multi-country undertaking such as EU-LFS involves a number of additional factors in the choice of sample sizes. The most important factor is the following. For the purpose of common reporting and comparative analysis, it is necessary in the EU-LFS framework to stipulate the minimum required precision levels for the basic indicators, which countries are required to meet or exceed.

This results in unequal sample sizes depending on population size of the countries. While different countries may require – despite differences in their population sizes - similar sample sizes for the same level of precision, there are many well-known reasons why it is meaningful and useful to have larger samples in larger countries. The added reason for increasing the sample size with increasing population size are the EU-level requirements for common reporting and comparative analysis.

As a rule, the sample size increases with increasing population size, but much less than proportionately. This applies to any of the social surveys harmonised at the EU level, such as EU-SILC and EU-LFS. However, the requirements often differ from one type of survey to another. For instance, in an intensive surveys like EU-SILC most of the reporting is at the *national* as distinct from a regional (subnational) level. The sample sizes involved tend to be relatively small even for the largest countries, while a certain minimum sample size must still be ensured for the smallest countries. Therefore, there is less variation in sample size with the size of the national population. The LFS, by contrast is less intensive and much larger in sample size. Most of the reporting is required at the *regional* (subnational) level. The number of regions involved generally increases with the size of the country. This makes the required sample sizes more sharply different between large and small countries, in comparison with the situation in more intensive and smaller surveys such as EU-SILC.

Table 6 shows the large variation in sample size among labour force surveys in EU countries. These patterns are illustrated clearly in Table 7, which has the same information as Table 6, but with countries sorted first according to sample size and then according to the sampling rate.

This variation in sample size undoubtedly reflects differences in national population sizes, but there are also many other factors affecting the choice of sample size. The figures shown are the *achieved sample size per quarter in terms of working-age persons interviewed*. Sample size varies from less than 5,000 persons per quarter in the smallest countries (Iceland, Estonia, Malta, Luxembourg, Latvia), to over 80,000 in some of the largest (Italy, Germany, Spain, United Kingdom, Turkey, also the Netherlands). The sample size is relatively modest for France (62,000), but it is very large (66,000) for Ireland compared to the country's population size.

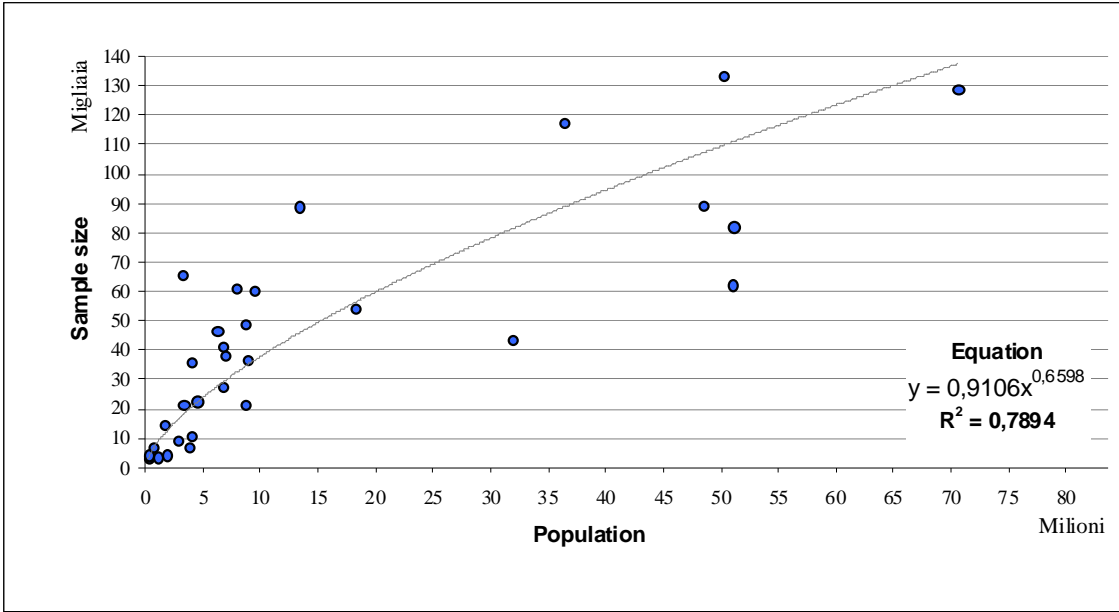
Variations in the relationship between national population and sample sizes are illustrated by the variations in the sampling rate. The sampling rate is below 2 per thousand in large countries such as France, Germany, United Kingdom, Turkey and Poland, but also in Croatia. The rate exceeds 10 per thousand in small countries such as Cyprus, Luxembourg, Malta and Iceland, becoming outstanding high at over 20 per thousand in Ireland.

Table 7 (Table 6 sorted) Countries sorted by sample sizes and sampling rates per thousand (working age persons per quarter): EU-LFS 2005

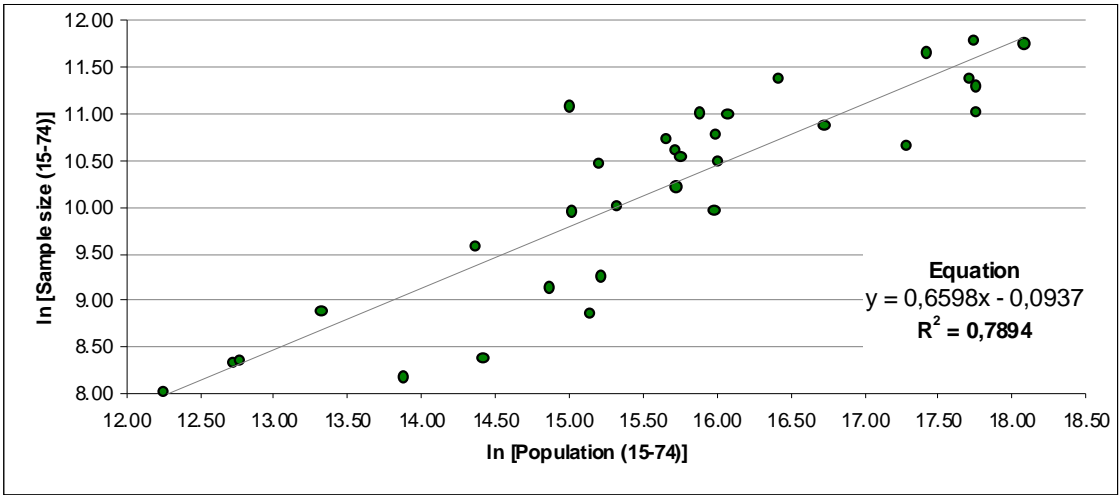
Countries sorted by sample size			Countries sorted by sampling rate		
Country	Sample size persons EU-LFS 2005	Sampling rate (per '000) persons	Country	Sample size persons EU-LFS 2005	Sampling rate (per '000) persons
Iceland	3,100	15.0	France	62,200	1.2
Estonia	3,600	3.4	Poland	43,400	1.4
Malta	4,200	12.7	Turkey	82,000	1.6
Luxembourg	4,300	12.4	Germany	129,200	1.8
Latvia	4,400	2.4	United Kingdom	89,200	1.8
Croatia	7,200	1.9	Croatia	7,200	1.9
Cyprus	7,300	12.1	Latvia	4,400	2.4
Lithuania	9,400	3.3	Belgium	21,700	2.5
Denmark	10,600	2.6	Denmark	10,600	2.6
Slovenia	14,600	8.5	Italy	133,800	2.7
Norway	21,300	6.5	Romania	53,900	3.0
Belgium	21,700	2.5	Spain	117,500	3.2
Slovakia	22,700	5.1	Lithuania	9,400	3.3
Bulgaria	27,800	4.2	Estonia	3,600	3.4
Finland	35,900	9.1	Portugal	36,500	4.1
Portugal	36,500	4.1	Bulgaria	27,800	4.2
Austria	38,400	5.6	Slovakia	22,700	5.1
Sweden	41,200	6.2	Austria	38,400	5.6
Poland	43,400	1.4	Czech Republic	49,000	5.6
Switzerland	46,500	7.5	Sweden	41,200	6.2
Czech Republic	49,000	5.6	Greece	60,400	6.4
Romania	53,900	3.0	Norway	21,300	6.5
Greece	60,400	6.4	Netherlands	88,900	6.7
Hungary	61,200	7.8	Switzerland	46,500	7.5
France	62,200	1.2	Hungary	61,200	7.8
Ireland	65,900	20.2	Slovenia	14,600	8.5
Turkey	82,000	1.6	Finland	35,900	9.1
Netherlands	88,900	6.7	Cyprus	7,300	12.1
United Kingdom	89,200	1.8	Luxembourg	4,300	12.4
Spain	117,500	3.2	Malta	4,200	12.7
Germany	129,200	1.8	Iceland	3,100	15.0
Italy	133,800	2.7	Ireland	65,900	20.2

Figure 3 shows the variation in LFS sample size with population size among EU countries. It is interesting to note that the trend is for the sample size (n) to increase in proportion to the national population size (N) raised to power (2/3): $n \propto N^{(2/3)}$. There is considerable scatter around this trend line (R^2 is just under 0.8).

Figure 3. Variation of the LFS sample size with population size of the country



(Plot in terms of logarithms of sample and population sizes)



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