

**FAMILY BUDGET SURVEYS IN THE EC:  
METHODOLOGY AND RECOMMENDATIONS  
FOR HARMONISATION**



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Y. Franchet  
Directeur général

# **FAMILY BUDGET SURVEYS IN THE EC: METHODOLOGY AND RECOMMENDATIONS FOR HARMONISATION**

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Population and social conditions

Methods



Cataloguing data can be found at the end of this publication.

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## FOREWORD

The progress towards an economic and monetary union in Europe by the end of the decade, as designed by the Treaty of Maastricht, calls for more in-depth knowledge and greater comparability of data on social and economic conditions in the EC. Family Budget Surveys are among the most comprehensive household surveys, conducted in all Member States of the European Community. Through the years, their scope and content has expanded greatly, giving them a particularly important role in the Community system of statistics on households. The present emphasis of the European Community on combating poverty adds a new dimension to this role.

Despite the common focus of the surveys on the study of patterns of consumption of private households in different population groups, the national family budget surveys represent a diversity of structures and designs, as well as major differences in the topics covered. The present study strives to capture and describe this diversity from a comparative perspective, taking national surveys conducted around the reference year of 1988 as the basis. It represents one component of the continuing effort by Eurostat to harmonise the surveys and make their results more widely accessible. To this end, standardised procedures and recommendations have been developed for the harmonisation of concepts and classifications, construction of survey variables, tabulation and archiving of micro-data. Much has been done to carefully document the diverse methods and content of the surveys carried out by the Member States of the EC, and a number of comparative analyses and publications have been undertaken.

It is also a concern of Eurostat to assist Member States, as well as other interested countries, in the improvement of their survey methods and procedures through the provision of guidelines and direct technical support to the extent possible. To this end, the present study includes a comprehensive methodological review and a range of technical recommendations in specific terms.

This study has been carried out for Eurostat by The Institute of Social Studies Advisory Service, with the help of Mme. Anne Clémenceau, of the Family Budgets Surveys team of this Direction. It has been possible thanks to the collaboration of the persons in-charge of this area in the National Statistical Institutes of the Member States.

It is our hope that countries will find this study useful in their learning of and from the experience of each other.

Lidia Barreiros

Director



# **CONTENTS**

## **FOREWORD**

## **PART I. A REVIEW OF THE METHODOLOGY**

### **1. SURVEY TIMING AND FREQUENCY**

Frequency	3
Timing	4
Survey period	6

### **2. SAMPLE DESIGN**

Coverage	7
Sample size	8
Sample allocation	11
Multi-stage sampling	11
Sampling frame	12
Master samples	13
Basing the FBS on another, larger sample	14
Two-phase sampling	14

### **3. SAMPLE IMPLEMENTATION**

Probability sampling	16
Response rates	17
Substitution	19

### **4. SURVEY UNITS**

The household as a sampling unit	23
The household as a substantive unit	23
Head of household	26
Adult-child definition	26

### **5. SURVEY STRUCTURE: RECORDING PERIODS AND INTERVIEWS**

Recording period	30
Survey interviews	36
Survey instruments	36

6. THE DIARY	
Forms of diaries	40
Structure and Content of the diaries	42
7. REFERENCE PERIODS	
Fixed versus moving reference periods	47
The last payment approach	49
The diversity of reference periods used	49
Reference period for aggregated data	52
8. INDICATORS OF LEVELS OF LIVING	
Basic characteristics of household members	54
Accommodation and amenities	56
Durable goods	56
Health and child care	56
Holidays	56
9. CONSUMPTION AND EXPENDITURE	
The recording of consumption versus expenditure	62
Imputed rent	63
Hire-purchases	64
Consumption of own produce	66
Income in kind	66
Overall evaluation	67
Consumption of food	67
10. HOUSEHOLD INCOME	
Income from the family budget surveys	70
Continuous recording	72
Retrospective interview with fixed reference period of one year	73
Retrospective interviews with a moving reference period	73
Income by source	74



## **PART II . RECOMMENDATIONS**

<b>INTRODUCTION</b>	<b>77</b>
<b>1. CODING OF THE HOUSEHOLD STRUCTURE</b>	
Common variables relating to household structure	78
Coding of characteristics of individual household members	79
Related concepts	81
<b>2. CLASSIFICATION OF CONSUMPTION AND EXPENDITURE</b>	
Application of Procome	83
Development of the nomenclature	83
<b>3. RECOMMENDATIONS CONCERNING SAMPLING PROCEDURES:     REMARKS</b>	
Sample size and allocation	85
Sample structure	86
Sampling frame and sample selection	86
Substitution	87
Weighting of sample data	88
<b>4. GENERAL RECOMMENDATIONS:     MOVING TOWARDS A COMMON MODEL</b>	
Introduction	90
Survey frequency and sample size	90
Sample design and implementation	91
Survey structure	92
Survey instruments	93
Survey content	94
Classification and coding	96
Weighting and estimation	97
<b>5. COUNTRY-SPECIFIC RECOMMENDATIONS</b>	
Belgium	98
Denmark	99
Germany	100
Greece	101

Spain	102
France	104
Ireland	104
Italy	105
Luxembourg	106
The Netherlands	107
Portugal	107
The United Kingdom	108

### **PART III. SURVEY PROFILES**

BELGIUM	111
DENMARK	113
GERMANY	115
GREECE	117
SPAIN Continuous Survey	119
SPAIN Main Survey	121
FRANCE	123
IRELAND	125
ITALY	127
LUXEMBOURG	129
NETHERLANDS	131
PORTUGAL	133
UNITED KINGDOM	135

### **TABLES**

Table 1. Survey timing and frequency	5
Table 2. Main sampling characteristics	9
Table 3. Some further sampling details	20
Table 4. Survey units	25
Table 5. Definitions of the Household and Head of Household: examples	27
Table 6. Distribution of recording periods and interviews over survey year	32

Table 7. The main survey instruments	38
Table 8. Main diaries and recording periods	41
Table 9. The structure and content of diaries	44
Table 10. Some examples of reference periods used	48
Table 11. Reference periods for main items	50
Table 12. Effect of type and length of reference period	53
Table 13. Basic characteristics of household members	57
Table 14. Accommodation	58
Table 15. Information on availability of durable goods	59
Table 16. Information available in relation to health and child care.	60
Table 17. Transport and holidays	61
Table 18. Criteria for distinguishing consumption from expenditure recording	65
Table 19. Consumption of food	69
Table 20. Income	71

## **FAMILY BUDGET SURVEYS REVIEWED**

This review describes family budget surveys conducted around the Eurostat reference year of 1988, the actual survey years being as follows.

<b>BELGIUM</b>	Enquête sur les budgets des ménages, 1987-88
<b>DENMARK</b>	Forbrusundersøgelsen, 1987
<b>GERMANY</b>	Einkommen und Verbrauchsstichprobe, 1988
<b>GREECE</b>	ΕΡΕΥΝΑΞ ΟΙΚΟΓΕΝΕΙΑΚΩΝ ΓΡΟΥΠΟΛΟΓΙΣΜΩΝ, 1988
<b>SPAIN</b>	Encuesta continua de Presupuestos Familiares, 1988 Encuesta de Presupuestos Familiares, 1990
<b>FRANCE</b>	Enquête Budgets des Familles, 1989
<b>IRELAND</b>	Household Budget Survey, 1987
<b>ITALY</b>	Relevazione sui consumi delle famiglie italiane, 1988
<b>LUXEMBOURG</b>	Enquête Budgets Familiaux, 1986-87
<b>NETHERLANDS</b>	Budgetonderzoek, 1988
<b>PORTUGAL</b>	Inquérito aos orçamentos familiares, 1989-90
<b>UNITED KINGDOM</b>	Family Expenditure Survey, 1988



**PART I**  
**A REVIEW OF THE METHODOLOGY**



# **PART I**

## **A REVIEW OF THE METHODOLOGY**

### **1 SURVEY TIMING AND FREQUENCY**

#### **Frequency**

In terms of the frequency of family budget surveys, there are two distinct patterns in the Community: continuous (annual or more frequent) surveys; and surveys carried out at five-yearly or longer intervals. Annual surveys are carried out in Italy, Netherlands and United Kingdom; Spain carries out a survey on a quarterly basis, in addition to having another more detailed survey every ten years. In Denmark, France and Germany, a regular frequency of one survey every 5 years is established; the frequency is also regular in Ireland, though the interval is longer at once in 7 years. In the remaining four countries, namely Greece, Portugal, Luxembourg and Belgium, a regular interval between surveys is still to be clearly established. (See Table 1).

Some changes or improvements are expected in the near future. It is planned in Denmark to introduce an annual survey on a reduced sample from 1994 following the Norwegian model. Portugal plans to introduce five-yearly surveys starting from the next round in 1994, and Luxembourg in 1993. The frequency and timing is still to be determined in Belgium, where the introduction of a new design on the German model is under consideration.

The continuous (annual) survey model has a number of clear advantages. It provides a time-series of frequent and up-to-date information which permits a closer monitoring of changes over time. Samples can be more readily cumulated to produce more detailed results when the interval between individual surveys is short. There can be significant advantages in terms of the quality of the information collected as well. The survey arrangements can become more established, the survey procedures improved through accumulation of experience, and the interviewers retained for longer periods and trained better. It is also likely that continuity contributes towards improved response rates.

On the other hand, the complexity of the family budget surveys means that in many situations it is not feasible to conduct them continuously or very frequently. A regular interval of five years between surveys is perhaps the most appropriate (and in practice the most common) choice, where a continuous (annual) survey cannot be introduced.

## Timing

The objective of comparative analysis across countries of the Community is a strong reason for synchronisation of the timing and frequency of the country surveys. Differences in the timing and frequency among the surveys have been a serious problem in the production of comparative tabulations and analyses by Eurostat. A special Community-wide survey was conducted in 1963-64 covering six Member States of the original Community. Subsequently, the approach has been to compile information from existing national surveys conducted around a common 'reference year', the latter chosen so as to minimise the spread of the survey years involved from different countries.

The first such exercise was carried out for the reference year 1979, covering 10 countries and a range of survey years from 1978 to 1982. Clearly, such a wide range reduced the degree of comparability among the various surveys.

The second exercise of comparative tabulation centred on the reference year 1985, with national surveys spread out over the wide range 1983-88. Even so, only eight countries were included in the comparison because of delays and difficulties in obtaining the results from other countries. (In fact, the results from two of these surveys, United Kingdom and Greece, were too late to be included in the official Eurostat publication.)

The third, more complete exercise covers 1988 as the reference year. It is expected to include all countries (even though it may not be possible to cover all data, such as on consumption and income in Germany): a majority (7) with 1988 itself as the survey year, and the remaining with 1987 (3) or 1989 (2). The synchronisation has therefore clearly improved, as has the common tabulation plan which has been redesigned to improve comparability. For two countries, Germany and Ireland, the surveys involved in this and the preceding comparative exercise are the same: the only difference being that the more recent exercise uses a different and improved tabulation plan.

The next exercise, planned for 1994 as the reference, is expected to be further improved, with seven of the surveys in the same year (1994) - or eight if for Spain the results of its Continuous Survey are used. The surveys in Belgium and France are expected to extend over 1994-95, and in the remaining two countries (Germany and Luxembourg) the surveys are being conducted in 1993.

In this synchronisation of survey timing, the case of Spain deserves special mention. As noted above, Spain has two family budget surveys: the continuous quarterly survey, and the main decennial survey. The former of course fits in with any reference year, but lacks information on a number of important variables included in the comparative tabulations. On the other hand, the main survey is rich in content, but is too infrequent to normally fit in with the plans of comparative tabulation. The main survey of 1980 was included in the first exercise with 1979 as the reference year, but in all subsequent exercises, it has been necessary to rely only on the more limited data from the continuous survey. In the next exercise, it may be possible to include data from both the Spanish surveys: data from the continuous survey for the reference year 1994 where available, supplemented by the most recent (1990) main survey as necessary.



Table 1. SURVEY TIMING AND FREQUENCY

	B	DK	D	GR	E-cont	E-main	F	IRL	I	L	NL	P	UK
FIRST SURVEY	1957	1955	62-63	57-58	1977	1958	1965	51-52	1968	56-57	1978	67-68	53-54
1961	X												X
1962			X										X
1963	EC	X	EC				EC		EC	EC	EC		X
1966		X					X	x					X
1967							X					x	X
1968							X		X			x	X
1969			X				X		X				X
1970						X	X		X				X
1971		X					X		X				X
1972				x(2)			X		X				X
1973	x		X	x			x(3)	X(4)	X			x	X
1974	x			X			x		X			x	X
1975									X				X
1976		X							X				X
1977					X				X	X			X
1978	xA		A		X		xA		X		X		X
1979	x				X		x		A		A		A
1980					X	A		A	X		X	x	X
1981		A			X				X		X	x	X
1982				A	X				X		X		X
1983			B		X				X		X		X
1984					X		xB		X		X		X
1985					B		x		B		B		B
1986					X				X	xC	X		X
1987	xC	C			X			B,C	X	x	X		X
1988	x		C	B,C	C				C		C		C
1989					X		C		X		X	xC	X
1990					X	X(7)			X		X	x	X
1991					X				X		X		X
1992					X				X		X		X
PLANNED													
1993			X		X				X	X(5)	X		X
1994	x	X(1)		X(6)	X		X	X(7)	X		X	X(5)	X
1995	x	X(1)			X		X		X		X		X
1996		X(1)			X				X		X		X
1997		X			X				X		X		X

(1) Using smaller annual sample (1000), results for 1995 will be aggregated over 1994-96.

(2) Only urban.

(3) Merged with food consumption survey; later restarted as separate survey after interruption.

(4) A additional annual survey (n=1000+) has been conducted from 1973. Before 1973, survey covered only urban areas.

(5) A five year periodicity has been decided thereafter.

(6) No regular periodicity has been decided upon so far.

(7) Regular, but relatively infrequent (once in 7-10 years).

x
x

 Conducted during 12 months spread over 2 calendar years

EC
----

 The standardised Community Survey of 1963-64 in the six original member states.

A
---

 A: Included in Eurostat Comparative Tables for Reference Year 1979 (10 countries).

B
---

 B: Included in Eurostat Comparative Tables for Reference Year 1985 (8 countries).

C
---

 C: Included in Eurostat Comparative Tables for Reference Year 1988.

x
---

 Expected to be included in Comparative Tables for Year 1994.

## Survey period

The survey period refers to the duration over which the data are collected for the survey as a whole. In principle, this period is 12 months in all the surveys. In most of the surveys, the survey period actually coincides with the corresponding calendar year. There have been some exceptions, with the survey spanning two calendar years (Belgium 1978-79, 1987-88; Greece 1972-73; France 1978-79, 1984-85; Luxembourg 1986-87; and Portugal in all surveys). In the surveys around the Eurostat reference year of 1988, the only three cases with the survey year spanning over more than one calendar year are those of Belgium, Luxembourg and Portugal, though there are also some minor exceptions, such as the 1988 survey of Greece actually starting in November 1987 and the Irish 1987 survey starting in February-March 1987.

Most of the surveys in the next harmonised round (around the year 1994) plan to use the full calendar year as the reference, the main exceptions being Belgium and France (1994-95).

As to the duration of the survey, there are also some minor exceptions to the 12 month period. Due to various practical reasons the survey period may not cover a full year, such as in France where there is no data collection over 4 holiday weeks of the year, and marginally in Luxembourg where the 12 subsamples each with a recording period of 30 days cover a total of 360 days of the year. In most situations in any case, the survey fieldwork lasts for more than a year because of the need to do some initial and final interviewing outside the year. For instance in Denmark, the 1987 survey began in mid-December 1986, with introductory interviewing in December-January, the diary-keeping phase from January 87-January 88, and the final interview covering the whole sample (with 1987 as the reference year) during February-May 1988. In Ireland (1987 survey), fieldwork began gradually in February-March 1987 and was finally completed in April 1988. A more serious slippage was experienced in the 1986/87 survey of Luxembourg: the survey actually lasted over 16 months May 1986-August 1987, with a slow start and below-average rate of interviewing in the first half of the period.

## 2 SAMPLE DESIGN

This section describes the main sampling characteristics of family budget surveys in the Community. From the perspective of comparability it is by no means necessary for the national sample designs to be similar, or even comparable. Rather, the requirement is that in each survey, the design is determined by specific national circumstances, constraints and survey objectives. Any sample should, nevertheless, meet the basic requirements of representative or probability sampling both in design and in implementation, and should be of a sufficient size to permit the type of tabulation and analysis envisaged for the survey. These requirements are met to varying degrees in the national family budget surveys.

Table 2 provides an overview of the principal sampling characteristics, such as sample design and allocation, sample structure, and response rates achieved. In Table 3 some further details are given country-by-country, noting the salient features for the surveys conducted around the Eurostat reference year of 1988. Individual survey reports may be consulted for further description.

This and the next sections discuss various features of sample design and implementation from a comparative perspective, covering aspects such as survey coverage, sample size and allocation, sampling stages, the sampling frames used, special arrangements such as selection in multiple phases, and non-response and other aspects of sample implementation. Finally, some remarks are made on the extent to which the samples, as designed and implemented, meet the basic requirements of probability sampling.

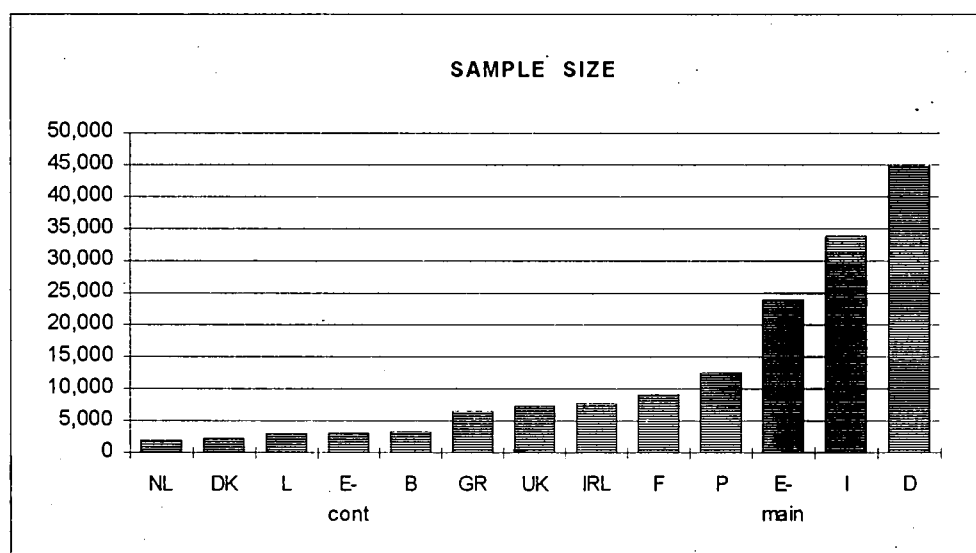
### Coverage

All family budget surveys are confined to the population residing in *private households*. Collective households (old persons' homes, hospitals, hostels, boarding houses, prisons, military barracks etc.) are excluded, as are generally persons without a fixed place of residence. In most cases the population excluded in this way amounts to no more than 2% of the total, though the effect is more significant for particular groups such as old persons, and certainly the homeless. In some cases households with a number of lodgers are also excluded, such as those with more than three lodgers in France and Greece. Some countries have separate surveys covering expenditure in collective households, such as the survey on expenditure in private residential and nursing homes in the United Kingdom.

As to geographical coverage, most family budget surveys cover the entire population residing in private households in the national territory. For reasons of cost and practicality, some remote areas with very small populations may be excluded without noticeably affecting the results of the surveys. Occasionally some more important groups have also been excluded, such as households without permanent residence in Italy, or more seriously, in Germany where households with income above a certain level are excluded from the survey results. Germany has also excluded foreign households. Such households amount to something over 7% of the national population. At the time of the 1988 survey in Germany a study of foreign households was undertaken on an experimental basis using special procedures, and this extension is being developed further in the next survey of 1993, in which non-German households are to be included using the normal procedures. The next survey will also be extended to cover the new Lander in eastern Germany, with an appropriate extension of the sample size.

## Sample size

The range of sample sizes for family budget surveys varies from around 2,000 in the Netherlands and 2,300 in Denmark, to 34,000 in Italy and 45,000 in Germany. Though the magnitude of the sampling error depends mainly on the size of the sample, for various practical and substantive reasons the size of the sample also has some relationship to the size of the country, though the relationship is far from uniform (see variations in sampling rates below). The four smaller countries (Netherlands, Denmark, Belgium and Luxembourg) use relatively small samples of size 2,000-4,000 completed households. Another four countries (Greece, United Kingdom, Ireland and France), very different in population sizes, use similar sample sizes of 6,500-9,000 completed households. Portugal has a larger sample of 12,500. In the case of the Continuous Survey of Spain, there are also over 12,000 enumerations during the survey year, but the effective sample size in terms of the number of *different* households covered per year is much smaller because each household is enumerated four times during a year. In contrast to all these, Spain (main survey), and especially Italy and Germany use very large samples.



In comparing the sample sizes, it is also important to take into account the frequency of the survey. With annual surveys, it is possible to cumulate data over a number of survey rounds to build-up the effective sample size. This for example is to be the pattern in Denmark, where from 1994 a sample of around 1,000 per annum will replace the sample of around 2,500 every five years as at present. In the case of annual surveys a rough, though somewhat over-estimated, indication of the size equivalent to a survey conducted every 5 years may be obtained by multiplying the annual size by five. This increases the size of the Netherlands sample to something like 10,000; of Spain (continuous survey) to 15,000; and of the United Kingdom to over 35,000, which is much nearer the sample used in Germany every 5 years. It is obvious that the sample for Italy is exceptionally large, given that this is an annual survey.

Table 2. MAIN SAMPLING CHARACTERISTICS

survey around 1988	achieved sample (n hhs)	equivalent n over 5 years	response rate (R%)	response rate ignoring substitution	survey population: main exclusions	special domain; over-sampling	source of sampling frame	number of stages	whether probability sample	special features
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
B	3,315		11	NS			LFS hhs	2	-	2-phase from LFS (a)
DK	2,232		45	NS	Greenland; Ferroels	self employed	registers	1	XX	2-phase from registers (b)
D	45,047		(c)	(c)	foreign hhs; high income groups	civil servants; non-manual workers	microcensus quotas	1	-	'modified quota' sample (c)
GR	6,489		81	92			census	3	?X	probability nature doubtful (d)
E-cont	3,068	15,340	92	96	disproportionate allocation		census	2	XX	quarterly survey (e)
E-main	24,000(e)		71(e)	93			census	2	XX	infrequent survey
F	9,038		74	NS	overseas territories		master sample	2	XX	stratification by SECs(f)
IRL	7,705		60	(g)		farmers	LFS hhs (g)	2	XX	special sample farm hhs(g)
I	33,900	169,500	85	88	residents not on population register	some small regions	LFS areas; registers	2	XX	large, annual (h)
L	3,006		14	NS			registers	1	-	high non-contact (i)
NL	1,967	9,835	25(j)	NS			postal addresses	2	-	use of past respondents (j)
P	12,500		74	(k)	hhs <1 year old	Algrave region	master sample	3	XX	limited stratification(k)
UK	7,265	36,325	72	NS	a few remote areas	N. Ireland	postal addresses	2	XX	special list frame (l)

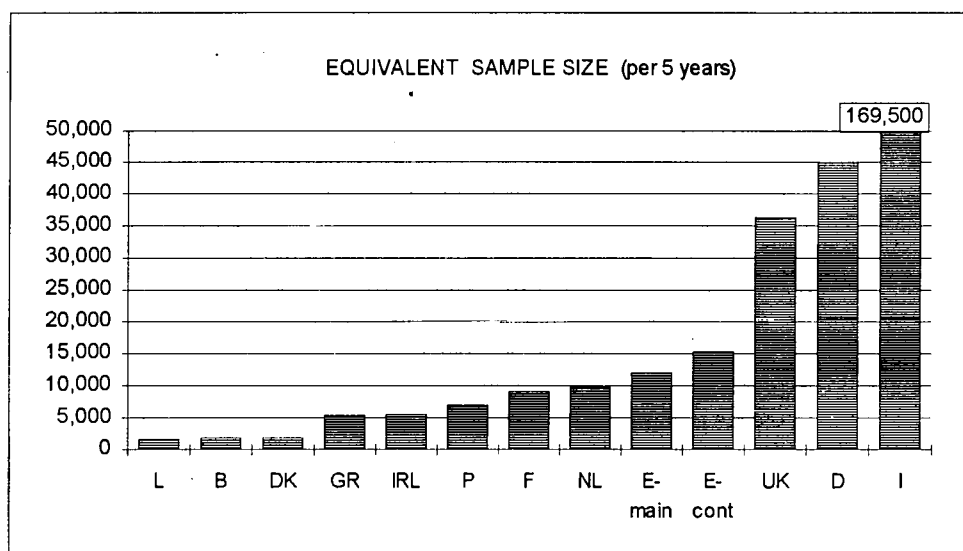
## COLUMNS

- (1) Hhs finally completed, along with diaries and all individual interviews.  
 (2) For continuous surveys, the annual sample multiplied by 5 to obtain a sample size more comparable with a survey done every 5 years. years) surveys.  
 (3) Completed hhs, as % of the number originally selected plus substitutes if any.  
 (4) Completed hhs, as % of originally selected (including substitutes in the numerator, but not in the denominator). NS: no substitution.  
 (5) National areas or categories of hhs not included in the survey. Mostly exclusions minor, except in D (around 7%).  
 (6) Population groups for which higher sampling rates and/or special procedures used.  
 (7) The main source for sample selection; usually updated in some way. LFS: the national labour force survey.  
 (8) Mostly, selected in two stages: one area stage followed by selection of hhs or dwellings. Direct sampling of hhs or persons in DK, D, L. Two area stages in GR, P.  
 (9) Indicates serious departures from probability sampling (B,D,L,NL) for reasons such as: self-selected or quota sampling; very high non-response (over 50%) or substitution rates.  
 (10) Only a few main special features noted. See Country Notes below. For further details on sample design, see Table 3.

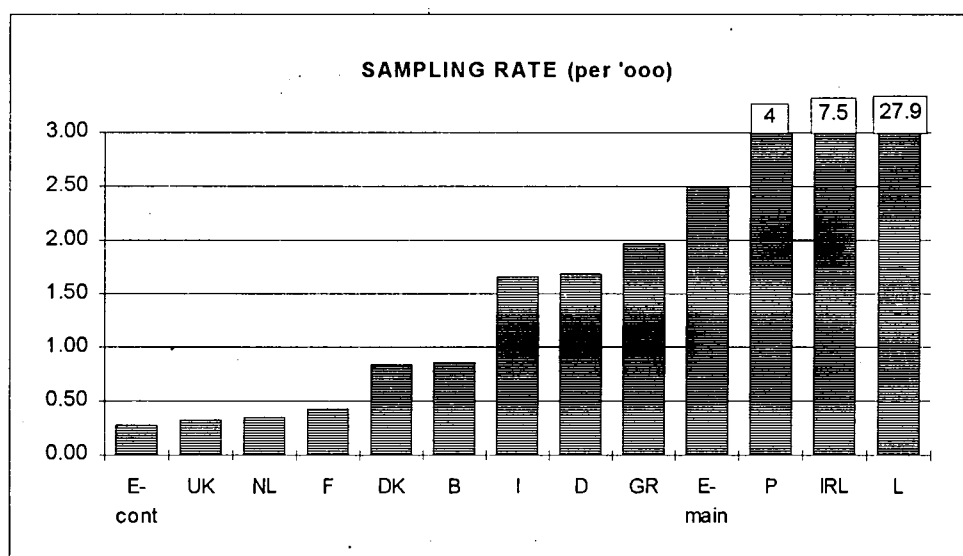
## COUNTRY NOTES

- (a) B: Sub-sample from labour force survey, supplemented from income tax file and from new dwellings file. Low response rate; sample partly 'self-selecting'.  
 (b) DK: Subsampling (10%) from large sample from population register, after stratification from linkage with income register.  
 (c) D: A modified version of quota sampling, with very detailed controls from 1% Microcensus. But final sample not completely based on Microcensus lists and is partly self-selecting.  
 (d) GR: Multi-stage sample, with geographic stratification of area units. Some procedures at last stage depart from probability sampling.  
 (e) E-cont: Exceptional in that same households enumerated 4 times during the survey year. A hh remains in sample for 2 survey years.  
 E-main: Figures above are from the previous round of the survey.  
 (f) F: Based on master sample serving all household surveys. Detailed stratification of areas by socio-economic characteristics.  
 (g) IRL: Uses an original and a substitute sample of the same size (8000). Substitutions are made in each area as required. Main sample drawn from co-operating LFS hhs. Special one-stage sample of farm hhs from National Farm Survey, which remain in the survey for the whole year.  
 (h) I: Very large for an annual survey. Uses LFS areas, but hh lists from population registers or other sources. Recently made independent of LFS.  
 (i) L: Initial contact only by letter and non-responding cases not followed by personal visit. Very low rates of response.  
 (j) NL: A majority of the sample is selected from past respondents and 'recruits', making the sample self-selecting (non-random). Among these, response rate is relatively high (74% and 50% respectively). Response rate is very low in the sample of new cases (25%). these initial rates are further reduced due to loss (around 15%) in the course of the survey.  
 (k) P: Little information is available in the frame for stratification of areas, other than by type, size, location and administrative unit. A 25% substitute sample used.  
 (l) UK: List of postal addresses receiving less than a certain amount of mail is used in sample of postal districts to identify a sample of hhs. Single stage sample in N. Ireland, over-sampled at rate 5:1.

The idea can be extended to surveys conducted at other, lower frequencies. Taking the interval between the two most recent surveys in each country, the graph below shows the comparison of sample sizes converted to a common five year base. For instance, the actual sample size of 7,705 in Ireland conducted once in seven years is shown as equivalent to 5,504 per five years.



Finally, it may be of some interest to note the variation in sampling rates, i.e. in size of the sample in relation to the size of the population (number of private households) in each country. Even though for statistical precision of the results, it is the sample size rather than the sampling rate which matters, the latter is relevant in terms of the cost and burden involved in relation to the size and resources of the country. As shown in the graph below, sampling rate is under 1.0 per thousand in half the countries, and 1.5-2.0 in another three. The sampling rate is substantially higher in the case of Portugal and Ireland, and naturally very large in the case of Luxembourg in view of its small population size.



## **Sample allocation**

This refers to the distribution of the sample across different population groups or regions etc. of the country. In most cases the entire population is sampled uniformly and the sample is distributed proportionately across different areas and population groups in the country. However, in some surveys, population groups of special interest are over-sampled, such as farmers in Ireland, civil-servants and non-manual workers in Germany, and self-employed persons in Denmark. In the last mentioned case, the normal sample for the family budget surveys was supplemented by around 600 households from the bottom 10% of the income distribution to collect data for a special study on poverty. In Italy and Portugal small regions are sampled at higher rates to obtain adequate sample sizes for regional analysis. In Spain, disproportionate allocation is used more widely: the sample sizes for regions is determined as a compromise between allocating the same sample size to each region, and allocating it in proportion to population size. In past surveys, countries like Belgium and Luxembourg have also used special procedures for particular groups.

## **Multi-stage sampling**

Most family budget survey sample designs involve the selection of the sample in multiple stages. There are a number of advantages in using clustered, multi-stage sampling. By concentrating the units to be enumerated, it reduces travel costs and other costs of data collection. For the same reason, it can improve the coverage, supervision, control, follow-up and other aspects determining the response rates and quality of the data collected. Survey implementation is more convenient. Selecting the sample in several stages can reduce the cost involved in the preparation and maintenance of the sampling frame since lists need to be maintained only for the selected areas. The work involved in sample selection can also be reduced.

The major disadvantage is the decrease in efficiency of the sample due to clustering. The complexity of design and analysis is also increased. Generally the more complex and expensive the data collection per unit (household, individual), the greater is the need generally to avoid this loss in efficiency. For this reason the cluster sizes used in family budget surveys are usually small in comparison with those used in many other, less complex surveys. Certainly the use of large compact clusters, of the type used for example in the German microcensus or the Belgian labour force survey, is avoided in most family budget surveys.

As can be seen from Table 2, the most common practice is to use a two-stage design. First, a stratified sample of suitable area units is selected, typically with probabilities proportional to size after stratification by geographical and other variables. The second stage consists of the selection, within each sample area, of households or addresses for inclusion in the survey.

Only Greece and Portugal have used a three-stage design. These designs involve two area stages: first some larger areas such as localities are selected as the primary sampling units (PSUs); then one or more smaller areas are selected from each PSU in the sample.

On the other hand, Denmark and Luxembourg have used single-stage samples involving direct sampling of addresses or households. The same can be said of Germany, though here the situation is more complex. The sample is based on quotas determined from the most recent micro-census, while its actual selection involves the use of lists from diverse sources not precluding the micro-census. The micro-census itself is based on a sample of compact clusters.

Actually the direct selection of households in a single stage for a *part* of the sample is quite a common feature of the designs. In most cases certain areas are automatically included in the sample ('self-representing areas'), thus by-passing the first stage of selection. In certain cases, single-stage selection is also used for supplements added to the main multi-stage sample: for instance in Ireland a random sample of farm households from the National Farm Survey is added to the family budget survey; similarly in the United Kingdom, the sample is selected in two stages for Great Britain, but directly in a single stage for Northern Ireland.

Note may also be taken of the type of units used at the final or ultimate stage of sampling. The objective of course is to obtain a sample of households and persons. In some countries (Belgium, Germany, Ireland, Italy), the household itself forms the ultimate sampling unit (USU). In a majority of the countries, however, dwellings or addresses are used as the USUs. (This information is shown in Table 4 below.) The general procedure in these cases is to take all households and persons found at each selected address into the sample, though for practical reasons a limit is often placed on the maximum number of households to be taken from any address (such as a maximum of 3 in the United Kingdom and the Netherlands). The coverage is normally on a *de facto* basis, i.e. it is the addresses rather than the particular occupants which are considered selected into the sample (though even here there are certain exceptions such as Luxembourg). France is a special case in that here the 'household' is defined simply in terms of shared residence, so that there is no difference between the two types of units.

The type of units used for the final stage of sampling has some important implications. Dwellings/addresses are generally more stable and more easily identified units, and potentially provide a more complete coverage of the survey population. On the other hand, with households as the units, there is a greater potential for stratification by socio-economic and other characteristics of the units of actual interest.

### **Sampling frame**

A variety of arrangements exist for obtaining the family budget survey sample:

1. *Obtaining a sample from households participating in another survey.* For instance, in Belgium and Ireland, the family budget sample is a subsample of the households participating in the labour force survey.
2. *Registers.* Where available, registers can provide up-to-date lists of households or individuals, with many relevant characteristics useful for stratification and efficient selection of the sample. Examples are Italy, Denmark and Luxembourg. In such cases special procedures may have to be used to draw a sample of households from lists of individuals in the registers. In United Kingdom, "small users' postal address files" (PAFs) available from the post office are used; these also do not require any special updating, but lack the type of information on household and personal characteristics available in registers. Use is also made of post and telegraph company lists in the case of the Netherlands.
3. *Use of an area frame.* A more common arrangement is to obtain a sample of area units from a suitable source such as the labour force survey (Italy), the census (Greece, Spain), or a master sample of areas (France, Portugal), and then to prepare or update lists of households or dwellings in the selected areas for the final sample.



In the first two arrangements, the frame is in the form of lists of the ultimate units (dwellings, households, individuals) from which the sample for the family budget survey can be drawn directly. In application the sample selection may, of course, involve multiple stages and/or *phases* as described below.

In the third arrangement, the frame is used to draw a sample of area units. The areas may be drawn from the whole frame, as for example from the population census, or from a 'master sample' specially constructed for the purpose. In the areas selected, lists of addresses, households or persons may be prepared or updated from other sources to complete the process of sample selection.

In most cases lists exist which can be used after appropriate updating. Supplements are often added to the main frame to improve coverage. In the family budget survey of Belgium for example, the sample drawn from the labour force survey did not include households recently created. Therefore a supplementary selection was made from the income tax file and the new dwellings file. In France, the master sample housing file from the census is supplemented from lists of new constructions.

### **Master samples**

A master sample is a large sample drawn for the purpose of common use for different surveys. The master sample may be more or less 'inclusive'. It may for example be a large sample of addresses from which samples for a particular survey can be drawn directly. Or it may refer only to a sample of higher stage units such as areas, from which a subset can be selected for a particular survey. List frames for the selected areas have then to be compiled to complete the sampling process for the survey.

In France the master sample is constructed from the population census housing files for the areas selected. Similarly in Portugal, the family budget surveys sample is selected from a master sample of areas from the 1981 population census.

The objectives of using the master sample approach include the following:

- to economise, by sharing between different surveys, the cost of developing and maintaining sampling frames and materials, and costs of sample design and selection;
- to simplify the technical process of drawing individual samples;
- to facilitate substantive as well as operational linkages between different surveys, in particular successive rounds of a continuing survey; and
- to facilitate, as well as restrict and control, the drawing of multiple samples for various surveys from the same frame.

However, to be useful, a master sample must represent substantial savings in the cost of frame preparation and sample selection. When up-to-date lists of ultimate units are available, as for example from registers (as in Denmark) or other sources such as postal addresses (as in the United Kingdom and the Netherlands), there may be little point in specially constructing a 'master sample'.

### **Basing the FBS sample on another, larger sample**

Family budget surveys are complex, generally relatively small in size, and subject to high rates of non-response. There are a number of advantages in selecting the sample for such surveys as a subsample of some larger survey such as the labour force survey or the microcensus, as is done for instance in the family budget surveys of Belgium and Ireland, and for a part of the sample in the Netherlands (drawn from respondents or recruits from previous rounds of the survey) and Germany (drawn from the micro-census).

If the larger sample obtains information on demographic, socio-economic and other relevant characteristics of households, that information can be used at all stages in the smaller more difficult survey:

- at the selection stage, for detailed stratification, making use of characteristics which are usually not available in general sampling frames;
- at the data collection stage, for controlling and carefully matching substitutions for non-respondents;
- for weighting for non-response, making use of information on non-respondents available from the earlier survey;
- for weighting generally, again making use of the 'control totals' provided by the larger survey for many additional variables;
- and when matching at the level of elementary units is possible, for supplementing the smaller survey with variables collected only in the larger survey.

Another major advantage of subsampling from another survey is the simplicity and economy of such an arrangement. Subsampling can be much simpler than selecting a new sample from the whole frame. Furthermore, the use of an existing sample removes the cost of preparing or updating lists of households.

Similar advantages are also obtained in samples drawn from lists (such as registers in Denmark and Luxembourg) which contain pertinent information on households and individuals for efficient design and control of the sample selected.

The drawback of using households already included in another survey can be the increased respondent burden due to involvement of the households in more than one survey. Some countries, such as France, preclude such practice as a general rule.

Another drawback is that it is generally necessary to restrict the family budget sample to households for which the previous survey was successfully completed. It is certainly difficult to include households which have already refused to co-operation in the earlier survey.

### **Two-phase sampling**

This refers to a special procedure for drawing the sample from an existing sample or lists containing pertinent information on households and individuals for this purpose.

The sample is drawn from the lists in two steps or phases. First, a sample larger than that needed for the family budget survey is drawn. This is then stratified and appropriately subsampled to obtain the final sample for the family budget survey. Two-phase sampling is used because information on characteristics of the units in the first phase sample can be used to control the final sample selected in the second phase. For example, units selected in the first phase sample can be stratified to improve sampling efficiency, or to apply different subsampling

rates from the first to the second phase. The objective of introducing two phases is to avoid the need to collect or compile such information for the entire frame or lists of units in the population.

In the context of the family budget surveys with relatively high rates of non-response, the need to control the distribution of the final sample by household and individual characteristics is by far the most important objective of two-phase sampling.

This two-phase procedure may be applied when the family budget sample is drawn from another survey as in the case of Belgium or Ireland. Alternatively, the family budget sample may be drawn in two phases from another source such as registers in Denmark.

In Denmark, for example, the first phase consists of extracting ten times as many addresses as needed for the family budget survey from the central population register. The register provides some information on characteristics of the persons living at the addresses. To this is added information on gross income from the income register. The point of having a two-phase procedure is that this addition needs to be done only on the addresses extracted in the first phase, rather than on the whole population. From this the FBS sample can then be selected controlling for various characteristics, including gross income.

A similar approach was attempted in Luxembourg, but sub-sampling at the second stage had to be abandoned because of the very low levels of co-operation indicated by the results of the original (first phase) selection. Steps are planned to implement the two-phase procedure in the next survey in 1993.

In Belgium such an approach has been followed in the past. In the 1978-79 survey for instance, a sample three times as large as that required for the family budget survey was first drawn from the labour force survey, and then in the second phase, it was subsampled at an average rate of approximately one-third to obtain the family budget sample. This last mentioned was of course still several times larger than the sample finally needed for the family budget survey because of the high rates of non-response at the implementation stage. Nevertheless, the two-phase procedure apparently permitted improved targeting and control over characteristics of the units selected into the family budget sample in the second phase, and perhaps contributed to the somewhat improved response rates (33%). In the survey of 1987-88, however, the two-phase approach does not seem to have been followed, and this may not be unconnected to the extremely low response rates reported (11%).

### 3 SAMPLE IMPLEMENTATION

#### Probability sampling

By probability sampling is meant a sampling scheme in which each and every unit in the study population is given a known, non-zero chance of selection into the sample. Probability sampling requires that (i) all units in the population be represented in the frame used for selecting the sample; (ii) the selections are done by applying a proper randomised procedure which gives definite selection probabilities to all eligible units; and (iii) the sample as selected is successfully enumerated in the survey.

It is unfortunately the case that departures from proper sampling procedures are tolerated rather readily in the case of family budget surveys. In four countries (with additional two as marginal cases), the sample does not meet the standards of probability sampling because of the particular sampling procedures used (Germany, and to some extent in Greece), and/or because of very high rates of non-response (Netherlands, Luxembourg, and Belgium, with Denmark as a marginal case). The problem of non-probability selection and that of high non-response are related. The failure to achieve acceptable response rates often leads to the adoption of procedures (such as quota sampling, or more or less indiscriminate substitutions) which depart from probability sampling. Such procedures are adopted in an attempt to achieve an acceptable representation of the population in the sample, despite high non-response rates.

It is worth noting that though the sample is formally described as 'quota sample' in the case of the German family budget survey, the procedure used is actually a modified and improved version of the conventional quota sample:

#### *Germany: A modified quota sampling procedure*

In a conventional quota sample, the design specifies the number of sample cases required within each quota category defined in terms of certain characteristic(s) of the respondents; as to which particular units are enumerated in the survey is not specified but is left to the interviewer. One of the practical problems in quota samples, as used for example in most market and opinion research surveys, is the difficulty faced by interviews in finding respondents with appropriate characteristics to fill the specified quotas. This often requires that the characteristics defining the quotas are easily identifiable by the interviewer, and that only coarsely defined quotas are used. In the modified 'quota' scheme used in the German family budget survey, the sample is obtained in three steps:

- (a) the identification of households from the preceding microcensus or earlier budget survey who are willing to participate in the new survey in principle;
- (b) allocation of a subset of the above to the sample, in accordance with the quota requirements based on certain important characteristics available from the microcensus and taking into account the expected completion rates;
- (c) follow-up by the interviewers of the particular addresses allocated or "selected" for the survey in this way.

This modified version means that in principle fine and complex quota categories can be defined, limited only by the relevant information available in the microcensus. This is because the interviewers can be provided with the actual addresses to be contacted, and do not have to search for cases to meet the quota requirements. The main problem arises from the arbitrary procedures followed in (a) and (b).

## Response rates

High incidence of non-response is a common and major problem in family budget surveys. In a number of surveys the sample initially selected is substantially, even several-fold, larger than the completed number finally required, though there are also examples of surveys where respectable response rates are achieved. At worst, the sample may become essentially self-selected and hence quite unrepresentative of the general population. It is therefore important to keep a track of the response rates achieved.

In principle, the response rate is simply defined and computed: as the ratio of the number of households completing participation in the survey to the number of households selected for the survey. However, the computation of response rates is complicated by difficulties in determining the precise number of households 'selected' into the sample. When the sampling units are addresses or dwellings, the number of units of actual interest (households) selected into the sample is not automatically known. Some of the selected addresses may be non-existent or vacant; some may contain more than one household each; and at some addresses, the number of households present may remain unknown as a result of non-contact.

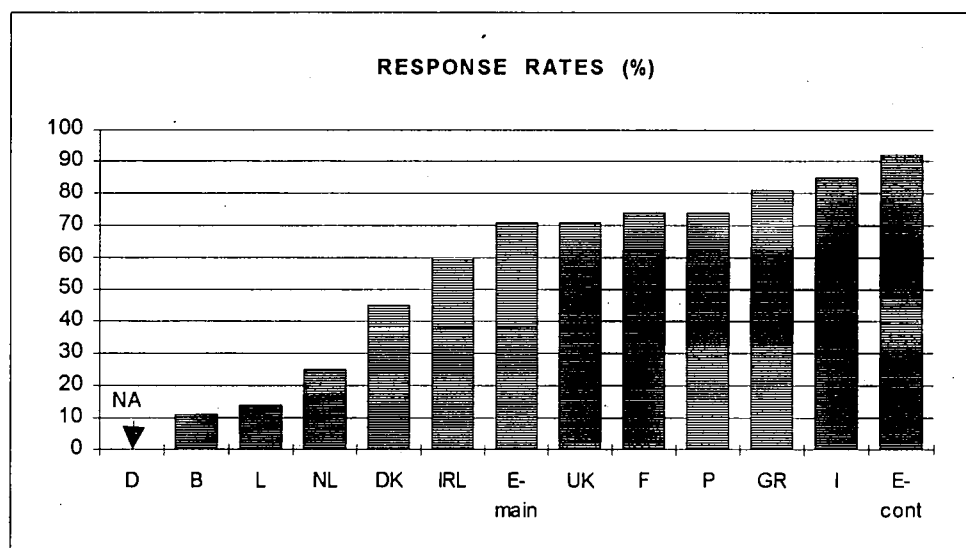
The common practice of making substitutions for non-responding households further complicates the picture concerning response rates. In many situations the extent of and procedures for substitution are not sufficiently controlled, and adequate records of sample implementation not maintained. The procedures actually followed in the field may not correspond to the theoretical procedures defined for the survey. Simply computing response rate as the ratio of the number of households completed to the number originally selected will provide an over-estimate in the presence of substitution. The very concept of 'response rate' loses its meaning if the sample has not been selected with proper probability or randomised procedures.

The response rates shown in Table 2, column (3), have been computed as follows. The numerator is the number of households which completed participation in the survey, including substitute households. The denominator is an estimate of the effective number of households selected, i.e., the number initially selected plus the number of substitutions added. This is done with the object of removing the effect of substitution which inflates the apparent response rates. These may therefore be taken as the 'real' response rates.

Three cases need a special mention in particular in column (3) of Table 2. Response rates are not shown for Germany because of the non-random (quota) nature of the procedure used for sample selection. In the case of Spain (main survey) the information refers to the previous round (1980), that being the most recent available at present. And in the Netherlands, the extremely low rates (25%) refers to the proportion responding from the new households selected for the survey. A major part (two-thirds) of the sample comes from past respondents and recruits. Such households have already demonstrated their willingness to co-operate, and among them the response rate for the current survey is much higher (past respondents 74%; recruits 50%).

Very low response rates are found in Luxembourg and Belgium. In Luxembourg, it probably results from the failure to follow-up with a personal visit cases where the initial letter was unsuccessful in securing response. In Belgium in particular (and most likely in the Netherlands and Germany as well), the 'heaviness' of the survey is perhaps the most important factor contributing to the high non-response.

In the remaining seven surveys, which are relatively 'lighter' by virtue of the shorter recording periods involved, the response rates are significantly higher, varying from 60% in Ireland to a maximum of 91% in the continuous survey of Spain. Response rates exceed 70% in the United Kingdom, France, Portugal, Greece, Italy and Spain.



Several factors complicate the computation of response rates:

- lack of randomness in the selection procedure;
- unavailability of or failure to keep proper records of sample implementation;
- the use of respondents who have successfully participated in previous rounds of the survey or in some other related survey; and
- substitution for non-respondents.

Lack of randomness applies most clearly to the quota sampling used in Germany. To some extent it is also the case in Greece and Portugal (see notes in Table 3).

Records must be kept of the number of units originally selected and the number finally completing participation in the survey. Selected units which are 'blanks', i.e. which do not represent any eligible unit, must be excluded from the above. This requirement is complicated if the units selected (e.g. addresses or dwellings) are not of the same type as the units finally enumerated (e.g. households).

Past respondents are likely to be selectively more co-operative. Ireland, and to a much greater extent the Netherlands, represent this situation. The example of the Netherlands has already been noted in this context. The labour force survey used in Ireland may not be a particularly selective group as concerns the propensity to respond because of the high response rates (93%) achieved in the LFS. However, around one-tenth of the Irish sample consists of the already established National Farm Survey respondents; these are found to be more willing to co-operate in the family budget survey as well (response rate 77%).

## Substitution

Because of high rates of non-response, it is common in family budget surveys to substitute for non-respondents in the sample originally selected. Substitutions are usually made after matching with characteristics of the non-respondents to the extent possible. Ireland uses a special procedure. At the outset, a substitution sample, of the same size as the original sample, is selected. Substitutions are made from this sample within each sample area as required. This procedure has the potential advantage of systematising and increasing control over the substitution process. Use is also made in Portugal of a 25% substitution sample.

Column (4) of Table 2 shows the number of households completed simply as a ratio of the number originally selected, i.e. completely disregarding the fact that substitutions may have been made for non-respondents in the original sample.

No substitution are said to be permitted in the United Kingdom, France, Denmark, Belgium and Luxembourg, despite the very low response rates in the last two. In Italy and Spain, substitutions are allowed, but their effect is not significant on the already good response rates achieved. The same applies to a lesser extent in Greece. In the case of Germany, the sample is based on non-random 'quota' procedures and the concept of substitution does not apply; in fact it can be argued that quota sampling actually amounts to arbitrary substitution within quota categories, the extent and effect of which remain unknown. In the Netherlands the high figure (74%) refers, as noted above, to the sample coming from past participants or recruits for the survey; substitution is not allowed for the approximately one-third newly selected part of the sample. In Portugal, the substitution procedure is rather arbitrary and deserves some comment:

### *Portugal: Procedures for substitution*

Substitutions are made from an extra 25% sample specially selected for the purpose. According to the survey documentation, a housing unit in the sample is replaced when:

- a) It is not the main residence of any 'private domestic units' (PDUs), for example if it is a holiday or secondary home.
- b) It contains individuals who are normally residents but who: are not present during the survey week; or cannot be contacted at the beginning of the week; or if contacted, there is no guarantee that they will also be present at the end of the week. This restriction does not apply to persons living in health, welfare or military institutions.
- c) The PDU is formed less than a year before the survey, in which case it is excluded because it is impossible to compile information for the past twelve months.
- d) In the housing unit there are several PDUs and one of them refuses its co-operation or does not meet the conditions for coverage in the survey.

It is a good idea to pre-select a special sample for the purpose once it has been decided to substitute. However, the substitution procedures used depart somewhat from the normal practice of probability sampling. For instance, substitutions are made: unnecessarily for ineligible units (cases (a) and (b), if it has been decided to exclude the latter from the coverage of the survey); for clearly selective groups such as members temporarily away (c); or without adequate attempt to obtain interviews with all those selected (d).

**Table 3. SOME FURTHER SAMPLING DETAILS**

### **Belgium**

The sample is based on a two-phase, two-stage design. The first phase involves the selection of a large subsample of around 18,000 households from the Labour Force Survey, supplemented by 22,000 addresses from fiscal statistics and new constructions. The LFS sample was based on a two-stage stratified design, plus a supplement from the households interviewed in the previous round. The frame was either the population register in each commune or the national register of persons derived from it. The primary sampling units (PSUs) were formed from the communes and selected with probability proportional to the number of households (PPS) after geographical stratification. The households so selected were classified by socio-professional category in each region. A total of 3,315 households (11% of the initial sample) completed participation in the survey. No substitution was allowed.

This low rate of response represents a serious departure from the requirements of probability sampling. The data were weighted in order to compensate for differences in selection probabilities, reduce the distortion due to non-response, adjust the sample estimates to the population totals, and control the distribution of the sample by region, socio-professional category and household composition.

### **Denmark**

The sample consists of a single stage sample of addresses. Generally, all households resident at any sample address at the time of the survey are included (de facto coverage; i.e. addresses and not particular residents are selected). The selection is done in two phase. First, from the population register, a large sample of 50,000 inhabited addresses is selected (the register gives information on addresses and persons living there). Then these selected addresses are linked with the income register to obtain information on gross taxable income and employment status of the person with the largest income for the second phase of stratified sampling. Households where the person with the largest income was self-employed were given twice the normal rate of selection: partly because of greater heterogeneity of the group, and partly to compensate for lower response rates. The sample is divided into 2-weekly subsamples for enumeration over the survey year: meaning that at any time two subsamples are keeping diaries - one intensive diaries for 14 days, and the other less intensive diaries for another 14 days after having gone through the intensive phase. The whole sample is interviewed during the Spring months following the survey year.

No substitution is allowed. Response rate at 50% is lower than the 56% achieved in the previous survey (1981); the rate was 63% in the 1976 survey, but there it was inflated by substitution of non-respondents in the original sample.

### **Germany**

The sample is not based on probability selection procedures. In principle, the sample is drawn in a single stage in accordance with detailed quotas determined on the basis of the microcensus. For household heads in non-agricultural employment, the quotas are determined by very detailed classification by Lander, income class (upto 28 categories), socio-economic status of head (5 categories), and household size (5 categories). The stratification is somewhat less detailed for farmers and persons not in employment. The microcensus gives the quotas but not necessarily the lists of households; however its use for this purpose is by no means precluded. Households may be taken from past family budget surveys, past micro-censuses, or other sources or local lists available to the Lander who are responsible for filling in the quotas. Households may be 'recruited' through personal letters and public appeals; there appear to be no set or uniform procedures for this purpose. The procedure differs from a usual quota sample in that the interviewers are given specified lists of households to be contacted, thus permitting the use of fine and complex quota categories.

Certain important groups, such as civil servants and non-manual workers, are over-sampled. The survey excludes households at the very top end of the income distribution, and more importantly, foreign households, resulting in an exclusion of around 7% of the total population. In the present survey foreign households have been included on an experimental basis using simplified special procedures, and it is planned to do so in future surveys in a more complete manner.

### **Greece**

A three-stage sample is used. Municipalities, communes or 'combinations' are selected at the first stage, and sections, census blocks or groups of blocks at the second stage, generally using proper 'probability proportional to size' (PPS) procedures. At the third stage dwellings are selected, but in several respects the procedures at this stage depart from the requirement 'of probability sampling. For example: (i) the number originally selected is somewhat arbitrarily adjusted to obtain pre-fixed work loads; (ii) substitutions are made not only for non-responding households, but also for selected out-of-scope units such as unoccupied or non-residential dwellings, second homes, institutions, residences of foreign diplomatic or military personnel etc.; and (iii) some of the substitution procedures distort random selection probabilities. Furthermore, the tasks of listing and sample selection appear to be entrusted entirely to the interviewers.

A special feature of the survey is that it generally requires daily visits to each household for a period of upto 10 days, 7 of which are recording days for the diary. Also there is a lack of clear-cut distinction between the diary and retrospective method in terms of the procedures for data collection.



## Spain (Continuous Survey)

A two-stage design is used. The first stage consists of the selection of 584 census sections systematically with probability proportional to size, after stratification by autonomous county, size (4 groups), and percentage of households by socio-economic category or industry (3 classes). This sample of sections remains fixed for indefinite use for quarterly surveys, unless a revision is required because of factors such as (i) a new census becoming available, (ii) selection probabilities needing adjustment due to large changes in population sizes, or (iii) all households in the area being used up.

Samples of 5-6 dwelling units per section are taken and distributed over 13 weeks of the quarter for enumeration. The same pattern is repeated each quarter, except that from one quarter to the next, the samples of dwellings are changed in one-eighth of the sample sections. This means that a dwelling remains in the survey for eight quarters (2 years).

In allocating the sample to autonomous counties (Comunidad Autonoma), a compromise is made between equal and proportionate allocations, the smaller counties being sampled at higher rates to obtain adequate sample sizes.

Substitutions are made for non-response, but the numbers involved are not large because of the high response rates achieved.

## Spain (Main Survey)

The general structure of the sample is similar to that of the Continuous Survey, except that (i) the size is larger, and (ii) no rotational design is involved. At the first stage 3,232 census sections are selected after stratification by province and locality size. From each stratum dwellings are selected after stratification by socio-economic category. The sample is divided into 52 representative sub-samples for weekly enumeration over the survey year.

## France

The sample is based on a master sample constructed from census lists updated for new constructions. It is selected in two stages. The first stage involves the selection of towns or other PSUs, the larger ones being selected with certainty and the smaller ones with PPS. An important feature of the master sample is the detailed stratification by geographic and socio-economic characteristics. The second stage consists of the selection of dwellings. The sample adheres to strict probability procedures and no substitution is allowed for non-respondents. However, a significant proportion (25%) of the master sample addresses selected did not contain an eligible household, though among the households found, the survey achieved a relatively high (74%) response rate.

The sample households are distributed over the survey year to account for and also to measure seasonal variations. For this purpose the sample is divided into 8 subsamples of uniform size and structure, each for enumeration over a period of 6 weeks (there being no survey in the 4 holiday weeks in August and December). The rate of non-response is relatively high at 44%. Sample data are weighted to conform to the overall population size distribution by demographic and employment characteristics found in the labour force survey.

## Ireland

The main part of the sample is obtained as a subsample of the households which have co-operated in the labour force survey (the LFS response rate was 93%). The sample is selected in two stages. The LFS primary sampling units (PSUs) are census enumeration areas (average size 300 households) in larger towns, or sub-EAs (100 households) in smaller towns and country areas, and are selected after stratification by type of area and population size category. These are grouped into interview assignment clusters, and 229 of these clusters selected for the family budget survey. Areas which are to be retained for the next round of the LFS are excluded from this selection. The second stage is confined to households co-operating in the LFS. From each cluster, a sample of 35 'original' and an equal number of 'substitute' households is selected, the probabilities being determined so as to obtain a self-weighting sample. Households with farming as the main occupation of one or more members, identified from the LFS, are eliminated: for these a supplementary sample from the National Farm Survey is added instead. This supplementary sample comes from the existing NFS sample, selected in a single stage after stratifying by farm system (8 classes) and size of cultivated area (6 classes).

The final (achieved) sample consisted of around 6,000 non-farming households, 850 households from main part of the sample who completed an additional special farm income questionnaire, and 850 already co-operating households from the NFS who were enumerated for the whole survey year. The final response rates for these three categories of households were, respectively, 58%, 50% and 77%.

## Italy

The survey is characterised by its relatively large sample size for a continuous survey. The sample is selected in two stages. The first stage consists of the selection of communes taken from the labour force survey. Around 150 large communes are 'self-representing' i.e. taken automatically into the sample. To this is added a sample of something over 400 smaller communes selected after stratification by region, average height above the sea-level, and the nature of main economic activity in the area. The second stage consists of the selection of households from local population registers or other lists available for the selected areas. Use is not made of the labour force survey for this purpose. The survey generally does not cover persons lacking permanent residential status in the area or those not on the population register for some other reason. The lists are generally updated annually. A sample of an average of around 10 households per commune is enumerated from all 150 large communes and one-third (around 135) of the smaller communes each month. Each large commune appears in the sample every month and each smaller commune once in three months, but in either case with non-overlapping monthly samples of households. Each monthly sample is divided into three parts for the purpose of 10 days of diary-keeping, and the entire monthly sample is interviewed at the end of the month concerned or at the beginning of the following month.

The overall sampling rate is just under 2 per 1000; three small regions are sampled at a higher rate of 4-5 per 1000 in order to ensure adequate sample sizes. Substitution for non-response is allowed, matched on locality and household size. Its effect is small because of the high response rates achieved. Response rates are below average in the South and in rural areas.

## Luxembourg

The sample is drawn in a single stage from a list frame of households constructed from a register of persons (Repertoire General) using special procedures taking into account information on sex, family situation, number of rooms, names etc. The register is constantly updated for vital events and migration. The original idea appears to have been to select the sample in two phases, the first phase consisting of the selection of a large sample and collection of information on household size, composition, income and other variables useful for selection of a smaller second-phase sample. However, the first phase also indicated very low levels of the households' willingness to participate in the main survey, so much so that there was little scope for further subsampling given the final sample size requirements. Of the 22,524 households originally selected, almost 8% turned out to be non-eligible or not present at the address indicated, 43% did not reply to the enquiry, 32% refused, and only 17% (3,852) agreed to further participation. Among these the survey was completed for 3,006 including 242 cases with some important information missing. This amounts to a very low rate of response (14%) and, consequently, the survey cannot be considered to meet the requirements of probability sampling. No substitutions were made.

In implementation the sample was not uniformly distributed across months of the survey year. The survey actually lasted over 16 months from May 1986 to August 1987, with a slow start and below average number of interviews per month for the first half of this period. This distortion of temporal distribution of the sample may have had some effect on results of the survey. The data have not been weighted to compensate for this effect.

## Netherlands

The sample is in good part 'self-selected' or consists of those who have already demonstrated their co-operativeness by participating in previous rounds of the survey. (i) The sample originally approached consisted of three components: around 5,000 new households selected as described below; 2641 past respondents who were in the survey for 3 years or less and hence considered eligible for participation in the current survey; and 1290 other past 'recruits'. (ii) Of these the number 'recruited' as willing to participate were, respectively, 1244, 1961 and 648. The ratio of (i) and (ii) can be taken to indicate the initial response rate, being the highest among past participants (74%) but very low (25%) in the fresh sample selected. (iii) From those recruited, a sample is selected controlling for distributions by relevant characteristics: the number being selected in the present case being 709 (new cases), 1172 (past participants), and 443 (past recruits). The new cases account for less than a third of the total sample. (iv) There is a further loss of around 15% during the course of the survey, resulting in a completed sample of 1,967 households.

The sample of new households (and originally of past participants) is selected as follows. The frame is provided by address lists of the post and telegraph company (around 9 months old). The selection is done in two stages. The PSUs are municipalities or clusters of municipalities. The large municipalities are self-representing, from each of which a sample of addresses is directly drawn. Other municipalities are selected with PPS after stratification, the small ones being clustered for the purpose. A total of 90 clusters are selected, composed of 196 different municipalities. The sample is allocated to optimise estimation of average total household consumption (Neyman allocation), and in view of the expected high non-response, up to seven times as many addresses are

selected as the final number required. The average number of interviews per cluster is around 22. The ultimate sampling unit is an address; all households up to a maximum of 3 are taken per address selected. To the new sample are added households co-operating in the past surveys for less than 3 years (up to a maximum of 50% of the total sample), as well as a sample from past recruits selected after stratification by income, social group and household size. From year to year 50% of the households are changed, but the same PSUs are retained. It is planned in 1991 to replace a part of the sample areas.

## Portugal

The sample is drawn from a master sample of housing units. The master sample is based on the 1981 population census, and is updated every 2 years. The sample consists of two area stages - parishes, and sections or groups of housing units defined from the census - the units at both stages being selected with probability proportional to population size. The stratification of areas is by region (NUTS II) and 4 size classes; no socio-economic information is available in the frame for this purpose. The third stage consists of selection of housing units, all households and persons within each housing unit selected being taken into the sample. The objective is to obtain a self-weighting sample of households, except for the over-sampling of certain NUTS II regions of small size. A 25% extra sample is selected to provide substitutes for non-responding households.

A total of 625 sections are selected, with an average of 20 completed household interviews per section. The sample of housing units is divided into 52 non-overlapping parts for weekly enumeration during the survey year, such that each section comes into the survey once every 3 months, i.e. four times during the year.

## United Kingdom

Monthly samples of addresses are drawn from the 'small users' postcode address file' of the Post Office, i.e. the file of delivery points which receive fewer than 25 articles of mail per day. Using this file avoids the inclusion of large institutions and businesses. Small businesses or commercial premises or other non-eligible units (amounting to around 13% of the sample selected) can be eliminated at the fieldwork stage after verification. The sample in Great Britain is drawn in two stages. At the first stage, 672 postal sectors are selected after stratification by standard region, type of area, and the percentages of owner-occupiers and renters from the 1981 census. Then an average of 17 addresses, equivalent to just under 11 completed household interviews, are selected per area so as to obtain a self-weighting sample of households. Generally all households (to a maximum of 3) within any selected address are taken. The sample of areas (and addresses) is distributed over the year, with each postal district visited only once during the year. Generally strict probability sampling procedures are followed; the response rate is relatively good (72%), and no substitutions are made for non-response.

In Northern Ireland, a single-stage random sample of households is taken. It is over-sampled by a factor of around 5 to obtain adequate numbers for the province. Response rate is lower at only 53%.

## 4 SURVEY UNITS

### **The household as a sampling unit**

The basic unit of data collection and analysis in family budget surveys is the household. How the household is defined is important for two reasons. Firstly, as a unit for selection of the sample, the definition adopted influences the coverage of the population in the survey. The objective is to define the household such that each person in the study population belongs to one and only one household, so that a sample of households provides a coverage for the entire population of interest. Even when the ultimate sampling units are dwellings or addresses, the final objective is to enumerate a sample of households and persons. Perhaps the most straightforward approach to meet this objective is to define a household in terms of persons sharing a common accommodation or address, so that a frame of dwellings or addresses directly gives a representative sample of households and persons. This is indeed the approach followed in many population censuses, and also in some large-scale surveys of the general population.

Among family budget surveys, this is basically the approach followed in France. A household is defined as "all the occupants of a single private, fixed dwelling which is used as a principal residence, regardless of their ties with the owner/tenant of the accommodation". Accommodation in this context is defined as "a separate and independent premises used as a dwelling. The premises must be separate, i.e. it must be completely enclosed by walls and partitions; it must not communicate with other premises, other than the communal areas of the building; and it must possess a separate entrance with direct access to the outside or to the communal parts of the building without having to cross another premises". Included in this definition of the household are categories of persons such as live-in domestic staff, au pairs, apprentices and employees, as well as lodgers or sub-tenants etc. who do not have a separate room with direct access to the outside. Persons in the following categories are also included: persons temporarily away (e.g. due to sickness or travel); persons with family ties with the household who are away for special reasons (e.g. schooling, military service, illness); and long-term absentees who are likely to return to the household during the survey period.

In all other family budget surveys in the EC, the household is defined more clearly as a *social* unit which meets one or more conditions of 'living together' in addition to having a common residence. Of course in practice there is mostly a one-to-one correspondence between households and dwellings/addresses, but there are also cases with multiple households per dwelling. Such cases must be handled properly in the sampling procedure adopted to ensure that all households and persons are covered. This is particularly important in relation to domestic employees, boarders, lodgers, long-term visitors, and other such persons who are not a part of the main family residing at the address.

### **The household as a substantive unit**

The second consideration, particularly important in the case of family budget surveys, is the definition of the household as a substantive unit. The household is not only a unit of data collection but also the basic unit of analysis. Though in principle it is often possible to assign components of household income to individual persons in the household (and the accurate measurement of household income requires identification of the incomes of individual members), it is not always reasonable to divide up the household income in this manner. In

any case, consumption - which is in general the main focus of the survey - cannot be partitioned among the household members on the basis of the type of data collected in family budget surveys. The same applies to possessions, utilities and other household amenities. Of course, these characteristics can be ascribed to individuals within the household for individual-level analysis. In addition, it is a fact that with increasing individualisation of the society, there is an increasing need to analyse the survey data at the individual-level as well.

Increasingly restrictive definitions of what constitutes a household can be achieved by adding criteria from (1) to (4) below:

- (1) Co-residence (living together in the same dwelling unit)
- (2) Joint provision of (i) food; and of (ii) other essentials of living
- (3) Pooling of income and resources
- (4) The existence of family or emotional ties

Despite having the household as the common survey unit, countries differ in the manner in which it is defined. Table 4 lists the basic definitions adopted in terms of these criteria. As noted above, France is the one case where the definition is only in terms of common residence (criterion 1). In all other countries, criterion (2), i.e. sharing of meals and/or other essentials of living is also included. The distinction between its two sub-criteria, 2(i) and 2(ii), is not always made, though the sharing of meals or catering arrangements is explicitly mentioned in countries including Denmark, Greece, Spain, Ireland, Netherlands, Portugal and United Kingdom. The pooling of income and resources as an additional condition is mentioned in Denmark: "A household is formed by a group of persons who usually live under the same roof, taking their meals together and sharing income and expenditure". The most 'restrictive' definition involving all the four criteria is that used in Germany and Italy. Actually in the latter case, the definition is more complex both in terms of residential requirements and the fact that certain unrelated persons may also be included as 'associate members': "A household is defined to comprise all persons linked by family or marital ties, by ties of adoption, guardianship or by emotional ties, who live together and have their habitual residence in the same municipality, and who generally provide for their needs by sharing all or part of their income... Family helpers, house-keepers, child-minders etc. and all other persons residing in the household for whatever purpose have the status of associate members of the household".

The formal definitions used in the different surveys have been listed in Part III (Survey Profiles). However in practice these rather succinct definitions need to be elaborated to specify exactly what categories of persons are included and excluded from the definition. The definition adopted has a bearing, for instance, on whether or not resident employees, lodgers, boarders and other unrelated persons living at the sample address are included in the same or as a separate household. This affects the average household size and composition, as well as the coverage achieved in the survey. Furthermore, the definition is often extended to include certain categories of persons who are absent from the household for some specified reason, such as full-time education or military service. Countries differ in the exact rules applied for this purpose as well as the operational meaning given to the four criteria noted above.

An attempt has been made in the lower panel of Table 4 to provide an overview of the main categories of persons included and excluded, though it must be admitted that the position is not absolutely clear in all cases from the available survey documentation. To reflect the complexity and the details more clearly, Table 5 provides illustrations from some countries.

**Table 4. SURVEY UNITS**

**DEFINITION OF HOUSEHOLD AND HEAD OF HOUSEHOLD**

	HH defined as persons sharing:					Ultimate Sampling Unit	Head of Household (1)
	accommodation	meals	expenditure, management	income	family, emotional ties		
B	X		X			HH	(i) oldest active person; (ii) largest contributor to budget
DK	X	X	X	X		address	largest gross taxable income
D	X		X	X	X	HH	Self-defined (usually, the person with the highest income)
GR	X	X (2)	X (2)			dwelling	(i) main decision maker; (ii) largest contributor to budget
E (both)	X	X	X			dwelling	largest contributor to budget
F	X					dwelling	If couple in hh: (i) male; (ii) active; (iii) oldest If no couple: (i) parent; (ii) active; (iii) oldest
IRL	X	X				HH	Self-defined (4)
I	X		X	X	X (3)	HH	Self-defined
L	X		X			HH	Self-defined (as the main decision maker)
NL	X	X	X			address	Owner/renter of house Normally: (i) If couple: male; (ii) No couple: parent.
P	X	X	X			dwelling	Self-defined
UK	X	X	X			address	Owner/renter of house

(1) HEAD of HH: Multiple criteria are applied successively in the order listed; ie, if a criterion is not decisive, the next one down is considered.

(2) GR: Unrelated persons staying in one room form a hh, even if they don't share food and expenses.

(3) Some categories of unrelated persons may be included as 'associate members'.

(4) IRL: The owner/renter of accommodation and the main provider are also identified in the survey.

**PERSONS INCLUDED AS HOUSEHOLD MEMBERS BY RESIDENTIAL STATUS**

	B	DK	D	GR	E	F	IRL	I	L	NL	P	UK
1. Normal resident, related to head/spouse	y	y	y	y	y	y	y	y	y	y	y	y
2. Resident employee, domestic servant living in HH	y	n	n	y	n (4)	y	y	y (12)	n	n	y (13)	y
3. Resident boarder, tenant	n	n	n	n, y (1)	n (4)	y	y (7)	y (12)	n	n	y	y
4. Long-term absentee, present during recording period	n	y	y	y	y	y	n	y	n	y	y	y
5. Visitor	n	n	n	y (2)	n	n	n (8)	n	n	n	n	y (14)
6. Resident, temporarily away	y	y	y	y (3)	y (5)	y (6)	y (9)	y	y	y	y	y
7. Longterm absentee with HH ties												
-students, boarding school pupils	y	n	y	y (3)	y	y	y (10)	n	y	n	y	y (15)
-long-term ill in hospital etc.	y	n	y	y (3)	y	y	y (11)	n	y	n	y	y

This table notes the categories of persons some or all of which may be included as hh members, if they meet other conditions.

GR: (1) A tenant is not a household member, but a lodger is.

(2) If they stay in the hh for at least 4 days during the recording week.

(3) Included if present in the hh for all or a part of the recording period, or if their diary can be completed by other means.

E: (4) Always excluded, even if share meals

(5) Reason for absence not distinguished.

F: (6) Only in the case of sailors, professional soldiers, and those absent for less than 6 months.

IRL: (7) If they share a meal a day and spend at least 4 nights a week at the accommodation.

(8) Unless in the household for 6 months or more, in which case they are included.

(9) The inclusion or exclusion depends on whether the person concerned contributes to the hh's budget.

(10) Adults in education included only if present in the hh throughout the recording period.

(11) Included, unless away continuously for more than 6 months.

I: (12) Given status as 'associate members'.

P: (13) Always included, even if don't share meals.

UK: (14) Included only if staying in the household for at least one month.

(15) Only until 16 years old. Older students living away are excluded unless present during the record-keeping.

## Head of household

It is necessary to identify a particular individual in a household as its head (or reference person) whose personal characteristics can be used in the classification and analysis of information on the household. The social group, occupation and employment status, income, sex and age etc. of the head is often used to classify the sample households for presentation of the results and for weighting classifications used in the derivation of the survey estimates. The identification of such a person can also be relevant in the collection of the data, for instance in determining the appropriate respondent for certain items of information.

Table 4 lists the main criteria used in the definition of household head and Table 5 provides some more detailed illustrations. Generally a person must be a household member to be designated as its head. A common practice is to consider as head the person designated as such by the household concerned. Some countries use more objective and specific criteria such as: the principal earner (Belgium, Denmark, Spain); the person owning or renting the household accommodation (Netherlands, United Kingdom); the oldest active person (Belgium) or the oldest active male (France); or the main decision maker (Greece).

It is also common to use a hierarchy of criteria in combination. For instance in France, the man is taken as the head of a household with one couple; with several couples it is the oldest active male; or simply the oldest male if none are active, and so on. There are often implicit preferences for certain categories of persons (such as males over females and older over younger persons), whatever the formal definition used. In the Netherlands it is normally the male in a couple, otherwise the parent if any; the case is similar in Greece. In Ireland, though it is left to the household to determine who is the head, it is noted that the head is generally "the person who owns or rents the accommodation" and that "the oldest member is taken as the head in the absence of other influencing factors". Similar is the procedure in Germany, where head of household, though in principle self-defined, is normally the member with the largest income.

## Adult-child definition

For various purposes it is also necessary to classify household members into adults and children. Different age limits or other criteria may be used in this classification for different purposes. The most important is the requirement to identify persons who are to complete the individual diary in surveys where this type of diary is used. The age limits for defining 'adults' for this purpose are 14 and over in Spain, France and Greece; 15 and over in Ireland; and 16 and over in the United Kingdom.

Another important consequence of the adult-child definition adopted is its influence on the classification of households by type - for example whether a couple with grown-up children is classified as a nuclear 'couple with children' household or as a more complex type containing 'a couple, children *and* other adults'. Here are some examples of the definitions used: in Spain a child is defined as a person aged under 16; in the United Kingdom it is an *unmarried* person aged under 18; in Ireland, the principal household composition classifications used for presentation of the results are based on children defined as persons aged under 14, though the classifications are also available for age limits 15, 16 and 17; while in France the definition adopted is more general based on the concept of parenthood.

Other definitions may be used for other purposes. For example for the classification of expenditure on clothing, Ireland defines persons under 14 as children, and clothing purchased for children under 2 as 'baby wear'; while for the same purpose in the UK persons aged 16 and over are taken as adults, those aged 5-15 as children, and those under 5 as infants.

**Table 5. DEFINITIONS OF THE HOUSEHOLD AND HEAD OF HOUSEHOLD: SOME EXAMPLES**

## Denmark

*(Extracts from 'Guidance and Instructions for Interviewers')*

The households are selected at random from all addresses in the country. 'Address' can be a flat in a block of flats or a detached house, terrace house etc. At most addresses there will be only one household consisting of one or more adults with or without children, where all the occupants together form a single group for financial purposes and eat most of their meals together. Typical cases of more than one household will be those where a part of the accommodation are let out to other people (single persons or families) who have separate housekeeping arrangements. There may also be domestic help, lodgers etc. who are given board and lodging by the householders but otherwise live separately as regards financial arrangements..... It is up to the interviewer to decide with the people living at a particular address whether there are more than one household there. A 'household' means an *economic unit*, i.e. *the persons who live permanently in the accommodation in question, who take their meals together and contribute to joint expenditure with any income they may have*. There are no upper or lower age limits. All things being equal, it must be assumed that all persons at the address comprise a single household. Only if there are special reasons for doing so are the persons concerned to be considered as several individual households or a collective household. Couples living together, regardless of sex, always belong to the same household. If there are persons who can be considered as lodgers, agricultural workers, domestic help etc., then there is more than one household at the address, and generally all must be covered.

The introductory letter is sent to all persons of 18 or over living at the selected address approximately one month prior to the start of the relevant survey phase. In some cases the person concerned will have moved out, died etc., and in others there will be persons living at the address other than those who received the introductory letter. Since *the address and not the occupants are selected*, it is the new occupants who will take part in the survey. If there are more than one household at the address, address cards must be written out for each household. However, the same persons must be retained for the remaining parts of the survey, even if they move house before the final interview.

'Collective households' (military barracks, old people's homes, hospital, prisons etc.) are a special case and may not take part in the survey, since the data we could get from their accounts would not fit in with the other survey data. An attempt has been made in advance to exclude such households, but we cannot be 100% certain. In order not to make the forms too complicated, no direct questions on this account have been included, but in most cases, it should not cause any difficulties. The criterion is *whether the household does its own housekeeping and makes its own purchases independently*. The interviewer should ask if in doubt. If the situation is still not entirely clear, consider the person concerned as a member of a collective household, and the address will then be disregarded.

Special provisions apply to persons who the household is looking after by agreement with the local authorities etc., and to whom care or similar allowance is being paid: (i) If it is assumed that the person is staying for at least one year, he or she normally belongs to the household; (ii) If the person concerned is staying for less than one year and is a child aged under 15, it is normally assumed that the person belongs not to the household but to the institution etc. from which he or she has been sent out; (iii) But

if such a person is aged 15 or over, the person will normally comprise a household in its own right.

*Head of household* is the member with the largest gross taxable income.

## Greece

The following are regarded as households:

- Two or more persons, related or not, living in one dwelling who, under normal course of things, jointly obtain the necessities of life and normally eat together.
- A person living alone in a dwelling or residing with other persons in one dwelling, but who neither obtains the necessities of life jointly with those other persons nor eats with them. In order for such a person to be deemed a household however, he or she must have the exclusive use of at least one room. If this condition is not fulfilled, such a person forms a single household together with the other persons who use the said room.

Resident servant sharing food are normally included as household members. Lodgers may also be included, except that any household with more than three lodgers qualifies as a hostel and hence excluded from the survey of private households. Close relatives of a household (e.g. child or spouse of the head) who are studying or working in another town are considered a member of the household if they normally visit the household at least once per week. Unrelated persons making joint provision for food qualify as one household; if such persons live together in one room, they still constitute a single household even if they do not make common provision for food.

The following types of persons are taken as household members if they are present in the household for at least four of the 7 recording days for the household, *or* if it is possible for the interviewer to determine their personal expenditure for the days in question. (Note: Such a procedure, conditional on the possibility of obtaining a response, is not recommended in the very definition of survey units.)

- Relatives or other persons who usually reside in the household but who are temporarily absent for reasons concerned with employment, sickness, holidays etc.
- Guests and other persons who are residing temporarily with the household.
- Persons leaving the household during the 7-day recording period, permanently or for an extended period.
- Persons joining the household during the 7-day recording period, permanently or with the intention to stay for an extended period.

*Head of household.* The head is the person who is recognised as such by other members of the household, in the sense that he or she bears the responsibility for the main decisions pertaining to the household. In most cases involving a household composed of parents and their unmarried children, the head of household is deemed to be the father. And in many instances where married off-springs reside with their parents, the father of the married off-spring continues to be regarded as the head. In the case of a household composed of unrelated persons, the oldest employed male, if any, is taken as the head. Otherwise, this is determined on the basis of a combination of criteria in the following order of preference: employment, sex, and age.

## Spain (Main Survey)

The units of analysis are private households living in *principal family dwellings*. The household is defined as a person, or a group of persons who *jointly occupy a principal family dwelling or part thereof and consume and/or share food or other goods paid from the same budget*. Included in this definition are private households residing in collective institutions, provided their expenditure is separate from the collective household or institution. The 'budget' above refers to the common fund which enables the housewife or the person responsible for running the household to pay the joint expenses. The census definition is used for the 'principal family dwelling'; it forms the ultimate unit for sampling, all households resident in any selected dwelling being included in the survey. The family dwelling is taken to be any room or set of rooms and annexes occupying a building or a structurally separate part thereof and which, as a result of the way in which they were built, rebuilt or converted, are intended to be occupied by one or more households and at the date of the interview are not used entirely for other purposes. In the main this refers to ordinary residential dwellings, but also includes in addition:

- Premises which do not fully comply with the definition of family dwelling because they are semi-permanent, improvised, or were not originally designed for residential purposes or converted for such use, but which nevertheless constitute the principal or usual residence of one or more households.
- Family-type dwellings within collective households, provided they are for the use of the management, administrative or service staff of the said establishment.

The principal family dwelling is taken to be any family dwelling used as the usual residence of one or more households. The definition excludes secondary family dwellings which do not form the usual residence of any household and are used mainly for relaxation on a seasonal, periodic or irregular basis.

The criteria laid down for determining whether a person is a member of the household or not are designed to preclude the possibility of the same individual being included as a member of more than one household or of none at all. Included as members are also the following types of persons:

Persons living elsewhere who, nevertheless, are (i) not considered as occupying another principal family dwelling and (ii) are economically dependent on the budget of the selected household. The first condition is satisfied by persons who have lived in the sample dwelling for most of the year, or for longer than in any other dwelling during the year, or intend to do so (e.g. by virtue of moving into or stating a new household following marriage etc.); it is also met in the case of persons who have lived for all or most of the year in a collective household (hall of residence, sanatorium, barracks, hostel, hotel, boarding house etc.). In relation to the second condition, a person is considered economically dependent on the household if he/she usually shares its joint budget (whether or not involved in running the household) either (a) because of living there and therefore sharing at least in lighting, water, heating etc., or (b) because, although living in a collective household, the person's expenses are borne by the household in question.

However, the following are *not* regarded as household members even if they fulfil the above conditions:

- Domestic servants, including resident domestic servants, who perform domestic services for the household in exchange for a remuneration in cash or kind.

- Paying guests, i.e. persons sharing food with the household and/or living in the dwelling in exchange for payment in cash.
- Persons who left the household for good before the first day of the survey

These persons are not included because their budget is 'atypical'; for example, their pattern of expenditure on food consumption may be similar to that of the whole household while their pattern of income might be completely different, thus making it impossible to draw meaningful conclusions about the household's level of expenditure and income.

**Head of household.** It is defined as the member of the household whose *regular* (as distinct from occasional) contribution to the joint budget is intended to a greater extent than the contribution of each of the other members to meet the household's expenditure. If the person who contributes the greatest has been excluded as a member of the household by definition, the head will be taken as that member who receives the cash transfers which meet the greater proportion of the household's expenditure. If this member is under 16 years of age, the member of the household on whom this minor is dependent will be regarded as the head of household.

## Ireland

A household is defined as *a single person or group of people who regularly reside together in the same accommodation and who share the same catering arrangements*. The household members defined in this fashion are not necessarily related by blood or marriage. Thus resident domestic servant and boarders (i.e. persons paying to share the household accommodation and meals) are included. Any other individual or group of people living in the same dwelling constitute a separate household or households if they have separate catering arrangements.

Special criteria need to be applied to certain categories of persons to decide their household membership:

- Family members who *permanently* live and work away from home are not included even though they return on holidays. (If they are visiting the survey household during the survey period, they are treated as visitors and excluded.)
- Children away at boarding school are included as members of their parents' household, but older persons receiving higher education away from home are included only if they are at home (e.g. during vacations) for the full 14 days of record-keeping.
- Family members working away from home who contribute to the income of the household are included as its members if they return to it at least one night each week.
- Family members who do not contribute to the income of the household and who are regularly away for part of each week are included as members only if they spend at least 4 nights at home each week.
- Boarders are included in the household only if they reside there for at least 4 nights a week and have at least one meal each day with the family when they are in residence.
- Family members temporarily away on holiday, on business or in hospital are included as members unless they have been away continuously for more than 6 months prior to the interviewer's visit.
- Visitors and temporary members of the household are included only if they have resided continuously in the household for more than 6 months prior to the interview.



**Head of household.** The social group of the head of household is used to classify the sample household for the presentation of results as for weighting classifications used in the derivation of results. The weights used are determined by collating the number of co-operating sample households with the overall 1986 Census number of households, in detailed sub-classifications defined in terms of the social group of the head of household and other household characteristics. For this reason it is essential that the concept of head of household used in both the Census and the survey should be comparable.

No explicit instructions are given in the Census or the survey as to who is to be taken as the head of household. It is left to the individuals to determine who is the appropriate person. There is no problem in normal family-type situations. In other cases (e.g. man, wife and a married child with family) decisions made depend on the circumstances, and the approach followed in both the Census and survey is *to take the person whom the household regards as such as its head*. This is generally the person who either owns the accommodation or in whose name it is being rented. In cases where the household consists of unmarried or unrelated people where expenses are jointly paid, the eldest member is taken as the head in the absence of any other influencing factors. In the 1987 survey, the principal economic supporter and the person in whose name the accommodation was owned or rented are also identified and classifications by social group and other characteristics are available on these alternative bases.

## Portugal

The basic statistical unit for the survey is the 'private domestic unit' (PDU), being "a group of persons living in the same *housing unit* whose normal expenditure on food and lodging is met jointly (joint budget); or and individual person fully occupying a housing unit, or sharing it with others but not fulfilling the above condition." Here, 'housing units' mean separate, independent premises which, by virtue of the manner in which they were constructed, reconstructed, extended or altered, are intended for human habitation, provided that at the time of the survey they are not used (exclusively) for other purposes. This excludes collective housing units and institutions such as hotels, guest houses, workers' camps, and welfare, educational, military or religious institutions etc.

According to this definition, married couples living with their parents, lodgers receiving food and accommodation and children living as lodgers are included in the PDU if their main meals are normally paid from a joint budget; otherwise they constitute separate units. Lodgers not receiving food are always considered to be independent units; however, domestic staff are included in the unit because of the small numbers involved.... Membership includes all persons of the PDU present during the survey period. Also included are: absent members of the unit living in educational or health establishments etc., provided their expenses are borne by the unit; individuals working in another locality but making frequent visits to the unit, who contribute to its upkeep and incur expenditures charged to its budget; and individuals who are temporarily absent for compulsory military service or other reasons. (However, for practical reasons, it has been decided to replace PDUs containing members who could not be contacted in the survey week in time to fill in their personal expenditure and income registers.) Persons who are absent during the five working days of the survey week (e.g. because of their work in a different locality) and whose consumption expenditure is not borne by the PDU are not regarded as its members.

All PDUs in any selected housing units are in the sample.

**Head of household.** For the purpose of obtaining certain data and analysis of survey results, the concept used is that of a 'representative' of the household. The household is free in its designation of the representative, and in the criteria used for this designation.

## United Kingdom

A household comprises one person living alone or a group of people *living at the same address having meals prepared together and with common housekeeping*. Resident domestic servants are included. The members of a household are not necessarily related by blood or marriage.

As the survey covers only private households, people living in hostels, hotels, boarding houses or institutions are excluded. Households are not excluded if some or all members are not British subjects, but no attempt is made to obtain records from households containing members of the diplomatic service of another country or members of the US armed forces.

In most cases the members of co-operating households are easily defined in that people who satisfy the above conditions are present during the record-keeping period. However, difficulties of definition arise where people are temporarily taken away from the household or else spend their time between two residences. The following rules apply in deciding whether or not such persons are members of the household:

Married persons living and working away from home for any period are included as members provided they consider the sampled address to be their main residence.

In general, other people (e.g. relatives, friends, boarders) who are either temporarily absent or who spend their time between the sampled address and another address, are included as members if they consider the sampled address to be their main residence. However there are exceptions which override the subjective main residence rule:

- children under 16 away at school are included as members;
- older persons receiving education away from home, including children aged 16 and under 18, are excluded unless they are at home for all or most of the record-keeping period;
- visitors staying temporarily with the household and others who have been in the household for only a short time are treated as members provided they will be staying with the household for at least one month from the start of record-keeping.

As a consequence of the above, certain households contain members who are temporarily absent, as well as some categories of non-residents temporarily present.

**Head of household.** The head of the household must be a member of that household. He/she is the person, or the husband of the person, who

- owns the household accommodation, or
- is legally responsible for the rent of the accommodation, or
- has the household accommodation as an emolument or perquisite, or
- has the household accommodation by virtue of some relationship to the owner who is not a member of the household.

When two members of different sex have equal claim, the male is taken as head of household. When two members of the same sex have equal claim, the elder is taken as head of household.

## 5 SURVEY STRUCTURE: RECORDING PERIOD AND INTERVIEWS

### Recording period

In all family budget surveys, data collection involves a combination of (a) one or more interviews, and (b) diaries or logs maintained by households or individuals, generally on a daily basis.

Table 6 illustrates the overall structure of the surveys within the survey year. The main types of diaries and interviews included and their temporal relationships to each other are shown. The number and type of survey questionnaires and diaries used in the surveys vary, from over ten in Belgium to three in Italy. The focus here is on the main diary or diaries in which the household's consumption and expenditure is recorded and the main interview(s) through which substantive information on household characteristics and income is obtained.

Several types of diaries may be identified depending on the type of items covered, the responding unit, and the mode of recording the information. In Table 6 three main types are distinguished according to the intensity of recording. (A more complete list of the diverse survey instruments used in the various surveys appears in Table 7. Further details on the diaries will be provided in Tables 8 and 9)

- 'Very intensive diaries' refers to the type involving daily recording of all expenditures *and* receipts, such as the diaries maintained for the whole year in Belgium and for one month of the year by each household in Germany.
- 'Intensive diaries' refer to the type most commonly used; these involve the daily recording of all expenditure or consumption.
- Finally, the 'less intensive' type refers to the recording of consumption on a selective basis, such as in the quarterly logs in the Netherlands and the second two weeks of recording in Denmark as described below.

In some countries more than one type of main diaries are involved. For example in Germany, each household maintains a record of all receipts and all expenditures for a duration of one month, and also maintains over the whole year logs covering all receipts as well as expenditures above a certain amount. The first is a 'very intensive' type of diary; the second is a less intensive variant, but it is of a unique type in that, apart from the recording expenditure on a selective basis, it also involves the full recording of income - both on a retrospective basis. Some form of retrospective logs are also encountered in Portugal, Greece and Spain. In the Netherlands, details of all expenditures are kept for a period of half a month (reduced to one week in subsequent surveys), and details of expenditures above a certain amount for each quarter of the whole year, in principle on a daily basis. In Denmark, each household maintains records for a period of 4 weeks, covering all expenditures for the first two weeks, and expenditures other than on food for the remaining two weeks. In addition, special versions are used in a number of countries, such as for the self-employed (Belgium), holidays (Netherlands), and for the person mainly responsible for household purchases (France, Ireland, Spain).

The period for which a diary is maintained is called the *recording period*, and its duration and distribution over time is the primary determinant of the structure of the survey. The recording period varies enormously from the full year in Belgium to just one week in Portugal, Spain and Greece. The recording period may be of the 'fixed' type, i.e. defined in terms of the same calendar period for all households in the sample. This form is uncommon and applies only in cases where diaries are maintained for a whole year, as in the case of Belgium, and the 'logs' kept on a more selective basis for the year in Germany and the Netherlands.

In all other cases a 'moving' recording period is used, the exact timing of which is different for different households in the sample. The recording periods are staggered over the survey period to even out the effect of seasonal and other temporal variations for the sample as a whole. This is done by dividing the sample into a number of subsamples, and distributing these subsamples in terms of the recording period uniformly over the survey period. (A household may be said to be 'in the sample' during the period it maintains the diary: for this reason the recording period is sometimes referred to as the household's 'sample period'.) Rows in Table 6 show the sub-samples created for this purpose. The diagram is merely illustrative in the sense that the actual number of subsamples created in any particular survey may be different (usually higher) than that shown.

Ideally each subsample should be geographically and otherwise representative of the whole population, so that the sample's distribution over space and over time is controlled simultaneously. The basic arrangement is to divide the sample into say  $s$  subsamples related to the length of the recording period ( $d$  days, weeks or months) over the survey year ( $Y$  days, weeks or months) as:

$$s = Y/d$$

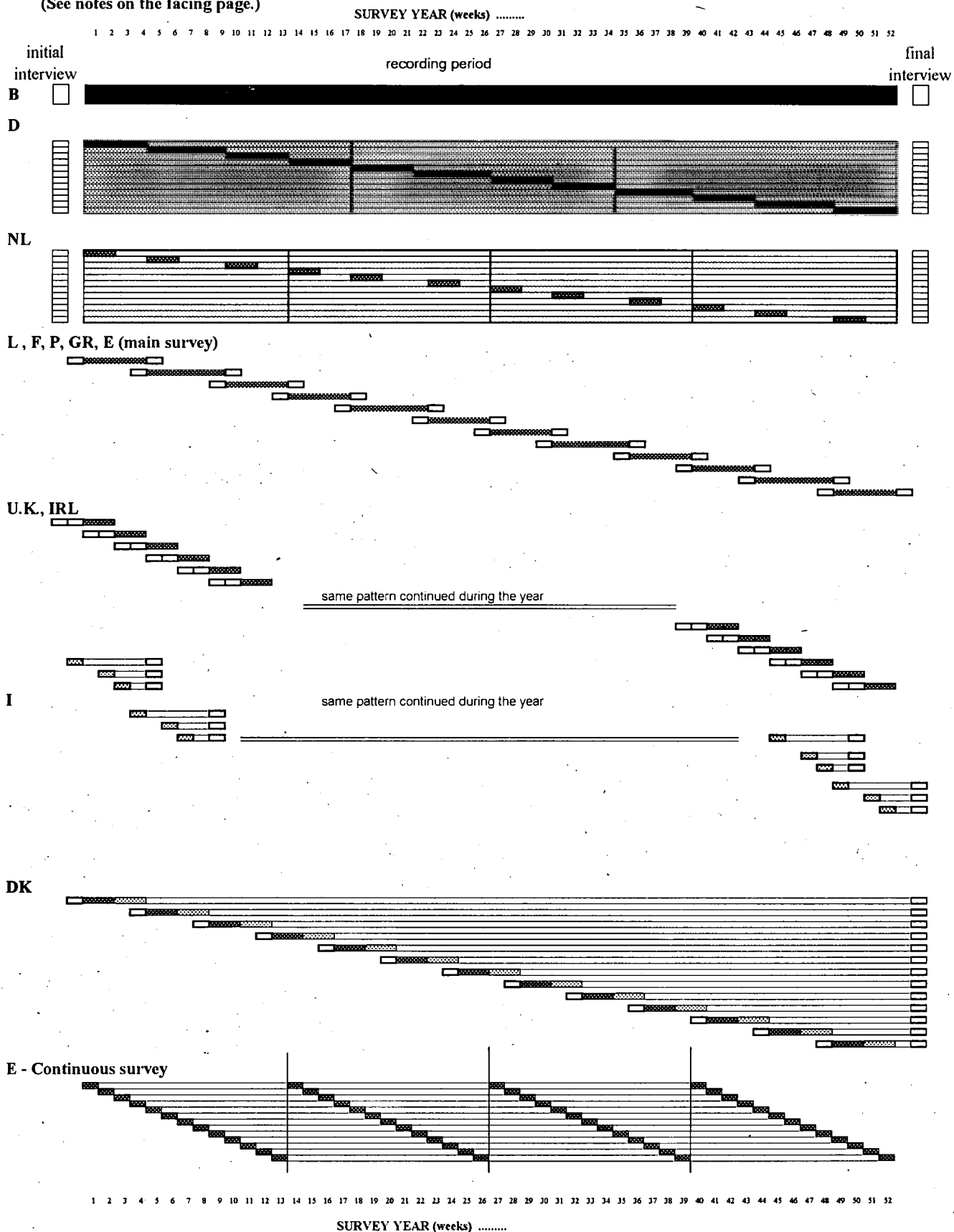
For example with a recording period of 2 weeks, the sample may be divided into 26 parts for this purpose. With this pattern it is possible to arrange the recording periods for the subsamples without gaps or overlaps over the survey year, thus distributing the recording task continuously and uniformly for the survey as a whole.

Sometimes fewer representative subsamples are created than the number implied by the above. This makes the recording periods less uniformly distributed (introducing peaks and gaps), but can increase flexibility in scheduling the survey operations and reduce costs. As an example, in France with a recording period of 2 weeks per household and 48 weeks for the whole survey, the sample is divided into 8 (rather than 24) representative subsamples, each covering a period of 6 weeks within which its recording can be accommodated more flexibly.

Alternatively, a larger number of subsamples may be created than the number implied by the above expression. In this case the periods of diary-keeping by different subsamples will have some overlaps. For example in Denmark, 26 subsamples are created to distribute the 2-week periods of intensive diary-keeping uniformly over the year. In terms of the total recording period of 4 weeks per household, there are two sets of households at any time keeping diaries - one set keeping the intensive diary for its first two weeks, and the other keeping the less intensive diary for its second two weeks after having gone through its intensive phase. The objective here is to ensure a uniform distribution of the intensive diary-keeping since it includes the recording of food consumption which is particularly subject to seasonal variations.

**Table 6. DISTRIBUTION OF RECORDING PERIODS AND INTERVIEWS OVER THE SURVEY YEAR.**

(See notes on the facing page.)



**KEY:**

INTERVIEW

RECORDING PERIOD: VERY INTENSIVE

INTENSIVE

LESS INTENSIVE

## Table 6: NOTES.

Across the columns is shown the survey year (52 weeks), and for each survey the rows show how operations (main interviews and diary recording) are distributed over time for different *subsamples* or groups of households. For example, in the case of Germany, there are 12 subsamples, each maintaining a 'very intensive' diary during a different month of the year.

The recording may differ in intensity. 'Very intensive' are normally those involving the daily recording of expenditures *and* receipts; 'intensive' means full recording of all expenditures or consumption; and 'less intensive' means doing so on a selective basis. In some cases (D, E, GR, P), diaries also involve what may be best described as retrospective recording.

In most cases, two main interviews have been identified, normally conducted before and/or after the recording period. One of these (usually the second) obtains information on income. There may also be other interviews, such as for initial contact and at various times during the recording period for checking and other purposes; these are not shown here.

### Belgium

A year-long recording period for the whole sample. 'Very intensive' as it involves the recording of all expenditure and receipts for the year. Main interviews before and after the survey year. The same time-pattern followed for the entire sample.

### Germany

For the whole sample: retrospective recording of all receipts and of expenditures over a certain amount for the entire duration of the survey year (in 4-month logs); and two main interviews, one just before and the other after the survey year. For each of the 12 subsamples: the maintenance of records of all receipts and all expenditures irrespective of the amount (i.e., a 'very intensive' diary) during a particular month of the year.

### Netherlands

For the whole sample: daily recording of expenditures over a certain amount for each quarter of the whole survey year; maintenance of special diaries such as on holidays during the course of the year as required; an initial interview before the survey year; and the main interview covering income after the end of the survey year. For each subsample: the maintenance of records of all expenditures irrespective of the amount (i.e., keeping an 'intensive' diary) during a different half-month of the year. Periodic expenditures are covered during an interview at the beginning of the intensive recording period.

### THE COMMON MODEL (Luxembourg, France, Portugal, Greece, Spain main survey)

A limited recording period per household, such as 30 days in Luxembourg, 15 days in France, and 7 days in Portugal, Spain and Greece. 'Intensive' type of diary, involving the full recording of expenditure or consumption irrespective of the amount (but not of income and receipts).

Division of the sample into representative subsamples for interviewing and diary keeping at different times, distributed over the survey year so as to achieve representativeness simultaneously in space and time. Consequently, the use of 'moving' reference and recording periods.

Generally two main interviews, one immediately before and the other immediately after the recording period for the particular subsample of households, income being covered in the interview *after* the diary recording period. Some interviewing may also take place during the recording period itself as in France, Spain and Greece. In Greece daily interviewer visits are required over the recording period.

### United Kingdom; Ireland

As above, except that both of the main interviews, one for the household and the other for each member above a certain age (covering income), take place *before* the recording period of 2 weeks. In Ireland some 10% of the sample incorporated from the national farm survey is enumerated throughout the year.

### Italy

For the purpose of recording, the sample covered in the course of a month comprises three subsamples, each covering a 10 day period during the month. There is only one main interview and it takes place at the end of the recording month or at the beginning of the calendar month following the 10 day recording period.

### Denmark

The sample is distributed over the survey year in terms of the recording period and the initial interview which precedes the particular recording period in each case. The 4 weeks of diary-keeping for each household involves two types of recording: 'intensive' recording for the first 2 weeks covering all items of expenditure or consumption, and the following 2 weeks of 'less intensive' recording which excludes the food group. The final interview for all the subsamples takes place during the Spring after the end of the entire survey year. It covers some components of income and other items with a fixed reference period of one calendar year. The time interval between the recording period and this final interview therefore varies from one subsample to another. The survey information is supplemented by linkage with administrative records.

### Spain (Continuous Survey)

For illustration, the sample is shown divided into 13 subsamples, entering the survey in successive months of a quarter. Each subsample maintains a diary for one week, and the interviews with its households are conducted in the course of this recording week. Except for the fact that one-eighth of the sample is replaced from one quarter to the next, the above pattern is repeated on the same samples during each of the 4 quarters of the year. A household remains in the sample for 8 consecutive quarters.

In practice there may be variations from the models described above because of practical problems during survey implementation. It is not always possible to ensure that the survey is conducted exactly according to the time schedule in the model, or that the fieldwork (and hence the subsamples) can be uniformly distributed over the year. Example has already been given of the last survey in Luxembourg, which lasted over 16 months and could not ensure control over the distribution of the sample over this period. While this is not a typical example, some slippage can be expected in most surveys. In addition there are also situations when for some households in the sample the recording period is *deliberately* changed because of special reasons or circumstances. The inset below provides an illustration from the survey in Denmark.

*Adjusting the recording period in special circumstances*  
(Illustration from Denmark)

If, during the planned accounting period, the household is due to hold festivities at home in connection with a wedding, christening, confirmation, silver wedding, golden wedding or any other 'round figure wedding anniversary' the accounting period *must* be changed. This is because we assume that, during the period when purchases are made for such major events, accurate information cannot be obtained on all purchase. Instead, we ask about total expenditure on such festivities during the main interview in 1988.... If the household has changed the recording period, you must make sure that the new period also starts on a Monday. The dates must be shifted by 2, 4, 6 etc. weeks so that the new period coincides with one of the other periods we are working with. The new dates should be as close as possible to the original.... The period should only be changed when festivities of the type already mentioned are to take place. With any other kind of major event, you should try to persuade the household to keep accounts anyway... [However,] you should always comply with any request by the household for a change of accounting period rather than let that household drop out of the survey altogether.

If the household is due to go on holiday in Denmark or be abroad for a period of under six days, you should try to persuade the household to keep accounts during that period. Accounts should not be kept during stays abroad of six days or more. If only some members of the household are away from home, those staying put should keep accounts as usual. If the whole household goes away, it is important that accounts be kept as usual on all days when the household is at home - on days both prior to its departure and after its return from abroad.

If the household is having major repairs, extensions or alterations carried out, extra instructions should be given. If the extension or rebuilding work is for a new house or summer house, the relevant expenditure should *not* be noted (we ask for such expenditure for the whole of 1987 at the time of the main interview in the Spring of 1988).

The arrangement in the Continuous Survey of Spain is unique among the EC family budget surveys. The pattern is complicated by two factors: the survey is conducted on a quarterly basis, and a rotational sample design is used in which one-eighth of the sample is changed from one quarter to the next, meaning that a household remains in the sample over 8 quarters or 2 years. With a recording period of one week per quarter, the sample can be divided into 13 subsamples distributed over 13 weeks of the quarter. However, to permit sample rotation (one-eighth per quarter), each subsample itself has to be divided into 8 parts or clusters of households, one of which can be replaced by another cluster from the same subsample each quarter. (See below for further remarks on this design.)

### *The Spanish Continuous Survey*

This survey follows an exceptional design which deserves some further comment. The interviews are conducted during the brief reference period itself: one on the second day and the other on the sixth day of recording. This pattern is repeated every quarter on the same sample of households, except for the 1 in 8 rotation of the sample each quarter mentioned earlier.

The repeated enumeration of the same households each quarter has several important implications. There are a number of potential advantages:

1. The volume (which is the effective sample size) of the information recorded in the diary is increased. With a one-week recording period each quarter, the actual duration of diary-keeping is 4 weeks during one year, or a total of 8 weeks over the two years a household remains in the survey.
2. The accuracy of retrospective reporting in the interview is possibly increased because of two factors. Firstly, the recall period is reduced in so far as repeated interviewing permits the use of shorter reference period of at most 3 months (rather than the full year often used) at a time. Secondly, for items recorded with a reference of 3 months, the period effectively becomes 'bounded', i.e. more clearly demarcated between successive interviews. Recall errors due to omission as well as telescoping are therefore likely to be reduced. Furthermore, for items obtained in each interview with a reference period of 3 months, information is in fact obtained for a continuous period of two years the household is in the sample.
3. Repeated observation over the year provides some control over seasonal and other temporal variations at the level of individual households; such control is only at the aggregate level in the absence of repeated interviews with the same households.
4. This 'panel' element (albeit a short one) enhances analytical potential of the data obtained.

There are a number of serious disadvantages of the design as well:

1. Though the volume of the data obtained from daily recording is increased, the effective sample size for other variables is much lower than the roughly 12,000 (4X3,000) interviews conducted during the year. This seriously limits the potential for regional breakdown of the results.
2. The design limits the maximum recall period to 3 months, even for items for which a longer recall period is possible (and hence would be more economical).
3. The respondent burden is greatly increased; each household is interviewed at least 16 times and has to maintain diaries for 8 separate weeks over two years.
4. Data collection difficulties may be increased because of the need to keep a track of individual households over the two year period.
5. Analytical complexity is also increased because of changes in household composition, more complex editing procedures, the need to link data over time etc.

## Survey interviews

Apart from the exceptional arrangement described above of repeated enumeration of the same sample during the year, in any survey a sample household may be subject to more than one interviews during the time it is in the survey. Considering the main interviews, the common pattern is to have two interviews per household arranged around the recording period. Mostly these consist of an initial interview before the recording period, and a final interview after the recording period. Generally background characteristics are covered in the first interview and income questions in the second - though of course there are variations on this from one country to another. Also in most cases, the interval between the interviews and the diary recording is made as short as practical. The interviews involve moving reference periods of various lengths depending on the item (see Section 7).

This standard pattern applies in Luxembourg, France, Portugal, Greece and the Spanish main survey, though the lengths of the recording periods involved differ in different countries. Sometimes additional interviews, such as during the recording period may be involved, as in the case of France. A part of the interviewing in Greece and Spain falls within the recording period.

In Ireland and United Kingdom, there are two differences from the above: the two interviews refer, respectively, to a household interview and an individual interview with each adult member of the household; and both these types of interviews are conducted immediately *before* the recording period. (Indeed, the two may be conducted during a single visit to the household.) It may be the case that this arrangement helps in improving the quality (and possibly co-operation as well) in diary recording. It has also been argued in relation to the UK survey that it is more 'honest' to let the respondent know, prior to the diary period, that the survey involves detailed interviewing on individual income.

In Italy, only one main interview is involved. It is conducted after the recording period of 10 days, at the end of the calendar month during which the household keeps the diary or at the beginning of the following month.

In Denmark, there is a brief initial interview before the 4-week recording period, but the arrangement is exceptional in that the main interview is conducted after the end of the survey year for the whole sample, irrespective of the timing of the recording period for a particular household or subsample. This means that the time interval between the recording period and the final interview is different for different sets of households. The end-of-the-year interview is designed to collect income and other information with the whole of the preceding year as the 'fixed' reference period.

In countries where each household participates in the survey for the full year (Belgium, Germany, and Netherlands), the interviews are concentrated to the extent possible over short periods for the whole sample, i.e. over periods immediately before and immediately after the survey year. For the final interview a fixed reference period of one year is used.

## Survey instruments

Table 7 lists the various types of diaries and questionnaires used in the family budget surveys. The list is complete as concerns the main instruments used for the collection of substantive information; most surveys include additional documents of a more administrative nature as well. Several items of information have been provided in the table in relation to each survey instrument:



- *The basic recording unit.* The information collected may pertain to the household as a whole or to its individual members. The latter refers to information on economic activity, income, personal expenditures etc. collected separately for (and usually personally from) each individual.
- *The respondent.* Depending on the 'respondent rules' used in the survey, information pertaining to the whole household may have to be provided by the household head or spouse; personal information by the particular member concerned; while information of a more general nature may be given by any 'suitable' member of the household.
- *The method of collection.* The distinction is made between collection through personal interviewing, and self-recording by the respondent. (Telephone interviewing has been grouped with the former and postal enquiries with the latter - though such alternative methods of data collection are rarely used.)
- *The mode of recording.* The basic distinction is between daily recording, and recording retrospectively using reference periods of various types and duration. (Information pertaining to the time of the interview has been grouped with the latter.) Generally, daily recording goes with self-completed diaries, and retrospective recording with personal interviewing. However there are some departures from this pattern. Some self-completed diaries or questionnaires involve retrospective recording. The most important example is the logs maintained by households in Germany for the whole year. In the Netherlands, self-recording is in fact used quite extensively where possible, for example in the recording of own production, holiday expenses, regular expenditures and income. Other examples include retrospective self-recording of bills paid and income in Spain (main survey) and Portugal, holiday expenditures in Belgium, and some personal expenditures in Greece. In Greece, as the sole exception, the opposite arrangement also occurs: diary-recording on the basis of daily visits by the interviewer.
- *Timing of the interviews.* Table 7 also notes the timing of retrospective interviews in relation to the timing of the main record-keeping by the household. The interviews may take place before, during or soon after the recording period, or they may be conducted after the month of recording (Italy), or more commonly after the end of the full survey year (Belgium, Germany, Netherlands, Denmark).
- *The main objective.* The table provides an indication in terms of broad categories of the type of information collected. See Part III (Survey Profiles) for further details on the content of individual surveys.

Most of the questionnaires used have been designed in the verbatim form, i.e. a form in which questions to be asked are spelled out in detail and fully written out in the form in which they should be asked. This approach has the advantage in principle of better structuring and controlling the interview. The major disadvantage is the greatly increased physical length of the questionnaire; also if carried too far, it can make the questionnaire confusing and inconvenient to use. The questionnaires for Ireland illustrate a good compromise between the elaborate (verbatim) and the compact (tabular) formats; while the United Kingdom uses a more elaborate layout. France in our opinion provides an example of a particularly well laid-out questionnaire.

Table 7. THE MAIN SURVEY INSTRUMENTS

QUESTIONNAIRE/	RECORDING UNIT	RESPONDENT	COLLECTION	MODE	MAIN OBJECTIVE(S)
DIARY	1 household	1 head, spouse	1 interview	R daily recording	1 expenditure/consumption
	2 individual	2 any adult	2 self-recording	retrospective:	2 income data
		3 person concerned		b before recording	3 housing/amenities
		4 interviewer		d during recording	4 member characteristics
				a after recording	5 checking/probing
				Y after survey year	6 other (specify)

B	household diary	1,2	1	1,2	R, d	1,2
	self-employed hh diary	1,2	1	1,2	R, d	1,2
	identification	1	1	1	b	6 (screening)
	hh composition	1	2	1	b	3,4,6 (mortgage)
	holidays questionnaire	1	3	2	d	6 (holidays)
	final interview	1	1	1	a	3; also 1,5
	social variables	1,2	1	1	a	4
	subjective questions	1	1	1	a	6 (economic situation)
	transport	1,2	1	1	a	6 (travel, journey to work)
	meter readings	1	2	2	R	6 (energy consumption)
	individual pocketbook	2	3	2	R	1
DK	initial interview	1,2	2	1	b	6 (screening for sample)
	household diary	1	2	2	R	1
	final interview	1,2	2	1	Y	1,2,3,4
	registers	1,2	information linked from diverse registers			1,2,3,4
D	initial interview	1,2	2	1	b	3,4
	4-month logs	1,2	2	2	whole year	1,2
	intensive diary	1,2	2	2	R	1,2,3
	final interview	1,2	2	1	Y	6 (house ownership, income, assets)
GR	main questionnaire	1	1	1	R; also b,d	1,4,3
	daily personal exp. form	1	3	2	R; also d	1
	income form	2	3	1	a	2
	subjective questions	1	1	1	a	6 (economic situation)
E-main	main purchaser's diary	1	1	2	R	1 (for self and whole hh)
	individual diary	2	3	2	R	1
	expenditure log	1	1,2	1	d	1
	general questionnaire	1;2 (for income)	1	1	b,d,a	1,2,3,4,5
	summary of above	1	4	1	a	5, 6 (assist processing)
	record of bills paid	1	2	2	d	6 (assist interviewing)
	record of income received	1	2	2	d	6 (assist interviewing)
E-cont	main purchaser's diary	1	1	2	R	1 (for self and whole hh)
	individual diary	2	3	2	R	1
	expenditure log	1	1	1	d	1
	general questionnaire	1;2 (for income)	1	1	b,d,a	1,2,3,4

(CONT.)

(Table 7 Continued)

	QUESTIONNAIRE/DIARY	RECORDING UNIT	RESPONDENT	COLLECTION	MODE	MAIN OBJECTIVE(S)
F	questionnaire no. 1	1	1	1	b	1,3,4
	diary no. 1	1,2	1 (main purchaser)	2	R	1 (for self and whole hh)
	diary no. 2	2	3	2	R	1
	questionnaire no. 2	1	1	1	d	1
	questionnaire no. 3	1	1	1	a	1,2
	dossier de suivi	1	1	1	d,a	5
IRL	household questionnaire	1	1	1	b	3,4
	personal questionnaire	2	3	1	b	2,4
	housewife's diary	1,2	1 (main purchaser)	2	R	1 (for self and whole hh)
	individual diary	2	3	2	R	1
I	household purchases	1	1	2	R	1
	own-consumption log	1	1	2	R	1
	the questionnaire	1	1,2	1	a	1,2,3,4
	listing base	1	4	1	a	5, 6 (for future use)
L	members' characteristics	1,2	2	1	b	4
	accommodation module	1	2	1	b	3
	diverse expenditures	1	1	1	b	1
	household diary	1	1	2	R	1
	expense book (voluntary)	2	3	2	R	1
	check questions module	1	1	1	a	1,5
	income module	1,2	1,3	1	a	2
NL	recruitment questionnaire	1	2	1	before the survey	6 (screening for sample)
	general info questionnaire	1	1	1	situation at interview	3,4
	quarterly log	1	2	2	R (whole year)	1
	intensive diary	1	2	2	R (half month)	1
	own-production diary	1	3	2	Y, R	1
	holiday diary	1,2	1,2,3	2	R (during holidays)	1; 6 (to assist interview)
	regular expenditures	1	2,3	1,2	at time of interview	1
	energy consumption	1	4	1	meter reading	1
	income questionnaire	2	3	2 (by post)	Y	2
P	general questionnaire	1	1	1	b	3,4
	household diary	1	1	2	R	1
	individual expenditure form	2	3	2	R	1
	hh expenditure log	1; 2 (for income)	1	1	a	1,2
UK	household schedule	1	1	1	b	1,3,4
	income questionnaire	2	3 (each spender)	1	b	2
	individual diary	2	3 (each spender)	2	R	1
	food consumption	1	1	2	separate survey	1

## 6 THE DIARY

### Forms of diaries

All family budget surveys in the Community contain a diary component in which households record all items of daily consumption and/or expenditure. Several variants are possible. The basic distinction is between a household-type diary maintained for the whole household (1-2 below), and individual-type diaries, one maintained by each member (3-4 below). See Table 8.

1. A single diary may be maintained by the household for a specified period in which all items of consumption and/or expenditure common to the household are recorded by some member of the household on a daily basis. This for example is the procedure followed in Italy where each household maintains a diary for a period of 10 days, the sample being uniformly distributed over the survey year for this purpose. To this basic model various complexities may be added.
2. The main household-type diary may be supplemented, usually on a voluntary basis, by expense or 'pocket' books kept by individual persons for the purpose of facilitating the recording of personal expenditures. In some countries such as Belgium and Portugal using household-type diaries, pocket books are generally kept by persons aged 14 or over; in Luxembourg the age limit is 17; while in other cases (Denmark, Netherlands, Germany) the requirement appears flexible, depending on the preference of the household. No supplementary books are used in Italy.
3. In place of recording data for the whole household in the same document, separate documents may be used for each member of the household above a certain age. Individual-level diaries are used in four countries: France and Spain for each person 14 or over, Ireland for each person aged 15 or over, and the United Kingdom for each person 16 or over. In the United Kingdom additional information on food consumption is available from the National Food Survey which uses household-type diaries to record the cost and quantities of food consumed. Greece also uses an individual-type diary (on a non-voluntary basis, for persons aged 14 and above), though the main diary is of the household-type.
4. Countries using individual-type diaries may nevertheless use a special (expanded) version for the member mainly responsible for purchases for the household, normally the housewife. This for example is the case in France, Ireland and Spain, but not the practice in the United Kingdom survey.
5. Additional forms of the diaries may also be involved to facilitate the recording of particular items, such as holidays, car, medical expenses and energy consumption (meter readings) in the Netherlands and Belgium.
6. In some cases special forms of diaries are used for certain categories of households, such as for the self-employed in Belgium.
7. Some countries maintain two versions of the diary, covering different recording periods. Two versions used in Denmark differ in content, but have the same structure and involve recording on a daily basis. The less intensive variants used in Germany are of a different type: the recording is generally retrospective rather than on a current or daily basis. Items are recorded on a selective basis, such as expenditures exceeding a certain amount. The two versions used in the Netherlands have the same structure and involve the recording of expenditure on a daily basis. In the less intensive variant, items are recorded if they exceed a certain amount.

**Table 8. MAIN DIARIES AND RECORDING PERIODS**

Survey	Type of Diary	recording unit	recording period	no. of docs.X duration of each	special version	records income/receipts?	retro-spective recording	other documents
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
B (a)	very intensive	HH	whole year	12X1 month	self-employed	X		metre readings
D (b)	4-month log	HH	11 months	3X4 months		X	X	
	very intensive	HH	1 month	1X1 month		X		
NL (c)	quarterly log	HH	11.5 mos.	4X3 months				holidays, own produc., metre.
	intensive	HH	0.5 mos.	1X0.5 mos.				
L	HH diary	HH	30 days	1X30 days				
DK	less intensive	HH	2 weeks	1X2 weeks				
	intensive	HH	2 weeks	1X2 weeks				
F (d)	individual diary	Ind. 14+	14 days	1x2 weeks	housewife			
UK (e)	individual diary	Ind. 16+	14 days	2X7 days				credit card user
	food survey	HH	10 days	1X10 days				
IRL	individual diary	Ind. 15+	14 days	2X7 days	housewife			
I (f)	HH diary	HH	10 days	1X10 days		X	X	own production log
E-cont (g)	individual diary	Ind. 14+	7X4 days	4X7 days	housewife			
E-main(h)	individual diary	Ind. 14+	7 days	1X7 days	housewife			
	other logs	HH	retrospective (bills paid, income)			X	X	
GR (i)	HH diary	HH	7 days	1X7 days			X	
	individual diary	Ind. 14+	7 days	1X7 days			X	
P (j)	HH diary	HH	7 days	1X7 days				individual expenditure form
	expenditure log	HH	varied	-		X	X	

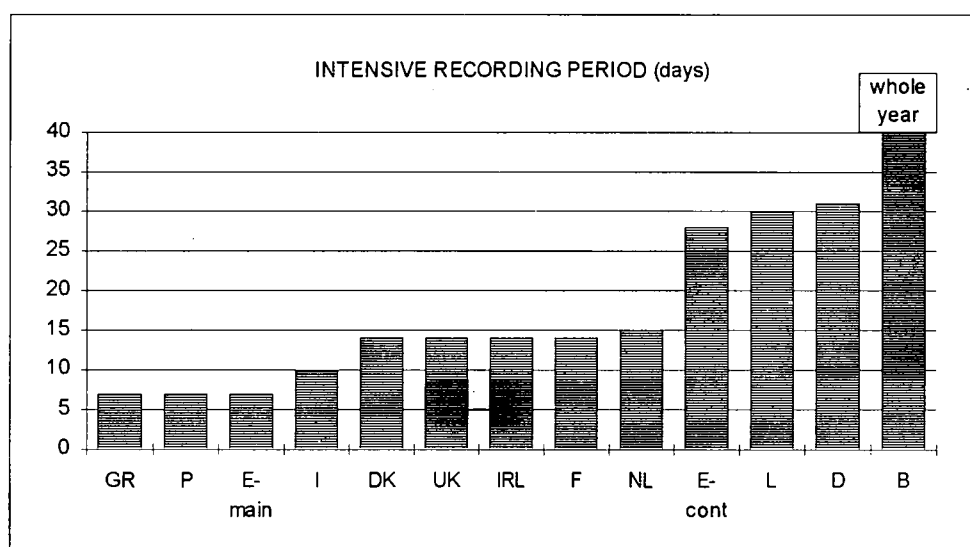
#### COLUMNS

- (1) Surveys have been ordered roughly according to decreasing length of the recording period.
- (2) For definition of type of diary see Table 6. Unless specified otherwise, most diaries are of type 'intensive'.  
When two versions are used in a survey, the less detailed excludes expenditures below a certain level, or of certain type such as food.
- (3) Ind. n+: individual diaries kept by each member above a certain age n.
- (4) Generally, the recording periods are spread out over the survey year for different subsamples.
- (5) Several diaries may be used over the recording period to facilitate and control the work.
- (6) 'Housewife' refers to the person mainly responsible for daily purchases.
- (7) The diary is the main source of information on income when all receipts are recorded.
- (8) Refers to the recording of summary information retrospectively, rather than on a daily basis.
- (9) Lists main supplementary documents. In addition, members may optionally keep 'pocket books' when hh-type diaries are used.

#### COUNTRY NOTES

- (a) B: Expense books kept for a period of 3 months
- (b) D: Pocket books kept for 1 month.
- (c) NL: The intensive recording period has been progressively reduced from 1 month to 0.5 months, and more recently to 7 days.
- (d) F: Recording period has been increased from 10 days used formerly.
- (e) UK: Food consumption is obtained from a separate National Food Survey.
- (f) I: Expense books normally used with hh-type main diary are not used in Italy. Extension of recording period to 2 weeks is being considered.
- (g) E-cont: Household members keep diaries for 1 week each quarter of the survey year; to be increased to 2 weeks per quarter from 1993.
- (h) E-main: Other logs are kept by hhs mainly to assist subsequent interviewing.
- (i) GR: Interviewers assist households in completing diaries. From 1993, recording period to be extended to 14 days.  
Both individual and hh diaries contain retrospective components.
- (j) P: Individual expenditure form is used in all cases. From 1994, recording period to be extended to 15 days.

8. Retrospective components, supplementing the daily records, also occur in some other cases such as Spain, Portugal and Greece.
9. The length of the intensive recording period varies from 30 days in Luxembourg and Germany, and 28 days (7 days in each quarter) in the Spanish continuous survey, to only 7 days in Greece, Portugal and the Spanish main survey. Two weeks is the more common practice, as in Ireland, United Kingdom, France, Netherlands (though reduced later to one week) and Denmark (apart from the additional 2 weeks of less intensive recording). An exceptional and most outstanding example is that of Belgium where each household maintains an intensive diary on a daily basis for the whole year. The year-long recording in Germany and Netherlands is of a different, less intensive type as noted above.
10. When the recording period is two weeks or longer, most countries use separate books, each covering a part of the total recording period. Example are two books one for each week in the United Kingdom and Ireland, quarterly logs in the Netherlands, and 4-month logs in Germany.



### Structure and Content of the diaries

Table 9 lists all documents involving self-recording by the respondents. Most commonly, the recording is on a daily basis, but retrospective recording is also involved in some cases. Three forms of recording are distinguished in the table:

- Recording on a daily basis, in which separate provision is made (in the form of a separate page or table) for each day.
- Chronological recording from one day to the next, but without an explicit separation of days on different pages or tables.
- Various forms of retrospective recording, including information pertaining to the time of the interview.

The table also shows the exact pre-specified categories used for the recording of different components of consumption and expenditure, and the items of information to be included. The general form of the diary and the degree of detail with which items to be recorded are explicitly specified is important because they can affect the quality and completeness of the

information obtained. However, they also affect the burden placed on the respondent. Generally it may be simplest for the respondent to record all expenses chronologically, without any order imposed by pre-specified categories. However, for diaries which involve retrospective recording in particular, completeness in reporting may depend critically on the extent to which specific categories of expenditure are explicitly covered. Often a compromise form is used, in which major categories are explicitly listed, but not the individual items within each category.

Some examples may be given to explain the entries in Table 9:

- In Belgium daily expenses are recorded for each day on a separate page. This form facilitates the totalling and checking of daily results. Own-production entering the household or consumed by it is also recorded chronologically on a daily basis, but without the provision of a separate page or table for each day. In the case of daily expenses, the recording is completely open-ended i.e. there are no pre-specified categories; while in the recording of own-consumption, a distinction is made according to whether the production is from the main or a subsidiary activity of the household. There is no further itemisation in either case.
- In the main diary used for the principal purchaser in France, four categories are distinguished for separate daily recording: daily expenditures, non-purchased goods, meals taken outside the home by the respondent, and meal outside by children who do not keep their own diaries. In the normal version of the diary used by other adults, only the first and the third categories are specified. There is no further categorisation in either case. In both versions a separate page is provided for each day. By contrast in Denmark the daily recording is chronological, but without the provision of a separate page for each day.
- In Germany, very detailed pre-specified categories by item or type of expenditure are used for the 4-month logs (retrospective recording), while the intensive diary (daily recording) is largely open-ended in form. By contrast, the Netherlands uses the open-ended form even for the quarterly logs (which in principle involve recording on a daily basis), while some countries such as Italy use detailed itemised lists for the recording of daily expenses.
- In many diaries, detailed lists or examples are provided to aid the respondent but the recording itself is mainly open-ended.

As regards content, daily expenditures in cash are generally covered in all countries. However, explicit coverage of own or subsidised consumption is less uniform. In relation to food consumption, the consumption of own-produced food is covered in all countries, while meals obtained free or at reduced price are covered in a majority but not in all.

Generally, information on cash income is obtained in the interview part of the survey. A complete record of income and receipts is sought only in two surveys: Belgium for the whole year on a daily basis; and Germany in both the detailed diary for one month and in the 4-month logs covering the whole year. In Italy a single question on household income is included as an annex to the diary. The logs (involving retrospective recording) maintained in Portugal and Spain (main survey) also cover some components of income. Some receipts are also recorded in the Netherlands, but that appears to be primarily for the purpose of more accurate measurement of consumption expenditure.

In some surveys, diaries are extended to include certain special items. The example of Belgium is noteworthy in including information on expenditures in relation to self-employment. This diary also includes some general questions on the background and composition of the household, as well as on quantities consumed.

**Table 9. THE STRUCTURE AND CONTENT OF DIARIES**

(See notes at end of Table)

**Belgium**

*(Recording over each month of the whole year)*

- R household composition and changes in household composition
- R receipts (varying details):
  - from within Belgium (23 categories; covering individual and hh receipts)
  - from foreign sources (no pre-specified categories)
- R expenses:
  - periodic (5 categories);
  - relating to primary or secondary activities (4 categories);
  - expenses in foreign money (2 categories)
- R whether meals received
  - free (source; number)
  - at reduced price (source; number; amount paid)
- D own-production entering/consumed by the household
  - not from main activity (date, quantity, nature of product)
  - from main activity (date, quantity, nature of product, value)
- DD daily expense (no pre-specified categories)

**Denmark**

*(Recording over the first 2 weeks of the household's recording period)*

- D food purchases (date, description, quantity, value, form of preservation); no pre-specified categories
- D all other purchases (date, description, quantity, value); no pre-specified categories
- D consumption of own-produce (date, description, quantity); no pre-specified categories

*(Recording over the second 2 weeks of the household's recording period)*

- D all non-food purchases (date, description, quantity, value); no pre-specified categories

**Germany**

*(4-month log: recording by individual month; three logs covering the whole year)*

- R changes in household composition
- R journeys performed (by member)
- R selected expenditures (very detailed itemised list)
- R other details (energy consumption, overdrafts etc.)
- R income from wages and salaries (detailed itemised list)
- R other income (detailed itemised list)

*(Intensive diary: recording by each household for one month)*

- R gross income over the month from wages, pensions etc.; all deductions (member, period covered)
  - gross remuneration (around 10 separate components)
  - deductions (over 10 separate components)
- DD other income received (type, recipient, amount), on a daily basis by form of receipt:
  - cash receipts
  - withdrawals from savings
  - non-cash (interest credited, direct transfers to account etc.)
- DD daily expenditure on food, drink, tobacco (type, quantity, value); no pre-specified categories
- DD other daily expenditures (item, for whom, value), separately by mode of payment:
  - cash payments (no pre-specified categories)
  - by cheque, credit card, transfer (no pre-specified categories)
  - by standing order or direct debit (no pre-specified categories)
- DD consumption in kind, by source:
  - own farm production
  - withdrawals from business
  - as allowances received in kind
- DD meals and drink taken outside home (member concerned, place, whether meal or drink):
  - main meal (lunch, dinner)
  - smaller meals (snack, breakfast etc.)

**Greece**

*(Daily personal expenditure form: recording over one week)*

- D food consumed outside: date, description, expenditure, separately by type of place (4 categories)
- D daily non-food expenditure: date, description, expenditure (8 pre-specified categories)
- R other non-food expenditures (examples, but no pre-specified categories; covering 3 weeks)
- R own production, withdrawals from business, receipts in kind:
  - item, reference period, mode of acquisition, value (no prespecified categories)

*(Household expenditure form: recording some information on a daily basis)*

- D various non-food items of immediate consumption (many examples; 5 groups)
- R,D food and related items of immediate consumption (by source). Retrospective recording (3 weeks) for some items.

(Table continued)



### **Spain - Main Survey**

*(Main purchaser's diary: recording for one week on a daily basis)*

- DD expenditure for the day: item, quantity, value  
(examples given of details to be recorded under "Item"; but no pre-specified categories)
- D consumption of own produce: day, item, quantity, market value (no pre-specified categories)
- D consumption of goods withdrawn: day, item, quantity, market value (no pre-specified categories)
- D goods received in kind: date, item, quantity, market value, amount actually paid (no pre-specified categories)
- D number of persons at each meal: day, time of meal, type of person.

*(Individual diary: recording for one week on a daily basis)*

- DD expenditure for the day: item, quantity, value (no pre-specified categories)

*(other logs: prepared by the hh to assist interviewing)*

- R free/subsidised meals at place of work (during recording period)
- R record of bills paid normally, and last payment
- R income record (last year)

### **Spain - Continuous Survey**

The main purchaser and individual diaries as above. In the former, own produce and goods withdrawn covered together in single table.

### **France**

*(Dairy no. 1: for the main purchaser)*

- DD daily expenditure (description, amount; no quantities, no pre-specified categories)
- DD non-purchase goods (description, quantity; no amount, no pre-specified categories)
- DD eating outside home (by person concerned; type of meal, amount paid, number of persons paid for)
- DD eating outside home (for children under 15 not keeping own diary; as above)

*(Dairy no. 2: for persons 15 and above)*

- DD daily expenditure (description, amount; no quantities, no pre-specified categories)
- DD eating outside home (by person concerned; type of meal, amount paid, number of persons paid for)

### **Ireland**

*(Housewife's diary: daily recording for 2 weeks)*

- purchasing arrangements: type of accounts held, whether bulk purchases.
- DD daily expenditures  
food and hh provisions: description, amount, quantity if possible; no pre-specified categories  
drinks, snacks or meals out, drinks with meals out: as above; no pre-specified categories  
other items: as above; no pre-specified categories

*(Individual diary: daily recording for 2 weeks)*

- D business expenditures over recording period: day, amount (no pre-specified categories)
- DD daily expenditures (no pre-specified categories)

### **Italy**

*(Household diary: daily recording for 10 days)*

- DD daily expenditures  
food and drinks at home: quantity, value (9 pre-specified groups of items)  
food and meals out (examples, but no pre-specified categorisation)  
other non-durable goods and services (11 pre-specified groups of items)
- R major purchase during past 3 months (17 pre-specified items or groups)
- R monthly income and annual savings

*(Self-consumption diary: daily recording for 10 days)*

- DD own-consumption of food and related items (9 pre-specified items or groups)

### **Luxembourg**

*(Household diary: recording period one month)*

- R household composition and changes in composition
- D consumption in kind during the month: date description, quantity, value  
family products and gifts of food, drinks and tobacco (no pre-specified categories)  
receipts in kind from employer (no pre-specified categories)  
gifts other than food, drinks and tobacco (no pre-specified categories)
- DD daily expenditures: item, mode of payment, quantity, value  
food, drinks and tobacco (no pre-specified categories)  
other goods and services (no pre-specified categories)

*(Expense book - voluntary, for persons aged 17 and above)*

- D daily expenditure: date, quantity, item, value (no pre-specified categories)

### **Netherlands**

*(Quarterly household log: recording daily, covering the whole year)*

- D expenditures and related receipts during the quarter (exceeding fl.25):  
date, description, quantity, value, type of shop, whether instalment; no pre-codes.
- R changes in household situation (interview)

(Netherlands - continued)

(Netherlands - continued)

*(Intensive household diary: daily recording for half a month)*

- D all expenditures and related receipts each day:
  - date, description, quantity, value, type of shop, whether instalment; no pre-codes.
- R changes in household situation (interview)

*(Own-production diary: covering whole year; not for farmers or market gardeners)*

- D yield from own-production (recorded daily or weekly):
  - date, description, quantity; no pre-coded categories.
- R planting and sowing during the year:
  - date, description, quantity; no pre-coded categories.

*(Holiday diary: for each holiday during the year)*

- D expenditure during holiday exceeding fl 50.-: date, description, quantity, amount, currency, form i.e. cash or cheque (examples given, but no pre-coded categories)
- R other information on each holiday
  - expenditure prior to holiday:
    - (date, description, quantity, amount, type of shop, whether instalment; no pre-codes)
  - money taken on holiday (date, description, amount, currency: no pre-codes)
  - money brought back (date, description, amount, currency; no pre-codes)
  - general information on holiday (interview)

## Portugal

*(Household diary: daily recording for one week)*

- DD purchases and acquisitions: source, product, quantity, value; no pre-coded categories
- DD consumption of own-produce: product, quantity, value; no pre-coded categories
- DD withdrawals from own business: type of business, product, quantity, value; no pre-coded categories
- D persons present at lunch and dinner each day: by age, sex, whether household member.

*(Individual expenditure form: daily recording for one week)*

- D purchases: date, source, product, quantity, value; no pre-coded categories

*(Household expenditure log)*

- R expenditure
  - on monthly basis (list provided, but no pre-coded categories)
  - on 2-monthly basis (list provided, but no pre-coded categories)
  - on annual basis (list provided, but no pre-coded categories)
- R consumption in kind (reference period not specified)
  - goods and services free of charge (no pre-coded categories)
  - remuneration in kind (no pre-coded categories)
- R income, tax, other deductions etc. (interview)

## United Kingdom

*(Individual diary: daily recording for 2 weeks)*

- R general items: expenses refunded or claimed; credit card payments; winnings etc. over two weeks
- DD daily expenditures:
  - food and drinks brought home (no further pre-specified categories)
  - food and non-alcoholic drinks consumed away from home (by where consumed)
  - alcoholic drinks (no further pre-specified categories)
  - daily shopping items (no further pre-specified categories)
  - clothing, clothing materials, footwear (no further pre-specified categories)
  - travel (no further pre-specified categories)
  - other

*(National Food Survey diary: daily recording for 10 days)*

- DD cost of food
  - bought at normal prices
  - home grown or received free
  - composition of meals served and number of persons eating, etc.

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The Table shows survey instruments in which data on consumption and expenditure is obtained through recording, generally by the respondent on a daily basis though in some cases the recording is retrospective. In most cases, these data are supplemented by interview questionnaires covering consumption and expenditure with varying reference periods.

### KEY

- DD separate recording for each day in the diary
- D recoding by day, but days not explicitly separated out on different pages or tables in the diary
- R retrospective recoding, including information without a specific reference period or pertaining to the time of the interview.

## 7 REFERENCE PERIODS

Reference period means the time-duration to which a particular item of information relates. With continuous recording, the reference period is by definition the same as the recording period. In the retrospective interview or self-reporting, a range of reference periods are used, such as one month for frequent items and a whole year for infrequent items. The use of a longer reference period increases the volume (the effective sample size) of the information obtained; however it also tends to increase the biases due to recall errors. A compromise is therefore required in the choice of the reference period. The appropriate choice depends on the frequency, salience and regularity of occurrence of the items or events concerned.

Table 10 shows some examples (albeit in a simplified form) of the *lengths* of the reference periods used for different types of items in different countries. Despite the similarity in requirements, there is indeed a surprising degree of variation among the family budget surveys in the type and duration of reference periods used. The reference (recording) period for daily expenses varies from 30 days in Luxembourg to 7 days in Spain. Less frequent but small and irregular item, such as clothing and shoes, are recorded with a reference period of 3 months in Luxembourg, 2 months in France, and 1 month in Spain and Italy. A similar pattern across the countries is found in relation to expenses relating to housing. Generally major expenses are recorded with a reference period of one year, though there are exceptions such as Italy (and the Spanish continuous survey) which use 3 months as the maximum for any item.

### Fixed versus moving reference periods

As to the *type* of the reference period, two basic distinctions may be noted. The first is the distinction between fixed and moving reference periods, already introduced in relation to the diary recording period in Section 5. Each form has its advantages. The use of a fixed reference period, defined in terms of specified calendar dates, provides information related to a definite time which is the same for all units interviewed. This avoids different 'period' or seasonal effects (e.g. influence of the week-end, end of the calendar month) on the results from different households. A fixed period may also be more suitable for linkages with other data, especially from administrative sources which often refer to a fixed period in time. On the other hand, the use of a fixed reference period makes the recall period (i.e. the duration over which the respondent has to remember the information to be reported) not only longer, but also different for different respondents depending on when a particular household in the sample is interviewed. This can be serious problem if the fieldwork is spread out over a relatively long period of time - such as a whole year as is common in family budget surveys. The use of a fixed reference period is more appropriate when the fieldwork duration can be made short.

In family budget surveys, the use of a moving reference period, defined in terms of specified duration measured backwards from the time of the interview, is by far the more common practice. All interviews, apart from the final interviews in the Netherlands, Belgium, Germany and Denmark, use a variety of moving reference periods.

Another variant is to use a moving calendar period, for example the last calendar month, as distinct from the past 30 days. For certain items occurring with a regular frequency (such as monthly wages received, monthly rent or bills paid), the 'last payment' approach mentioned below effectively amounts to a 'moving calendar period' approach.

Table 10. SOME EXAMPLES OF REFERENCE PERIODS USED

	1 year	6 months	3 months	2 months	1 month	2 weeks	10 days	1 week
<b>LUXEMBOURG</b>								
THE DIARY OF ACCOUNTS - 30 DAYS								daily expenses
LAST 3 MONTHS			clothing and shoes					
LAST 6 MONTHS		medical care and health expenditures						
LAST 12 MONTHS	expenses of moving house; furniture and furnishings, household articles and appliances purchase of car, motor-bike; expenditure for the use of vehicles (repairs, taxes etc.) travel to place of work or study articles for hobbies, audio-visual equipment; education, culture insurance, payment of debts, other diverse payments							
<b>FRANCE</b>								
THE DIARY OF ACCOUNTS - 14 DAYS								daily expenses
LAST 2 MONTHS				over-clothes; shoes; combustibles (other than the main heating)				
LAST 3 MONTHS or LAST PAYMENT			rent; gas and electricity; telephone					
LAST 6 MONTHS		hospitalisation						
LAST 12 MONTHS	maintenance, service and credit charges, major works, water, heating purchase of caravans, trailer, boats, furniture, durable goods, large amount of material for DIY and for gardening house tax; insurance; TV licence; cures; household help; gifts and donations; holidays; exceptional expenses.							
<b>ITALY</b>								
THE DIARY OF ACCOUNTS - 10 DAYS								daily expenses
LAST 1 MONTH						goods other than foodstuffs and services		
LAST 3 MONTHS			consumer durables.					
<b>SPAIN (Main Survey)</b>								
1 WEEK (coinciding with the sample or recording period)								daily expenses
LAST 1 MONTH						expenditures with frequency < 1 week		
LAST 3 MONTHS			those goods and services whose frequency of purchase or use is less than monthly.					
LAST 12 MONTHS	cash income and those goods and services whose frequency of purchase is very slight and whose unit value is regarded as sufficiently high to preclude omissions (e.g. furniture, domestic appliances vehicles etc.)							
FINAL INSTALLMENT	The approach is applied to goods and services that are usually paid for by installments.							
	1 year	6 months	3 months	2 months	1 month	2 weeks	10 days	1 week

### **The last payment approach**

The second important distinction is between the use of a reference period (whether fixed or moving) of a specified duration, and the 'last payment approach' in which the amount last paid and the corresponding period covered is recorded. It is possible that this latter approach is less subject to recall errors. It is particularly suited for items and events which occur with a certain regularity and which are not too frequent. Extensive use is made of the last payment approach in the Netherlands, United Kingdom, Ireland and France, but hardly in other surveys.

### **The diversity of reference periods used**

In Table 11 an attempt has been made to summarise the diversity of lengths and types of reference periods used for different groups of items in the various countries. The classification of the items shown is according to Eurostat Procome nomenclature used for comparative tabulation of family budget survey data. Items which are recorded only on a continuous (daily) basis are identified as such along with the corresponding recording period (shaded cells in the table). The retrospective reference periods are shown for all other items; these generally involve retrospective interview or recording, though some form of continuous recording may also be involved in certain cases.

Belgium is an outstanding case in that practically all information on expenditure and income is obtained from daily recording throughout the year. Extensive use of the diary also appears for many items in the United Kingdom and to a lesser extent in Ireland. In Denmark, Germany and the Netherlands, a fixed reference period of one calendar year is used for most items: in Denmark for the final interview at the end of the survey year; in Germany for retrospective recoding in the three 4-month logs; and in the Netherlands for daily recording in the four quarterly logs. In the Spanish continuous survey, the maximum reference period for major items is one quarter, rather than a full year as in other countries; but effectively this also amounts to one year because of quarterly repetitions of the survey. As already noted, an extensive use is made of the last payment approach in particular for periodic expenditures in the Netherlands, United Kingdom, Ireland and France.

For many groups, more than one type/length of the reference period is involved, depending on the particular item in the group. It is of course not possible to capture fully in a single table such as Table 11 the enormous variety of reference periods encountered across countries and across different items within countries. For instance in France, while electricity and gas expenditures relating to the principal dwelling are recorded on the last payment basis, those relating to the secondary dwelling are recorded with last 12 months as the (moving) reference period. For simplicity, the table shows only the former, that being the more significant component for these items.

**TABLE 11. REFERENCE PERIODS FOR MAIN ITEMS**

	B	DK	D	GR	E-cont	E-main	F	IRL	I	L	NL	P	UK
<b>Food, beverages and tobacco</b>													
Diary (daily recording)	365 d	14 d	30 d	7 d	4 x 7 d	7 d	14 d	14 d	10 d	30 d	15d/Y (1)	7 d	14 d
Retrospective (interview)	-	-	-	y	-	m	-	-	-	-	-	-	-
<b>Clothing and footwear</b>													
Clothing, repairs	365 d	28 d	Y	3w	m	m	2 m	14 d	m	q	15d/Y (1)	2m	14 d
Footwear	365 d	28 d	Y	7 d	mlw (1)	mlw (1)	2 m	14 d	m	q	15d/Y (1)	2m	14 d
<b>Gross rent, fuel and power</b>	(2)												
Rent of tenants	365 d	Y	Y	m	q	L	L/y (1)	L	m	m	L	m	L
Imputed rent	M	-	-	M	M	M	-	-	M	M	L (3)	M	-
Repair and maintenance	365 d	Y	Y	y	m/q	q	y	14 d	m	y	365 d	m	y
Electricity	365 d	Y	Y	L	q	L	L	14 d	m	y	L(4)	m	q/L (1)
Gas	365 d	Y	Y	y	q	L	L	L	m	y	L(4)	m	q/L(1)
Other fuels	365 d	Y	30 d	y	q	L	14 d	14 d	m	y	365 d	m	q
<b>Furniture and hh equipment</b>													
Furniture, floor, textiles, repairs	365 d	Y	Y	y	q	y/q (2)	y	14 d	m	y	365 d	y	q
Major appliances	365 d	Y	Y	y/m	q	y/q (3)	y	y	m/q	y	365 d	y	14 d
Glassware	365 d	Y	Y	3 w	m	m	14 d	14 d	m	30 d	365 d	2m	14 d
Hh maintenance, domestic service	365 d	Y	Y	m	m	m/w(4)	M	L	m	m	365 d	m	14 d
<b>Medical services, health expenditure</b>	(2)												
Products and equipment	365 d	Y	Y	7 d	w/q (2)	X (5)	14 d	14 d	m	s	365 d	y (1)	14 d
Services	365 d	Y	Y	y/m (1)	m	q (6)	14 d	y	m	s	365 d	y/m	14 d
Rémuneration insurance service	365 d	Y	Y	L	q	q/L	14 d	y	m	s	365 d	y	L
<b>Transport and communication</b>													
Personal transport equipment	365 d	Y	Y	y	q	y	y	y	q	y	365 d	y	q
Operation	365 d	Y	Y	X (2)	X	X	14 d	L	m	q	365 d	m/y	14 d
Purchase of transport services	365 d	Y	30 d	7 d	m/w	m/w	14 d	14 d	m	s	365 d	2m	L
Communication: Telephone	365 d	Y	Y	L	q	L	L	L	m	q	365 d	m	14 d
Communication: other	365 d	-	Y	-	q	y	-	-	-	q	365 d	-	14 d
<b>Recreation, culture</b>	(2)												
Major durables	365 d	Y	Y	y	q	y	y	14 d	m/q	y	365 d	y	14 d
Other goods, repairs	365 d	28 d	Y	3 w	X	X	14 d	14 d	m	30 d	365 d	2m/m	14 d
Cultural services	365 d	28 d	30 d	3 w	w/m	w/m	14 d	14 d	10 d	y	365 d	7 d	14 d
Books, magazines: subscriptions	365 d	Y	Y	3 w	m	w	14 d	14 d	10 d	y	365 d	y	14 d
Books, magazines: other	365 d	28 d	Y	3 w	m	w	14 d	14 d	10 d	y	365 d	7d	14d
Education	365 d	Y	30 d	y	m	L/y	y	y	m	y	365 d	m/y	3 m
<b>Miscellaneous goods and services</b>	(2)												
Personal care services	365 d	28 d	30 d	7 d	m	w	14 d	14 d	10 d	30 d	365 d	m	14 d
Goods for personal care	365 d	28 d	30 d	3w	m	w	14 d	14 d	m	30 d	365 d	2 m	14 d
Restaurants and cafes	365 d	28 d	30 d	y (3)	w	w	y/14d	14 d	m	y (1)	365 d	7 d	14 d
Hotels and lodges	365 d	Y	30 d	y	q	q	y/14d	14 d	m	y (1)	365 d	2 m	q
Package tours	365 d	Y	30 d	y	q	q	y/14d	y	m	y	365 d	y	q
Financial and other services	365 d	Y	Y	7 d	m/w	q	14 d	14 d	-	y	365 d	7 d	L
<b>Other expenditure</b>	(2)												
Taxes, licences, permits	365 d	Y	L	L	q	y	L	14 d	10 d	y	L	7 d	14 d (2)
Gross insurance premium	365 d	Y	Y	L	q	y	y	L	m	y	365 d	y	L (3)
<b>INCOME (main reference period)</b>	365 d	Y	Y	X	3m	y	y (2)	y	M	m	Y	y	X

## Table 11: NOTES

In general, there are two types of sources of information on consumption/expenditure and income/receipts:

- (1) continuous (daily) recording in the diary; and
- (2) retrospective information obtained in the interview (or self-recording).

The latter uses a variety of reference periods depending on the survey and the particular item(s) as shown in the table. Some items may be enumerated using both methods, in which case the reference period shown pertains to the retrospective source. The shaded cells refer to items which are included only in the diary (with no explicit mention in the retrospective interview). In such cases the table specifies the diary *recording period* in days (d); the 'reference period' has no meaning other than the cumulated days of recording. In case (2), the *reference period* is specified in weeks, months, a quarter, a semester (6 months), or as a full year. In most cases, a *moving* reference period is used, i.e. a reference period of a certain specified duration immediately before the interview, thereby covering a different actual time for different respondents depending on the distribution of the interviews over the survey period. In some cases, a *fixed* reference period (normally a fixed calendar year) is used, such as in Belgium, Germany, Netherlands and Denmark.

**KEY:** - w: weeks; m: months; M: average monthly amount; q: quarter; s: semester;  
- y: year (moving reference); Y year (fixed reference period)  
- L: last payment for periodic expenditures, periodicity not predetermined. Also covers metre reading.  
- "m/y" etc. specifies if two periods are used, depending on the item. X: several reference periods are used.

In important cases, further detail is provided in the country-specific notes (see below).

### FOOD, BEVERAGE AND TOBACCO

In all countries, full details are recorded on a daily basis in the diaries. The table specifies the recording period (days, d). In the Netherlands, Greece and Spain (main survey), larger expenditures on these items are also recorded with longer reference periods in a retrospective manner. The minimum breakdown in all cases includes the following groupings: bread and cereals; meat; fish; milk and milk products; oils and fats; fruit and vegetables; sugar, tea and coffee; other foods; non-alcoholic beverages; alcoholic beverages; and tobacco products.

### IMPUTED RENT and INCOME

See Tables 18 and 20 respectively for further details.

### COUNTRY SPECIFIC NOTES

*Belgium.* The survey involves continuous recording of all expenditures and receipts on a daily basis (diary) for the whole year.

*Denmark.* Diaries are maintained for 14 days to cover all expenditure including on food, and for another 14 days covering only non-food items. In addition, information on major non-food expenditures is obtained in the retrospective interview at the end of the survey year, with a fixed reference period of one calendar year.

*Germany.* Apart from daily recording for a period of one month, major items of non-food expenditures are recorded in 4-month logs covering the whole survey year for each household. All income including in kind during survey year is recorded.

*Greece.* There is a certain lack of uniformity in the diverse reference periods used for different items.

- (1) "y" in hospital; "m" outside of the hospital
- (2) "L" for periodic expenditure, "m" for garage, "q" for maintenance
- (3) Only during holidays

*Spain (Cont.).* The quarterly reference periods add up to a whole year because of repeated quarterly enumeration.

- (1) Repairs of shoes: one week
- (2) Medicines: one week; therapeutic accessories: quarter or year

*Spain (Main)*

- (1) Repairs of shoes: one week
- (2) Furniture and apparels: annual; accessories and complements: quarter
- (3) Big expenditures (durable goods): annual; other items: quarter
- (4) Domestic service: one month; maintenance: one week
- (5) Medicines: one week; therapeutic accessories: quarter or year
- (6) Expenditure in hospitals: annual.

*France*

- (1) Charges are asked over last 12 months
- (2) Income: generally average monthly amounts, and number of months received are asked to obtain annual estimates

*Ireland.* Most items are obtained from the diary (daily for 14 days). The last payment approach is common for retrospective items.

*Italy.* For some goods both monthly and quarterly expenditures are recorded.

*Luxembourg.* (1) Only during holidays

*Netherlands*

- (1) For the whole year, expenditures above a certain amount are recorded in quarterly logs. For half a month for each household, all expenditures are recorded in a diary on a daily basis.
- (2) Most periodic expenditures are recorded in a separate questionnaire. Periodic expenditures recorded in the diaries are not incorporated in the results to avoid double counting.
- (3) Only if free of charge. For owner-occupiers, estimates are made by experts every 5 years.

*Portugal.* (1) therapeutic materials: y; medicines: d (diary)

*United Kingdom.* Information on food quantities comes from the National Food Survey (recording period 10 days).

- (1) Depending on the payment method
- (2) For car: one year
- (3) Taxes: information is obtained from the diaries and from the interview.

### Reference period for aggregated data

Finally, Table 12 has been constructed to illustrate the effect of the length and type of the reference period on the results aggregated over households in the sample. With a moving reference period, it becomes important to distinguish the reference period as it is defined for a particular household, from the period covered by the information aggregated for the survey as a whole. The former is relevant for data collection, while it is the latter which is relevant for data analysis and use.

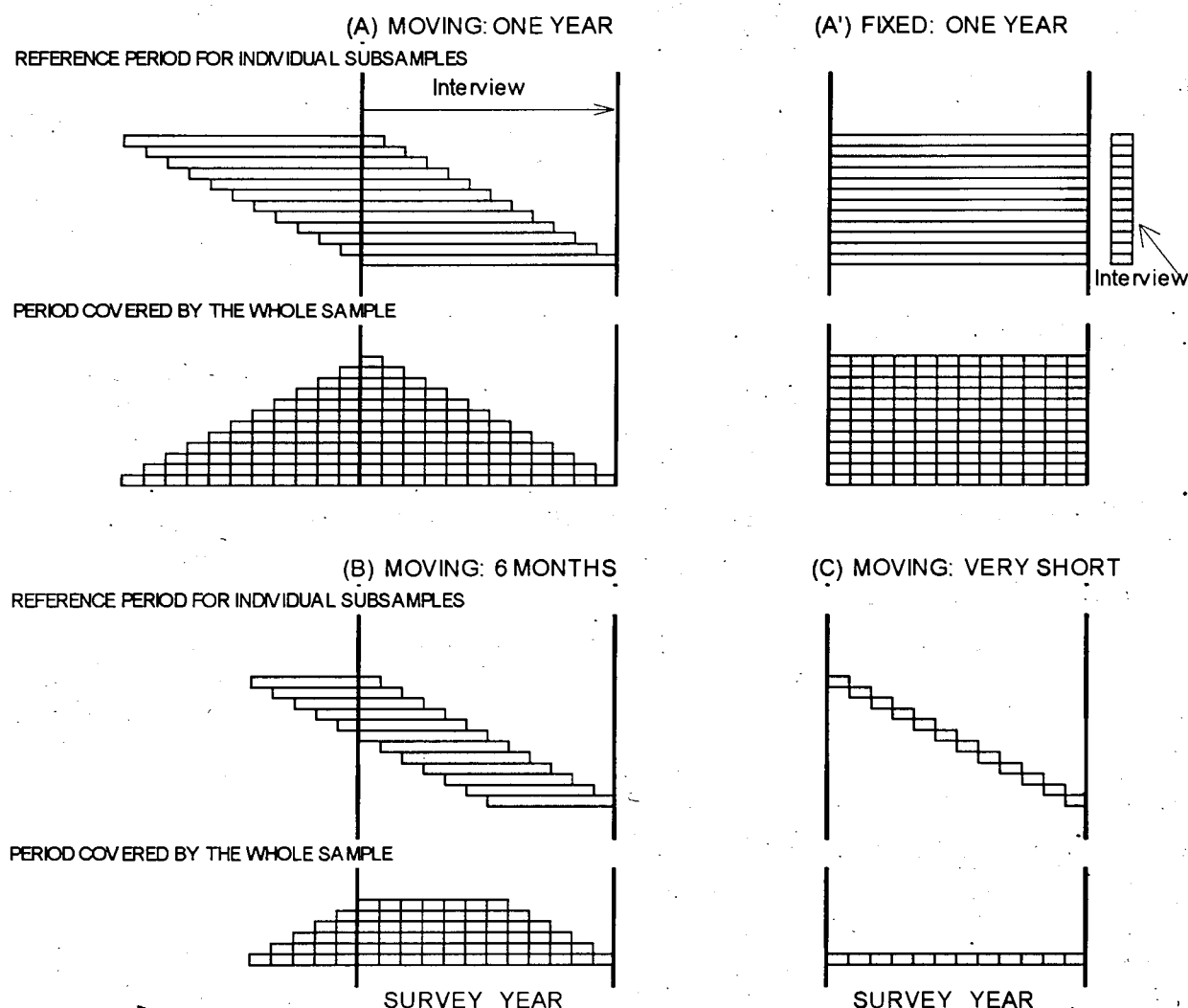
Consider a survey in which field-work is carried out in a continuous manner and uniformly distributed over a year, with a *moving reference period* of length " $x$ " (fraction in years). Clearly, the information obtained from the units enumerated at the very beginning of the survey relates to interval  $x$  immediately prior to the survey period. Consequently, the total period to which the survey data relate is  $x$  plus the survey period of one year. The number of units for which the information is obtained is not uniform throughout the  $(x+1)$  years. It increases from zero to a maximum during the first  $x$ , stays at that maximum for the next  $(1-x)$ , and finally declines to zero over the last  $x$  years. This will not make much difference if  $x$  is a short reference period such as one week. However, the situation is quite different when  $x$  is a long reference period such as a year. Here the information relates to two years: the year before the survey and the survey year. The number of units providing retrospective information relating to any point during these two years has a triangular distribution, with peak at the beginning of the survey year itself.

The survey therefore does not directly provide estimates for a single specified year: that would require inefficient weighting of the information inversely according to the number of units covered at each time during the year, and discarding the information which relates to time outside the year. On the other hand, the unweighted results *can* be used directly to study monthly or seasonal variation if it does not matter from which particular year in the two years the data came from.

The above difficulties do not arise if a fixed reference period is used, i.e. a reference period defined by the same, fixed calendar dates for all respondents. There are of course other problems with using fixed reference periods as noted earlier.



**Table 12. EFFECT OF TYPE AND LENGTH OF REFERENCE PERIOD**



The table shows the effect of the type and length of the reference period on the period covered in the whole survey. The type refers to whether the reference period is 'moving' or 'fixed'. A fixed reference period means a period of the same duration and timing for all units in the sample, irrespective of the timing of their interviewing.

With a moving reference period the duration is the same, but the actual time covered differs from one unit or subsample to another depending on the timing of its interview. With interviewing distributed over the whole survey year, the period covered for the sample as a whole includes the survey year, and extends beyond it into the preceding year depending on the length of the moving reference period. With the reference period also of one year, the period covered in the survey extends over two years with a

triangular density distribution (diagram A). As the length of the moving reference period is reduced, the coverage becomes more concentrated in the actual survey year, and more rectangular in shape (diagrams B and C). With a fixed reference period, the coverage is always confined to the fixed survey year, and is rectangular in shape (diagram A') irrespective of the length of the fixed reference period.

Another effect of the length is on the 'quantity' of the time covered, as indicated by the area of the diagram representing the period covered by the whole sample. In a sense, this is the effective sample size. This quantity does not depend on the type of the reference period but only on its length: for example, it is the same for diagrams (A) and (A'). It is reduced in proportion to the length of the reference period (as in diagrams B and C).

## 8 INDICATORS OF LEVELS OF LIVING

Apart from quantitative information on consumption, expenditure and income, family budget surveys are also a major source of information on qualitative indicators on the households' levels of living. On the following pages Tables 13-17 provide information on data availability on a wide range of topics including:

- Basic characteristics of household members e.g. marital status, education and employment.
- Accommodation and amenities: year of construction and occupation; type and size of accommodation; availability of various facilities in the house; tenure; and information on any secondary dwelling.
- Availability of durable goods. This covers the standard list of items recommended by Eurostat, and a variety of other types of goods. Some countries also obtain information on the title and purchase of durable goods.
- Information relating to health care: purchase and use of medical products and appliances; use of medical services including hospital care; health insurance etc.
- Child care arrangements.
- Transport: use of public and private transport; purchase of transport equipment.
- Holidays: duration, location, type of accommodation, transport, and expenditure on holidays taken during the year.

Some remarks on the information tabulated follow. Only a broad overview can be provided here of the enormous variety and complexity of the information contained in the family budget surveys. Individual survey questionnaires must be consulted for more detailed and specific information.

### **Basic characteristics of household members (Table 13)**

**Marital status.** Along with age, sex and relationship, information on marital status of individual members is useful for defining the structure of the household. Household structure is a fundamental characteristic determining the size and structure of income and consumption, and has always to be taken into account in comparing these across socio-economic groups and across countries. Information on formal marital status is obtained in all surveys. The only exception is Spain (both surveys); the absence of this information is a major (though easily rectified) limitation. Explicit distinction between formal marital status and de facto unions is made only in a minority of the surveys (Denmark, France, Netherlands).

**Education.** The current and completed levels of education are useful classification and descriptive variables. However, in a number of countries, the information available lacks detail, or is not included at all. While in countries like Denmark, Greece, France, Ireland, Italy and Spain (main survey) the information is obtained for all household members, in some others it is limited to the household head or to head and spouse. Information on the schooling of children is also not uniformly covered.

**Employment.** The surveys use a wide variety of classifications for activity and employment status, level of skill, sector and similar variables identifying the nature of economic activity of household members. While internationally agreed standards do not exist for all of these variables, the degree of non-uniformity found among the surveys appears to be excessive.

As to the basic concepts of economic activity, some countries use the 'current status' approach measured in terms of a short reference period of one week, more or less in line with the standard ILO or Community Labour Force Survey concepts. According to this

framework, the current status approach first identifies persons as 'employed' on the basis of any work done during the preceding week. Among the remaining the 'unemployed' are those who are without work and are seeking and available for work. The above two groups together constitute the 'economically active', the 'economically not active' being defined as the residual category. Generally the reference period for seeking work is taken as the preceding four weeks, and for availability for work as the two weeks following the interview. These basic concepts are supplemented by specific procedures for dealing with special cases.

Spain (main survey) perhaps provides the purest example of the application of the current status framework (see inset below). Generally, however, a variety of different concepts are used, as the example given below from the United Kingdom illustrates.

*Spain (main survey) Definitions relating to economic activity (some examples)*

All members of the household are classified according to their *activity during the calendar week prior to the sample period*.... Economically active population comprises all persons who, in a given reference period, provide labour for the production of economic goods and services or who are available and take steps to be involved in such production.... In the family budget survey the economically active population comprises all persons who, during the calendar week prior to the sample (recording) period, meet the conditions for inclusion among the employed or unemployed persons... The employed comprise all persons who, during the reference week, worked as an employee or as self-employed... 'Working' are persons who during the reference week worked for at least one hour in return for a salary, wage or other form of remuneration, in cash or in kind, and persons who during the reference period worked for at least one hour in return for a profit for the family business, in cash or in kind... Unemployed are taken to be all persons who during the reference week were without work, are available for work and are seeking employment.

*United Kingdom: Examples of some concepts relating to economic activity*

Persons working or 'workers'. These are persons aged 16 or above (spenders) who fall within the following categories:

- Employees at work: those who at the time of interview are gainfully employed full- or part-time (normally 30 hours or less per week), and are attending work or are absent on holiday only.
- Employees temporarily away from work: those who at the time of the interview had a job to go to but were absent from it for reasons other than holiday.
- Employees not currently employed: those having no job at the time of the interview, either through sickness, injury or other reason, but who have indicated that they intend to seek work or are seeking work; persons are not included in this category if their last job was more than a year ago or if they have never worked.
- Self-employed: those who at the interview stated that they were self-employed; excluded are persons usually working 30 hours per week or less or earning on average under a specified amount (£6.50).

Persons not working. These are classified as 'retired' or 'unoccupied'.

- Retired: persons not working who have reached the age for receipt of national insurance retirement pension (65+ for men and 60+ for women), whether or not they previously worked for gain.
- Unoccupied: persons other than workers or retired, who are not working for financial remuneration; this category includes school leavers and other persons who have never worked, employees away from work for whatever reason for more than a year, and certain self-employed persons such as mail-order agent and baby-sitters not classified as workers, as well as housewives and persons in full-time education provided they are not working for financial remuneration.

The concepts used therefore are quite different from the current-status approach of the labour force surveys, but it is understood that these are being revised to bring them closer to the LFS standards.

In the context of the family budget surveys, the 'usual status' or the 'main status' approaches are perhaps the more useful ones. Usual activity status is measured in terms of a long reference period such as a year, and therefore can be better linked to income and other variables which are usually also obtained with the year as the reference period. However, the usual status is difficult to measure through a one-time survey interview. Therefore a more appropriate choice is classification according to the *main activity status* measured around the time of the survey such as over the preceding month. The main status may be determined in terms of the most time spent, possibly modified to give priority to activity over non-activity, and to economic activity over non-economic activity. The main source of information on this measure is usually the respondent's self-declaration of his or her main activity. In most of the family budget surveys some kind of main status approach is implied, though in some cases the formulation of the survey questions lack specificity.

#### **Accommodation and amenities (Table 14)**

A wide range of information on accommodation and amenities is obtained in practically all surveys. Such information is easily collected, especially in comparison with the complex questioning required for the measurement of consumption and income. Spain (continuous survey) is an exception in that little information is obtained in the survey on these variables, though extensive information is available on these in the Spanish main survey. Rich information on the secondary dwelling is also obtained in about half of the surveys, especially in France and Spain (main survey).

#### **Durable goods (Table 15)**

The picture is similar in relation to the possession/availability of various durable goods. The coverage is particularly extensive in countries such as Denmark, Germany, Italy, Netherlands, Spain (main survey), and to a lesser extent, France. The last two countries also obtain detailed information on the purchase of durable goods. Such information is useful for the study of consumer behaviour.

#### **Health and child care (Table 16)**

Extensive information is available in France, Denmark, and to a lesser extent, in Belgium and Spain (main survey). Ireland also obtains several items of information relating to hospital care. However, in a number of countries the information collected on health and child care is very limited.

#### **Holidays (Table 17)**

Information on holidays is obtained with a reference period of 12 months in most countries, with some exceptions such as the United Kingdom (three months) and Italy (one month). The definition of what constitutes a 'holiday' varies from six days away in Denmark, to three days or nights away in Greece and Luxembourg, with four days/nights as the most common choice. Expenditure and other aspects of holidays are well covered in Belgium, Germany, the Netherlands and France, and to a lesser extent Denmark. Coverage is limited in the UK, Ireland and Luxembourg (the last only collecting details on expenditures). No information is obtained in either of the surveys in Spain, and in Portugal except for some information on expenditure.

**Table 13. BASIC CHARACTERISTICS OF MEMBERS: Marriage, Education, Employment.**

1. MARITAL STATUS	B	DK	D	GR	E-cont	E-main	F	IRL	I	L	NL	P	UK
whether asked	y	y	y	y	n	n	y	y	y	y	y	y	y
distinction between marriage and de facto union?	n	y	n	n	-	-	y	n	n	n	y	n	n

**2. EDUCATION**

<b>Level attending</b>													
-degree of detail (1)	2 (a)	3	0	2	0	3	3	2	1	0	0	0	2
- information available for	All	All	-	All	-	All	All	All	All	-	-	-	All
<b>Level completed</b>													
-degree of detail (2)	1	2	0	1	1	2	2	1	1	0	2	1	0
- information available for	Couple	All	-	All	Head	All	All	All	All	-	Couple	All	-
<b>Child schooling categories distinguished:</b>													
-private/state						x	x	x					x
-boarding/day school		x						x					
-special education						x	x						x

(1) 0: not asked; 1: asked only whether attending; 2: some breakdown; 3: full breakdown

Full breakdown: infant/primary/lower secondary/upper secondary/lower technical/upper technical/university

(a) Belgium: information in a separate questionnaire; currently not reported to Eurostat.

(2) 0: not asked; 1: some breakdown; 2: full breakdown

Full breakdown: less than primary/primary/lower secondary/upper secondary/lower technical/upper technical/university

B	DK	D	GR	E-cont	E-main	F	IRL	I	L	NL	P	UK
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**3. EMPLOYMENT**

Information obtained for (1)	ALL	ALL	ALL	ALL	H	ALL	ALL	ALL	ALL	ALL	H (a)	ALL	ALL
<b>Current activity status</b>													
- differentiates current status from usual status	XX							XX					
- degree of breakdown (2)	1	2	1	1	1	1	1	1	2	2	2	1	2
<b>Status in employment</b>													
- degree of breakdown (3)	1	1	1	1	2	2	1	1	2	2	1	1	2
- differentiate employer from self-employed	XX	XX		XX	XX	XX			XX	XX	XX		XX
- if employer: number of workers							XX			XX			XX
<b>Job characteristics</b>													
- industry		XX		XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
- profession		XX			XX	XX	XX	XX		XX	XX	XX	XX
- public/private sector (4)	XX	XX		XX		XX	XX						
- information on skill (5)	0	2	0	1	2	0	2	0	1	0	1	0	2
- hours worked (6)	0	1	0	2	1	1	0 (b)	1	2	2	2	0	2

**NOTES**

(1) ALL: asked of all adult members; H: asked of head and partner only

(a) NL: only one question asked of ALL members.

(2) 1: some breakdown; 2: full breakdown (working/unemployed/retired/student/national service/homemaker/unable to work)

(3) 1: some breakdown; 2: full breakdown (Employer/self-employed/employee/unpaid/apprentice/other).

(4) If the question deals only with civil service, it is recorded as no ('blank')

(5) 0: not asked; 1: some breakdown;

3: full breakdown (armed forces/professional, managerial, scientific/ clerical/manual, skilled/ manual, semi-skilled/manual, unskilled).

(6) 0: not asked; 1: fulltime/parttime; 2: hours specified

(b) F: will be introduced in the next survey.

Table14. ACCOMMODATION

	B	DK	D	GR	E-cont	E-main	F	IRL	I	L	NL	P	UK
1. YEAR OF OCCUPATION		xx				xx	xx		xx	xx			xx
2. YEAR OF CONSTRUCTION	pre 1918 1918-45 1946-60 1961-70 1971-75 1976-80 1981 +	open-ended	pre 1919 1919-48 1949-60 1961-70 1971-77 1978+	pre 1918 1918-45 1946-60 1961-70 1971+	na	open-ended	pre 1948 1949-61 1962-67 1968-74 1975 +	pre 1918 1918-45 1946-60 1961-70 1971-80 1981+	open-ended	pre 1919 1919-194 1946-195 1956-196 1966-197 1976-198 1981+	pre 1906 1906-30 1931-44 1945-59 1960-70 1970-74 1975-79 1980-84 1985+	pre 1918 1918-44 1945-59 1960-70 1971+	na
3. TYPE OF BUILDING	1 dw 2-9 dws 10+ dws Other	Farm-house Semi-detached Detached Hostel Other	1 dw 2 dws 3+ dws other	single dw 2 apt bld 3+ apt bld other	na	1 dw 2 dws 3+ dws multi-purpose building	1 dw 2dw 3+dw Other	Bedsitte Apt House: -detached -semi -terraced	Villa Landlord's Civil/comm. Rural Unifamily Apts	Unifamily Multi fam. Other	Detached Semi Apt Farm house With shop Community Other	1 dw apt Barraque Other	House: -detached -Semi -terraced Flat
dws=dwellings apt=apartment bld=building													
4. SIZE	-AREA	xx	xx	xx	xx		xx	xx	xx	xx	xx		xx
ROOMS-for private use	xx (a)	xx	xx	xx		xx	xx	xx	xx	xx	xx	xx	xx
-let or sublet			xx	xx				xx		xx			
-for business use			xx				xx	xx	xx	xx			xx
5. AMENITIES	-) living/dining room		xx	xx				xx (b)	xx			xx	xx
-) kitchen		xx	xx	xx						xx		xx	xx
-) scullery/ kitchenette		xx										xx	xx
-) bedrooms		xx	xx					xx				xx	xx
-) rooms shared		xx						xx					xx
-) double glazing		xx						xx			xx		
-) insulation	xx	xx									xx		
-) bathroom(1)	xx	xx	xx	xx		xx		xx	xx	xx		xx	xx
douche		xx		xx		xx	xx		xx	xx	xx	xx	
baignoire		xx		xx		xx	xx		xx	xx	xx	xx	
toilet(1)	xx	xx	xx	xx		xx	xx	xx	xx	xx		xx	
-) own garage	xx	xx	xx	xx		xx	xx	xx	xx	xx	xx	xx	xx
garage for use		xx	xx				xx				xx		
-) garden		xx	xx	xx		xx	xx						
-) swimming pool		xx				xx							
-) sports area		xx				xx							
-) balcony		xx											
-) elevator		xx				xx							
-) running water	xx	xx		xx		xx	xx		xx			xx	xx
-) hot water	xx	xx	xx	xx		xx	xx	xx	xx	xx	xx	xx	
-) telephone	xx	xx	xx	xx		xx	xx	xx	xx	xx	xx	xx	xx
-) burglar alarm								xx					
-) heating													
Type of energy	xx	xx	xx	xx		xx	xx	xx	xx	xx	xx		xx
Type of distribution(2)	xx	xx	xx	xx		xx	xx		xx	xx	xx		xx
6. TENURE	Ownership/rented/rent free	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx	xx
Acquisition (bought/inherited)			xx			xx	xx			xx			
Outstanding mortgage	xx	xx	xx	xx		xx		xx		xx	xx	xx	xx
Renting (furnished/unfurnished)							xx			x		xx	xx
7. SECOND HOME	Tenure (3)	1	2	1	2	2	2	0	2	2	1	0	1
Location (abroad/home country)						xx	xx						xx

1. The distinction toilet/bathroom should be taken with care. These words do not mean the same in every language. In some languages there is no difference.

2. Individual; central; movable.

3. CODE 0: No information 1: Only ownership 2: Full breakd: Owned/rented/rent free/time share

Country notes:

(a) B: included if &gt;4 sq metres

(b) F: specifies whether size less or more than 12 sq metres.

**Table 15. INFORMATION ON AVAILABILITY OF DURABLE GOODS**

B	DK	D	GR	E-cont	E-main	F	IRL	I	L	NL	P	UK
---	----	---	----	--------	--------	---	-----	---	---	----	---	----

**ITEMS RECOMMENDED BY EUROSTAT (1)**

Car	xx	xx	xx	xx		xx	xx	xx	xx	xx	xx	xx	xx
Second car	xx	xx	xx	xx		xx	xx		xx	xx		xx	xx
Van or Caravan	xx	xx	xx	xx		xx	xx		xx	xx	xx		xx
Color TV	xx	xx	xx	xx		xx	xx	xx	xx	xx	xx	xx	xx
Black and white TV	xx	xx	xx	xx		xx	xx	xx	xx	xx	xx	xx	xx
Hifi stereo		xx	xx	xx		xx	xx	xx	xx	xx	xx	xx	
Video recorder	xx	xx	xx	xx		xx	xx	xx	xx	xx	xx	xx	xx
Home computer	xx	xx		xx		xx		xx	xx	xx	xx	xx	xx
Washing machine	xx	xx	xx	xx		xx	xx	xx	xx	xx	xx	xx	xx
Deep-freeze	xx	xx	xx	xx		xx	xx	xx	xx	xx	xx	xx	xx
Dishwasher	xx	xx	xx	xx		xx	xx	xx	xx	xx	xx	xx	xx
Microwave oven		xx	xx				xx						
Fridge	xx	xx	xx	xx		xx	xx	xx	xx	xx	xx	xx	xx

**OTHER ITEMS**

Dryer		xx	xx			xx		xx			xx		
Iron machine			xx	xx									
Vacuum cleaner		xx				xx	xx	xx	xx			xx	
Sewing machine	xx	xx	xx	xx		xx	xx				xx	xx	
Tape recorder/radio/etc	xx	xx	xx	xx		xx			xx	xx	xx	xx	
CD player		xx	xx								xx		
Video games									xx				
Typewriter		xx							xx				
Camera			xx			xx (3)				xx		xx	
Video camera		xx	xx			xx (3)			xx	xx	xx		
Slide/film projector			xx			xx (3)				xx	xx		
Family tent											xx		
Bicycle	xx	xx	xx	xx		xx			xx			xx	
Other motorised two wheels	xx	xx	xx	xx		xx	xx	xx	xx		xx	xx	xx
Boat		xx	xx			xx			xx		xx		
Child car		xx											
Oven(Gas or electric)		xx	xx			xx						xx	
Heating apparels						xx			xx			xx	
Solar heating				xx									
Air conditioner or humidifier				xx		xx			xx				
Solarium		xx											
Grass cutter		xx											
Piano											xx		
Organ											xx		
Other musical instrument											xx		

**TITLE/ FINANCE OF PURCHASE**

degree of detail (2)

0	1	0	0	0	2	2	1(4)	0	0	0	0	0
---	---	---	---	---	---	---	------	---	---	---	---	---

(1) List given in Eurostat Document BF51 under Consumer Durables, variable HD14

(2) 0:Not asked; 1: Asked, some information; 2: Asked, full detail: bought without loan/ bought with loan (HPY/ gift/ hired/ available free of charge

(3) E-main: treated together as one group "projection, filming appapelle".

(4) IRL: only asked for video recorder and TV

**Table 16. INFORMATION AVAILABLE RELATING TO HEALTH AND CHILD CARE**

HEALTH CARE	B	DK	D	GR	E-cont	E-main	F	IRL	I	L	NL	P	UK
1. Medical and pharmaceutical products (cost)	XX	XX	XX		XX	XX	XX		XX	XX			
2. Therapeutical appliances		XX			XX	XX			XX	XX			
3. Services of physicians, nurses and practioners													
a) Preventive services													
-Cost	XX	XX											
-Number of times		XX											
-Household member (1)		XX					XX						
b) Visits to doctors (in general)													
-Cost			XX	XX	XX	XX	XX		XX	XX			
-Number of times							XX (6)						
-Household member (1)							XX (6)						
c) Visit to generalist													
-Cost	XX	XX				XX	XX						
-Number of times		XX					XX (6)						
-Household member (1)		XX					XX (6)						
d) Visit to specialist													
-Cost	XX	XX				XX	XX						
-Number of times		XX					XX (6)						
-Household member (1)		XX					XX (6)						
e) Dentist													
-Cost	XX	XX	XX		XX	XX	XX			XX			
-Number of times		XX					XX (6)						
-Household member (1)		XX					XX (6)						
f) Nursery services													
-Cost		XX		XX	XX	XX							
-Number of times		XX											
-Household member (1)		XX											
4. Hospital care and the like													
a) Number of nights		XX					XX (6)	XX					
b) Number of members		XX					XX (6)	XX					
c) Cost	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX		(2)	
d) Household member (1)		XX					XX (6)	XX					
5. Insurance status		XX	XX			XX	XX	XX	XX	XX	XX		XX
6. Disability status	XX								XX				XX

CHILD CARE ARRANGEMENTS	B	DK	D	GR	E-cont	E-main	F	IRL	I	L	NL	P	UK
Whether categories distinguished (3)							XX						XX
Details on others at home (4)	0	0	0	0	0	0	2	1	0	0	0	0	1
Detail on outside care (5)	1	3	0	1	0	1	3	0	0	0	1	0	1

(1) I.e., whether it is possible to identify the family member that visited the doctor, hospital, nurse, etc.

(2) Not explicit

(3) Family/others at home/outside care

(4) 0: not asked; 1: some breakdown; 2: full breakdown.

Full breakdown: Live-in child minder/home-help, child minder or others, paid but living somewhere else/relatives, neighbours, friends.

(5) 0: not asked; 1: only nursery; 2: some breakdown; 3: full breakdown.

Full breakdown: Nursery/child minder/mothers' group/special institution/others, paid for/others, not paid for

(6) Very limited data obtained on these items.



**Table 17. TRANSPORT AND HOLIDAYS**

**TRANSPORT**

B	DK	D	GR	E-cont	E-main	F	IRL	I	L	NL	P	UK
---	----	---	----	--------	--------	---	-----	---	---	----	---	----

**INFORMATION ON PUBLIC TRANSPORT**

-Pass for local transport		XX			XX	XX		XX	XX	XX	XX		XX
-Type of local transport used	XX	XX				XX		XX					XX
-Long distance transport means		XX	XX		XX	XX			XX				

**INFORMATION ON PRIVATE TRANSPORT EQUIPMENT**

Car: whether available	XX	XX	XX	XX		XX	XX	XX	XX	XX	XX	XX	XX
whether owned							XX	XX					XX
whether new/second hand	XX		XX				XX	XX	XX				XX
Motor cycle: whether available		XX	XX	XX		XX	XX	XX	XX		XX	XX	XX
Bicycle: whether available		XX	XX	XX		XX			XX			XX	
Information on parts/accessories (1)	0	0	2	1	2	2	0	0	2	1	0	0	0

(1) 0: no information; 1: overall estimation; 2: specification in some detail

**HOLIDAYS**

B	DK	D	GR	E-cont	E-main	F	IRL	I	L	NL	P	UK
---	----	---	----	--------	--------	---	-----	---	---	----	---	----

**GENERAL**

Holiday questionnaire (1)	2	1(a)	1 (b)	1	0	0	1	1	1	1	2	0	1
Holiday definition - minimum duration (x= no specification)	4 days	6 days	x	3 nights	-	-	4 days	4 days	5 nights & 4 days	3 days	4 nights	-	x
Reference period (2)	survey year (RP)	survey year	survey year (RP)	Last 12 months	-	-	Last 12 months	Last 12 months	1 month	Last 12 months	As they occur	-	Last 3 months

**INFORMATION COLLECTED**

Duration (nights away)	XX		XX				XX	(c)	XX		XX		XX
Number of persons	XX		XX				XX	(c)	XX		XX		XX(e)
Location (3)	2 (d)	0 (a)	2	1	0	0	1	1	0	0	1	0	1
Type of Accommodation (4)	2	1 (a)	1	0	0	0	2	0	2	0	2	0	1
Arrangement (package)	XX	XX (a)	XX	XX			XX				XX		XX
Type of transport (5)	XX		XX	XX							XX		
Expenditure	3	2 (a)	2	2	0	0	3	1	2	3	2	1	1
Mode of payment recorded										XX	XX	XX	XX

1. CODE 0: no direct reference to holiday; 1: specific sub-part on holidays; 2: special holiday questionnaire

2. RP: Information is obtained from diary records. Reference period same as recording period (RP).

3. Location: 0= no information; 1= abroad/within country; 2= At least: abroad out of EC/ abroad within EC/ within country.

4. Accommodation: 0= no information; 1=some info.; 2= At least: hotel, boarding house/rented/with relatives or friends/secondary residence/camping.

5. Expenditure: 0= no evaluation; 1= overall cost only; 2= some breakdown; 3= full breakdown: lumpsum payment/travel/accommodation/food/other/total.

**Country Notes:**

(a) Denmark: Only holidays outside Denmark are being asked about so that domestic holidays expenditure will be registered with other expenditure

(b) Germany: The word 'holiday' is not used but instead the concept of 'going away'

(c) Ireland: Each night/person is taken as a unit, so that 4 people on holiday for 6 days make 24 units.

(d) Belgium: town or country visited specified

(e) Collected only for package holidays

## 9 CONSUMPTION AND EXPENDITURE

The central objective of family budget surveys is to measure the level and pattern of total consumption and expenditure of private households. Various approaches are possible as to exactly what is measured, how and for what reference period.

A basic concept, suitable for household surveys, is that of *household consumption expenditure*. As elaborated by the International Labour Office, it refers to "all money expenditure by the household and individual members on goods intended for consumption and expenditure on services, plus the value of goods and services received as income in kind and consumed by the household or its individual members". Hence the concept of household consumption expenditure includes: (i) all monetary expenditure on goods and services intended for consumption; (ii) the rental value of owner-occupied or free housing occupied by the household; (iii) the value of items produced by the household and utilised for its own consumption; (iv) the value of goods and services received in connection with employment; and (v) those received as income in kind from other sources, such as from private or public authorities. In addition, all payments made by the household in connection with the supply of goods and services such as fee for licenses or permits etc. are also normally included.

A more inclusive concept is that of *total household expenditure*. It includes, in addition to household consumption expenditure, certain other non-consumption expenditures by the household and its members, such as income tax and other direct taxes, pension and social security contributions and premiums, remittances, gifts and other transfers. (Excluded, however, are savings, investments and loan repayments etc., as well as the use-value of collective public and social services received.)

On the other hand, a more restrictive concept will be that of *monetary expenditure*, confined to the purchases made. It would exclude from consumption expenditure goods and services self-produced or received in kind, as well as imputed rental value of the dwelling. It may be extended to include various non-consumption expenditures.

### The recording of consumption versus expenditure

In family budget surveys two approaches are possible. One approach, the so-called "**expenditure approach**", is to focus on the measurement of monetary expenditure on goods and services consumed by the household and its members, with the possible addition of some non-consumption expenditures such as taxes, contributions and transfers. By excluding goods and services consumed in kind, the option has the advantage of simplicity in practical implementation of the survey. It may also be favoured for the substantive reason that it forms a more suitable basis for estimating the purchasing power of households.

However, a more appropriate measure of the living standards of households, especially for comparisons across different categories of households and different countries, is provided by the "**consumption approach**". It aims at the measurement of final consumption of households, as distinct from the expenditures actually made during a particular reference or recording period. This covers the goods and services acquired or consumed irrespective of the source: whether cash purchases, hire-purchases, own production or withdrawals from own business, receipts in kind from the employer, or from other private or public institutions. Also included are imputed values of goods and services enjoyed by the household, such as the equivalent rental value of own-occupied, rent free or subsidised accommodation. Of course, the

measurement and valuation of items in-kind is more complex. However, this approach is favoured over the expenditure approach despite the measurement difficulties in so far as the objective of the family budget survey is *to assess and compare living standards of different households*. In the context of comparisons across the Community, it is necessary to take into account differences among the countries in the extent of owner-occupation of accommodation, and the use by households of own-production, receipts in kind, hire-purchase arrangements etc.

In practice, most surveys follow an approach which is somewhere between the consumption and expenditure approaches. In countries such as Italy, the approach followed is more clearly that of consumption; while in countries such as Ireland it is that of monetary expenditure. The ranking of the surveys on the consumption-expenditure dimension can only be approximate because of the multiplicity of the criteria involved. Table 18 summarises the criteria followed in different surveys in this respect.

### **Imputed rent**

The need to take into account the rent that would be paid for owner-occupied and rent-free accommodation in order to be able to compare living standards is obvious. This component is an important part of the total consumption of households, and much more so of the total housing costs.

In estimating rental value the amount of charges paid by the owner-occupier, such as rates or community taxes, water and sewerage charges, repair and maintenance of the dwelling, etc., are treated as costs and excluded from the net rental value. For rent-free accommodation, normally gross rented value is estimated; however, if the rent-free occupier pays various charges, the rented value should be imputed on a net basis.

Currently, some form of estimation of imputed rent is included in all surveys except for France and Denmark; in both cases it is agreed to include this in future surveys. Two other countries, Ireland and Luxembourg, include the estimation only for owner-occupied but not for rent-free accommodation. In Ireland, the estimation is done specially for the purpose of providing Eurostat with data for comparative analysis.

While the estimation of imputed rent is, or is soon to be, a feature common to all the surveys, countries differ in the method of estimation used. A majority use the self-evaluation method, in which the households themselves provide an estimate. It has been argued that self-evaluation tends to result in over-estimation on the average. However, the procedure has the advantage of simplicity, and may be unavoidable in any case when the proportion of owner-occupation is so high that other, more objective methods such as 'stratification' cannot be applied. (Furthermore, some other procedures have sometimes been criticised for under-estimating the benefits which households derive from owned or rent-free accommodation.)

The stratification method involves the assessment of imputed rent on the basis of actual rents of similar accommodation, matched as closely as possible on several characteristics of the dwelling and its location. This approach is used in Germany and Ireland, and Spain (main survey) uses both the self-evaluation and stratification approaches. It is expected to be introduced in Denmark and France (who at present do not include this imputation at all). The approach is recommended for its objectivity and greater comparability. However, it requires sufficient numbers of rented accommodation to be present in categories matching those of owner-occupied and rent-free accommodation.

Some countries use special procedures. In Netherlands, estimates of rental value are made by experts on agreement with the household every five years. In United Kingdom, the estimation of imputed rent until recently has been done on the basis of its relationship to 'rateable value' of the dwelling, updated in line with the full cost price index of rents. A new approach is being studied aiming to replace this by an estimation on the basis of the value of the dwelling reported by the owner. In so far as relationships are established between the value and the rent of accommodation, these special methods can have the advantage of being less dependent on the exactness in matching characteristics of rented and other forms of accommodation.

For future surveys, the following arrangements have been agreed. While France and Denmark would introduce an estimation by stratification, four other countries, namely Portugal, Luxembourg, Italy and the Netherlands, may produce the estimates specially for the Eurostat. In addition, Luxembourg intends to extend the estimation of imputed rent to rent-free accommodation.

### **Hire-purchases**

The treatment of hire-purchases is increasingly becoming an important issue with the increasing incidence of such transactions by private households. Here the main distinction is whether the recording is on the basis and timing of the goods purchased (acquired), or whether it is on the basis and timing of the payments made. The former is in line with the (recommended) 'consumption approach'. According to this approach, the cash prices, excluding interest, of goods and services purchased (acquired) during the reference period should be recorded. For goods acquired on a hire-purchase basis during the reference period, the full cash price should be included as consumption expenditure during the period. For completeness, the recorded expenditure should show the details of cash price, the amount of down-payment made during the period, and the amount payable in instalments. In principle, the difference between the cash price and down-payments during the reference period is taken as the households' receipts other than income; any instalments made are taken as 'disbursements other than expenditure' if they are a part of the price, or as interest if they are paid as such.

By contrast, the payment approach records only the actual amounts paid during the reference period, irrespective of the full price and the timing of the goods acquired. This is the expenditure approach.

The consumption approach is followed by Italy, Netherlands, Portugal, Germany and Denmark: the full value of the acquisition during the reference period is recorded in terms of its cash price. Two other countries, Belgium and Greece also record goods and services on the purchase or acquisition basis, but register the amount paid including the interest component.

The remaining countries use the expenditure (payment) approach. In most, valuation is done on the basis of the payments made, including interest payments, the exception being the main Spanish survey, where full cash prices are also asked for many goods.

As for future surveys, all countries have agreed to transmit to Eurostat cash prices for hire-purchases so as to improve comparability at the Community level.

**Table 18. CRITERIA FOR DISTINGUISHING CONSUMPTION FROM EXPENDITURE RECORDING**

Note: Countries are ordered such that those on the left tend to make a greater use of consumption-related variables, while those on the right of expenditure related variables. This is approximate because of the multiplicity of criteria involved.

	I	NL	GR	P	B	L	D	UK	E-main	E-coat	DK	F	IRL
<b>1. IMPUTED RENT</b>													
Evaluation method													
-not calculated											x	x	
-self evaluation	x	x(4)	x	x	x	x		x(5)	x(1)	x			
-stratification	(.)	(.)		(.)		(.)	x		x(1)		(*)	(*)	x(6)
Subjects of the evaluation													
-only owned-occupied						x							x
-also rent-free	x	x	x	x	x		x	x	x	x	-	-	
<b>2. HIRE PURCHASES.</b>													
Mode of recording:													
-when payments made						x		x	x	x		x	x
-when purchases made	x	x	x	x	x		x				x		
Valuation of goods													
- Installments paid including interest			x		x	x		x(2)	x(3)	x		x	x(2)
- Full cash price	x	x		x			x(1)		x(3)		x		
<b>3. OWN CONSUMPTION</b>													
Reference period													
-Moment when enters hh		x			x	x	x	x			x		
-Moment of consumption	x		x	x					x(7)	x		x	x
Whether asked of all households	x	x(8)	x	x	x	x(9)	(10)	(15)	x	x	x	x	x
Whether included in hh consumption													
-for some items.		x(11)				x		x(12)		x(12)	x(13)		
-always	x		x	x	x		x		x			x	x
Valuation of goods													
-producer price					x			x(16)					
-retail price	x	x	x	x		x	x	x(16)	x	x	x	x	x
<b>4. WHETHER INCLUDES INCOME IN KIND</b>													
Accommodation with job	x	x	x	x	x		x(14)	x	x	x	x	x	
Car with job	x		x		x			x			x		
Discounts or other price advantages													
-Petroleum	x		x	x	x(14)				x				
-Gas	x		x	x	x(14)				x				
-Electricity	x		x	x	x(14)			x	x				
-Phone	x		x	x	x(14)			x	x				

(1) Records both; (2) Payment and down-payments for 13 weeks, or summarised 3 months prior to interview.

(3) Cash price also asked for many goods (car, TV, video etc.).

(4) Estimation done by experts every five years; (5) Estimation based on fiscal value;

(6) Only for the data transmitted to EUROSTAT;

(\*) Expected to introduce stratification method in the near future; (.) May produce estimates specially for Eurostat.

(7) Foods and drinks when they are consumed, the rest when they enter the household;

(8) Will not be asked from 1990 onwards; (9) Will not be asked from 1993; (10) Only for self-employed; (15) Only for shop and farm owners

(11) Only agricultural goods; (12) Only food and drinks; (13) Excluding gardens not producing for the market.

(14) Only if free (not considered if merely discounted)

(16) At producer price for a farm owner, at retail price for a shop owner.

## **Consumption of own produce**

The importance of consumption of own produce and of goods and services withdrawn from household business varies widely from one country to another. It is mainly a function of the importance of farming and certain other forms of self-employment in the country. How far to measure this component in a family budget survey depends on its importance in relation to the added burden and complexity such measurement involves. It is for this reason that countries such as Netherlands and Luxembourg, where consumption of own produce is not important, have decided to exclude it from future surveys.

In detail the measurement procedures differ from one country to another on several dimensions depending on:

- whether or not the measurement of own consumption is included in the survey;
- if so, whether it is included for all households, or only for some selected categories for which it may have significance;
- whether it is included for all types of items, or only for a subset of items;
- the reference period for registering the consumption: whether it the time of consumption, or the time the product enters the household stock;
- and whether its valuation is at retail prices or at producer prices.

Presently, consumption of own produce is covered in all surveys. Generally it is asked of all categories of households, except in the cases of Germany (asked only of the self-employed) and United Kingdom (asked of shop owners and farm owners only). In some countries such as Belgium, detailed information is also obtained on consumption of goods and services withdrawn from own business. Some countries include the answer for some categories only: for instance in the Spanish Continuous Survey and in the British survey only for food and drinks items, or in the Netherlands only for agricultural goods. The remaining countries mostly follow the consumption approach, i.e., all households are asked the information and all answers are included as household consumption.

Regarding the reference period, the consumption approach requires the recording of own consumption according to the time it is consumed. This is followed in only six countries - Italy, Greece, Portugal, Ireland, France, and in Spain in the case of food and drinks. Other countries use the timing when the product enters the household stock, rather than the time it is actually consumed. This choice can distort the picture because of seasonal variation in own-production, particularly agricultural production.

The estimation of the cost of goods is always made at consumer prices, except in Belgium where producer prices are used and in the United Kingdom where goods are valued at producer price for a farm owner and at retail price for a shop owner. Valuation at consumer prices is the common (and recommended) approach in household surveys.

## **Income in kind**

Several important categories may be included here: subsidised or free accommodation, private use of motor vehicles which go with the job; and the receipt of petrol, gas, electricity phone free or at markedly discounted prices. These items are covered comprehensively in Italy and Greece, and to some extent in United Kingdom, Spain (main survey), Portugal, and in Belgium when provided entirely free. Housing and the use of company car is covered in a minority of the surveys only; in a majority only the housing component is included.

## Overall evaluation

In terms of the overall approach to the recording of consumption versus expenditure, Italy, Netherlands, Greece, Portugal and Belgium may be considered (in that order) nearer the consumption approach, by virtue of the mode of recording hire-purchases. On this and a number of other items, Denmark and France also follow a similar approach except for the major omission (to be rectified) concerning imputed rent. Spain and Ireland mainly follow the expenditure approach. The other countries are in the intermediate position, their ordering generally differing from one set of criteria to another.

## Consumption of food (Table 19)

In many family budget surveys information is collected not only on expenditure on food, but also on own production and on quantities of different types of food consumed. Such information is relevant for the analysis of nutritional patterns of different population groups.

However, family budget surveys are not detailed food consumption surveys. The measurement of food consumption is one of a number of wider objectives. Indeed, the incorporation of detailed measurement of food consumption into an already complex family budget survey is generally not a practical proposition, as for example illustrated by the attempt in France to integrate the two types of surveys in the 1970s. In the United Kingdom, information on quantities of food consumed is collected in a separate survey.

There are a number of important limitations in the nutritional data collected in family budget surveys, especially for the purpose of comparative analysis. The available data differs from one country to another, not only concerning the number of food items recorded but also on the type of information collected. Usually it is the availability rather than actual consumption which is recorded. Consumption of food outside the household, which is an increasingly important component, is not recorded uniformly; often only expenditures but not the quantities or type of food consumed are recorded. Little or no information is available on waste, food given to pets, meals offered to guests, use of vitamin and mineral supplements, nutrition of special population groups such as pregnant women. Often the relatively small sample sizes preclude detailed analysis. Methodological differences not only in the data collection but also in the coding schemes used, limit comparability across countries. (Eurostat document BF 72/92)

Table 19 provides a comparison of the type and detail of the information on food consumption collected in the national family budget surveys. In terms of the entries for food, beverages and tobacco which are recorded with different code numbers, the most detailed information is collected in the Netherlands, followed by Denmark, Spain (main survey), Belgium, Portugal, Germany and Luxembourg, in that order. For the Netherlands, data on a very large number of sub-classifications are available in addition. The information is less detailed in United Kingdom and Ireland, and rather limited in France, Greece, Spain (continuous survey), and in particularly in Italy. The table also shows indicators of the degree of detail on quantities recorded for different food groups. The ranking of countries is generally consistent though not identical in detail for different food groups. (The classification shown is according to the major classifications of the 'Eurocode' system developed by FLAIR Eurofoods-Enfants. Eurocode has been developed to serve the need for international comparisons of food intake and availability.)

The last panel of the table shows whether or not the survey diaries contain explicit reference to certain items of information concerning food consumption. The form of questioning is important as it influences the quality and completeness of the information obtained. The items shown in the table include the following: (i) receipt of food and meals free or at a reduced price; (ii) consumption of own produced food; (iii) meals, snacks and drinks taken out; and (iv) persons present at various meals served in the household.

Meals received free and at reduced price are covered in most countries: as a separate category in Germany, and in Belgium (where free and reduced price meals are recorded separately); and along with own production in most other countries. The item is not explicitly mentioned in Denmark, Ireland and Italy.

Some information on own production is obtained in all surveys. In Belgium, separate information is obtained for farmers/market gardener, and other for whom food production is not a main activity. In the Netherlands, farmers must record their consumption of own production in the diaries, while in Ireland the information is confined to farmers who are covered in the survey with special procedures. In the remaining countries no distinction is made in this respect.

Meals taken out constitute an increasingly important component of food consumption, the extent of which also varies by country. However, this item is explicitly recorded as separate category only in 6 of the 12 countries.

Information on the presence of persons at a meal is exceptional: it is recorded only in Portugal, Spain (both surveys), and the United Kingdom (national food survey).



**Table 19. CONSUMPTION OF FOOD**

NL	DK	E-main	B	P	D	L	UK	IRL	F	GR	E-cont	I
----	----	--------	---	---	---	---	----	-----	---	----	--------	---

**Quantities consumed by household per year**

Number of items in classification	408 (1)	592	265	229	229	222	193	147	131	88	97	88	47
Overall degree of detail	3	3	2	2	2	2	2	1	1	0	0	0	0

**Quantities per product group: degree of detail**

1. Milk and milk products	3	3	2	3	3	3	3	2	1	1	1	0	0
2. Eggs and egg products	3	2	3	2	2	3	2	2	2	2	2	0	2
3. Meat and meat products	3	3	2	2	2	2	2	1	2	1	0	1	0
4. Poultry, game birds and products	3	3	3	2	2	1	2	1	0	1	0	1	0
5. Fish, molluscs, reptiles etc.	3	3	2	1	1	0	1	0	2	0	0	1	0
6. Oil, fat and products	3	2	1	3	3	1	2	1	0	0	0	0	1
7. Grains and grain prod.	3	3	2	2	2	3	2	2	1	1	1	0	0
8. Pulses, seeds, kernels and products	3	2	2	1	1	1	0	1	1	0	1	0	0
9. Vegetables and products	3	3	2	2	2	2	2	2	1	0	0	1	0
10. Fruits and fruit products	3	3	3	2	2	2	2	2	1	0	1	1	0
11. Sugar and sugar products	3	1	2	2	3	2	2	1	1	2	1	0	1
12. Beverages (except milk)	3	3	2	2	2	2	3	1	1	1	1	1	1
13. Miscellaneous products	3	1	2	1	2	2	2	2	2	1	1	0	0

**Items of information covered explicitly (other than purchased food consumed at home)**

free or reduced price meals			X	X (2)	X (3)	X	X (3)	X (3)		X (3)	X (3)	X (3)	
consumption of own produced food	X (6)	X	X	X (4)	X	X	X	X	X (5)	X	X	X	X
meal consumed outside						X (7)		X (7)	X	X (7)	X (7)		X
persons present at meals			X		X			X				X	

**NOTES**

Countries arranged according to (decreasing) degree of detail available. Classification of product groups follows Eurocode (first level).

Degree of detail: 0: Poor; 1: Enough; 2: Good; 3: Very Good

(1) Very large number (2518) of sub-classifications in NL. (2) Separate recording of free and subsidised meals.

(3) Covered along with consumption of own production. (4) Covers separately as main activity and as secondary activity.

(5) Only for farmers. (6) Only if not main activity. (7) distinguishes by type of meal, drink etc.

## 10 HOUSEHOLD INCOME

In most countries of the Community, family budget surveys constitute the main survey-based source of information on household income, despite the fact that the focus of these surveys is generally on the measurement of consumption and expenditure rather than income. The information on income and related variables in family budget surveys is supplemented by a variety of other surveys, such as the Micro-census in Germany and the General Household Survey and the newly established Family Resources Survey in the United Kingdom. In addition, information of a more specialised type is obtained from panel studies conducted in several countries such as the Netherlands, Luxembourg and the United Kingdom, and the panel survey being initiated on a Community-wide basis by Eurostat. There exist few sample surveys exclusively concerned with the accurate measurement of household income.

Among the administrative sources, the statistics on income distribution compiled from tax records are by far the most important. In certain respects the information generated from tax records can be superior to that obtained from household surveys; also with large sample sizes usually possible in the exploitation of existing sources, the results can be disaggregated to the level of small areas. However, this source is not available in all countries of the Community, and it has in addition several serious limitations. For special purposes, such as in the study of low income and poverty, several countries also exploit other administrative sources (e.g. social security and housing statistics). While valuable as supplements, such sources are of limited use in the study of the full income distribution.

### **Income from the family budget surveys**

While some family budget surveys in the Community attempt to cover income in considerable detail, in a majority the detail is limited, in so far as the objective of measuring income is primarily to obtain a classifier for the study of patterns of consumption rather than to study income in its own right. The other main limitations of family budget surveys in the context of income measurement include the following. In several countries the survey are relatively infrequent. The sample sizes are mostly small. The samples are not always adequately representative of the total population. Because of the volume and complexity of the data collected, there are often serious delays in processing and reporting of the data. For the same reason, the content and timing of the surveys tends to be rather inflexible.

In addition, the reference periods used in the surveys for income measurement often vary from one component of income to another, and generally fall short of the full reference year. One full year is considered to be the appropriate reference period for the measurement of income. To the extent there are fluctuations in the income of individual households and persons over the year, the measurement of income with reference to a shorter period tends to give a biased picture of the income distribution.

Below an overview is provided of the coverage of income and related variables in the family budget surveys.

The common mode of data collection is through a retrospective interview. The main exception is Belgium where the information is obtained from continuous (daily) recording of all receipts. In Germany, and to a lesser extent in Spain (main survey), the recording and the interview approaches are used in combination.

**Table 20. INCOME**

B	DK	D	GR	E-cont	E-main	F	IRL	I	L	NL	P	UK
---	----	---	----	--------	--------	---	-----	---	---	----	---	----

**Methodology**

Degree of detail (1)	3	3 (15)	3	2	1	2	2	2	1	1	2	1	3
Mode of data collection (2)	2	1	3	1	2	3	1	1	1	1	1	1	1
MAIN reference period													
several reference periods				x									x
one month									x	x			
three months					x (14)								
one year (moving period)						x (14)	x	x				x	
fixed one year	x	x	x								x		
Subjects of evaluation (3)	IND	HH	IND	IND	IND	IND	IND	IND	HH	IND	IND	IND	IND

**Contents: Income by Source (4)**

PRIMARY INCOME													
income from employment (5)	1	3	2	1	1	1	2	3	0	2	2	1	3
self employment income(6)	1	3	2	2	1	1	2	1	0	1	1	1	3
PROPERTY INCOME (7)	1	3	2	2	1	2	2	2	0	1	1	1	2
CURRENT TRANSFERS/BENEFITS													
pension (8)	1	3	2	1	1	2	2	2	0	1	2	1	3
social insurance transfers (9)	3	3	3	1	1	2	3	3	0	1	2	1	3
social transfers (10)	2	3	2	2	1	1	3	2	0	0	2	1	2
private transfers (11)	1	3	1	1	0	1	1	1	0	0	0	1	2
other sources(12)	X	X	X	X	X	X	X	X			X	X	X
OTHER RECEIPTS (13)	X	X	X	X		X	X			X		X	

**NOTES**

(1) 0: not asked; 1: rough overall evaluation; 2: some itemisation; 3: considerable detail

(2) 1: retrospective interview; 2: diary record; 3: both methods.

(3) IND: individual earner; HH: household as a whole. In any case, certain components may be obtained at the hh level.

(4) 0: not asked; 1: no breakdown; 2: some breakdown; 3: detailed breakdown.

(5) Full breakdown includes: gross wage/other cash allowance/receipts in kind /total gross receipts/  
/tax insurance and other deductions/total net receipts/employer contribution.

(6) Full breakdown: gross income/income in kind/gross receipts/tax, insurance and other deductions/net receipts from self-employment.

(7) Full breakdown: total in cash/imputed rent of owner occupied dwelling/ other in kind/ total gross/ taxes and other deductions/total net.

(8) Full breakdown: contributory pension/social (non-contributory) pension/total pension, gross/ taxes and deductions/ total net.

(9) Full breakdown: unemployment pay/ other social insurance transfers.

(10) Full breakdown: family allowance/disability related allowance/housing benefits/other benefits/ gross transfers/deductions/net transfers.

(11) Full breakdown: total private transfers, gross/ taxes and deductions/ total private transfers, net.

(12) X: if directly or explicitly asked.

(13) Includes loans, loan repayments, lottery prizes, windfall gains, inheritances, casualty insurance benefits, legal damages, sales, etc.

(14) Spain. For non-monetary income, reference period a week or a month; for monetary income 1 year (main survey)

or 3 months (continuous survey). In the latter case it effectively comes to 2 year for which any hh is retained in the sample.

(15) Denmark: the survey is supplemented by linking data from income and other registers.

The basic unit of recording income is the individual person, though some components are more meaningfully and conveniently obtained with the household as the unit. The only exception is Italy where only a rough indication is sought of the normal household income.

There are major differences in the type and detail of the information obtained. This reflects different objectives: obtaining good information on income in its own right is an important objective in some surveys, while in some others the stated objective is to obtain income primarily to serve as a classification variable. In a number of more advanced countries the family budget surveys data are complemented by information on income from other sources such as social security records.

In terms of structure of the questionnaire, three models may be identified:

1. In Belgium and Germany, income is obtained on the basis of continuous diary recording throughout the year.
2. In Denmark and the Netherlands income is obtained from a retrospective interview after the end of the survey year, using the survey year as the fixed reference period. Some information on income assets is obtained in this manner in Germany as well. In relation to Denmark, it may be noted that the survey data are extensively supplemented from registers through linkage at the micro-level.
3. In other countries the approach is to obtain information on income on the basis of retrospective interviewing. The interview may take place immediately before (United Kingdom, Ireland), during (Spain), or after (the remaining countries) the brief recording period over which the household maintains diaries to record daily expenditure. The reference period for income is therefore not fixed, but varies according to the timing of the recording period during the survey year. In a majority of the surveys the length of main the reference period is 12 months, though several components of income may be obtained with shorter and varying reference periods. A short reference period of one month is used in Italy and Luxembourg, and in Greece and the United Kingdom different reference periods are used for different components. In the Spanish continuous survey the reference period in any one round is 3 months, but the data can be cumulated over the survey year (and beyond) since any household remains in the sample over 8 quarters.

### **Continuous recording**

Continuous recording in Belgium and Germany provides detailed information, covering income in wages and salaries, overtime and bonus, pension and insurance, secondary activity and other frequent receipts. In Belgium for instance, two important variables are covered in more detail than most other family budget surveys, namely: utilisation of educational, health, housing, transport and welfare facilities and services; and costs and revenues from household economic activity, separating out business from household accounts where possible. In Germany, disbursements relating to wealth formation (purchases of property and shares, savings, loan repayments etc.), and income from wages and salaries are recorded throughout the survey year with detailed itemisation of various components of gross pay and deductions. Also, information is obtained at the end of the survey year on assets: ownership of land and buildings, along with the value, mortgage status, and income derived; financial assets such as savings, securities and various types of investments; debts paid during the year and still outstanding, and so on.

In Belgium, the recoding of income and all receipts by the household is meant to be on a daily basis throughout the year. Clearly, this is an extremely burdensome arrangement, especially in view of the fact that in Belgium all expenditures have also to be recorded daily for the whole

year. In Germany the recording is on a monthly basis in the 4-month logs, three of which cover the whole year. The burden is also less (though still exceptionally high) because except for the one month of intensive recording, only major expenditures are recorded in the log for the whole year. It is understood that Belgium is considering moving on to something like the German model in future surveys.

### **Retrospective interview with fixed reference period of one year**

Denmark provides another example of detailed coverage of income related items, though a somewhat different mode of data collection. Firstly, the survey data can be linked at the individual level to registers containing information on taxable income and social security and other receipts. This exceptional possibility makes it unnecessary to use survey interviewing to collect all the information required. The survey is the primary source of information on non-taxable income. The questioning on income can be more direct and less detailed: a single question is asked on taxable income, though it is supplemented by a series of questions on receipts and grants, benefits, insurance claims, and other regular and irregular transfers. Secondly, the survey is unique in covering financial assets and liabilities and *changes* therein, as well as providing a basis for assessing the contribution of public services to household consumption and welfare. Information on housing conditions and costs is also unusually detailed. The interview covering income is held in the Spring following the end of the survey year, while consumption is recorded during a moving four-week period in the course of the survey year. Hence the time lag between the recording period and the final interview is relatively long and variable. However the reference period for the final interview is fixed.

With a similar arrangement (an interview at the end of the survey reference year), the primary concern in the Netherlands is to enumerate income, rather than assets or consumption of public services etc. All main components of income are covered, making use of documentary evidence where available: gross wages and deduction for paid employment; 'fiscal earnings' from self-employment; receipts from pensions, social security and other benefits; property income; subsidies received for house purchase; rent, maintenance, educational and other grants; and the person's tax bracket and taxable income over the past year. To the extent possible, the income questionnaire is self-completed by the household.

### **Retrospective interviews with a moving reference period**

Among the remaining surveys, the most detailed coverage is perhaps in the United Kingdom Family Expenditure Survey. The income questionnaire obtains information on the usual activity status of each person aged 16 and over, and on income from employment and other sources. Receipts from social security and other benefits are covered in detail, and even more extensive information is sought on savings and interest received from saving accounts of various types. Ownership of, and income from other forms of financial assets and property are covered in less detail in the FES, but are covered in detail in the Family Resources Survey. Various reference periods are used for different components of income. The basic concept is that of income defined as gross weekly cash income (excluding payments in kind) current at the time of the interview, before deductions of income tax and social insurance contributions etc. However, income from investment and self-employment is estimated over a twelve month period. Details are obtained of the income of each member of the household. The income of the household is taken to be the sum of the income of all its members. The information does not relate to a common or fixed time period. Items recorded for periods greater than a week can be converted to a weekly value. Some extrapolation or imputation is involved in the estimation of annual income from information covering only a part of the year.

In Ireland and France, the information is less detailed than the above, but still more detailed than several other countries. In Ireland, it has been explicitly stated that the objective of income questions in the budget survey is mainly to provide classificatory information in the study of consumption patterns. Consequently, income is covered in limited detail. For employees, usual or last salary is obtained, along with occasional additions and regular benefits in kind. For the self-employed, the reference period is more clearly one year, but an attempt is made to obtain net income through a single question. Other income and receipts are covered in a similar manner, with emphasis on regular and long-term components. (Special procedures are used for the sample of farm households incorporated into the survey from the National Farm Survey. These households participate in the family budget survey for the whole year.)

Similarly in France, while all the main sources are basically covered, this is done on the basis of a relatively short series of questions, generally seeking no details other than net amounts. For components such as wages and salaries, the normal (or average, if irregular) net monthly amount is sought. Other components such as social security benefits and self-employment income are obtained for the past 12 months. When details on income by source cannot be obtained, information simply on the range of total household resources is accepted.

In Spain (main survey), the reference period is more clearly the full year (past 12 months). Monetary income from employment and self-employment is sought retrospectively for each month of the year preceding the interview, separately recording gross income and deductible expenses for each member in employment or self-employment. Net monetary income from investment and property, social benefits, and regular transfers and exceptional sources - each category separated into a number of specific sources - is obtained for the whole household with a reference period of one year. The household is requested to prepare an 'Income Record' (receipts by source, period covered, gross and net amounts, deductible expenses etc.) prior to the interview to assist the data collection.

In ascertaining income from employment in Greece, a noteworthy feature of the questionnaire is that it explicitly allows for multiple jobs. Concerning other sources of income, a variety of different reference periods are used for different items.

In the remaining surveys, only brief information on income is obtained. In Portugal for instance, there is for each member a single question on wages/salaries for the past month, and a brief itemised list of annual income from other sources. Income and savings are recorded with one year reference period. The approach is similar in Luxembourg, with some more breakdown for the wages and pension components, but less for other components of income.

Finally, in the survey in Italy, income is obtained in a rather cursory manner. Respondents are asked to place the household's monthly income into one of several income brackets; the interviewer's subjective opinion, formed on the basis of a general impression of living conditions of the household is also recorded. A single question on savings is also asked.

### **Income by source**

The second panel of Table 20 displays the main components of income to which an explicit reference is made in the survey questionnaire. This is not necessarily an accurate indication of the completeness with which total household income is captured in the survey, though it clearly reflects the situation in surveys - such as Spain (continuous survey), Portugal, Luxembourg and especially Italy - where the information lacks detail.







## PART II

# RECOMMENDATIONS

### INTRODUCTION

In the following sections, recommendations are made for the harmonisation and improvement of family budget surveys in the Community. These are based on a detailed review of the methodology and content of the surveys, aspects of which are presented in Part I. The main recommendations are made in two sets:

*General recommendations on various technical and practical aspects of family budget surveys.* These aim to serve as a set of common standards for the harmonisation of existing surveys, and also as a recommended model or framework for the development of new surveys.

*Country-specific recommendations.* These include a very brief review of the strengths and limitations of each family budget survey in the Community, and major recommendations for its improvement where warranted.

These recommendations are preceded by certain aspects requiring more detailed comment. These include issues relating to the coding of household structure and members' characteristics; nomenclature for the classification of household consumption and expenditure; and some technical issues relating to sampling, on the basis of which specific recommendations are made subsequently.

## 1 CODING OF THE HOUSEHOLD STRUCTURE

The harmonisation of classifications and coding of basic variables is a critical requirement for comparative analysis of family budget survey data across the countries of the Community, not only for the construction of standard variables and tabulations, but also for research into special topics such as poverty and income distribution. Furthermore, by following the agreed international standards and classifications to the extent possible, the quality and usefulness of the data for national objectives is enhanced.

However, the classifications and coding schemes used at present for a number of important variables lack comparability across countries. While fundamental changes or improvements to established survey methodologies are not easy, there is much greater scope for the improvement of the harmonisation of classification and coding schemes. Indeed in many cases, relatively minor adjustments to the national classification schemes can result in a great improvement in Community-wide comparability of the results. This is particularly true of the coding of variables defining the structure of the household.

### Common variables relating to household structure

In the tabulation and analysis of the data on family budgets, it is very important to take into account differences in the size and composition of households among different groups in the population. It is even more so in international comparisons. There are major differences among countries of the Community in the distribution by household size and composition. For instance in Denmark in 1980, 38% of all households were single person households, compared with 10% or fewer in Greece, Spain and Portugal, and around 15% in Italy and Ireland. From the other side, 42% of all households in Ireland were classified as other than single person or couple with or without children, compared with 6% in Germany, 8% in Denmark, and 9-12% in the Netherlands, Italy, Belgium and France. Analysis not controlling for such major differences in the underlying composition can be misleading, or at least can be difficult to interpret. It is therefore important that household composition is identified clearly and in a uniform manner in all surveys. Specific proposals for the codification of these variables is contained in the standardised list of family budget survey variables recommended by Eurostat. The standard variable on 'household type' has been used in two forms in Eurostat tabulations: a detailed version consisting of a large number of categories distinguishing households according to the number of adults, their ages, and whether or not couple(s), children and other related and unrelated persons are present; and an abbreviated version which can be used in cross-tabulation with other variables (see inset below). It is strongly recommended that the data in all surveys are coded such that such *derived variables* can be constructed.

Apart from information on sex and ages of household members, the construction of these variables requires standardisation and elaboration of concepts such as what constitutes a 'household member', a 'child', a 'couple', and the 'reference person'. Specific proposals have been included on the concepts in the standard variable list recommended by Eurostat.

### **Recommended standard variable defining household type**

#### Household Type (detailed classification)

##### *One adult household*

- 01 one person, aged 65+
- 02 one person, aged 30-64
- 03 one person, aged under 30
- 04 single adult with children aged up to 16

##### *couple without children*

- 05 older person in the couple is aged 65+
- 06 older person in the couple is aged under 65

##### *couples with children aged up to 16*

- 07 1 child
- 08 2 children
- 09 3 or more children

##### *other nuclear families*

- 10 single parent with at least one 'older child'\*
- 11 couple with at least one older child
- 12 single parent with at least one 'adult child'\*
- 13 couple with at least one adult child

##### *other household types*

- 14 all members related
- 15 some unrelated persons in the household

#### Household Type (abbreviated classification)

- 1 old person or couple
- 2 other person or couple, without children
- 3 couple or single person, with children
- 4 other

#### Some related variables

- Couples with children, distinguished by the number of children (1, 2, 3+).
- One-adult household, distinguished by sex, age and whether children are also present.
- The household according to the number of old persons (65+), classified by sex, whether living with spouse and whether other persons also present in the household.

\* For the definition of these special categories of children, see later in this section.

### **Coding of characteristics of individual household members**

Household type should be coded such that it identifies couple and parent-child relationships, unrelated persons by type, the residential status of persons included as household members, and possibly sub-units of various types (such as consumption, income, tax and family sub-units) within the household. However, this clarity can be achieved only if *characteristics of individual members of the household have been coded consistently and in sufficient detail*. Common definition and classification is required of a number of basic characteristics for each household member such as age and sex, relationship, marital status, residential status, and current economic activity. Such information is of course obtained in most surveys, but is not coded in sufficient detail in many cases. It is highly desirable that an attempt is made in all country surveys to collect and code information on the following variables on all persons in the households covered. In most situations, this can be done fairly easily, while the analytical benefits can be substantial. The inset below lists specific recommendations on the coding of certain basic characteristics of individual persons in the household.

**Recommended coding of basic characteristics of household members**  
**age (in single completed years) and sex**

**residential status**

*present at some time during the recording period*

- 1 normally resident
- 2 resident employee
- 3 resident boarder, tenant, or other unrelated person
- 4 absentee (but present some time during the survey)
- 5 visitor

*absent during the entire recording period*

- 6 normally resident, temporarily away
- 7 long-term absentee, but still considered a member

**marital status**

- 0 never married

*living in conjugal union*

- 1 legally married
- 2 not married legally

*not living in conjugal union*

- 3 married but spouse not in household
- 4 widowed
- 5 divorced, separated

**line number of spouse/partner**

For each person whose spouse or partner also in the household, the line number of the latter should be specified. Alternatively, a couple code may be used. In this system, every person living in the household with spouse/partner is given a 'couple code' (say 1-7, starting with 1 from the first couple), the two partners in a couple both receiving the same code. Those never married, widowed, divorced, or with a partner who is not a household member are identified separately (say with code 8).

**line number of the father and the mother**

This identifies all parent-child relationships.

**relationship**

This may identify relationship to the head, such as

- 1 head
- 2 spouse/partner of head
- 3 child of head/spouse
- 4 parent of head/spouse
- 5 other relative
- 6 resident employee
- 7 lodger, subtenant
- 8 other unrelated persons

More elaborate coding of the relationship is possible, but is generally not necessary if immediate relationships (line numbers of the spouse and parents) have been specified separately. Furthermore, several alternative coding schemes of relationship are possible. For example, a simple code identifying generations, along with the parent-child and couple relationships noted above would give the same information. Ideally, all family relationships should be identified, including among persons not related to the head. Specifying the relationship with any person listed 'higher up' in the household roster would yield such information.

**current full-time education and economic activity status**

This information should ideally be collected for all members (and not for the head and/or spouse only). This information is used in the definition of concepts such as the 'reference person'.

In addition various types of sub-units, such as family units, benefit units or tax units, may be identified within the household where data exist for the purpose.

Some examples may be given of the difficulties in constructing these simple variables if the basic information on member characteristics has not been coded in the required detail.

In the Spanish Continuous Survey data file, for instance, relationship has not been coded for household members except for the identification of spouse of the household head. Generally information on marital status of individual members is also not available. This means that parent-child and couple relationships cannot be defined. Consequently, several standard variables including the classification of households by type can be constructed only approximately. Marital status is also not recorded in the Spanish Main Survey. This is an important (though easily rectified) limitation of the surveys.

In the survey of Belgium (1987-88) the situation is better, though there remain several shortcomings. Marital status is recorded as civil status, except for the head of household, meaning that other conjugal unions cannot be identified. There is no couple code; hence couples other than the head/spouse couple cannot be identified. Relationship coding does not identify parents of persons, except in the case of children of the head/spouse. These have implications for defining variables such as the 'type of member' and 'household type', particularly when the reference is to children or partners of persons other than the household head. There are similar limitations in the UK survey, but in that survey the questionnaire does distinguish married from non-married couples.

France 1989 provides a good example of the coding of relationship, residence, marital status (distinguishing civil and formal status) and other information on individual members in the required detail to construct the various variables properly. Parent/child relationship, however, is not explicitly identified for all members. Consequently, some approximation is involved in defining various categories of children of persons other than the head or reference person. Family relationships among persons not related to the head are also not identified.

### **Related concepts**

It is also useful to standardise the basic concepts underlying the classification of households by type. These include the definition of the household itself, its membership, identification of its 'reference person', the definition of what constitutes a couple, and various forms of the adult-child distinction. As described in Part I of this document, a variety of definitions are used in different surveys. The following are the basic definitions recommended by Eurostat.

If possible, the "household" should be defined in terms of shared residence and common arrangement, as comprising "either one person living alone or a group of persons, not necessarily related, living at the same address with common housekeeping - i.e. sharing at least one meal a day or sharing a living room or sitting room" (1991 Census of the UK). The coverage should be on a de jure basis, i.e. defined in terms of usual residence rather than in terms merely of the person's presence or otherwise at the time of the survey.

Where absent persons are to be considered as members, their inclusion should be only on the basis of a clearly defined and generally *restrictive combination of several criteria*. It is important to identify, in specific terms, the categories of persons included and excluded from household membership: formal definitions in terms of general criteria are often inadequate for the purpose.

In defining the head of household, preference should be given to objective criteria, such as the ownership or responsibility for the main residence, or the largest contribution to the household budget. Countries differ in the choice of the criteria used in the definition of head

of household. For the classification of the household by socio-economic status, a more objective and uniformly defined concept of the 'reference person' is introduced (see below).

Couples should be defined on the basis of conjugal union rather than formal marital status, i.e. to include not only legally married persons but also other persons living together in a conjugal union on a more or less stable basis.

Different definitions of who is classified as a "child" need to be used for different purposes. The definition appropriate for the classification of households by type should take into account the person's age, marital status, and whether the person is in full-time education and has parents living in the same household.

### **Recommended concepts of the 'Reference Person' and the 'Child'**

#### *Head of Household versus the Reference Person*

Countries differ in the choice of criteria for defining the head of household, and often it is left to the household itself to identify the member to be regarded as the head. With the aim to reduce the effect of these differences, a more objectively and uniformly defined concept of the 'Reference Person' is introduced. In most situations, the head itself is the reference person, but conceptually the two are distinct. It is recommended by Eurostat that in defining the reference person, whose personal characteristics and socio-economic status are used for the classification of households, preference should be given to the economically active over the economically inactive members. These criteria have been introduced to avoid taking a non-working person as the one defining the household's socio-economic status when there are other working persons in the household. This should reduce the impact of arbitrary differences in the definition of head of household. As recommended, the specific definition is as follows:

- The head (however defined) may be taken as the reference person if he/she is working (or if no one else works in the household);
- Otherwise the spouse if working is considered as the reference person;
- The reference person is the oldest working person if neither the head nor the spouse works.

'Working' refers to a person's main activity status, measured in terms of the most time spent, modified by giving precedence to activity over non-activity and to economic activity (of a certain minimum duration, say 15 hours a week) over non-economic activity.

#### *Adult-child distinction*

Distinction of the household members into adults and children is required for various purposes in family budget surveys, for instance for determining who should complete a diary; in the classification of consumption items such as clothing; in determining the membership status of persons living under special arrangements (such as adopted persons, persons living in care, or persons living away for education or other purposes), etc. Normally, adult-child distinction is made in terms of age and different age limits are suited for different purposes. However, for the purpose of defining the household structure or type, it is desirable to introduce certain additional criteria into this distinction in view of the diverse patterns of living encountered in different groups of the population and in different countries. Specifically, the recommended Eurostat definition is to include as children:

- (1) All persons aged up to and including 16;
- (2) Unmarried persons living with their parent(s) up to the age of 18, or to the age of 21 if also in full-time education;
- (3) And other unmarried persons living with their parent(s) in the same household.

Groups (2) and (3) are identified as special categories, namely as ('older children') and ('adult children') respectively.

## **2 CLASSIFICATION OF CONSUMPTION AND EXPENDITURE**

The study of changing patterns of consumption and expenditure is the central objective of the family budget surveys, and Procome nomenclature provides the common framework for the classification for this purpose. It is recommended therefore that: (i) all effort be made in each country to consistently apply this nomenclature as it stands at present; and (ii) work be undertaken at EC level to review and update the nomenclature in the light of experience and changing requirements.

### **Application of Procome**

Consistent application of Procome-4 nomenclature for consumption expenditure is the first requirement.

As illustrated in the comparative tabulation of family budget survey data by Eurostat, there remain many problems, some more serious than others, in consistent application of the nomenclature across the countries. Previous publications have noted numerous deviations in country data from the standard nomenclature. It is useful to distinguish between various types of deviations according to their number and importance:

- Some of these deviations are important. These should be isolated from the less important but much more numerous deviations, and given first priority. Effort should be made at the country-level to resolve them.
- Then there are deviations which are less important but still considered significant. For these a compromise solution may be adopted: it may be possible to remove some of them by modification or elaboration of the coding scheme used in the country; while others may have to be accepted and explained in presentation of the comparative results. In many cases, relatively minor adjustments to the national classifications can accommodate the common classifications needed for Community-wide comparability of the results.
- In addition, there are a very large number of departures, but which are individually rather unimportant. Whether they can be removed or not, they should in any case not be allowed to distract from the overall comparability of the results.

### **Development of the nomenclature**

Some aspects which have been noted for possible revision include the following.

- A clearer separation is required of certain components which may or may not be included as parts of "consumption expenditure" depending on the definition adopted to suit particular analytical objectives. These include components such as consumption of production from own farm or business; benefits and receipts in kind from the state, from the employer, and from other sources; and imputed housing costs.
- It may be useful to introduce a parallel classification scheme, supplementing the main nomenclature, in order to identify expenditures on certain specific aspects of life, such as education, health, child care, second home, and vacation. Under Procome, some of these get distributed under more general headings such as food, transport, accommodation and insurance. Their separate identification and tabulation will enrich the information generated from family budget surveys.

- A major limitation in the application of the nomenclature has been the large and variable size of various miscellaneous (unspecific) categories. There are significant differences among the countries in the proportion of the total expenditure which gets assigned to these categories. These problematic cases include the category "Other" in each major group in the nomenclature, and the whole of Groups 8 and 9 ("Miscellaneous Goods and Services" and "Others", respectively). Some of these miscellaneous categories are too broad and need to be reduced by separating out particular items into more specific classifications (e.g. sports goods and accessories, games and toys, which appear at present in the residual category "Other Recreational Goods"). As to Groups 8 and 9, their size is inflated by the appearance and enormous growth of items for which specific categories were not provided in the original scheme, formulated some time ago. Examples are video recorders, home computers and software, electronic games and the like. In Group 8, luxury items such as jewellery, financial services, holiday expenditure of various types, etc., could be separated out. Similarly in Group 9, gross insurance premium is an increasingly important item deserving separate mention.

The above are no more than some illustrations of the type of revisions which may be required to maintain the nomenclature up-to-date. The task of revising any scheme of classification for agreed and common use is a complex one. It is recommended that high priority and sufficient resources be allocated to this effort in future work on the harmonisation of family budget surveys.



### 3 RECOMMENDATIONS CONCERNING SAMPLING PROCEDURES: REMARKS

In the following sections a number of recommendations are made relating to sampling design and implementation. It is not possible to discuss here fully the technical and practical considerations behind these recommendations. However, in view of the specialised nature of the subject, some brief remarks may be useful. These supplement some observations already made at various places in Sections 2 and 3 of Part I.

The issues considered below include: sample size and allocation; structure of the sample (sampling stages, stratification, sampling units etc.); sampling frames selection; substitution; and weighting of the results.

#### Sample size and allocation

##### *Sample size*

Appropriate choice of sample size is a complex question. In many situations, the best guidance is provided by *the experience from past surveys* - previous rounds of the survey, as well as similar surveys at home and abroad. From the analysis of past surveys, one can evaluate whether the sample sizes chosen were *large enough* to yield useful information and meet the survey objectives. From the other side, one can try and evaluate whether the sample sizes were *too large* in view of their possible adverse effect on the quality and timeliness of the results. It is on the basis of such considerations that one may conclude, for instance, that the sample for the Spanish continuous survey may have been too small (in that it does not permit adequate breakdown of the results to the regional level); or that the sample sizes chosen may have been too large in Germany (judging from the delays experienced), and in Italy (judging from the restricted content of the survey).

At the same time we note that a number of family budget surveys have used samples of 6,000-9,000, and smaller countries samples of 2,000-3,000 households. These figures provide guidance for the design of future family budget surveys.

Family budget surveys are complex and multi-purpose, and it is not possible to arbitrarily choose a particular level of precision for a single statistic or even a small set of statistics to determine the sample size requirements. Perhaps the most basic requirement in this connection is that the survey is large enough to yield new and useful ('sufficiently precise') information on (i) the level and changes in total household consumption for major regions and socio-economic groups in the country, and (ii) on the structure of consumption by major component, and on changes therein, at least at the national level.

##### *Sample allocation*

Concerning the allocation of the sample among different regions and population groups, it is common to aim at *proportionate allocation* (i.e., apply a uniform sampling rate throughout). This is normally the optimal allocation for the production of overall national estimates, which is often the primary objective. Limited overall sample size also favours proportionate allocation. However, allowance has to be made for areas and population groups which are too small or are special in some way, and therefore require sampling at above-average rates. Examples of over-sampled groups in family budget surveys include the self-employed, farmers, and small regions of the country.

Groups subject to significantly above-average non-response may also be sampled at higher rates to make up for the loss (and thereby avoid the application of large weights at the estimation stage). In most surveys, there are such areas or groups requiring over-sampling. The extent to which their special requirement can be accommodated depends on the number and size of the groups involved, and on the overall sample size available. A general departure from proportionate allocation is usually possible (and worth considering) only when the overall sample size is large. The surveys in Germany, Italy and Spain (main survey) provide examples where the overall sample size is large enough to accommodate general departures from proportional allocation.

### **Sample structure**

This refers to sampling stages, the type of units used for sampling, stratification, and related aspects of the design. Multi-stage sampling results in *clustering* of the units selected, as distinct from the more or less uniform distribution obtained with simple random sampling. Clustering helps to save costs and improve control over survey operations, but it reduces the statistical efficiency of the design. In more complex surveys such as those on family budgets, the cost of actual data collection per household is relatively high in relation to overhead costs, including travel and other costs at the level of sample areas or beyond. Many variables of interest in family budget surveys are subject to high 'intra-class correlations' (because of similarity among neighbouring households). At the same time, good control and supervision is essential in family budget surveys because of their complexity. Furthermore, high statistical efficiency of the design is desirable in so far as the overall sample size must be kept small. It is for all these reasons that in the recommendations, preference is expressed for a simple two-stage design, but with only a small number of households selected per area. By contrast, many labour force surveys for instance, use more highly clustered designs.

The study of distribution of consumption, income and many other variables according to characteristics of households and individuals is central to the analysis and use of family budget survey data. This is the reason for advocating elaborate stratification, which is a device for controlling the distribution of these characteristics in the sample obtained.

### **Sampling frame and sample selection**

The samples of a number of family budget surveys suffer from two related problems: (i) the use of non-probability sampling procedures; and (ii) high rates of non-response. These are major problems and not easily solved. Nevertheless, steps need to be taken to improve the situation.

First of all, it is highly desirable to adhere to strict probability procedures in the initial selection of the sample, whatever the details of the design and adjustments required at the subsequent stages of implementation and estimation.

Secondly, various steps can be taken to improve the frames used for sample selection and to control the sample outcome. It is advantageous to select the sample from a frame (lists) where rich information is available for stratification, weighting and adjustment for non-response and other shortcomings, and for substitution if required.

The distribution of the selected sample is distorted by high non-response rates, which may also be quite different for different groups in the population. Non-response rates tend to increase with the complexity of the survey. The sampling frames and selection procedures

used for the family budget surveys should be such that they provide as much information as possible on both the respondents and the non-respondents, so that weighting and other adjustments can be made subsequently to reduce the effect of non-response and other distortions. It is to meet this requirement that procedures such as basing the family budget survey on another survey containing pertinent information, using two-phase sampling, etc., are recommended.

As concerns the use of another survey as the base for the family budget sample, the labour force survey (LFS) often provides a good basis for selecting the sample. Examples of this practice include the family budget surveys of Belgium and Ireland, and of Italy at the level of sample areas). This is because in many countries the LFS is a continuous survey of large size, and collects information on many demographic and socio-economic characteristics of households which are relevant for sampling and estimation for the family budget survey. Often fairly high response rates can be achieved in labour force surveys, so that the family budget survey sample can be confined to households successfully enumerated in the LFS. Where micro-level data are available from the labour force survey, it is possible to construct common variables, such as household type, defined in the same way from the labour force and family budget surveys. This can be used not only for sampling but also for adjusting the results of the family budget survey.

Indeed there are many variables in the Community LFS which can be useful for sample selection and weighting etc. for the family budget survey. These include: urban-rural and geographic location; household size and composition; demographic characteristics of the head (age, sex, marital status); the head's work status, type of economic activity, professional status, industry, occupation, and level of education.

Similar benefits are also achieved by using suitable lists from registers (as in Denmark, for instance), or from other sources such as the potential use of the microcensus in Germany.

In either case, selection of the sample in two phases can improve the control over characteristics of the units selected. Good examples are provided by the practice in Denmark, and in the previous survey of Belgium.

### **Substitution**

It is often argued that allowing for substitution for non-response is an undesirable practice on the basis that non-respondents are a select group systematically different from respondents, so that their loss is in no way compensated for by adding new cases to the sample. Adding the new cases merely makes up for the loss in sample size, which could have been achieved more simply by initially selecting an appropriately larger sample on the basis of expected response rates. (Indeed, over-sampling for groups subject to higher rates of response is done in some family budget surveys with this objective.) At the same time, it can be argued that allowing substitution complicates survey procedures, results in loss of control over fieldwork, and serves as an excuse for not making the required effort to follow-up difficult cases in the sample.

These arguments are valid to a considerable extent, and for this reason the recommendation is to avoid substitution, unless the response rates achieved are unacceptably low. (In the context of family budget surveys, a response rate of 2/3 or 65-70% may be considered quite acceptable, even respectable.)

However, it becomes necessary to consider substitution in the presence of high non-response. Rates of non-response can vary greatly across different groups, and often are too unpredictable to permit compensatory adjustment at the time of sample selection. In the absence of substitution in such situations, high and inefficient weights would have to be introduced at the estimation stage. Therefore, we recommend the introduction of carefully controlled substitution if the response rates are low, say below 65%.

Among the EC family budget surveys, France and the United Kingdom (response rates 74% and 72% respectively) do not permit substitution, while Ireland (60%) allows substitutions from a sample specially selected for the purpose. These practices are in line with the above recommendation. However, the practice in all other countries appears to be the opposite: countries with already high response rates (Spain, Italy, Greece, Portugal) allow for substitution, when it is not really necessary; while in the remaining surveys with high rates of non-response, no substitutions are made.

To summarise, it is desirable as matter of good practice that all effort is made to enumerate the sample as originally selected and *not* permit substitution. However, when the achievable response rates are too low, then allowing for carefully controlled substitution is a better option than abandoning the probability sampling procedures or allowing the sample to become largely self-selecting.

### **Weighting of sample data**

Most family budget survey data have to be weighted in order to improve their representativeness in terms of the size, distribution and characteristics of the population being studied. Member States have established their own weighting procedures for the surveys.

Especially for the purpose of comparative analysis, it is necessary to ensure that the weighting procedures meet certain common standards. When sample data are to be weighted, it is highly desirable to follow a systematic, step-by-step approach. Sample weighting is introduced for several reasons, such as to take into account selection probabilities, under-coverage, non-response, and other shortcomings in the sample results. One may identify the following steps in a systematic approach to weighting.

#### *(1) Weights according to the sampling rates or probabilities*

This includes two components: (i) a basic inflation factor, to blow-up the sample results uniformly to a population control total at the overall or aggregate level; and (ii) a set of design weights, to compensate for differences in the effective sampling rates.

#### *(2) Weighting for non-response*

A set of non-response weights may be introduced to reduce the effect of different response rates in different parts of the sample. The weights may be based (i) completely on the results of the sample; (ii) on some external source of information on characteristics of the non-respondents at the aggregate level; or (iii) on such information matched at the level of individual units, for instance by linking individual sample cases with information on the same units in population registers of censuses. Sometimes it may be possible (iv) to construct analytical models to adjust the results so as to reduce the impact of non-response on survey estimates.

### *(3) Weighting for coverage errors and other shortcomings in sample selection and outcome*

More generally, external weights are introduced to make the distribution of sample households or persons by numbers and characteristics the same as the distribution in the population, as given by some appropriate external source(s). In actual application, the procedures may vary in complexity and involve a number of steps. A useful distinction is between (i) relatively straightforward procedures involving simple post-stratification or ratio adjustment; and (ii) more complicated procedures, such as 'iterative proportional fitting' of one set of weights to the distribution over another set.

Two further points may be noted.

- Firstly, though the distinction between these three types of weighting is important and useful, sometimes in practice step (2), and even step (1), is subsumed within an overall set of weights as applied in step (3). This for example is the practice in some labour force surveys, such as those of Belgium, Denmark, the Netherlands and the United Kingdom. By contrast, separate adjustments are made for non-response in the labour force surveys of France, Ireland, Germany and Luxembourg.
- The weighting may be applied based on characteristics of individual persons, or of households, or both. In the case of individual-level weighting, the number of individual persons in various age, sex and other categories enumerated in the survey is adjusted to the corresponding population control totals from an external source such as population projections based on the census. In this scheme, persons in the same household would receive different weights depending on their characteristics. The alternative adjusts the number of sample households by type to the corresponding number in the external source; all members of each household receive the same weight, depending on certain common characteristics of the household or its head. A combination of individual and household weights is also possible.

While it is common to use individual-level weighting in labour force surveys, some procedure applying weights at the household level would be generally more appropriate for family budget surveys. This is because much of the analysis in labour force surveys is at the level of the individual person, while in family budget surveys the household forms the basic unit. Of course, procedures involving a combination of household-level and individual-level weights can yield more satisfactory results, but such procedures are also more complex.

It is also recommended that, as a good practice, the weights associated with each step in the process be calculated and evaluated separately.

## 4 GENERAL RECOMMENDATIONS: MOVING TOWARDS A COMMON MODEL

### Introduction

This section summarises the main technical recommendations concerning various aspects of the design, content and implementation of family budget surveys. These recommendations take the form of *proposals for a common model* for the surveys. Of course, in application in any particular country, any such proposals will need to be appropriately modified in the light of specific objectives and circumstances, and adapted to established preferences and survey practices.

Recommendations are made with the following objectives in mind.

- These may serve as a set of *common standards* against which the existing family budget surveys should be compared. These may be seen as targets to be aimed at in the interest of improving the quality and harmonisation of the surveys. These common proposals are supplemented in the next section with recommendations specific to each national survey in the EC.
- The proposals may serve as guidelines in countries where satisfactory survey design and procedures have yet not been established and/or a major redesign is called for. It is in particular for this purpose that we have attempted to express the recommended preferences in precise quantitative terms to the extent possible.
- Thirdly, the objective is also to provide a frame-work for the development of family budget surveys in countries outside the EC who have expressed an interest in developing such surveys in line with the practices in EC countries or in harmonising their existing surveys with the latter.

### Survey frequency and sample size

#### *Survey frequency*

Establishing the survey on a continuous (annual) basis has a number of potential advantages. This has been achieved in several countries and some others are planning to do so in the future. Where an annual survey is not possible, or is not considered necessary in view limited data requirements, a regular frequency of *one survey every five years* is recommended, coinciding with the Eurostat reference years if possible.

#### *Sample size*

The choice of sample size depends on numerous factors. Existing practices and experience suggest the following. These suggestions are made in terms of sample sizes rather than the required precision for some arbitrarily selected statistic to be produced because of the broad, multi-purpose nature of the family budget surveys.

- (1) As a general rule, an overall sample size of 5,000-10,000 completed households is appropriate for most purposes in periodic surveys conducted at, say, five yearly intervals. In annual surveys, the information can be cumulated over several years where required, and samples of 2,000-3,000 per annum may suffice.

- (2) For practical reasons, the size of the country also needs to be taken into account. For small countries, the sample size often has to be smaller - in the range of, say, 3,000-5,000 for surveys conducted periodically and 1,500-2,000 for those conducted annually. For large countries, somewhat larger sizes may be needed. It is in fact more appropriate to talk of *sample size per major reporting domain* (e.g. main regions or population groups in the country): for example a sample of 1,500-2,000 per domain. This applies to periodic surveys; in annual surveys, sub-national results may be generally obtained by cumulation over survey years.
- (3) While any survey must be large enough to meet the basic objectives, it is good practice to be *moderate* in the choice of sample size. Survey data are subject to many, and often very serious, sources of non-sampling errors, which are better controlled if the size of the survey (determined by its sample size as well as the complexity of its content) is limited.

### **Sample design and implementation**

- (1) Using proper probability sampling procedures is a most basic requirement, especially for important surveys of national scope such as the family budget surveys.
- (2) The objective should be achieve a complete coverage of the entire national population in private households.
- (3) In most situations, a two-stage design is appropriate, with the selection of area units of suitable size (say an average size of  $50 \pm 25$  households) at the first stage, and a small number (say 5-10) of addresses per area at the final stage of sampling. The geographic and socio-economic stratification should be as elaborate as possible. Probability proportional to size (PPS) designs, resulting in self-weighting samples and roughly uniform sample-takes per area are often the most suitable. There are advantages of simplicity and better coverage in taking addresses or dwellings, rather than households themselves, as the ultimate units for sample selection.
- (4) Unless special domains or population groups require markedly different sampling rates, the use of a uniform sampling rate throughout is the simplest and most efficient choice.
- (5) Because of the high rates of non-response encountered in many family budget surveys, it is highly desirable to select the sample from a frame where rich information is available for stratification, weighting and adjustment for non-response and other shortcomings, and for substitution if required. A recent related survey of sufficient size and with high rates of response, registers where data can be linked, specially constructed master samples, etc., are useful devices for this purpose, as are special procedures such as selection of the sample in two phases. Inclusion into the new sample of past respondents from surveys or survey rounds themselves subject to large non-response is *not* recommended. Any existing lists used for sampling should be appropriately updated.
- (6) High rates of non-response is a major and common problem in family budget surveys. The most effective way to improve response rates is to make the survey less burdensome. In most cases the burden largely results from requiring the households to maintain records over excessively long periods of time. For a given survey, increasing the effort and resources devoted to the *initial contact* is likely to be the most effective way of improving response rates. Where possible, this contact should take the form of a personal visit.

- (7) Allowing for substitution complicates survey operations and can result in loss of control. There is no point in introducing substitution if respectable response rates, say of 65% or more, can be achieved in any case. However, carefully controlled substitution can be useful in situations where the response rates are lower; it is certainly a better option than abandoning the principles of probability sampling. Pre-selected, carefully matched samples should be used to provide the substitutions when permitted. In individual cases, substitution should be allowed only after several (3 or more) unsuccessful call-backs or after outright refusal. Appropriately randomised procedures should be used in selecting the substitutes. In any case, substitutions must be made only for non-responding cases which are known to be eligible for inclusion in the survey, and never for any selections (addresses) which contain no eligible units.
- (8) Finally, as in any sample survey, detailed records should be kept of sample outcome and reasons for non-response, especially when substitutions or other alterations have been made to the selected sample at the implementation stage.

### Survey structure

- (1) The survey period should cover a full year. Using a single calendar year has certain advantages, but is not essential if other considerations require otherwise.
- (2) A recording period of *two weeks* covering food and all other items of daily consumption is recommended. Each such period (or groups of say 2-6 consecutive periods) should separately cover a spatially representative sub-sample, with the sub-samples uniformly distributed over the year.
- (3) The main survey interviews should take place around the household's recording period, whether immediately before, during or immediately after it. Long intervals between the two components of the survey should be avoided in any case.
- (4) A design involving repeated enumeration (such as each quarter) of the same sample households during the survey year is generally too inefficient, given the usual constraint on the maximum sample size possible.
- (5) The introduction of an additional period of recording on a selective basis can be useful for covering some less frequent items more adequately. However, this potential usefulness should be evaluated against the fact that its introduction complicates the survey design and increases respondent burden. The general recommendation is to avoid such complications as far as possible.
- (6) When introduced, it is recommended that such recording is confined to non-food items and above a certain amount of expenditure. Its duration should be limited to 2-4 weeks, and we feel certainly to no more than one quarter for any particular household. In timing, it should follow the main, intensive recording period for the household. It should be remembered that, just as we sample over space, it is also permissible to sample over time. Year-long enumeration of the same households can seriously damage the value of the results because of its detrimental effect on the response rate.



## Survey instruments

- (1) The diary component, requiring daily recording, is especially burdensome for the respondent. Using individual-type diaries, with an expanded version for the person mainly responsible for household purchases, but a reduced version for all other members, is generally an efficient arrangement.
- (2) The diary should cover only those items which cannot be satisfactorily covered in the retrospective interview(s), the latter being less burdensome for the respondent. In particular, the recording of income on a continuous basis is not recommended.
- (3) The diaries should be designed to allow for separate recording (on a separate page or table) for each day. Major categories or types of items should be separately specified (e.g. distinguishing food and non-food purchased, food consumed outside the home, and various sources of consumption in kind depending on their significance). Itemisation below this general level should be avoided: it is less burdensome for the respondent to be able to record different types of items chronologically.
- (4) The questionnaires should be designed in the verbatim form, specifying the detailed wording, probes, response categories etc. to be used in each question. However, attempt should be made to keep the structure of the questionnaire simple, so as to allow for the possibility of self-completion, at least in part, by the household where necessary.
- (5) Both household-level and individual-level questionnaires are required. However, it is often efficient to cover as many topics as possible in the former, to the extent the information pertains to the whole household or can be provided by any person in the household. The individual-level questionnaires are best confined to the information which must be provided by the person concerned. For this type of information, the use of proxy response should not be permitted as a general rule.
- (6) The duration and types of the reference periods used should take into account not only the frequency of the items concerned, but also their nature and regularity. The use of too many different reference period should be avoided. 'Natural' durations which facilitate retrospective reporting, such as the last calendar month for certain items, should be used as far as possible. For items which are reasonably regular and not too frequent, the use of the 'last payment and period covered' approach is recommended. In view of the surprising degree of variation in country practices in this connection, countries should study and learn from the experience of each other.
- (7) Data collection from the household should be broken down into separate visits or interviews, avoiding long sessions lasting for much more than one hour at a time.

## Survey content

### *Qualitative variables on living conditions*

Apart from quantitative information on consumption expenditure, family budget surveys are potentially also a main source of information on qualitative indicators of the levels of living, such as type and size of accommodation, amenities, possessions, second home, vacation, and arrangements for child-care. The *marginal* cost in family budget surveys of obtaining information on qualitative indicators tends to be small in comparison with its potential usefulness. This is because such information can be obtained much more readily than quantitative information on consumption expenditure and income which determines the overall complexity of the survey. This strengthens the argument for making the survey as rich as possible in its coverage of qualitative indicators.

### *Consumption and expenditure*

The measurement of consumption and expenditure is, of course, the central focus of all family budget surveys. In the choice between the two concepts of consumption and expenditure, it is strongly recommended by Eurostat that the focus be on as complete a measurement as possible of the households' *final consumption*. To this end the following recommendations are made.

#### *Hire purchase*

- Hire purchases should be registered according to the time the goods are acquired.
- They should be valued at the total cash price of the good, excluding the interest component.
- They should be included as final consumption for this full value.
- For completeness, the value of instalments paid during the period and the amount outstanding may also be recorded.

#### *Imputed rent*

- Imputed rent should be estimated both for owner-occupied and rent-free accommodation.
- Ideally it should be measured net of mortgage and other relevant costs usually met by the landlord for rented dwellings.
- It is recommended that as far as possible, estimates should be made using the *method of stratification*, i.e. on the basis of actual rent of rented dwellings of similar, type, size, location etc. In situations where this method is not reliable, or cannot be applied, because of high rates of owner-occupation, estimates based on expert assessment or evaluation of the property should be tried. As the last option, estimates based on the households' own assessment of the rental value may be accepted.
- The result of the estimation should always be included in the calculation both of the total final consumption (as part of housing expenditure, Group 3 of Procome nomenclature), and of total income.

#### *Consumption from own production and from own business*

- Goods consumed from own production or own business should be registered by the households in the diaries or questionnaires.

- However, if the consumption of agricultural goods from own production is so small that its effect on the pattern of consumption is trivial, it may be justified to exclude their measurement from the survey.
- In the case of agricultural goods, they should be registered when consumed; and in the case of other goods, when they enter the household.
- The goods should be valued at retail prices.

#### *Goods received free or at a reduced price*

- In accordance with the 'consumption approach' it is recommended that all significant goods received free or at a reduced price should be included both in the final consumption and as income in kind in the total income.
- They should be registered at their retail price, and the period of their registration should be determined according to the time the goods enter the household for non-food items, and the time of actual consumption for food items.
- Some of the items that should be specifically included because of their importance are accommodation and car going with the post, discounts or other price advantages in the purchase of fuel, energy and food (including vouchers for meals).

#### *Food quantities consumed*

- The registration of the quantities consumed of food items allows the family budget survey data to be used, without a substantial increase of the work involved, for nutritional analysis. Concerning the items for which it is recommended to register the quantities consumed, the reader may consult the Standard Variable List recommended by Eurostat. The list contains around 60 items. The following twelve more important items have been selected for comparative tabulation: beef and veal; pork; poultry; fish; milk; eggs; cheese; butter; margarine; potatoes; sugar; and cigarettes.

#### *Energy quantities consumed*

- In addition, it is recommended that quantities of energy consumed be registered. The following four are included in the comparative tables: electricity; gas (town or natural); liquid fuel; and solid fuels.

#### *Income*

- (1) While the basic concepts used and the detail with information is collected in the family budget survey may differ from one country to another, it is recommended that certain minimum requirements be met in all cases. These include: information on net disposable household income; the identification of income by major source according to a common scheme of classification; and among those, identification of the main source. At a minimum, the main sources are distinguished as: wages and salaries; self-employment; property; pensions; social insurance transfers; social transfers; private transfers; and other sources. Whatever the detail with which income information is collected, the national questionnaire and coding design should aim to capture this minimal set as clearly as possible.
- (2) As to the concept of income, no detailed recommendations can be made at this stage, pending further discussion and agreement at the Community level. A definite formulation has been made in the EC Household Panel (Europanel) project recently initiated by Eurostat, and the approach taken there may be used for guidance.

## Classification and coding

- (1) Eurostat has developed a standard list of variables and a detailed coding scheme on the basis of the information available in family budget surveys and common tabulation and analysis requirements. Data from individual surveys should be coded in a form which allows the construction of these standard variables. This is the most important and basic recommendation. It is also important to document in detail where the variables actually constructed depart from the recommended framework.
- (2) It is particularly important to record the characteristics of individual members of households in sufficient detail so that various types of household structures can be clearly defined using a common scheme. This issue has been discussed in detail in Section 1.
- (3) Also important is the coding of sampling information in sufficient detail to permit the computation of sampling errors taking into account the actual structure of the sample. At a minimum this requires the identification of codes for the following sampling variables:
  - main reporting domains for which separate variance estimates are required and the strata used in the selection of the primary sampling units (the primary strata);
  - primary sampling units; their order of selection with the strata if selected using systematic sampling procedures;
  - and the weights applied for producing estimations from the survey.

Advice from sampling experts should be sought as required to ensure that these variables are specified to correctly reflect the structure of the sample. It is recommended that all these variables be included as an integral part of the survey micro-level data file(s), so that the information remains available for future use.

- (4) For variables concerning economic activity, status in employment, sector, industry, occupation, education, training etc., use should be made of the available international standards. Maximum harmonisation with the labour force survey is desirable in so far as the two surveys cover a common set of variables.
- (5) For comparability, there is a need for consistent application of Procome-4 nomenclature for consumption expenditure. Previous publications of comparative tables have noted numerous deviations in country data from the standard nomenclature. The national coding systems should be designed such that classification according the common nomenclature is also possible.
- (6) Procedures should be developed for proper archiving of the data to ensure their widest and *consistent* use. Apart from micro-data, the archive must include detailed data description (code books, marginal distributions, summaries etc., ideally in a machine readable form) and other documentation. It may also be necessary to make a provision for technical support to data users where necessary.

## **Weighting and estimation**

- (1) Most family budget survey data have to be weighted in order to improve their representativeness in terms of the size, distribution and characteristics of the population being studied. When sample data are to be weighted, it is highly desirable to follow a systematic, step-by-step approach. Sample weighting is introduced for several reasons, such as to take into account selection probabilities, under-coverage, non-response, and other shortcomings in the sample results.
- (2) When data are weighted, it is highly desirable to include the information on the survey data files at the level of individual units so that they can be applied correctly and consistently in all uses of the data.
- (3) It is important to supplement the substantive results published from a survey with information on associated sampling errors. Such information is essential in deciding on the degree of detail to which the survey results may be classified and reported, and also in evaluating and improving the sample size and design. These considerations are critical in the case of family budget surveys, which must rely on relatively small samples because of their complex content. The information on variances, "design effects" and similar statistics is even more useful when evaluated and compared across different surveys covering a common set of variables.

## 5 COUNTRY-SPECIFIC RECOMMENDATIONS

### Belgium

The Belgian survey is comprehensive and rich in content. The sample design is well formulated and involves subsampling from the labour force survey supplemented by other sources.

However, there are a number of serious problems in the implementation of the survey. Firstly, the survey involves a year-long daily recording of all income and receipts by the household and, consequently, it is very burdensome. As a result, the rates of non-co-operation are extremely high, and the final sample is largely self-selecting. Furthermore, the 'heavy' nature of the survey results in long delays in the processing and publication of the results.

A number of options for redesign can be considered in order to improve the survey. Some aspects of the family budget surveys of Germany, the Netherlands, Denmark and France provide useful models to consider. The respondent burden is reduced progressively in these surveys in the order listed. While the Belgian survey records all income and expenditures for the full year, in Germany the intensive recording of expenditures is reduced to only one month. In the Netherlands the intensive period is further reduced, and income is obtained from an end-of-the-year retrospective interview, making the survey somewhat less burdensome. In both these surveys, however, each household is still involved in the survey for the whole year. In Denmark, the structure of the survey for the measurement of income and the intensive recording of expenditures is similar to that in the Netherlands, but the period of selective recording is reduced to two weeks as opposed to a full year, so that the household participates in the survey only for four weeks, apart from the interview at the end of the year. Of course, the most commonly used models (France, Ireland, United Kingdom) go even further by removing both the selective recording period and the gap between recording and the final interview.

It is important for Belgium to evaluate these different options to find the most suitable combination in view of the national objectives and circumstances. The following specific recommendations are made for consideration.

#### *Reducing respondent burden*

The basic recommendation is to move away from the requirement for each household to participate intensively in the survey for the whole year. At least, the period of recording of income and, even more so, of food consumption, should be reduced. More use could be made of the retrospective questionnaire approach for measuring income and periodic expenditures. It may also be possible to reduce the details collected on some topics, such as income and other aspects on self-employment. Perhaps some topics could be removed from the survey where information can be obtained by linkage with other sources, as is done extensively in Denmark.

Belgium is already considering a redesign on the lines of the German model which would be a positive step in this direction. It would perhaps be better to go even further in order to substantially reduce the burden of the survey.

### *Improving sample representativeness.*

With an extremely low response rate (11%), the sample lacks representativeness, and steps must be taken to improve the situation.

Firstly, reducing the burden of the survey should improve the response rate.

Secondly, sampling procedures can be improved to provide better control over and targeting of characteristics of the sample selected. In this connection the reintroduction of a two phase sampling design, as employed in the previous survey, is recommended. Such a design facilitates detailed stratification and control over the distribution of the sample by household characteristics.

Thirdly, a greater effort could also be made at the time of initial contact with the respondent in order to improve the chance of a positive response.

However, despite these improvements, the problem of non-response will not disappear. Steps should be taken to reduce its impact on the results of the survey. Carefully controlled use of substitution can be useful in situations where non-response rates remain high; it is a better option than allowing the sample to become largely self-selected. The use of a specially selected 'substitution sample', as for example used in Ireland, can be a useful device for this purpose. No substitution is allowed in the present design.

### **Denmark**

The survey is rich in content, covering areas such as the possession of and change in financial assets and utilisation of public services in considerable detail. The survey data are extensively supplemented by information from registers. The use of the diaries is made on a selective basis, with considerable reliance on the interview method. The sample design, involving two phase selection, appears good. Furthermore, it is planned to introduce the survey on a continuous basis.

However, the response rates achieved (45% overall) are low and there is a long and variable gap between the recording period and the final interview. Household-type, rather than individual-type diaries are used, even though the former are supplemented by pocket books on a voluntary basis. In design, the diary lacks pre-specified categories.

The following specific recommendations are made for consideration.

#### *Reducing gap between the recording period and the final interview*

An important question is whether the gap between recording period and final interview can be reduced. One way to achieve this would be to start the recording period at the middle of one calendar year lasting up to the middle of the next calendar year, and conduct the final interview during the first half of the second year. Households for the two operations can be followed in the same order so that the recording period always precedes the final interview for a particular household. The gap between the two will be reduced to a maximum of six months, rather than twelve months as at present.

#### *Controlled substitution*

Since the response rate is rather low, it would be perhaps be better to allow for a carefully controlled substitution. No substitution is allowed in the present design.

### *Design of the diary*

There is scope for improving the structure of the diary by introducing clearer separation by day of recording and explicit specification of major expenditure categories. The French design might be useful for this purpose.

### **Germany**

The survey includes a very comprehensive final interview. The diary for daily recording is well designed, with the basic categories spelled out. The survey is conducted at a regular interval of five years. The sample size is big enough to permit regional analysis.

However, the survey suffers from a number of serious problems. The main shortcoming arises from the use of non-probability, quota sampling procedures. The actual selection of the sample is decentralised, and, to a considerable extent, the households participating in the survey appear to be self-selected. The coverage of the surveys is less than complete because of the exclusion of high-income households; foreign (non-German) households are also not covered. Using restrictive criteria to define the household, and taking the household rather than the address as the sampling unit, possibly results in the exclusion of individuals residing in a household who are not members of the main family. (It is better in such situations to use the dwelling as the ultimate unit for sampling.)

The second major problem is the complexity of the survey, which results in heavy respondent burden. This, compounded with the large size of the sample, has resulted in serious delays in processing and publishing of the results.

The following specific recommendations are made for consideration.

#### *Reducing respondent burden*

Various options need to be considered for reducing the respondent burden. The basic issue is whether satisfactory data on income can be obtained without the year-long recording. The approaches used in countries such as the Netherlands, Denmark, the United Kingdom and the Spanish main survey may be investigated for this purpose. Alternatively, the existing approach may be retained, but the recording period for income reduced from the full year to at the most one quarter per household with the total sample distributed over the four quarters for this purpose.

In the recording of consumption as well, the duration of both the intensive recording period and the year-long recording on a selective basis could be reduced. It is also possible to simplify somewhat the content of the diaries. Plans already exist for reducing the detail of the recording of food and related items to aggregated amounts in the 4-month logs.

#### *Introducing probability sampling*

The sampling procedures definitely need to be improved. Whatever the details, it is an essential requirement that such a large and important survey is based on proper probability sampling procedures. Perhaps a good option would be to select the sample entirely from the microcensus using the extensive information available there for detailed stratification and for determining the sample sizes required for various categories of the population. In the presence of high non-response it would be better to introduce carefully controlled substitution rather than to resort to quota sampling.



## *Coverage*

There are two major categories of the population of private households which are not covered in the survey: (i) foreign i.e. non-German households, and (ii) households at the top end of the income distribution. The first category of exclusion predominates in terms of the number of households involved, but the second category is important in terms of its effect on the estimated level of income and in particular income distribution.

In principle this latter category (top income groups) is included in the survey coverage, but in practice usable results cannot be obtained for it due to non-response. The problem therefore is very difficult to rectify, and perhaps adjustment of at least the aggregated survey results on the basis of external sources such as tax records may be explored, in so far as this is permitted by statistical regulations.

Regarding foreign households, their inclusion is clearly desirable given the numbers involved (over 5% of the total). If included, appropriate procedures must be adopted in view of the special circumstances and requirements of foreign households, so as to cover them in an effective and economical manner. This would require, firstly, the translation and production of survey instruments in the required languages as well as the recruitment and training of interviewers in those languages. And secondly, this would require the development of appropriate survey design and procedures for non-German households, such as a survey with a much shorter recording period and other steps to reduce respondent burden.

## *Greece*

The survey has an adequate sample size. High rates of response are achieved. Certain topics, such as multiple jobs and income from self-employment are covered in considerable detail, in accordance with the national situation. Also covered well are topics such as education, employment, housing amenities and facilities, and durable goods. However, topics such as health, child care and utilisation of public transport are not adequately covered.

The major problem of the survey concerns the design of the questionnaire. The various categories of consumption and expenditure used are not always sufficiently distinct and clear. The reference periods used are varied and lack a systematic pattern. A clear separation is also required between the diary and interview components of the survey, and the design of both needs improvement.

The sampling procedures, particularly the last stage of selection, depart from the requirements of probability sampling to some extent.

The main recommendations for improvement of the survey include the following.

### *Questionnaire redesign*

The diary and the interview components should be clearly separated. The questionnaire should be redesigned with items of consumption grouped into more homogeneous categories and separated by the frequency and regularity of occurrence. The reference periods for various items should be examined and simplified. Certainly the use of unusual reference periods such as the past 21 days should be avoided. More extensive use could be made of the 'last payment approach' for recording regular expenditures. A complete redesign of the diaries is also recommended.

### *Recording period*

It is already planned to increase the recording period from one week to two weeks. This is a very desirable development. However, this extension will make it even more necessary to avoid daily visits by the interviewer to the household during its active recording period. A clearer separation between the recording and interviewing components will facilitate this.

### *Sampling procedures*

In relation to sampling, the design could perhaps be simplified by reducing the three stage procedure to a two stage one, as is the case in almost all other family budget surveys in the Community. As has been noted elsewhere, generally there is not much point in clustering the sample areas by introducing additional sampling stage in a complex survey. The procedures at the last stage of selection should be revised to ensure that a probability sample is obtained.

### *Substitution*

Since the response rates are already good, it is not really necessary to complicate the procedures with the introduction of substitution. (In any case, there must be no substitution for non-eligible addresses selected into the sample.)

## **Spain**

In both the Continuous and the Main Surveys, good sample design and implementation procedures are used and high response rates are achieved. The content of the main survey is rich, while the continuous survey offers some unique advantages of quarterly enumeration of the same households.

The major problem is the limited content of the Continuous Survey. For instance, education and employment information is only obtained for the household head; no information is collected on household amenities and durable goods or on holidays. It is also worth noting that a simple variable such as marital status is not included, which makes it very difficult to correctly define the household structure and type. The second major limitation of the continuous survey is its small effective sample size, which is not adequate for a regional breakdown of the results. Respondent burden is increased because of the repeated interviewing and diary-keeping by the same households each quarter. Finally, the emphasis in the surveys is on the measurement of expenditure, rather than of consumption which is a better measure of the households' levels of living.

As for the Main Survey, the usefulness of its rich content is somewhat limited by its infrequent nature. It may also be noted that a simple but necessary variable to define the household structure, namely *marital status*, is not included. It is recommended that information on marital status (including de facto unions) is obtained and coded for all household members.

The principal issue in Spain is whether having two separate surveys is the most effective arrangement. The cost of the two types of surveys together is rather high, amounting to  $(3000 \times 4 + 25000/10)$ , that is nearly 15,000 interviews on an *annual basis*. Some options for redesign therefore need to be considered.

### *Options for redesign*

- The first option is to keep both the surveys and the existing structure, but to enrich the content of the continuous survey to the extent possible. Data from this survey can be cumulated over several years to permit regional analysis; while the main survey can be used to provide benchmark, more structural information, and also for the purpose of more detailed regional analysis.
- The second option is to retain both surveys but convert the continuous survey to an annual, rather than a quarterly survey. Its annual number of interviews can be reduced (say, halved) to allow resources for enriching its content. At the same time, the effective annual sample size can be increased (say, doubled) by avoiding repeated enumeration of the same households. This would make the continuous survey more suitable for current information needs, while the main survey can be used for special purposes as noted above.
- A more radical option would be to replace the dual survey system by a single continuous survey, conducted on an annual (rather than quarterly) basis and substantially enhanced in content and effective sample size, so that it can meet all the requirements met by the main survey. It should be noted that, even if the cost per interview is doubled, the resources already being used can provide a sample of 7000-8000 households on an annual basis, or more if the survey is conducted less frequently. This is perhaps the best option, though the introduction of such a major redesign may be feasible only in the longer term.

In the nearer future it might be more realistic to consider the following possibilities:

- For the immediate purpose: the production of comparative tables for Eurostat may use a combination of the two surveys, the continuous survey for the Eurostat reference year where the relevant data are available, and the most recent main survey otherwise.
- For the shorter term: keeping the present structure but improving the contents of the continuous survey. It should be noted that the usefulness of the survey can be greatly enhanced by only a modest addition to its contents, such as the inclusion of some questions on characteristics of household members, housing, household facilities, durable goods. etc.

In the main survey as well, information on marital status and other items for a clear identification of the household structure should be included.

- In the intermediate term: converting the continuous survey to an annual basis.

### *Recording period*

For the main survey, as well as the continuous survey if made annual, the recording period should be increased to two weeks. However, for the quarterly survey at present, the effective recording period is already four weeks per year, and there is no need to increase it further.

### *Measurement of consumption*

Finally, it is recommended that both surveys be extended to include the measurement of consumption of the households. At present the focus is largely on the measurement of expenditure.

### *Substitution*

Since the response rates are already reasonable, it is not really necessary to complicate the procedures with the introduction of substitution.

## France

The survey is rich in content and is aimed at a broad coverage of living conditions of households of different socio-economic groups. A number of areas such as household structure, child care, health, holidays and purchase of durable goods are covered in considerable detail. The questionnaires and diaries are exceptionally well designed. The new survey has now been established on a regular (five yearly) basis. The sampling procedures used are sound, involving a two-stage design with good stratification. No substitution for non-respondents is allowed, which is appropriate given the respectable response rate (74%) achieved.

There appears to be no reason for considering any major change in the survey design. The new system should be allowed to consolidate. It has already been decided to regularise the frequency of the survey to five years and to include imputed rent.

The main problem is the use of the expenditure rather than the consumption approach. Hitherto, no imputations have been included for owner-occupied and rent-free accommodation. The information on income, though more detailed than in some other surveys, is still relatively limited.

In relation to sampling, it is desirable to examine and improve the frame (lists) used because a rather large proportion (around 25%) of the addresses selected are found to be 'blank', i.e. not to contain any household eligible for the survey. This reduces the efficiency of stratification and control over sample selection and implementation.

## Ireland

The survey is conducted with regular frequency. The questionnaires and diaries are well designed and the sampling procedures are satisfactory. The survey is quite rich in content. However, certain areas are not adequately covered. For instance, there is very limited information on health (except hospitalisation), child care, and holidays. Non-response at 40% is on the high side, though better than in a number of other countries.

The following specific recommendations are made for consideration.

### *Survey frequency and sample size*

Comparative tabulations from family budget surveys are published by Eurostat every five years. From the perspective of this publication, the frequency of the Irish survey, at once in seven years, is too low. This makes it difficult to synchronise the survey year with the reference year used by Eurostat. Even otherwise, the survey is rather infrequent in comparison with the family budget surveys in most other countries. It is worth considering whether the frequency of the survey can be increased to once in five years; the sample size could be proportionally reduced, say to 5,500 from the present 7,700, to keep the overall cost similar.

### *Measurement of consumption*

An adjustment of the orientation of the survey towards the measurement of consumption, rather than the measurement of expenditure, would allow it to provide a better picture of the living conditions of the households.

### **Italy**

It is a continuous (annual) survey with a very large sample size. High response rates are achieved. Another positive aspect is the consistent use of the consumption approach.

However, the content of the surveys is rather limited, specially in the coverage of income. Only a rough indication of household income is obtained through a single question. Areas such as health and child care are also not covered. Only a single diary at the level of the whole household is used. The recording period of ten days is rather short, especially in view of the fact that food accounts for a rather large proportion of the total expenditure. In the retrospective interview, the reference period is limited to a maximum of three months, and no use is made of the 'last payment approach'. Though the sampling procedures used are generally sound, the coverage is confined to households who are permanent residents of the municipality.

The main choice to be considered is that between a big survey with limited content and a smaller but deeper survey. A related question is the choice of the main objective of the survey: a survey of broader value to study the conditions of living, versus a survey focused primarily on the requirements of national accounting.

The following specific recommendations are made for consideration.

#### *Smaller but deeper survey*

Our main recommendation would be to opt for a smaller, deeper survey, for instance, halving the sample size from 34,000 to 17,000 per year, but substantially enlarging the content. For special purposes, such as analysis at the level of small areas, the possibility always exists of cumulating data over the years.

#### *Diverse improvements*

A number of proposals are already being considered by ISTAT and it would be desirable to go ahead with them. These include broadening the survey objectives to measure conditions of living, some reduction of the sample size, increasing the recording period to two weeks, investigating the possibility of introducing individual-level diaries, and introducing the stratification method for rent imputation.

#### *Coverage*

Incidentally, in relation to coverage, it may be noted that using restrictive criteria to define the household and taking the household rather than the address as the sampling unit, might result in the exclusion of individuals residing in a household who are not members of the main family. It is better in such situations to use the dwelling as the ultimate unit for sampling.

#### *Substitution*

Since the response rates are already very good, it is not really necessary to complicate the procedures with the introduction of substitution.

## **Luxembourg**

The sample size is quite large, in relation to the size of the country. In principle, the survey is based on a good design, but there have been some serious problems in implementation.

The most serious problem is the extremely low response rate achieved. In addition there was a serious departure of the timing of survey interviewing from the schedule over the survey year required by the design.

The survey content is limited, with little information on health, child-care, public transport, and on holidays except for expenditure.

### *Planned improvements*

Improvements in a number of areas have already been initiated. These include regularising the frequency of the survey to once every five years, reducing the recording period from 30 days to 15 days, introducing individual-type diaries, adopting the consumption approach in addition to the expenditure approach, and estimating the imputed rent by stratification, improving stratification for the selection of the sample, and, above all, introducing personal visits at the initial stage in an attempt to improve response rates.

### *Size versus improved implementation and content*

In addition the improvements already planned, the following recommendations are made.

Some reduction in the sample size would appear desirable, for instance from the present 3,000 to 2,000. The resources could then be reallocated to improve implementation and, to the extent possible, enrich the content of the survey. This could also help in improving the frequency and regularity of the survey.

Control over survey implementation and distribution of the sample over time need to be improved. Special quality-control procedures are required, especially if the survey implementation is contracted out to an outside private agency.

The survey will also benefit from including more 'social' variables.

### *Response rates and substitution*

All possible steps should be taken to improve the very low response rates hitherto achieved. In the selection of the sample, the reintroduction of a two-phase procedure would be desirable. Above all, the procedure for initial contact in the form of a personal visit to *all* selected households should be introduced. Much can be learned from the procedures followed in countries such as France, the United Kingdom, Ireland, and the southern countries as well, despite differences in national circumstances.

In the presence of very high rates of non-response, the use of carefully controlled substitution appears necessary. The use of a special sample to provide substitute households where required, as for instance done in Ireland and Portugal, would be desirable.

## **The Netherlands**

It is a well established series of annual surveys, rich in content. The survey uses an elaborate set of well-designed instruments.

There are two related major problems with the survey. The first is the absence of representative probability sampling: a major part of the sample is drawn from past respondents or special recruits, making the sample at least in part self-selected. Among the newly selected households, the achieved response rates are very low. The second, related problem, is the heavy burden of the survey, which results from the respondent's participation for the whole year, and the fact that the respondents are required to maintain diaries on a daily basis over this long period.

The following specific recommendations are made for consideration.

### *Reducing respondent burden*

Two types of options can be considered. The first one is to place more reliance on the year-long less intensive recording and less emphasis on the intensive recording during the short period. This may have the effect of reducing survey costs and has, in fact, been adopted by the CBS since 1988. However, it is highly desirable that such a procedure is accompanied by a reduction in the respondent burden of maintaining the so-called 'less intensive' diary over the whole year.

As an alternative, or in parallel, another option would be to reduce the length of the less intensive recording period, for instance to only one quarter of the year, or even to one month as in Denmark. This would have a major effect in reducing the burden of the survey. This will be a major improvement, despite the reduction in the effective sample size due to the reduction of the observation period. It should also be noted that, for many items which are collected through the interview, the reference period, and hence the effective sample sizes, will not be affected. Furthermore, many items of regular expenditures are already collected through personal (retrospective) interviewing. Another good feature of the Netherlands survey is the extensive use of the 'last payment approach'. To a certain extent, both these features ameliorate the need for extensive diary-keeping.

### *Improving sampling base*

To improve the sampling base, it is desirable to substantially increase the share of the 'fresh' households in the sample. This will, of course, become more feasible if the response rates can be improved.

## **Portugal**

The survey is based on a big sample, and it has been decided to regularise its frequency to one survey every five years. High rates of response are achieved.

The survey content is very limited, and the questionnaire design could be improved in several respects. Little or no information is collected on topics such as holidays, health, public transport and child care. In the retrospective interview, the reference periods used are defined simply on the basis of frequency of occurrence of the items, without considering the nature or regularity of the items. The recording period used is only 7 days, although a decision has already been taken to increase it to 15 days in the future.

The sample size is rather large at 12,500, in comparison with other surveys in the Community, especially considering the size of the country. The efficiency of the design is reduced as a result of the fact that only limited stratification is used and the sample is based on a three-stage design. Some procedures used at the implementation stage do not appear to be in line with the requirements of probability sampling.

#### *Planned improvements*

Plans already exist for introducing some improvements into this survey: for instance increasing the length of the recording days to 15, regularising the frequency to five years, and focusing more clearly on the measurement of consumption. Further work is required to improve the content and design of the questionnaires.

#### *Size versus improved implementation and content*

A major point worth considering is the introduction of some, perhaps a substantial, reduction in the sample size. The resources so freed can be reallocated to improving the survey content and implementation. It is recommended that in particular the questionnaires used in France and Spain (main survey) are examined for this purpose. The sample design can be improved by compiling a better frame, with more information for detailed stratification, and introducing a simpler two-stage design.

#### *Substitution*

Since the response rates are already reasonable, it is not really necessary to complicate the procedures with the introduction of substitution.

### **United Kingdom**

It is a well established and widely used survey, conducted on a continuous, annual basis. Strict probability sampling procedures are used, and no substitution is permitted for non-response. Respectable response rates are achieved. The survey is rich in content, specially on topics such as income; however, it lacks information on a number of 'social' variables such as education and health. The reference period used for income is not the full year. The survey registers imputed rent, own consumption and income in kind. However, the method of registering expenditures made by hire-purchases makes it difficult to assign them to specific items, that is to standard classifications in Procome nomenclature.

The structure of the questionnaires appears to be rather complex, when compared with most other family budget surveys.

#### *Social variables relating to living conditions*

No special recommendations are made concerning this well-established survey. However, as the survey content is regularly reviewed, consideration should be given to the *introduction of more social variables*, even if such information is already obtained in other surveys. Their introduction into the Family Expenditure Survey will permit micro-level linkage with all the other variables in the survey.





**PART III**

**SURVEY PROFILES**

## I. SURVEY STRUCTURE

### Dates and Frequency

Since the Second World War, nine Family Budget Surveys have been conducted. The most recent were in 1961, 1963, 1973/74, 1978/79 and 1987/88, and the next is due in 1994/95. A regular frequency is, thus, not clearly established.

### Aim of the 1987/88 survey

The survey provides the basic data needed for diverse studies on household living conditions, income, savings and the structure of consumption of different social groups. The results have a direct utility for market research and other purposes such as the calculation of social contributions.

### Sample size

A total of 3315 households completed participation in the survey, lasting one year (May 4, 1987 to May 3, 1988).

### Sample design

The sample was designed to obtain usable data from a target of 3,000 households, spread over three regions (Flanders, Wallonia, Brussels) proportionally to the square-root of the population from each region. It was also desired that the four socio-professional groups (non-manual workers, manual workers, independent workers and non-working persons) are also well represented in the sample. To that end, the sample for each group was taken proportionally to the coefficient of variation of household consumption as recorded at a previous budget survey.

The initial sample of households invited to take part in the survey was a sub-sample from the sample of the Labour Force Survey of 1986. 18,070 households were sampled, 2,446 of which co-operated and eventually provided usable data. This initial sample included enough households of manual and non-manual workers but lacked in independent workers and non-working persons. Consequently, an additional sample of 11,932 households was taken from the file of households subjected to individual income tax. Of these 845 provided usable data for the calculation of the results. Finally, a third sample of 89 households was taken from a file of occupants of new residences; this brought 26 households with usable data.

### Sample representativeness

More than half of the households who were invited by letter to cooperate did not send back the reply form. Eventually, 17.3% of the families were willing to participate. Some of these dropped out during the survey. In the end, 11.0% of the initial households could be used in the calculations of the results.

## II. MAIN CONCEPTS

### The population and survey units

*Coverage.* The 1987/88 survey includes all private households with residence in the national territory, regardless of their nationality.

*The household.* One or more people, with or without family links with each other, who occupy the same dwelling and live in common. This definition implies sharing accommodation and expenditure.

*Head of household.* The household head is the oldest active person; or if there is no active person, the one who contributes the largest share to the household budget.

### Consumption vs. expenditure

Belgium used for the 1987/88 survey a concept which was closer to expenditure than to consumption:

- Hire purchases are registered according to the total price paid by the household (including interest).
- Income-in-kind is not registered in the diary (though covered in final interview).
- Consumption of own-production is registered according to the time the product enters the household stock, and it is valued at producers' prices.
- On the other hand, imputed rent is estimated both for owner-occupied and free of charge accommodation on the basis of self-evaluation by the household.

## III. SURVEY CONTENT

### Household diary

On a per household basis, Belgium is the most intensive and the most purely 'diary survey' among the Community Family Budget Surveys. It requires maintenance of diaries to record both receipts and disbursements by households for the whole survey year, using a more elaborate version of the diary for households engaged in self-employment. In addition to the household diary, individual pocket books are maintained for 3 months during the year on a voluntary basis.

The household diary consists of three parts: general information, income, and expenditure.

*A. General information.* Information on household members, changes in household composition, production of agricultural goods, free and subsidised meals.

*B. Income by source.* This includes income from wages, overtime and bonuses, pensions, insurance, secondary employment, rent from shares and other investment, interests from savings, luncheon vouchers and the like. It also covers other receipts by the household, such as loans taken by the household and money received as repayment of loans.

*C. Expenditure.* This is divided in several parts:

- Regular expenditure such as on water, electricity, etc.
- Expenditures in relation to the main and secondary activities of the household members.
- Investment and expenditures in foreign currencies.

- Daily expenses. All expenditures not included in the above are recorded in a diary. It is interesting to note that not only the amount of money spent in food and drinks, but also the physical quantities bought are recorded.
- End of month "control". At the end of each month, the total income and expenditure recorded are compared against savings with the objective of identifying any major recording errors.
- Position of counters. In addition, small questionnaire are used to record distances driven by car and quantities of gas, electricity, heating and water consumed.

#### Separate questionnaires

*A. Identification; preliminary questionnaire.* Information on household members and willingness of reference person to collaborate. These questions are answered by every household. The survey is terminated if the household does not want to collaborate.

*B. Household composition; situation of the at the beginning of the survey period.* Questions dealing with several basic characteristics of household members: education of the reference person and spouse; relationship to the reference person; ownership, rental of dwelling; outstanding mortgages; hire purchases; credit cards and standing orders; the receipt of lunch tickets, etc.

*C. Holidays.* Several questions on expenditure, place, duration, etc. of holidays. Belgium has, together with the Netherlands, the most complete questionnaire on holidays of the 12 countries in the EC.

*D. Social variables.* Under this heading the following topics are covered.

- Education: scholarships, professional training, part-time education.
- Social housing: subsidised rent, subsidised ownership (from state, region, city),
- Culture and leisure: different possibilities of cultural activities (public libraries, concerts, music academies), household members participating in such activities, and frequency of participation.
- Health: questions on the utilisation of some concrete health services such as: cancer prevention, internment in hospitals, visits to general doctors, specialists, and dentists. These questions are quite detailed and precise regarding the number of visits, the member of the household concerned etc., but do not include estimation of the costs incurred.

*E. Subjective questions.* Subjective consideration of the household's own financial position: seven questions on how good or bad the household head sees the position of his/her own household, and of its evolution in the last 12 months and five years.

*F. Transport.* The questionnaire is more complete than in other surveys regarding information on public transportation (means of transports used, distance travelled every day, distance to closest stop of public transport) and ownership and use of private cars.

However, no questions are included in this part regarding costs of the different means of transport.

*G. Final, end of the survey interview.* This covers questions under a number of headings.

- Dwelling: year of construction; type of dwelling (house, apartment); thermal insulation and energy consumption (aspects on which the survey of Belgium is particularly detailed); comforts and amenities (hot running water, phone, inside toilet); estimation of rent if owner occupied; change of accommodation during survey; durable goods, and so on.
- Income in kind: 13 items are considered, which is more detailed than in other countries.
- Information from drivers of vehicles.
- Net financial position of household, and of business in the case of self-employed household members.
- Debts and loans incurred.
- Farmers: surface of pastures, farming lands, number and type of animals owned, etc.
- Unemployment: a question on unemployment of reference person for more than six months.
- Holidays: again some questions on holidays. Here the emphasis is on whether no holidays were taken and, if so, the reasons for that.

#### IV COMMENTS

This survey is particularly detailed on:

- Holidays: separate and detailed questionnaire.
- Energy consumption and saving (insulation).
- Income in kind.
- Net financial position of the household and of the business owned by its members.
- Type of activity of farmers (in particular on animals owned and type and surface of farming land).
- Financing of acquisition or rental of housing, in particular subsidies by different levels of the government.
- Cultural activities, including the member interested and the frequency at which he/she enjoys each activity.
- Health services: type of service used, how many times and by whom.
- Transport: the questionnaire is very complete regarding use of public and private transportation, including distance, routes, frequency, etc.

#### V MAIN MODIFICATION FOR THE 1994 SURVEY

The Belgium statistical institute is thinking of adopting something like the German model for the 1994 survey, i.e. an intensive recording period of one month for all expenditure and an annual recording of income and expenditure on a selective basis.

## I. SURVEY STRUCTURE

### Dates and Frequency

The most recent Family Budget Surveys have been conducted in Denmark in 1955, 1963, 1966, 1971, 1976, 1981 and 1987, so that the average frequency has been once every five years.

### Aim of the 1987 survey

Its aim is to analyse the way in which households use their income. This is the reason why the survey includes, in addition to consumption proper, a relatively large number of questions on taxes and savings. The results are used as one of the inputs to calculate the CPI and to establish the national accounts. The survey also furnishes data needed for market research studies, and for the comparative study of living conditions of different social groups.

### Sample size

A total of 2232 households participated in the survey.

### Sample design

The sample was selected using a two phase design.

- Addresses were randomly extracted from the Central Population Register for 1986. The Register provides addresses and other information on those living in these addresses. Gross income in 1984 was obtained for each selected person from the Income Register of Denmark's Statistik. The socio-economic status of the main income earner of each address was also obtained.
- Special procedures were used to covert this list of selected persons to a frame for the selection of households.
- A stratified sample of 5,000 households was selected with the aim of achieving a completed sample of at least 2,500 households. Self-employed persons were given a probability twice as high to belong to the sample.
- After sending an introductory letter, a surveyor visited each sample household in order to persuade them to participate. At the end of the survey, households were invited to participate in a lottery.
- The final sample has been reweighted with the help of data from the registers on ownership of the dwelling, income, household size and socio-economic category.

### Sample representativeness

Of the 5,000 households selected, 2,698 did not answer or agree to participate, and 70 were not eligible, giving a response rate of 45%.

No substitutions were made for non-respondents.

## II. MAIN CONCEPTS

### The population and survey units

*Coverage.* All private household with residence in Denmark except Greenland and the Feroe Islands.

*The household.* A household is formed by a group of persons who usually live together under the same roof, taking their meals together and sharing their income and expenditure. This means that resident employees, assistants and lodgers living in the household but not fully participating in its joint consumption are normally excluded. This definition is relatively restrictive, because it implies sharing dwelling, expenditure and income.

*Head of household.* It is the person who has the largest gross taxable income.

### Consumption vs. expenditure

For the 1987 survey, the Danish concept is closer to expenditure than to consumption because:

- No estimation of imputed rent exists.
- Consumption of own-produced food is registered in the moment when the product enters the household and it is valued at retail price.
- The only other income in kind considered relates to housing and car.
- On the other hand, hire purchases are registered at cash price.

## III. SURVEY CONTENT

### Information from Registers

Before describing the content of the diary and interview components directly completed in the survey, it is important to note that the FBS incorporates a great deal of information at the household and individual levels from administrative registers. The survey proper does not collect information which is available from other sources. The main register-based topic linked to the survey are briefly as follows.

- Tax-based registers: detailed information on taxable income and direct taxes, with less detail on assets and liabilities; tax deductions and interest paid; and information on employment status, occupation and industry.
- Registers on assistance: information on assistance according to the Social Assistance Act.
- Population register: age, sex, marital status, place of residence.
- Register on buildings and housing: size, age, type, ownership of dwelling; availability of amenities such as kitchen, bath, toilet and heating.

- Register on education: very detailed information on the level of general and vocational educational achievement, and on current education.

### Diary

A diary recording period of 28 days per household is distributed over the survey year for different subsamples. A household type diary is used, possibly supplemented by individual pocket books. Expenditure on food, drinks and tobacco (along with the consumption from own business and market garden) is recorded only for the first 14 of the 28 recording days. Generally, the recording is on procurement (as distinct from payment or consumption) basis. Excluded are expenses during absences of 6 or more days and free contribution from employers; these are covered in the retrospective interview.

### Preliminary interview

An initial interview whose main aim is to know the number of persons in the household, their willingness to co-operate, and to explain the survey diary is conducted before the diary recording period.

### Main Interview

A distinctive feature of this survey is the use of a year-long fixed reference period in the final interview conducted after the end of the survey year (for the 1987 survey, it was conducted during spring 1988). All information relates to the same period of one year for all responding households, irrespective of their particular 4 week period of diary-keeping. It covers the following topics in considerable detail.

*A. Basic characteristics and employment.* Details are obtained for each member.

*B. Accommodation.* Tenure, size, amenities, income from rental housing subsidies, heating allowance, expenditure in energy, repairs, water, insurance, etc. Other information varies according to the tenure of the dwelling.

- Owner occupied: expenditure on extension or renovation of dwelling; outstanding mortgage; total fiscal value of the dwelling. Especially noteworthy are very detailed questions about the use of the dwelling as collateral for loans.
- Rented accommodation: rent and deposits paid; cost of repairs.
- Secondary residence: rent paid; the use of time share arrangements; expenditure on energy, water, repairs, extensions and insurance; fee to owners' association; outstanding mortgages; credits obtained with the secondary residence as collateral; expenditures in connection with the purchase or sale of the holiday home; fiscal value of secondary residence.

*C. Insurance premiums.* Very detailed enumeration of various types of insurance subscribed to, such as concerning furniture, travel, pets, etc.

*D. Other non-food expenditure.* Costs of transportation (public and private); holidays (6 or more days away),

including duty-free purchases, renting of holiday home, social and cultural activities; purchases of durables as well as less major items over the year; and various regular expenses (subscription to trade unions, associations, phone, etc.). On the average, these cover around two-thirds of the total household expenditure. Generally the form of questioning is precoded (closed ended) with detailed itemised lists, with a fixed reference period of one calendar year.

*E. Assets.* Assets and loan and changes in these during the year, explicitly covering more than 25 items concerning cash assets, credit and saving accounts, investments (bonds, trusts, shares) and loans and credit transactions.

*F. Income.* Taxable and non-taxable income during the reference year, and the amount of tax paid. The questioning on income is more direct and less detailed than some other topics covered in the questionnaire because the information is supplemented from registers. Brief questioning on taxable income is supplemented by a series of questions on receipts of grants, benefits, insurance claims, and other regular and irregular transfers.

*G. Indirect benefits.* Details of indirect benefits, such as superannuation and utilisation of public services including health, education and child care. An unusual feature is the direct questioning on the employer's contribution to superannuation: this is not done in most family budget surveys on the assumption that such information is not available to most employees. Questions on visits to doctors, hospitals, etc. are very detailed, and include a breakdown of expenditure by the household member and by the type of social insurance.

*H. Subjective questions.* Opinion of the household on its economic situation.

## IV COMMENTS

The survey is unique in covering financial assets and liabilities and changes therein, as well as providing a basis for assessing the contribution of public services to household consumption and welfare. Information on housing conditions and costs is also unusually detailed.

### V MAIN MODIFICATIONS FOR 1994 SURVEY

From 1994 onwards, Denmark's Statistik plans to introduce a continuous survey on the Norwegian model. An annual sample of 1000 households will allow it to obtain over three years the results corresponding the intermediate year (for example, the results of 1995 can be based on the data from 1994, 1995 and 1996). In the first year when this system is introduced, the sample size will be doubled to 2,000 to facilitate the publication of comparative results by Eurostat. Some other changes are also expected. Measuring consumption will be the main aim of the survey. Estimation by stratification of imputed rent both for owner occupied and free of charge accommodation will be introduced.

## I. SURVEY STRUCTURE

### Dates and Frequency

The 1988 survey is the sixth one on income and consumption. In 1962/63 Statistisches Bundesamt carried out the first large survey, regulated by the 1961 Family Budgets Statistics law. Subsequent surveys took place in 1969, 1973, 1978, 1983 and 1988, thus having a periodicity of five years. The next one will be in 1993.

In addition to the main "Sample Survey of Income and Expenditure", a smaller continuous survey has also been conducted. Its sample size in 1991 was around 2000 households and the selection confined to three precisely specified types of households.

### Aim of the 1988 survey

The main aim is to research on links between income, consumption and the accumulation of wealth.

### Sample size

The final sample had 45,074 households.

### Sample design

The 1988 FBS sample is derived in a single stage from the Microcensus of 1986, supplemented by lists from other diverse sources at the regional level. The Microcensus is a regular large-scale enquiry enumerating 1% of the national population. The FBS sample is selected using quota sampling, though the procedure is modified in certain ways to improve control over the sample outcome. These quotas are determined in the following way. (The numbers of categories is specified in parentheses in each case.)

- Wage-earners, unemployed and inactive, self-employed (excluding farmers): regions (11) x net household income (28) x socio-economic status of household head (5) x household size (5).
- For farmers: region (11) x household size (5).

Once these quotas have been established, the regional statistical offices are responsible for the choice of households. The sample corresponds to 25% of the population of the Microcensus.

### Sample representativeness

Of the 57,395 households initially selected, 51,402 questionnaires were completed by the end of the initial interview, and 45,074 by the end of the final interview.

Though the survey is very rich in content, it is not based on probability sampling procedures. For this reason it is not meaningful to compute the response rates achieved.

## II. MAIN CONCEPTS

### The population and survey units

*Coverage.* The 1988 survey covers all private households with their residence on the national territory, excluding

those with a monthly income in excess of DM25000 and the households of foreigners. The latter will be included in the 1993 survey.

*The household.* A household is a group of persons with family or personal links with each other, living under the same roof and managing a common budget. They must enjoy together one or several incomes and satisfy their needs from a common budget.

*Head of household.* The household head is the person who defines himself/herself as such during the survey. Normally, it is the person with the highest income.

### Consumption vs. expenditure

For the 1988 survey, Germany used an intermediate concept between consumption and expenditures:

- Imputed rent is estimated for owner-occupied and free of charge accommodation by the stratification method.
- Hire purchases are registered at cash prices.
- Self-consumption is registered in the moment on which the product enters the stocks of the household, and it is valued at retail prices.
- Income in kind is registered, but not all income in kind.

## III. SURVEY CONTENT

### Intensive diary (for one month)

During the course of the survey year, each household maintains a detailed log for a period of one month, the sample for this purpose being distributed over the survey year. The topics covered include:

- Expenditure: All expenditure has to be entered, describing each individual item and the way in which the payment was made. Meals taken outside the home must be included together with the household member that took them. All this recording is done in an open-ended way, i.e. with no precoded lists provided.
- Removal of items for own consumption: items removed daily for own consumption should also be precisely described and estimated in amount. They should be included when they are actually taken out for consumption, be it from stock or from production.
- Income: Gross income and deductions from all sources.

Individual members may also keep personal expenditure books for a period of one month.

### Four-month log

Each household completes three such logs, together covering the whole survey year. Generally the recording is done on a monthly basis. All income and selected expenditures are recorded.

- Income: Gross income (before taxes and social contributions), pensions, and all other income are recorded separately for each of the four months, with a

detailed itemisation of the various components of gross income and of deductions.

- Expenditure: This covers expenditure items of DM200 or over. In contrast to the one-month log, lists are itemised here in great detail.

#### **Initial interview (before recording year)**

It contains information on the following items:

- Composition of the household: characteristics of the household, household members, number of cars, living conditions, living space, heating, income, agricultural area, occupation of reference person(s), nationality, marital status, pension and health insurance.
- Possession of selected durable goods: year of purchase, purchase price.
- General information on dwelling: type of building, year of construction and area; tenure and rent paid; the availability of amenities such as an inside toilet, heating by type, garage and garden.
- Monthly net income of all household members together.
- Agricultural holdings: size of farm, number of persons employed, type of crop, cultivation of specialised crops, etc.
- Work situation of spouse or partner.
- Characteristics of the municipality of residence such as size, type, and proximity to the nearest big population centre.

#### **Final interview (after end of recording year)**

It is focused on assets. Using the survey calendar year as the fixed reference period, it covers:

- Ownership of land and buildings: type, mode of acquisition, value, mortgage and related loans.
- Savings accounts (building societies, others).
- Loan entitlements.
- Securities: detailed breakdown is sought, such as saving certificates, mortgage bonds, government bonds, shares, property units, units in other investment funds, other assets.

- Life, death, educational and marriage endowment assurance.
- Repayments of debts during reference year.
- Income from self-employment: amount; existence of own garden or farming land; products cultivated.
- Income in kind, specifying the source and amount.
- Subjective questions on economic situation of household: views regarding adequate income, assessment of the economic situation, and the minimum income needed.

#### **IV COMMENTS**

The final interview is a unique feature of the survey. It contains a lot of information on assets with a quite detailed breakdown by category. It also covers income in kind, income from self-employment, and a subjective appreciation of the economic situation of the household.

However, the great detail collected in the diaries tends to delay processing and publication of the full results.

#### **V MAIN MODIFICATIONS FOR THE 1993 SURVEY**

It has been decided to incorporate a number of improvements in to the next survey.

Firstly, in order to reduce the long period between the recording of information and its publication, it is planned to abandon the detailed survey of data on foodstuffs, beverages and tobacco and to record these data solely as aggregates, especially for the purposes of economic accounting and the calculation of private consumption.

The survey will be extended to cover foreigners' households, and households from the new Lander.

The sample size may have to be appropriately increased for this purpose.

Modifications are to be included on specification of family ties between the various members of the household; cohabitation will be better followed; and data on education, training, profession and health will be developed.



## I. SURVEY STRUCTURE

### Dates and Frequency

The first two family budget surveys in Greece were undertaken in 1957/58 and 1972/73, both confined to urban areas. These were followed by surveys in 1974, 1982, and 1988 (actually November 1987-October 1988) covering the whole country. The next survey will take place in 1994. No regular frequency as yet has therefore been established.

### Aim of the 1988 survey

The main aim of survey is to collect detailed data on household expenditure. Its main function is the revision of weights for the CPI. The survey is also used to calculate total personal expenditure, and to study the level and structure of household expenditures as a function of income and of other economic, social and demographic characteristics.

### Sample size

The final sample had 6,489 households.

### Sample design

The survey is based on a three stage design as follows.

- First, in every region, some cities or agglomerations are randomly selected with probability as a function of population size.
- Secondly, the towns or cities selected are segmented into small sections called "surface units", and a sample of these unit is selected.
- Finally a sample of dwellings is taken from each selected surface unit. Generally all households and persons within each selected dwelling are included.

### Sample representativeness

The sample consisted of 7,029 households originally selected, plus 946 selected as substitutes for non-respondents among those. The final achieved sample therefore represents a response rate of 81%. Disregarding the effect of substitutions, the final sample is 92% of the sample originally selected. However, some procedures at the last stage of sampling depart from the requirements of probability sampling.

## II. MAIN CONCEPTS

### The population and survey units

*Coverage.* The survey covers all private households living inside the national territory, excluding foreign diplomatic and military personnel. In addition, households with three or more boarders are excluded as not constituting private households for the purpose of the survey.

*The household.* A household is formed by any of the following persons.

- Two or more people, with or without family links with each other, who live together in the same dwelling and usually meet their needs together and take their meals together.
- A single person living alone in a dwelling.
- A person living together with others in the same dwelling, who has the exclusive use of at least one room in the dwelling, but who does not take meals or meet other needs together with other persons in the dwelling.
- However, if a person not sharing meals or other needs with other persons does not have the exclusive use of a room, then he or she forms a part of the household of persons sharing that accommodation.

*Head of household.* It is the person considered by the other members as having the responsibility for the household, meaning that he or she takes the main decisions in the household; or if that is not established, it is the person with the largest contribution to the household budget. In the case of a married couple it is the husband who is usually considered as household head.

### Consumption vs. expenditure

For the 1987/88 survey, Greece has used a concept between consumption and expenditure.

- Hire purchases are registered according to the total amount paid by the household, including interest payments.
- Imputed rent is estimated by the household (self-evaluation) both for owner-occupied and free of charge accommodations.
- Consumption of own production is recorded according to the time of consumption by the household, and valued at retail prices.
- All income in kind is registered.

## III. SURVEY CONTENT

The survey arrangement is rather unusual in that both the individual and household diaries include a combination of daily recording (for 7 days) and a retrospective component (covering past three weeks). The household diary or expenditure form is in fact a part of the main questionnaire. The interviewer generally needs to make daily visits over the recording period.

### Individual diary (daily personal recording form)

It is completed by members aged 14 or above and has two components.

*A. Daily records of expenditure.* This covers expenditure excluding food consumed at home over a period of one week. Twelve sets of items are enumerated, each rather heterogeneous but specified in terms of examples. These groups are (i) food consumed outside: restaurants, cafes

and bars; work canteens; take-away and similar establishments other than bars and restaurants; tobacco; and (ii) daily non-food expenditures: leisure; newspapers and magazines; lotteries etc.; private and public transport except taxis; taxis; goods for personal hygiene and cosmetics; other expenditure (such as postage, public phone, pocket money, announcements in the press, etc.).

*B. Retrospective information on the preceding three weeks.* This covers:

- Expenditure on cultural activities, books, long distance transport, hotels, hair dressing, calculators, maintenance of private vehicle, and private care. This rather heterogeneous group is enumerated with examples, but no pre-specified categories.
- Consumption of own produce and free supplies from the employer over the preceding three weeks excluding food. An open-ended form of questioning is used in this section.

#### **The main interview (incorporating household diary)**

The main interview takes place before and during the diary recording period. A large part is concerned with information on consumption and expenditure. The questionnaire contains the following sections.

*A. Household composition and employment.* It covers general information on household members, such as relationship to household head, marital status, educational level, employment status, nature of most recent or current employment, type of business, occupational status, number of hours worked, and sector of employment (public versus private).

*B. Accommodation.* Questions cover the type of building, tenure, number of rooms, construction period, facilities (inside kitchen and WC, hot running water, etc.), availability of durable goods, second residence, and possession of farming land or garden.

*C. Expenditure incurred on main and second dwelling, and on holidays.* This includes questions about expenditure on rent, estimation of imputed rent for both owner-occupied and free of charge accommodation, outstanding mortgages, repair and maintenance of dwelling, electricity and fuel, water, phone, charges, insurance and expenditure on secondary residence. Also are included questions on holiday-related expenditure (rent or hotel expenditure, restaurants, travel costs, organised holidays, etc.). A 'holiday' is defined as absences of 3 or more nights.

*D. Various other expenditures.* These cover the following.

- Education: expenditure by type and location of studies currently pursued, including specific questions on meals, transport, board and tuition.
- Medical expenses: costs relating to hospitalisation and non-hospital medical care.
- Household equipment: purchase, maintenance and repair of furniture, lighting, cooking and heating appliances, etc.

- Miscellaneous social and legal costs: expenditure on marriages, christenings and funerals; expenditure on hunting and driving licences; on legal costs and lawyers; on contributions and subscriptions; domestic staff; life assurance; financial assistance to other households or payment of expenses on their account.
- Transport: purchase of private vehicles; engine power of cars; car-related expenditures such as on repairs, insurance, rent of garage etc.
- Bulk food and others items.
- Personal and household items: clothing, footwear, jewellery, watches, crockery and cutlery, cooking utensils, kitchenware, toys; own consumption of any of these items; expenditure in relation to its repair and maintenance.
- Food and related: food, drinks and other items for immediate consumption (classified for an open-ended enumeration).
- Own consumption: food, drinks and other items for immediate consumption acquired by the household for its own business, from its own agricultural production, or from any other source without payment.

The last two sections form the household diary, involving daily recording for one week but also covering the past three weeks for some items.

#### **Income questionnaire**

Questions deal with the following subjects: income from main job, income in kind, other earnings from own business or from farming and similar activities, social entitlements, compensations for accidents, gifts, etc. Insurance is also covered in this questionnaire. Also are included six subjective questions on the household's economic situation, covering evaluation of own income and standard of living, existence of financial difficulties, and views on the required minimum level of income.

#### **IV COMMENTS**

The survey methodology needs development concerning sampling, and in particular the questionnaire. The enumeration of various categories of consumption and expenditure in the main questionnaire needs to be systematised. The categories used are not always sufficiently distinct and clear. In addition, the reference periods used are very varied and do not appear to follow a systematic pattern. A clearer separation is also desirable between the diary and the interview components.

#### **V. MAIN MODIFICATIONS FOR 1993 SURVEY**

It is planned to extend the recording period to 14 days in the 1993 survey.

It is also hoped that the survey content and questionnaire design will be improved following the Community standardised variable list for family budget surveys.

## I. SURVEY STRUCTURE

### Dates and Frequency

The Continuous Survey on Family Budgets was launched by the INE in January 1985. It is conducted on a quarterly basis, with each sample household enumerated four times during the year. The survey is a continuation of several family budgets surveys carried out between 1958 and 1980, and of the Continuous Consumption Survey that took place every year between 1977 and 1983.

In parallel to this continuous survey on family budgets, the INE also undertakes a large Family Budget Survey every ten years. Spain has, thus, both a light, continuous survey once every three months and a big survey carried out every 10 years.

### Aim of the 1988 Continuous Survey

Four aims have been defined:

- To collect quarterly and annual data on consumption expenditures for the whole country in order to complement the national accounts.
- To collect data on annual expenditure of the households, classified according to different criteria.
- To follow for the whole country every three months monetary and non-monetary income, its distribution by source and its classification according to different variables.
- To collect data on physical quantities consumed of food and drinks.

### Sample size

The final sample of the 1988 survey had 3,068 households, each household enumerated four times during the year, for a total of two years.

### Sample design

The sample for the 1988 survey is based on updated results of the 1981 population census. A two stage stratified sampling design is used.

- The primary units are the *census sections*. The 32,000 or so sections in the census are classified into strata by size (rural, intermediate, urban, big city) and the percentage of households by socio-economic category within each autonomous region of the country. For each of these strata, the number of sections to be selected is determined according to its share in the total economically active population. A total of 584 sections are in the sample.
- The secondary units are the dwellings, of which a total of 3,200 were selected from the sample sections.

- The difference with other family budget surveys is that this model is applied every 13 weeks, four times a year. During each quarter a household maintains the diary for a period of one week, these recording periods being distributed over different groups of households in a uniform way across the year. One-eighth of the sample is changed from one quarter to the next, so that each household remains in the sample for two years.

After the introductory letter, the surveyor visits the household in order to persuade them to participate in the survey. Every household received, at the end of the survey year, a present of Pta3000 and a pen for those under 14 years old. Household substitutions were carried out when necessary.

### Sample representativeness

Of the 3,200 unit initially selected, 33 were ineligible. Only 280 did not respond; of these, 244 were substituted, and of these substitutes 148 answered. The overall response rate (among those originally selected and the substitutions) is 92%. Discounting the effect of substitutions, the achieved sample is 96% of the number originally selected.

## II. MAIN CONCEPTS

### The population and survey units

*Coverage.* All private households living in the national territory, including Ceuta and Melilla.

*The household.* A household is defined as one or more people occupying the same main family dwelling or a part of it, and sharing food or other goods paid from the same budget. This definition implies sharing housing, food and other expenditures.

*Head of household.* The household head is the person with the largest contribution to the common household budget.

### Consumption vs. expenditure

For the 1988 survey, Spain uses a concept which is closer to expenditure than to consumption.

- Hire purchases are registered according to the total amount paid, including interest.
- The only income in kind considered is the accommodation going with the job. Other benefits in kind such as a car or energy are not covered.
- On the other hand, imputed rent is valued by owners and those enjoying a free of charge accommodation according to the self-evaluation method.
- Consumption of own-produce and business is recorded according to the time of consumption, and is valued at retail prices.

### III. SURVEY CONTENT

#### Expenditure recording: the diary

For the recording of daily expenses, individual-type diaries are used, one completed by each member aged 14 or over and an enlarged version by the main purchaser. These diaries are filled for one week per quarter, four times a year by each household. The enlarged or main version for the person primarily responsible for daily purchases (normally the housewife) covers the following sections.

- cash payments made during the day;
- consumption of food and drink from own supply;
- consumption of goods withdrawn from own business;
- and of food and drink provided by the employer.

The number of persons eating lunch and dinner in the household is also recorded. Several examples are provided to help the household in the recording, but basically the format is open-ended.

The briefer diary records daily expenses by item, quantity and value for each individual aged 14 and over.

#### Expenditure log or retrospective questionnaire

In addition to the diary, there is a questionnaire in which expenditure with longer reference periods are recorded. This questionnaire is to be filled during the second visit of the interviewer, which takes place during the second day of the recording period. It has two parts:

*Monthly payments.* These are divided into two subsections: expenditure on clothing, and other expenditures. Both parts give a closed list of the items to be included. Monthly payments, for example, specify clothing, long distance transports, recreational items, other services and transfers to other households.

*Quarterly payments.* These cover purchase of durable goods, hospital care, repairs made to the dwelling, therapeutic materials, sickness insurance, periodic expenditure on the dwelling, educational expenditure, etc.

#### General questionnaire

The general interview obtains information on basic characteristics of household members, on frequent as well as less frequent expenditures and on income. The questionnaire is implemented in two parts during two different days around the household's recording week. Questions other than on income are covered during the first visit of the interviewer before the recording period.

The part of the questionnaire on income is filled in on the sixth day of the recording period.

The following items are covered in the questionnaire.

- Composition of the household; relationship to household head.
- Some details on level of education, current activity status and level of skills of the household head and his spouse. For the rest of the household members, the only activity-related information sought concerns the origin of income in the last three months.
- A few items on the main and secondary residences, such as expenditure in rent, electricity, etc.
- Questions on income, with a breakdown by origin, including meals provided by the employer.

Various reference periods are used: one week for food and related items; one month for items such as clothing and footwear, furniture and furnishing, household equipment and operations, medical and health services, repairs and transport, etc.; and 3 months for less frequent items. A longer reference period - such as 12 months as used in other family budget surveys - is not required because of quarterly enumeration of the same households.

### IV COMMENTS

A major shortcoming is that the survey does not cover a number of important variables normally included in family budget surveys. This includes many simple variables such as on housing, amenities, possession of durables, basic demographic characteristics (details on relationship, marital status), and economic information on members other than the head or spouse.

The survey follows an exceptional design involving quarterly enumeration of the same households. This has some advantages, such as a possible improvement in data quality and the monitoring of household-level variations over the year. However, there are also a number of disadvantages. The most serious concerns the reduction in the effective annual sample size because of following up the same rather than different samples of households during the year. The respondent burden is also increased due to repeated enumeration.

### V MAIN MODIFICATIONS PLANNED

From 1993, it is planned to extend the recording period from 7 to 14 days every quarter, i.e. to 8 weeks per year for any given household.

## I. SURVEY STRUCTURE

### Dates and Frequency

In addition to the Continuous Survey conducted on a quarterly basis, a more detailed and larger survey on family budgets is also conducted in Spain once in ten years (in the years ending in '0'). The most recent such survey was in 1990.

### Aim of the 1990 survey

The survey objectives include the following.

- To update the goods and services which make up the 'basket of purchases' and their weights for the calculation of the consumer price index.
- To facilitate the estimation of consumption categories by purpose for use in the national accounts.
- To obtain information about the general structure of household budgets, with details on consumption expenditure on goods and services, on income by origin and type, and on savings and withdrawals from savings.
- To link household expenditure, income and savings with various geographical, economic, social and family characteristics.
- To obtain sufficiently detailed information on household living conditions.
- To support economic and social analysis, including analysis in specific fields of social concern such as poverty and inequality, nutrition, health, education, and household equipment, housing and energy consumption.

### Sample size

The ultimate sampling unit is the dwelling, and 27,000 such units are included in the sample. Approximately 24,000 household interviews were completed.

### Sample design

The sample is selected using a multi-stage stratified design. The 52 provinces of the country form the primary strata from each of which an independent sample is selected. The selection is done in two stages:

- The selection of 3,232 census sections from a total of around 32,000 sections. Within each province, the census sections are stratified according to population size of the locality into nine strata.
- The selection of dwellings within each section selected at the first stage, after stratification of the households according to the following socio-economic categories:
  - farmers and related;
  - professionals, technicians, business managers and directors, traders, and professional soldiers;
  - and miners, other workers and craftsmen.

### Sample representativeness

Data are available presently only for the previous round of the survey (1980). According to that, some 71% of the sample selected responded. After substitution the completed sample size was 93% of the sample originally selected.

## II. MAIN CONCEPTS

### The population and survey units

*Coverage.* All private households within the national territory, including Ceuta and Melilla.

*The household.* The analysis unit is the household, which is defined as a person or group of persons which occupy together a single dwelling or a part of it, and which pays for food or other expenses together from a common budget. Domestic servants and paying guests are excluded. The common budget is the shared amount of money which allows the person in-charge of the household administration to pay for the common expenditure.

*Head of household.* The household head is the person who generally contributes the largest share to the common budget.

### Consumption vs. expenditure

Given the aims of the survey, the data are collected on household gross expenditure.

- The valuation criterion for all purchases, including hire-purchases, is the actual payment made by the household during the reference period. However, for many goods the total purchase price is also asked.
- Own-consumption is valued at retail prices, and is registered according to the time the goods or services are consumed or given away.
- Income in kind and goods received free or at a reduced cost are valued in the same way. This includes the accommodation going with the job.
- Imputed rent is estimated both for owner-occupied and rent-free accommodation, and is evaluated both on the basis of self-evaluation and by the method of stratification.

## III. SURVEY CONTENT

### Expenditure recording: the diary

An individual diary is kept by every adult household member and contains information on all expenditures made each day during a period of one week. The sample is distributed into weekly subsamples over the survey year for this purpose.

There is also a more detailed diary completed by the main purchaser. The diary is divided into sections covering: cash payments made during the day; consumption of food and drinks from own supply; withdrawals from own business; and consumption of food and drinks provided by the employer. The number of persons eating lunch and dinner at the household is also recorded each day.

Several examples are provided to help the household in the recording, but basically the format of the diaries is open-ended. At the end of each day, different totals of payments are calculated.

#### **Expenditure log or retrospective questionnaire**

There is also a questionnaire for the retrospective recording of expenditures with longer reference periods. This has three main parts: monthly payments; quarterly payments; and annual payments.

*A. Monthly payments.* This consists of two subsections: expenditure on clothing, and other expenditures. Both parts give a closed list of items to be included. Monthly payments, for example, are recorded separately for clothing in various categories, long distance transport, recreation, other services, and transfers to other households.

*B. Quarterly payments.* Quarterly payments cover cost of repairs made to the main or secondary dwelling; payment for goods related to the dwelling, and some other (small) expenditures on durable goods; medical expenses; expenditures related to the use of transport equipment; and purchase of leisure goods.

*C. Annual expenditures.* Payments with a recording period of one year cover: durable goods; therapeutic materials; purchase of transport equipment; taxes and insurance paid.

#### **Other logs**

A number of special self-completed questionnaires or logs are used in which the household records certain information retrospectively using various reference periods, mainly to assist the interview which follows. These include:

- summaries of the diaries and expenditure logs;
- record of the bills paid;
- record of income received.

#### **General questionnaire**

The following topics are covered.

*Characteristics of household members:* Relationship with the main earner; sex and age; level of education completed and current attendance by level and type of institution; and economic activity, professional status and sector of employment.

*Characteristics of the main earner:* place of work (province, country) if away; country of origin if immigrant.

*Characteristics of the main dwelling:* number of rooms; date of construction; tenure; date the rental contract expires, if applicable; year of purchase, and price of dwelling at the time of purchase; estimated current price; gross monthly rent, or estimated imputed rent; amenities and services available in the dwelling; energy consumption, etc.

*Characteristics of the secondary dwelling.* the same as above, with the exception of the information on amenities and energy consumption.

*Capital.* Grants; loans outstanding; investments in the dwelling.

*Economic situation.* A set of questions on subjective assessment of economic situation of the household.

#### **IV COMMENTS**

The survey is much more detailed than the parallel Continuous Survey carried out on a quarterly basis. The main, detailed survey is a more appropriate source for the purpose of comparative tabulation and analysis of the data at the Community level. Its much larger sample size is another important advantage which permits detailed classification by regions of the country: the Continuous Survey does not provide this opportunity, unless the data are cumulated for several years. However, the main problem remains that the detailed survey is conducted only once in ten years.

#### **V COMPARATIVE TABULATIONS FOR THE EUROSTAT REFERENCE YEAR OF 1994**

It is not determined at this stage whether the next comparative tabulation exercise will include the Continuous or the Main survey, or some combination of the two. Each option has its advantages and disadvantages.

## I. SURVEY STRUCTURE

### Dates and Frequency

After having carried out an annual survey on household living conditions from 1965 to 1972, the INSEE changed in 1973 and 1974 the composition of these surveys by merging them with the food survey. However, this combination was abandoned as it had an adverse effect on quality of the results, and the series of separate surveys restarted in 1978/1979. The following surveys took place in 1984/85 and 1989, and the next one is due in 1994. From an annual surveys during the 1960s, France has moved to one survey every five years. Either of these frequencies is in line with Eurostat recommendations.

### Aim of the 1989 survey

The FBS is aimed at the study of living conditions and behaviour of different groups of the population; the study of individual consumption items is not its main objective. The subject matter of the survey is broad and goes further than consumption in the strict sense of national accounts. It includes all forms of expenditure: food or non-food purchases, consumption outside of the home, payments for different services, taxes, repayments of mortgages or other loans, etc. Data from the FBS have two main users:

- Specialists in market research, who are interested in the consumption of various products by the different groups by income, age and other characteristics, places where the product was bought, etc.
- Public sector, concerned with national accounts, economic forecasts and revisions of the CPI.

### Sample size

The final sample consisted of 9,038 households.

### Sample design

The sample of the 1989 survey has been obtained using the housing file of the 1982 census (master sample), supplemented by lists of new dwellings built since that date provided by the Departmental Equipment Directions. The master sample is based on multi-stage stratified random selections. Each one of the 22 French regions is divided into 9 strata defined on the basis of rural-urban classification. Within each of these strata primary units (towns) are first selected - the larger of these units are self-selected while the smaller units are selected with probability proportional to size. The second stage consists of the selection of dwellings from each sample PSU.

A household's participation in the survey involves a recording period of 14 days and interviews around this recording period. The recording periods for different groups of households are distributed over 48 weeks of the survey year (there being no fieldwork over the remaining 4 holiday weeks). For this purpose the sample is divided in to 8 subsamples of similar size and structure, each subsample being in the survey for 6 weeks and within each

subsample any particular household, of course, participating for only 2 weeks.

The participation in the survey begins with an introductory letter followed by a visit by a surveyor. Households taking part in the survey are given an electronic calculator as a gift.

### Sample representativeness

Of the 16,238 addresses initially selected only around 75% contained an eligible household, of which 74% responded to the survey. No substitution are made for non-respondents. In order to diminish as much as possible distortions in the sample as a consequence of non-response and other factors, the final sample is weighted by matching on household characteristics (socio-economic category of reference person, age of reference person, size of household, place of residence) with the Labour Force Survey of March 1989.

## II. MAIN CONCEPTS

### The population and survey units

*Coverage.* The 1989 survey covers all private households in the national territory except the overseas departments (DOM/TOM).

*The household.* A household is a group of persons living at the same private accommodation, regardless of the links they have with the owner of the accommodation or the particular arrangements concerning the sharing of expenditure and income. This definition, based only on common residence, is the most unrestricted used in the family budget surveys in the Community.

*Head of household.* The survey uses the concept of the 'reference person' rather than that of head of household. It is defined as follows on the basis of a series of criteria applied in succession.

- If there is only one person, that is the reference person.
- If there is only a couple, the man is the reference person.
- If there are several couples, the oldest of the active men of these couples is the reference person; or if there are no active men, the oldest man is so defined.
- If there are no couples but there is a parenthood link, the parent is the reference person. In case of several parenthood links, the reference person is the oldest of the active parents, or the oldest parent if none are active.
- If there is no couple or parenthood link, the oldest active member or, as default, the oldest member is taken as the reference person.

### Consumption vs. expenditure

For the 1989 survey, France used an expenditure concept (one that includes taxes and repayment of loans) rather than one of consumption.

- No imputed rent is estimated.
- Hire purchases are registered according to the total amount paid, including interest.
- On the other hand, consumption of own produce is registered in the moment in which the product is consumed by the household, and valued at retail prices. Income in kind is also registered.

### III. SURVEY CONTENT

#### The diary

An individual-type diary is maintained by each member aged 15 or over, with an enlarged version for the main person concerned with household purchases. The more elaborate version is divided into four parts for each day:

- Expenses on food and other items paid for by the person concerned (recording quantities and costs).
- Quantities consumed of products from own business or garden.
- Meals taken outside, recorded by the person who pays the cost.
- Cost of meals taken outside by children aged under 15 who do not maintain diaries.

The abbreviated version for the second and subsequent adults (aged 15+) covers the first and the third sections only.

Generally, the recording is completely open-ended within each section, with no pre specified itemisation or even division into more homogeneous subsections.

#### Interview prior to the recording period

This covers the following sections.

- Basic demographic characteristics.
- Education, covering studies currently being followed and maximum level attained.
- Occupational characteristics. These are covered in considerable detail and include occupational status, usual and current profession, type of employment, activity sector and level of skills.
- Information on the main and secondary dwelling. This covers tenure, amenities, rent, outstanding mortgages, way of acquisition of the main dwelling, value of the dwelling, taxes, public assistance received, comfort of the dwelling (hot running water, inside toilet, heating, etc.), expenditures related with the acquisition of items for the dwelling, and some information on the secondary dwelling.
- Ownership and acquisition of cars and other vehicles, including debts incurred on the acquisition.
- Acquisition of household amenities or durable goods during the last year.
- Acquisition, rental and disposition of household durable goods.

- Family background. Uniquely among the family budget surveys in the Community, a set of questions is included on the background of the reference person and spouse: information on first job, on their parents' place of residence and economic activity, on the way nationality was obtained and on the place where the reference person and spouse were living at the age of 16.

No assessment is obtained from the respondents on the imputed rent of owner-occupied or rent-free accommodation.

#### Interview during the recording period

It covers items such as child care, education, clothing and holidays (absences of 4 or more nights), recording description and cost by type with a reference period of one year, except expenses on clothing (two months). Considerable detail is provided.

#### The final interview

It focuses on checking the information recorded in the diaries, plus collecting new data on health, savings and income. The main items covered are as follows.

*A. Check questions.* These aim to check the information in the diaries and include consumption of own produced food, goods acquired from own business, and the acquisition of frozen products.

*B. Income.* Basic wages and salaries (monthly average); related income (annual total); various benefits (last payment or monthly amount); and income from self-employment, secondary activity, property and exceptional sources (with a reference period of 12 months). Generally, the various sources are explicitly itemised, but no detail other than net amount is sought in each case. When details on income by source cannot be obtained, information simply on the range of total household resources is requested.

*C. Other questions.* Information is also obtained on regular savings, monthly cost of household help and health expenses paid by the household, using a 6 or 12 months reference period depending on the item. (The real total cost of health care is not sought.) Finally, there are questions on subjective assessment of the household's economic situation, following the Eurostat list.

### IV COMMENTS

The new series of surveys has been well established. The surveys cover a wide range of variables and are generally in line with the Eurostat standard list of variables.

### V MAIN MODIFICATIONS FOR 1994 SURVEY

The main change planned for the 1994 survey is the introduction of estimation of imputed rent of owner-occupied and rent-free accommodation by stratification



## I. SURVEY STRUCTURE

### Dates and Frequency

Household Budget Surveys have been carried out in 1951/52, 1965/66, 1973, 1980 and 1987, thus having a periodicity of seven years. The next survey will take place in 1994. From 1973 onwards, the survey deals with all private households in the country, while before it was limited to urban households. Since 1973, a special survey limited to cities with at least 1000 inhabitants has also been conducted annually; this survey aims to detect unexpected changes in the expenditure structure of households which might imply the need to modify the consumer price index by means of a larger national survey.

### Aim of the 1987 survey

The main family budget survey aims to determine in detail the expenditure structure in order to update the weights included in the consumer price index.

### Sample size

The final sample of the 1987 survey included 7,705 households.

### Sample design

A sample of around 16,000 private households (8000 originally selected and 8000 substitutes) is derived from the Labour Force Survey (LFS), giving each household in the sample a similar chance of selection. The procedure is as follows.

- Firstly, a random sample of 453 primary units (PSUs) is selected from the 1986 LFS areas with probability proportional to size. Areas to be used again for the 1987 LFS are excluded from the FBS sample to avoid excessive respondent burden.
- The PSUs are grouped in to 229 'interview assignment clusters', and from each of the latter two independent samples of 35 households each are selected. One of these serves as the original sample and the other as the substitute sample. The selection is confined to households co-operating in the last LFS.
- In order to provide adequate representation to farming households, agricultural households in the above sample are eliminated, but a larger sample of 1211 agricultural households is added from the National Farm Survey. (This made the size of the original 1987 FBS sample as 8,230.)

The contact is established through an introductory letter followed by the visit by the interviewer. Every person aged 15 or over answering the survey gets £4 and a lottery ticket with a maximum price of £500, limited to a maximum of 500 people.

### Sample representativeness

Excluding 972 sample addresses which were found on visit to be non-existent or outside the scope of the survey, an effective sample of 12,838 households was obtained. Of these, 8,276 accepted to participate originally and 7,705 completed the participation, giving a response rate of 60%. There is an added effect of non-response arising from the fact that the FBS sample as selected excludes households not responding in the LFS. This effect may not be large because of the high response rate (93%) in the LFS. Furthermore, the final FBS sample is controlled through substitution and weighting for distribution by household size, social group, farm size, town size stratum and region.

## II. MAIN CONCEPTS

### The population and survey units

*Coverage.* The FBS of 1987 covers all private households living on the national territory, except those having three or more lodgers.

*The household.* A person living alone; or a group of persons living usually at the same place, whose food is purchased on a common basis.

*Household head.* There are no specific instructions as to who should be the household head. The decision belongs to the household. In addition, the survey also identifies the owner/renter of accommodation, and the main provider of the household.

### Consumption vs. expenditure

Ireland uses a concept which is closer to expenditure than to consumption.

- Hire purchases are registered according to the total price paid by the household, including interest.
- Income in kind is not included.
- Generally expenditures are recorded according to the time of payment. Certain exceptions are made however: goods acquired through credit accounts or budget clubs, and goods withdrawn from family business are recorded according to the time when acquired.
- On the other hand, consumption of own produce is recorded according to the time of consumption, and its value is estimated at retail prices.
- There is no estimation of imputed rent, neither for owner-occupied accommodation nor for free-of-charge accommodation. However, an estimate by stratification for owner-occupied accommodation is transmitted to Eurostat.

### III. SURVEY CONTENT

#### The diary

Each household member aged 15 or over keeps a diary for 14 days, the sample households being distributed over the survey year for this purpose. An enlarged version of the diary is maintained by the main persons responsible for household purchases ("Housewife's Expenditure Diary"). It records purchasing arrangements (e.g. accounts with suppliers, purchases in bulk), and provides for daily recording of purchases with description, quantity and cost. Basically, the diary is not structured and provides for open-ended recording under three broad headings: food and household provisions; drinks, meals and snacks taken outside; and other items. Apart from some general instructions provided in the diary, no explicit provision is made for separate recording of self-produced or subsidised consumption. Even the broad groups mentioned above are not separated out in the briefer (normal) version of the diary, though fairly specific instructions are provided for completing the diary.

The individual's business expenses are specified separately.

#### Household questionnaire

The household questionnaire has to be answered during an interview before the beginning of the household's 14 day recording period. It lists individual members and obtains information on the following topics:

- Basic characteristics of the household. Information on relationship to household head and other demographic characteristics; use of health services (hospital stays and outside hospital services) and availability of social welfare entitlements; level of education attained or currently received; and information on the completion of the survey and diary.
- Housing. The usual information on type of accommodation, amenities (inside WC, bathroom, etc.), rooms let or sub-let, tenure, expenditure on rent, size and characteristics of the dwelling, charges and running expenses (gas, electricity, telephone), purchase and availability of durable goods (the possibility of rental TV and video is recorded), domestic help, heating and cooking methods (very detailed), secondary dwelling (only superficially treated), and house insurance. An important feature is the inclusion of house purchase grants, mortgage subsidies and repayment concessions, outstanding mortgage payments and other housing loans.
- Other information. Educational grants and scholarships, free school meals, free home services (i.e. free domestic help, milk, home nursing). Finally, there is a question on whether a part of the expenditures included in this questionnaire are recoverable, paid directly or refunded by someone outside the household.

For most items a reference period of 12 months is used, though the method of recording the last payment (along with the period covered) is also employed often.

#### Individual questionnaire

The individual questionnaire, answered also before the main recording period, covers the following topics for each adult.

- Employment. Fairly detailed information on economic activity and labour force status, including usual activity, secondary job, hours worked, status in employment, occupation and industry.
- Income from work. For employees, usual and last salary is obtained, along with occasional additions (over the 12 months), and regular benefits in kind (received over last 7 days only). For the self-employed, an attempt is made to obtain net income for the past year through a single question, failing which information on withdrawals from business and total turnover is solicited.
- Other income and receipts. Covering long-term benefits being received (e.g., state welfare benefits, pension annuities); other benefits and income received over the past year (e.g., unemployment, illness and strike pay, income supplements and welfare assistance); and income from interest, dividends, property and other transfers.
- Contributions paid. Payments for social insurance, tax, licences, life insurance, other insurance, interest, subscriptions, loan repayments, personal allowances paid, etc. (generally with a reference period of 12 months).
- Other expenses are covered more briefly. These include purchases and operation of vehicles, costs of education and training, holidays (4 or more days away), purchases on credit and so on. Generally, the reference period is 12 months, and the percentage of the cost used for business purposes is ascertained separately where relevant.

Despite the details sought, it has been stated that the accurate measurement of household income is not a primary objective of the survey.

#### Farm households

Special procedures are used for farm households incorporated from the National Farm Survey, as well as for other households in the main sample engaged in farming. Each of these components comprises around 10% of the sample.

### IV COMMENTS

The frequency of the survey, though regular at once in seven years, is less than that recommended by Eurostat and indeed followed in most of the other family budget surveys in the Community. Fortunately, the timing of the next survey corresponds with the Eurostat reference year of 1994 for the publication of comparative results.

#### V MODIFICATIONS FOR THE 1994 SURVEY

No significant modifications are expected to the current design.

## I. SURVEY STRUCTURE

### Dates and Frequency

Annual surveys aimed at measuring household consumption were started by ISTAT in 1968. In 1973 several important modifications on survey methods were made, and in 1975 the survey content was expanded to include durable goods and information on accommodation. Fieldwork for the survey takes place during the entire year, and the results are calculated on a quarterly and annual basis. However, only annual data are published.

### Aim of the 1988 survey

It is to measure private consumption, defined as all goods and services bought, or consumed from own production, by private households in order to satisfy their needs.

### Sample size

The final sample in 1988 had 33,900 households.

### Sample design

The following two stages procedure has been followed for sample selection.

- In the first stage 550 towns from those taking part in the Labour Force Survey are selected. All towns (numbering 150) which are capitals of provinces or have more than 50,000 inhabitants are selected with certainty. They remain in the sample continuously, and a sample of households is enumerated from each during every month of the survey year. The rest of the towns are stratified by region and a number of other variables to define 400 strata, and one town from each stratum is selected. This part of the sample is divided in to three subsamples of roughly 135 town each. Each subsample is included in the survey during a particular month in each quarter of the survey year: for example the first subsample participating in the survey during January, April, July and September; the second in the following four months, and so on. In this way, each month around 285 towns participate in the survey: 150 large ones appearing in every month, and a third (around 135) of the others.
- In the second stage, 3250 households per month (around 39,000 per year) randomly chosen from the population registers of the towns in the sample. The link with the LFS sample is only at the area (town) level.

An introductory letter is followed by a visit from the surveyor. No economic compensation exists for those participating in the survey, but it is currently being studied.

### Sample representativeness

Of the 38500 households selected, 4600 did not answer (4500 of the initial 37300 plus 100 of the 1200

substitutes), giving a response rate of 85%, or of 88% if the (relatively small) effect of substitution is disregarded.

## II. MAIN CONCEPTS

### The population and survey units

*Coverage.* The 1988 survey covers all private households living inside the national territory that are inscribed in the population register. Foreigners are not included in the poll until they have permanent resident status.

*The household.* Households is a group of persons sharing marriage, parenthood, adoption or other family or emotional links with each other, living together and dealing with their needs together by sharing a part or all of their income. This definition implies family or emotional links, and sharing income and expenditure.

Resident employees and boarders etc. are included as 'associate members'.

*Head of household.* Household head is the person who introduced himself/herself as such during the first interview.

### Consumption vs. expenditure

For the 1988 survey, Italy uses at the national level a concept which is closer to consumption than to expenditure.

- Imputed rent is estimated both for owner-occupied and free-of-charge accommodation on the basis of self-evaluation by the household.
- Hire purchases are registered at their cash price.
- All income in kind is registered.
- Self-consumption is registered in the moment the product is consumed, and is valued at retail prices.

## III. SURVEY CONTENT

### Dairies

*A. Household purchases.* A single diary is used to record daily expenditures of the whole household for a period of 10 consecutive days. (Unlike most other family budget surveys, no individual diaries or pocket books are used.) Separate provision is made for recording food consumed at home, meals taken outside and expenditure on non-food items. A noteworthy feature of the diary is the extent to which the recording is structured: over 20 groups of items in the food category and a similar number in the non-food category have been pre-specified for separate recording in each group.

*B. Record of goods received or self-produced.* As an annex to the expenditure diary a "self-consumption diary" is used to record consumption of own agricultural products and food received from the employer.

Consumption of own production and goods received free or at subsidised prices is valued at retail market prices.

*C. Major purchases during the past 3 months.* This covers many pre-specified items or groups, recorded retrospectively in the diary.

*D. Income and savings.* These questions are in a different annex of the diary. Income is obtained in a cursory manner. Respondents are asked to place the total income of the household in one of several monthly income brackets. Total annual savings are recorded in the same way.

### Household questionnaire

The following sections are included in this questionnaire:

#### *A. Information on household members.*

- Information on the basic demographic characteristics of the household members is not exhaustive. Questions only concern relationship to household head, age and sex.
- On the other hand, regarding employment the questionnaire is detailed. There is information on employment status, working hours, economic sector in which the activity takes place, position in the enterprise and, for the unemployed, a question on whether a job is being actively searched.
- There is also information on the highest level of education completed by each household member.
- Holidays (defined as stays of 4 or more nights away) are covered, but with an unusually short reference period of only 30 days. (In most family budget surveys in the Community, a 12-month reference period is used for this item.) The information obtained on holidays is not detailed.
- Somewhat unusual items covered include the person's participation in sport, and the percentage of the household income which he/she contributes.

*B. Housing and car.* Tenure and type of the main and secondary dwelling, year of construction and occupation, surface area, amenities (inside toilet, telephone, etc.), and heating system. For rented accommodation, there is a (unusual) question on who owns the dwelling. Possession of a car is also asked.

*C. Possession and purchase during last 3 months of durables.* The latter are recorded in an annex to the self-completed diary, as noted above.

*D. Expenditures on goods and services.* Non-daily expenditures are recorded on the basis of detailed pre-specified lists of categories, using a uniform reference

period of one month. Expenditures on the same type of items or categories as recorded in the diary are converted to a monthly basis and are transcribed onto the questionnaire to facilitate checking. The same procedure is followed for expenditures on transport and communications, health, education, culture and recreation, insurance, etc. Expenditure on both the primary and secondary residence dwelling is recorded, as well as some of the running expenses, all with a reference period of one month. Imputed rent is obtained on the basis of the respondent's subjective assessment of the rental value of owner-occupied or rent-free accommodation.

The recording of expenditures in the questionnaire is generally on acquisition (delivery) basis.

### IV COMMENTS

The sample size is unusually large, in view of the fact that the survey is conducted annually. By contrast, the recording period of 10 days is rather short, especially in view of the fact that food and related items account for over one-third of the total household expenditure on the average.

There is a need to develop a more adequate income module.

### V MAIN MODIFICATIONS FOR THE NEXT SURVEYS

ISTAT is studying the following modifications for the next surveys:

- Definition of the objectives of the survey: whether it should have an independent broader value or whether its objective should be the formulation of national accounts.
- Some reduction of the sample size.
- Modification of the survey period: change from the current ten days to two weeks.
- Possible re-introduction of individual diaries.
- For the next Eurostat reference year, estimation of imputed rent by stratification will be undertaken by Eurostat.

Recently a research programme (CON.PRI) has been launched aimed specifically at improving estimates of consumption and exploring the possibility of obtaining more detailed information on household income. Research projects have been initiated on evaluating the quality and uses of the survey data.

## I. SURVEY STRUCTURE

### Dates and Frequency

Surveys took place in 1956/57, 1963/64, 1977, 1986/87 (May 1986-August 1987), thus with an average periodicity of ten years. The next survey will take place in 1993 and a five year periodicity has been decided by the economic and social committee.

### Aim of the 1986/87 survey

To study the consumption patterns of the population with the aims of (a) allowing for a revision of the CPI and (b) analysing the different consumption patterns corresponding to different household types. Some questions on income have been included; however, savings and finance are not covered.

### Sample size

The final sample consisted of 3,006 households.

### Sample design

The 1986/87 survey is based on the "Repertoire General" of persons, which is continuously updated with the help of the town halls. Even though it is kept on an individual basis, it allows for the selection of *households* using a procedure taking into account sex, family status, name and address on the basis of a data file specially constructed for this purpose. This file takes into account the whole population, but data needed for the stratification, such as size, composition and income of the household are not included. (For future use, a questionnaire with indications on household type, socio-economic category of household head, and income class has been sent to all households.) Households for the survey are selected using systematic sampling from the lists.

In the initial questionnaire sent to the households, they were asked if they would agree to participate in the survey. Hitherto the introductory letter has not been followed up by personal visits to persuade those whose initial response to participation was negative. (It is planned to include such follow-up visits in the 1993 survey.) Only households who spontaneously agree participate in the survey.

### Sample representativeness

Of the initial 22,524 households, some 8% turned out to be ineligible or not present at the address indicated, a vast majority did not respond to the invitation to participate or refused, and only 17% agreed to further participation. The actual number completed (3,006) represents a response rate of only 14%.

No substitution or reweighting was done to reduce the impact of non-response.

## II. MAIN CONCEPTS

### The population and survey units

*Coverage.* All private households.

*The household.* A household is defined as either (a) a person usually living alone; or (b) several persons, with or without family links with each other, who usually live at the same dwelling and share arrangements and provisions. This definition implies sharing housing and expenditure.

*Head of household.* This is the person who considers himself/herself as such or is considered as such by the rest of the household members.

### Consumption vs. expenditure

For the 1986/87 survey both concepts are simultaneously sought, but the concept of consumption is followed in the data transmitted to Eurostat.

- Hire purchases are registered according to the total expenditure made during the reference period, including interest payments (the payment of the credit is written at the side of the expenditures).
- Imputed rent is estimated by self evaluation for owner-occupied accommodation; it is not estimated for free of charge accommodation.
- The consumption of own produced food is registered when the product enters the stocks of the households; it is valued at retail prices.
- Income in kind is not registered.

## III. SURVEY CONTENT

### Diaries

Data on expenditures are included in both the questionnaire and the diary. The main diary is for the household as a whole to be kept for 30 days and is supplemented by a notebook for each person aged 17 or above who receives pocket money. The sample is distributed over (360 days of) the year in terms of the 30 day recording period per household.

*A. Household diary.* The following topics are included.

- A short general information section, in which there are some brief questions on household composition, persons who have joined the household and members whose personal status has changed.
- The second part records non-purchased products. It has three subsections: own consumption and gifts of food, beverages and tobacco received; goods supplied free of charge by the employer; and gifts other than food, drinks and tobacco.
- Daily expenditures and quantities consumed are recorded under two broad headings - food group, and

other - with no further categorisation. The instructions provide for the daily recording of the following items: purchases of goods and services; cash gifts to third parties; pocket money given to household members; deposits made in savings accounts; purchases of houses, plots of land, securities, and foreign currency; and any kind of loans or payments made.

*B. Expense book.* The pocket book provides for open-ended recording of daily expenses and of pocket money received by persons 17 and over living in the household.

### Questionnaires

The questionnaire is developed in the following five modules, the first three being covered in the interviews before the recording period and the remaining after the recording period.

*A. Demographic and occupational characteristics of household members.* The usual questions on sex, age, relationship with household head, and nationality are asked. Regarding employment, the questions included cover employment status, level of skill of the job, industry and profession (these two questions are open-ended), and number of working hours per week.

*B. Accommodation.* This module includes a lot of information concerning the main residence: type of building, year of construction, size, tenure, heating (type and energy), monthly rent and charges, utilities and maintenance, possession of durable goods, expenditure in improvements of the dwelling, loans obtained for the acquisition of the building, and repayments made during the year. On the secondary residence there are only two questions, one on the tenure and the other on the total expenditure. There is also a question on the respondent's own estimation of the value of the house and of the imputed rent when it is owner-occupied or rent free. The reference period varies, depending on item, but is 12 months for a majority of the items.

*C. Diverse expenses.* This heading covers clothing, furnishings, health care, purchase of vehicles, repairs, holidays, transport and communications, leisure, entertainment, education and culture, insurance, house help, child care and extraordinary payments. To facilitate recording, each of the major groups is usually divided into a number of pre specified sub-categories for separate recording. (For example, clothing is divided into four subgroups by sex and age of the user.) The reference period for most of the items is 12 months, though 3 months is used for some items (clothing, regular medical treatment, purchase of accessories, repairs). A holiday is defined as 3 or more nights spent away.

*D. Check questions.* Following the recording period, a questionnaire is used to check whether relevant entries (especially involving own business or production and use of credit cards) have been included in the diary.

*E. Income module.* Information is sought for each adult on basic wage or salary, allowances, deductions, and monthly income from secondary employment. It also allows for the possibility of income from self-employment. Other income and transfers are obtained (without detailed breakdown) on an annual basis. In particular, these include family benefits, social security benefits, insurance payoffs and windfalls. If no income details can be obtained, the respondent is requested to identify the range of monthly household income.

### IV COMMENTS

The survey is rich in content and adequate in sample size. A most serious problem is presented by the high rates of non-response. The survey is also rather infrequent. Steps are being considered to reduce both these and other problems.

### V MAIN MODIFICATION FOR 1993 SURVEY

Several changes and methodological improvements are planned.

- Frequency and timing. Following the next survey in 1993, it is planned to regularise the interval between surveys to five years.
- Recording. The recording period for expenditure will be reduced from 30 to 15 days. Individual diaries will be introduced, while the household type diaries may or may not be kept in addition. Consumption will be adopted as main criterion. Consumption of own produced food will not be registered any more because of its marginal importance.
- Sampling. Stratification for the selection of areas will be improved by incorporating additional variables. Procedures for weighting the sample data to improve its representativeness will be introduced. To improve response rates, the initial letter inviting participation in the survey will be followed by personal visits in all cases as far as possible.
- Estimation. Eurostat will introduce an estimation by stratification of imputed rent for both owner-occupied and free of charge accommodation.

## I. SURVEY STRUCTURE

### Dates and Frequency

Since 1978 the CBS has carried out Family Budget Surveys every year in response to the strong demand for information on the structure of household expenditure and its variation.

Several methodological changes were made in the budget survey in 1988. The annual sample size was reduced by one-third and the daily recording period by half. There were also major changes in the survey operations, particularly in the area of data processing.

### Aim of the 1988 survey

The aim of the survey is to give a precise picture of consumption and other expenditures of the households, as a function of household characteristics such as income, socio-economic characteristics, size and composition, degree of urbanisation and region. The objective is to provide information for a number of different uses:

- Weighting of the price index.
- Estimation of consumption in the national accounts.
- Studies on consumer budgets.
- Survey of quality and cost of food products.
- Market research.
- Studies on indirect taxation, cost of children, energy consumption etc.
- Evaluation of the parameters used in consumption models.

### Sample size

The final sample consisted of 1,967 households.

### Sample design

The sample consists of two components.

- A large proportion (two-thirds) of the sample is obtained from households which have participated in previous family budget surveys, or other households which have been recruited for the purpose.
- The above are supplemented by a random sample of new households to be included in the survey. Unlike previous participants or recruits, the response rate for these latter is much lower. For this reason, 5,000 such households were selected for the 1988 survey - which is as much as 7 times the number required in the final sample.

In each of the above two categories, a sample from among those initially agreeing to participate is selected, controlling for various characteristics.

For the original selection of households, a two stage procedure is used: the selection of towns or cities in the first stage, followed by the selection of addresses (which

serve as a proxy for households) in the selected towns and cities. Cities bigger than a certain size are included in the sample with certainty; smaller cities and towns are selected with probability proportional to size (number of addresses). Addresses or households are selected after stratification by income, social group, and household size.

### Sample representativeness

Around 75% of the past participants or recruits, but only 25% of the new households initially agreed to participate. There was a further loss of around 15% before completion of the survey. Finally, over two-thirds of the sample consisted of past participants and recruits, and only a third of newly selected households. A major part of the final sample is therefore formed of the rather selective set of households in terms of their willingness to co-operate. Among the new participants the response rate is very low.

To improve representativeness of the sample to some extent, the data are weighted using a systematic and elaborate procedure.

## II. MAIN CONCEPTS

### The population and survey units

*Coverage.* The 1988 survey covers all private households that have their main residence in the country, regardless of their nationality.

*The household.* A household may be a person living alone, or a group of persons living together, and eating and managing the household together.

*Head of household.* This refers to the member who rents, has the sub-tenancy of, or own the accommodation of the household. In practice, in households formed by a married couple, the husband is normally taken as the head. In families without a couple but with a parenthood relationship, the parent is normally considered as the head.

### Consumption vs. expenditure

The Netherlands uses in the 1988 survey a concept which is closer to consumption than to expenditure.

- Imputed rent is estimated both for owner occupied and free of charge accommodation. Hire purchases are registered at the cash price of the good.
- Accommodation going with the job is registered; the car going with the job and other non-monetary advantages are not registered.
- However, consumption of own produce is registered according to the time the product enters the stock of the household, and is valued at retail prices.

### III. SURVEY CONTENT

#### Diaries

Two main types of diaries are used in the survey. These are kept on a household (as distinct from an individual) basis. There are also complementary diaries on own food production and on holidays.

*A. Quarterly log.* The first type of diary involves daily recording of expenditures exceeding a certain amount on a quarterly basis. Four such quarterly 'logs' are used by the household during the course of the survey. The recording period is the whole year except for the two weeks of detailed recording (see below).

*B. Intensive diary (daily recording).* The second diary records all expenditures and receipts for a period of 15 days (half a month). This was a reduction from the one month recording period used in earlier surveys. (In the most recent surveys, the period has been further reduced to 7 days.) At the same time, there was a compensatory lowering of the limit above which non-frequent expenditures are reported in the quarterly logs mentioned above.

The recording covers all expenditures (cash payments, payments via bank and payments voluntarily withheld from salary) and receipts (sales and trade-ins, refunds and gifts from employer).

Consumption from own shop or business is also recorded in a second booklet; however, consumption of food products from own garden is included in a complementary diary where all own production of food is recorded.

A separate diary is also used for recording expenditure during holidays and other holiday-related expense, such as purchases prior to the holiday, travelling expenses, accommodation, food, restaurants, etc. Persons taking a holiday during the reference year are asked to maintain this holiday diary, which is subsequently used in the interview on the subject.

#### Questionnaires

The three main questionnaires are the general information questionnaire applied before the recording year, the questionnaire on periodic expenditures, and the income questionnaire applied after the end of the year. The income questionnaire is normally self-enumerated in part. In addition there are complementary questionnaires covering initial recruitment of the households, and energy consumption.

*A. General information questionnaire.* It covers the following topics:

- Characteristics of household members, with considerable detail on education, economic activity and employment of the reference person and spouse.

- Information on the dwelling and amenities, size and tenure, etc. with several questions on house insulation. Subjective assessment of equivalent rent of owner-occupied and rent free dwellings is not obtained from the respondent; rather, expert assessment is made when the respondent agrees to allow the evaluation.

- Possession of durable goods is assessed on the basis of an elaborate precoded list covering over 35 items. However, no information is obtained on the time or cost of purchase of these items. Consumption is recorded in terms of the value of goods and services purchased during the reference period, plus the value of own produce consumed and of receipts in kind.

*B. Regular expenditures* are covered during a separate interview at the beginning of the intensive recording period for the household. There is also a separate questionnaire on energy consumption (meter readings).

*C. Income questionnaire.* It covers the following topics:

- Composition of the household; receipt of income or child allowance by each member; and identification of members making contributions to persons outside the household. This part is usually completed by the interviewer.
- With a fixed reference period of one year, information is obtained for every person on: gross wages and deductions for paid employment; "fiscal" earnings from self-employment; receipts from pensions, social security and other benefits; property income; subsidies received for house purchase; rent, maintenance, education and other grants. The person's tax bracket and taxable income for the past year is also obtained, using documentary evidence wherever available.

### IV COMMENTS

The continuous nature and rich content are two main strong points of the survey. However, large rates of non-participation among the households originally selected for the survey affect its representativeness. Despite the reduction in the duration of intensive diary-keeping from the original one month to 2 weeks (and subsequently to one week), the survey remains a 'heavy' one because of the year-long recording period involved in the quarterly diary.

### V SOME MODIFICATIONS EXPECTED

The consumption of own produced food will not be followed up any more because of its marginal importance.

From the 1993 survey, the CBS will estimate imputed rent for owner-occupied and rent free accommodation by stratification for the use of Eurostat.



## I SURVEY STRUCTURE

### Dates and Frequency

Four Family Budget Surveys have been organised by the INE so far, starting in 1967/68. The first survey covered income and expenditure. The survey of 1973/74 dealt only with household expenditures but had a larger sample (double the sample size used in other surveys). The survey of 1980/81 covered not only the characteristics of private households and persons, expenditure, consumption and income, but also housing, possession and savings. The last survey, which was carried out over a period of one year from March 1989 to March 1990, dealt with all variables except savings. Thus, surveys have been taken every 6 to 9 years. The next survey will be in 1994 and the frequency from then on is expected to be of one survey every five years.

### Aim of the 1989/90 survey

The 1989/90 survey had four aims:

- To update the CPI.
- To establish a data base to calculate private consumption for the national accounts.
- To analyse the behaviour of the population in terms of consumption and living conditions.
- To produce data which could be used to create a system of indicators on living conditions and poverty.

### Sample size

The final sample included 12,500 households.

### Sample design

The sample of the 1989/90 Family Budget Survey was obtained from the master sample used by the INE for all household surveys. The dwelling was the ultimate sampling unit.

The master sample, which includes the metropolis and the autonomous regions of Azores and Madeira, has been selected in two area stages on the basis of the 1981 census. The first stage involved the selection of municipalities, which are the smallest administrative unit of the country. The second stage consisted of the selection of census subsections or quarters from each sample municipality. At both stages the selection was done systematically from geographically ordered lists with probabilities proportional to size. No stratification by socio-economic characteristics was made because of the lack of such data in the frame.

All sections of the master sample were included in the FBS sample: 512 in the metropolis, 66 in the autonomous region of Azores and 47 in the autonomous region of Madeira.

A total of 16,800 dwellings were selected into the sample, i.e. around 25% more than the final number required. These were distributed among regions in proportion to their population, resulting in 12,500 for the metropolis, 2,500 for Azores and 1,800 for Madeira. The number selected from each section was determined so as to obtain a self-weighting sample dwelling, i.e. giving all dwellings in the country the same chance of coming in the sample, except for the over-sampling of certain small regions.

Each sample household keeps a diary for one week during the survey year, the overall sample being uniformly distributed over the survey year for this purpose.

### Sample representativeness

Of the 16,800 initially selected households 12,500 participated in the survey, giving a response rate of 74%. No substitutions were made for non-respondents.

## II. MAIN CONCEPTS

### The population and survey units

*Coverage.* All private households in the metropolis, in Madeira and in Azores.

*The household.* The survey unit is the 'private domestic unit' formed by:

- A group of persons living in the same housing unit who deal usually with housing and food expenditures in common.
- Either an individual occupying the whole of a housing unit or someone who, sharing it with others, does not fulfil the conditions listed above.

*Head of household.* The head is the person determined as such by the household.

### Consumption vs. expenditure

In the 1989/90 survey an intermediate concept between consumption and expenditure is used.

- Hire purchases are registered at their cash price.
- Imputed rent is estimated both for owner-occupied and free of charge accommodation on the basis of self-evaluation by the household.
- Consumption of own produced food is registered when the product is consumed, and is valued at retail prices.
- Income in kind is registered, with the exception of the car going with the job.

Some modifications to these concepts are expected for 1994 survey (see below).

### III. SURVEY CONTENT

#### Expenditure recording

Expenditures are collected by means of three instruments:

*A. Main household diary.* It is maintained by the household for seven days. Daily records are kept of purchases during each day, own consumption of food, and non-food items taken from own business, the last two valued at market prices. There is also a question on the persons present at each meal, including household members and others.

*B. Individual expenditure form.* This records in a completely open-ended way the expenditure of each household member every day of the week.

*C. Retrospective expenditure log.* In this expenditures with other reference periods are recorded. Generally, the reference period used is one week for food and other regularly consumed goods and services; one month for rent, household utilities and medical services; three months for clothing and domestic appliances etc.; and one year for the purchase of vehicles and other durable goods, and major health expenses.

Hitherto, the survey has not attempted to cover value of goods and services in areas such as health, education and social services, supplied free of charge or at reduced price by the state or bodies other than the employer. It is also understood from the most recent survey report that reliable information on savings could not be obtained in the survey.

#### Income module

This is included as a part of the expenditure log though it is canvassed by interview.

Income, like expenditure, is recorded in an open ended, non-specific way, although allowance is made for some different sources of income, as well as for income in kind and non-monetary transfers. Income and savings are recorded with a one year reference period.

#### The general questionnaire

The general questionnaire is rather brief. It contains some information on basic demographic characteristics, characteristics of the dwelling (including possession of some durable goods), level of education attained and professional situation.

### IV COMMENTS

The survey does not include information on several important topics, and the questionnaire needs further development.

The general questionnaire is particularly limited, especially in comparison with questionnaires of this type currently used in other family budget surveys in the Community. With the exception of the information on the characteristics of the dwelling, the questionnaire lacks detail and specificity.

Information on expenditure is also very limited, both as a consequence of the open-ended way in which it is recorded and of the lack of information on some important items, such as education and health.

### V MAIN MODIFICATIONS FOR 1994 SURVEY

The main change envisaged is the extension of the recording period from seven days to fifteen.

With a survey in 1994, the frequency of the survey may be regularised to one survey every five years.

Other changes to be introduced include: focus on the measurement of consumption; the introduction of the stratification method for the estimation of imputed rent of owner-occupied and rent-free accommodation; and the transmittal of data on cash price of hire purchases to Eurostat.

## I. SURVEY STRUCTURE

### Dates and Frequency

The survey started from a recommendation of the Consultative Committee for the Cost of Living for a study of the expenditures of private households in order to obtain data for the weighting of the retail price index. A large survey on household expenditure was carried out in 1953/54 and the results were used to reweight the retail price index in 1956. The Family Expenditure Survey (FES) started as a continuous (annual) survey in 1957.

### Aim of the survey

The FES has as its main aim the review every year of weights of the retail price index and of two other indexes related to retired people. Even though at the beginning the survey was concerned only with private households, a large quantity of complementary information is currently sought on households characteristics and income of each household member. It has become this way a versatile survey, and a valuable source of economic and social data.

### Sample size

A total of 7,265 households completed participation in the 1988 survey.

### Sample design

Until 1985 the addresses forming the sample for the survey were drawn from the Electoral Register. Subsequently the base of the sample was changed to the Post Office's list of addresses: the Postcode Address File (PAF). The PAF is the Post Office's list of addresses ('delivery points') and post codes. In Great Britain the sample is selected in two stages:

- At the first stage, random selection of 672 postal sectors after stratification in terms of region, type of zone, and the relative shares of owner-occupied and rented accommodations obtained from the 1981 population census.
- Within each sample postal sector, random selection of addresses from the 'small users' PAF, that is lists of delivery points which receive fewer than 25 articles of mail per day. Use of the small users file eliminates most of the institutions and businesses which are of no interest in a survey of private households; small institutions or business still included can be eliminated at the fieldwork stage.
- Members of each sample household keep diaries for a period of 14 days, the overall sample being distributed over the survey year for this purpose.

In Northern Ireland, a single-stage random sample of households is obtained.

The contact with the household begins with an introductory letter followed by a visit from the surveyor.

No substitution is permitted for non-responding households. A household's participation is considered complete only if responses are obtained from all its eligible members.

### Sample representativeness

12,863 addresses were selected at the beginning in the UK: 11663 in Great Britain and 1200 in Northern Ireland. Of these, around 14% were out of scope of the survey in Great Britain. Of the effective sample, 29% did not answer: in 1% of the cases the surveyor could not contact the person at the address as expected, and in the other 28% the household refused to collaborate. Hence a relatively high rate of response (71%) was achieved. Response rate in Northern Ireland, which constitutes only a minor part of the sample, is lower (53%).

Over the past years, the response rates have generally improved somewhat.

## II. MAIN CONCEPTS

### The population and survey units

*Coverage.* The survey covers all private households living in the national territory except the following territories: Scilly Islands; the Scottish territories of Orkney, Shetland and Western Islands; the insular territories of Cunningham, Argyll and Bute; and the districts of Lochabarn Skye and Lochalsh.

*The household.* A household is formed by a person living alone or by a group of persons living at the same address, cooking and eating together and managing the household together.

*Head of household.* The head of household is the person who is the owner or receiver of the accommodation, or is legally responsible for the rent of the dwelling.

### Consumption vs. expenditure

The concept used by the UK in the 1988 survey is closer to expenditure than consumption.

- Hire purchases are registered according to the total amount paid by the household, including interests.
- Except for car and accommodation going with the job, income in kind is not included.
- Consumption from own production or business is registered according to the time the product enters the stock of the household, and is valued at retail prices.
- On the other hand, imputed rent for owner-occupied and free of charge accommodation, and of car and accommodation going with the job are registered. The estimation of imputed rent is done using data coming from local authorities.

### **III. SURVEY CONTENT**

#### **Individual Diaries**

Each member of the household aged 16 or over maintains a log of daily expenses for 14 days during the survey year. Unlike some other countries using individual diaries (e.g. Ireland, France and Spain), no special or expanded version for the "housewife" is used.

The recording is done generally on the basis of expenditure incurred, except for goods acquired with charge or credit card or withdrawn from own garden or business.

Separate groups of items are specified to structure the recording on a daily basis: food and drinks consumed at home; food and soft drinks taken away; alcoholic drinks taken outside; daily shopping items; clothing and footwear; travel expenses; and other items. For each of these categories, reference lists of items are provided to assist the respondent but no precoded lists are included. This method of structuring the daily recording may be of interest to other family budget surveys in the Member States.

Food quantities are not derived from the family budget survey, but are obtained from the National Food Survey. (The latter is also a continuous survey with a 10 day recording period.)

#### **The Household Schedule**

Two questionnaires are used in the interview immediately preceding the recording period for the household: a household schedule and an income questionnaires.

In the Household Schedule, information is obtained on basic demographic characteristics and current full-time education of each member. "Benefit units" within the household are also identified. Detailed information is obtained on housing (tenure, rent and mortgage, rates, utilities and costs, housing benefits, etc.). Mostly costs are recorded on the "last payment" basis. The information on mortgages and debts incurred to acquire the dwelling is particularly detailed. The same can be said of information related to payment, purchasing and spending arrangements (credit cards, credit agreements, etc.). Of all the EC questionnaires, this is probably the one with a biggest wealth of general financial information.

Some of the other items covered in this elaborate household questionnaire include: purchase and operation

of vehicles; current education and training (however, no information on educational level attained exists in this survey); holidays; insurance; maintenance grants and other payments; and improvements and repairs in the house.

A one year reference period is used for many of these items, though expenditures on holidays are recorded only for the past 3 months.

Equivalent rental value of owner-occupied or rent free accommodation is not sought from the respondent during the interview. Rather, the system has been to impute rent on the basis of "rateable value" updated in line with the general index of retail prices; or more recently, on the basis of owners' assessment of the value of the house, as noted above.

#### **Income Questionnaire**

The income questionnaire obtains detailed information on the usual activity status of each person aged 16 and over, and on income from employment and from other sources. Receipts of social security and other benefits are covered in detail.

A noteworthy feature of the questionnaire is the extensive information sought on savings and interest received from saving accounts of various types. Income from and ownership of other forms of financial assets and property appeared to be covered in less detail. In the future, the newly established Family Resources Survey will cover this in more detail.

### **IV COMMENTS**

The FES is a well-established and widely used survey.

It may be noted however that the survey questionnaires are heavily oriented towards expenditure. As a consequence, little information is sought on aspects not directly related to it, such as educational level attained or health. This applies particularly to the use of health facilities.

### **V CHANGES**

The content of the survey is reviewed and revised annually. A programme of research also studies methodological changes.

Recently, a large-scale complementary survey, the Family Resources Survey, has been developed. It focus on sources of income. It is planned to conduct this survey on an annual basis.

European Communities — Commission

**Family budget surveys in the EC: Methodology and recommendations for harmonisation**

Luxembourg: Office for Official Publications of the European Communities

1993 — V, 136 pp. — 21.0 × 29.7 cm

ISBN 92-826-6193-8

Price (excluding VAT) in Luxembourg: ECU 12

This publication gives a detailed review of the methodology of the 12 national family budget surveys which took place around 1988 and contains some recommendations for a better harmonisation.

The comparative tables corresponding to this methodological manual are published in separate volumes.



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