

European Community Household Panel (ECHP): Research

Volume 2

Comparison with the labour force survey: The Netherlands





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Y. Franchet
Director-General

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Les publications proprement dites peuvent, elles, être réalisées pour un public bien déterminé, ciblé, par exemple l'enseignement ou les décideurs politiques ou administratifs. Des informations sélectionnées, triées et commentées en fonction de ce public lui sont apportées. Eurostat joue, dès lors, le rôle de conseiller.

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Directeur général

European Community Household Panel (ECHP): Research

Volume 2

Comparison with the labour force survey: The Netherlands

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FOREWORD

It has been the aim of Eurostat to ensure that every step is taken to assess the validity and the reliability of the European Community Household Panel (ECHP) data before they are used for policy and research. Already one research report has been published in pursuit of this objective by linking non-respondents in the Danish ECHP to administrative registers in order to evaluate differential non-response and hence of non-response bias.

The current study compares the ECHP with the Labour Force Survey (LFS) for Netherlands in respect of those labor market variables and indicators that are common to both surveys. As the two surveys were harmonised in terms of basic concepts and definitions, and given that the LFS is a much larger sample, numerical differences between them would tend to reflect on the reliability of the ECHP.

By and large, the comparisons reflect favourably on the ECHP. The exception is unemployment, 3.3% in the Dutch ECHP compared with 4.2% in the Dutch LFS for 1994. However, this result seems peculiar to the Dutch ECHP, which is effectively the long-standing Dutch panel (the SEP) which has suffered selective attrition.

Eurostat aims to replicate the Dutch comparisons for the remaining 11 countries in the Union and to publish the results of this wider exercise as soon as possible.

Meanwhile, Eurostat expresses its grateful thanks to Statistics Netherlands for this commendable piece of research, which I hope would be of both interest and value to all potential users of ECHP data.

LIDIA BARREIROS
Director
Eurostat

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1. Introduction

A substantial and coherent statistical system at the level of the Union is needed to provide policy-makers with statistical information for decision-making, particularly for monitoring and evaluating the effects of social policy measures. Statistics are required on such social issues as labour market participation, income distribution, poverty and social security in the Union. The European Community Household Panel (ECHP) survey, funded, organized and coordinated by Eurostat, has become a major source of such statistics and a key component of the statistical system at the level of the Union.

Introduced fully in 1994, the ECHP is conducted in all Member States. Its high level of harmonization of both variables and methodologies should provide researchers, policy-makers and other users with data for multiple international comparisons and dynamic research.

An important objective within the European Statistical System is the coordination of the ECHP with other Eurostat data sources, particularly the Labour Force Survey (LFS). This coordination should remove unnecessary discrepancies and inconsistencies as well as make it possible to merge data from different sources. Thus from the outset, the ECHP was, as far as desirable, harmonised with the LFS in terms of labour market concepts and definition.

In the field of basic labour market statistics, the LFS, based on large samples, is regarded as more reliable than the ECHP. Thus in this report, an attempt is made to see how good the ECHP is by comparing it with the LFS. The comparison is restricted to the Netherlands. It is being extended to cover the other 11 Member States but, as that bigger exercise would take time, it is felt that this report should be sufficiently interesting to be released without delay.

From this comparison, some conclusions could also be drawn about improvements in the ECHP questionnaire, data editing, weighting procedures and so on.

In this report, the distributions of a number of variables that are common to the two sources are compared. As suggested by Eurostat, the emphasis is on variables relating to labour market position and economic activity. Some important demographic characteristics are compared as well. The figures used for the ECHP are preliminary. The LFS-data are taken from the Eurostat version for 1994 and refers to the months from January to May. Data from both LFS and ECHP are weighted.

The paper consists of four sections, including this Introduction. The main results are presented in the next section. More details on the comparisons, relative frequencies and means, are presented in section 3. In section 4 there are some methodological remarks on the selection of comparable population groups, weighting of the surveys, selection and description of variables and the reference periods.

In the Annex, the main characteristics of both surveys are presented. This includes a short description of the sample design, fieldwork and weighting. Attrition and non-response are discussed as well.

This report was written by Branislav Mikulic with contributions by Piet van de Donk and editing by Eurostat.

2. Main results

Several common variables in the Netherlands ECHP (called Socio-Economic Panel, SEP) and LFS (called Enquête Beroeps Bevolking, EBB) were included in the comparisons. The differences found in the relative frequencies for certain categories of such variables as household size, place within household, region and type of job (full-time/part-time) were rather small, often one percentage-point or less. The averages of weekly hours at work, analysed by sex, were virtually the same for both survey populations.

Values of the variable on activity status were also rather close, with the exception of unemployment: 3.3% in the Dutch ECHP, 4.2% in the Dutch LFS. So, it would seem that the number of unemployed in the ECHP in the Netherlands was underestimated by about one fifth. However, this result is connected with another deficiency in the long-running Dutch arm of ECHP. In fact, the SEP has been running since 1984 and is characterised by a shortage of immigrants, particularly of unemployed immigrants; this could itself be due to selective attrition over the past ten years.

Also, all surveys tend to encounter lower rates of initial response amongst immigrants and amongst unemployed persons. Further insights could be obtained from cross-analyses by nationality and country of birth.

3. Detailed comparisons

In this part of the report, the actual differences between the ECHP and LFS data are presented and discussed. The distributions and relative frequencies are compared for the entire samples (individuals and households) and for disaggregations (e.g. active/inactive population, hours at work).

3.1. Persons

In table 1 six variables on individual characteristics are examined. The differences between the Dutch ECHP and LFS are small with respect to household size, place within household and region. Other computations, not presented in detail here, show that when household size is aggregated into three classes (1-2 members; 3-4 members and 5 or more members) the two distributions do not differ considerably. Analysis by 'place within household' and 'region' suggests that the category of 'child of head/partner' and the regions of 'North' and 'West' exhibit marginally greater difference than other categories.

**TABLE 1. PERSONS, AGE 16 AND OVER, IN ECHP AND LFS :
DISTRIBUTIONS BY SELECTED CHARACTERISTICS**

	ECHP	LFS
	%	%
Activity status		
employed	56.8	54.9
unemployed	3.3	4.2
inactive	39.9	40.9
Total	100.0	100.0
Nationality		
Dutch	98.8	95.4
other	1.2	4.6
total	100.0	100.0
Country of birth		
the Netherlands	95.2	90.4
other country	4.8	9.6
Total	100.0	100.0
Household size		
1 persons	15.8	16.4
2 persons	35.4	34.7
3 persons	16.5	17.3
4 persons	21.7	21.3
5 persons	8.3	7.4
6+ persons	2.3	2.9
Total	100.0	100.0
Place within household		
head of household	53.3	52.4
spouse or partner	33.8	32.9
child of head/par	12.4	13.7
other	0.5	1.0
Total	100.0	100.0
Region^(a)		
north	12.4	10.5
east	20.8	20.3
south	21.8	22.1
west	45.0	47.1
Total	100.0	100.0
TOTAL SAMPLE SIZE	9408.0	66616.0

(a) NUTS-I

About 'activity status', three statements can be made on the Dutch comparison:

1. The proportion of inactive persons is slightly lower in the ECHP than in the LFS, but the difference is not considerable.
2. Employed persons are over-represented in the ECHP by two percentage points.
3. Third and most important, The Dutch ECHP contains about one fifth fewer unemployed persons than the LFS (3.3% versus 4.2%).

The importance of unemployment and the amount of its under-representation in the ECHP merits some more attention. Table 2 shows that the ECHP under-represents unemployment unevenly in different parts of the country except the South. More important: the ECHP under-represents male but not female unemployment. The male group between 35 and 44 is less affected than other male age groups.

TABLE 2. UNEMPLOYMENT IN THE ECHP AND THE LFS BY REGION AND SEX: THE UNEMPLOYED AS % OF THE POPULATION GROUP (16-64 YEARS)

	ECHP	LFS
	%	%
Region		
north	4.1	4.7
east	2.9	4.1
south	4.2	3.9
west	2.9	4.3
Females	3.8	3.8
Males	2.8	4.6
of which:		
16-24 years	5.0	8.1
25-34 years	3.2	7.3
35-44 years	4.2	4.7
45-54 years	2.1	3.7
55-64 years	0.6	1.3

An important difference can also be seen between the proportions of those with non-Dutch nationality and those who were born outside the Netherlands (table 1). Comparing with the LFS-data, the non-Dutch population in the ECHP is under-represented, especially the unemployed among them¹. This seems to be the main reason for the shortage of unemployed persons in the SEP².

Some specific factors have probably reinforced the tendency for migrants to be excluded from the sample, such as the sometimes temporary character of international labour migrations; relatively large regional mobility of migrants; and language problems.

Table 3 classifies persons according to the number of employed, of unemployed and of inactive adults (persons 16 years and over). Some differences between the ECHP and LFS distributions are evident. Table 3 shows for example that 27.4 of persons are in households with no employed persons, while according to the LFS this percentage is 26.2.

Distributions by sex, age, place within the households, region and education are given in tables 4 and 5.

In table 6, the employed are divided into part-time (those working less than 30 hours a week) and full-time (working 30 hours or more). As it can be seen, differences between the various proportions are quite small.

TABLE 3. PERSONS AGE 16 AND OVER BY NUMBER OF ACTIVE/INACTIVE IN THE HOUSEHOLD: DISTRIBUTION

	ECHP		LFS	
	%	numbers	%	numbers
Number of employed^(a)				
no employed	27.4	2519	26.2	17463
one employed	32.0	2947	31.4	20893
two employed	33.6	3089	32.9	21894
three employed	5.8	537	7.4	4924
four employed	1.2	112	2.2	1443
Total	100.0	9204	100.0	66616
Number of unemployed^(a)				
no unemployed	94.1	8662	91.2	60767
one unemployed	5.7	520	8.3	5501
two unemployed or more	0.2	22	0.5	348
Total	100.0	9204	100.0	66616
Number of inactive				
no inactive	25.2	2321	26.9	17892
one inactive	27.6	2541	29.1	19391
two inactive	30.3	2791	29.6	19721
three inactive	11.9	1100	9.7	6465
four inactive or more	4.9	453	4.7	3148
Total	100.0	9204	100.0	66616

(a) Households with maximum 4 persons 16 years and over.

¹ A cross-classification of 'country of birth' and 'activity status' showed that there are indeed too few immigrants in the Dutch ECHP especially those who are unemployed. It is conceivable that the unemployed have a somewhat higher tendency to drop out of the sample. Also new immigrants have not been systematically recruited for the SEP.

² In a simulation the shortage of foreign born persons (by about half) and the unemployed among them (even higher) were equalized to the LFS. After the simulation the overall activity and unemployment rates did not differ significantly between the Dutch ECHP and the Dutch LFS. This shows that sample design and weighting of the ECHP, if possible, should take into account both the country of birth and the activity status of immigrants.

TABLE 4. ACTIVE/INACTIVE (AGE 16 AND OVER): DISTRIBUTIONS BY SELECTED CHARACTERISTICS

	ACTIVE		INACTIVE	
	ECHP (%)	LFS (%)	ECHP (%)	LFS (%)
Sex				
males	58.2	59.1	35.9	35.4
females	41.8	40.9	64.1	64.6
Total	100.0	100.0	100.0	100.0
Age				
16-24 years	17.2	15.3	13.5	15.2
25-34 years	30.0	29.9	8.6	8.6
35-44 years	27.3	26.3	10.2	9.0
45-54 years	19.0	20.7	10.0	10.8
55-64 years	5.9	6.8	20.7	19.1
65 and over	0.6	1.0	36.9	37.3
Total	100.0	100.0	100.0	100.0
Place within household				
head of household	57.1	56.7	47.5	46.2
spouse or partner	29.3	28.3	40.6	39.6
child of head/par.	13.3	14.3	11.1	12.9
other	0.3	0.8	0.8	1.3
Total	100.0	100.0	100.0	100.0
Region				
north	11.5	9.8	13.8	11.6
east	20.8	20.3	20.9	20.3
south	22.3	22.3	21.1	21.9
west	45.5	47.7	44.3	46.2
Total	100.0	100.0	100.0	100.0
Size of sample	5655.0	39374.0	3753.0	27243.0

TABLE 5. INACTIVE POPULATION (AGE 16 AND OVER): PERCENTAGE IN EDUCATION OR TRAINING

	ECHP	LFS
	%	%
males	21.6	21.5
females	9.4	10.9
Total	13.7	14.6

TABLE 6. EMPLOYED POPULATION (AGE 16 AND OVER): DISTRIBUTION OF WEEKLY HOURS OF WORK BY SEX

	ECHP (%)	LFS (%)
	%	%
Males and females		
1-29 hours	28.9	27.8
30 and more hours	71.1	72.2
Total	100.0	100.0
Size of sample	5344.0	36299.0
Males		
1-29 hours	11.7	10.4
30 and more hours	88.3	88.6
Total	100.0	100.0
Size of sample	3160.0	21533.0
Females		
1-29 hours	53.8	53.2
30 and more hours	46.2	46.8
Total	100.0	100.0
Size of sample	2184.0	14766.0

The number of 'weekly hours at work', which is an important variable about labour market position, is measured with good precision in the ECHP. This is evident when mean values and standard deviations from both sources are compared. As table 7 shows, the differences are negligible for the whole population and for males and females separately.

TABLE 7. NUMBER OF HOURS AT WORK OF EMPLOYED PERSONS: MEANS AND STANDARD DEVIATIONS

	ECHP			LFS		
	mean	st. dev.	cases	mean	st. dev	cases
males	39.0	13.6	3160	38.6	12.3	21534
females	25.4	13.6	2184	25.7	13.4	14768
Total	33.4	15.2	5344	33.3	14.3	36302

3.2. Households

The comparison between the ECHP and the LFS data can also be carried out at household level. The results are similar as with the comparison at individual level.

The under-representation of unemployed males as well as a slight over-representation of the employed can also be seen in table 8, showing, inter alia, activity status of the head of household.

TABLE 8. HOUSEHOLDS IN ECHP AND LFS: DISTRIBUTIONS BY SELECTED CHARACTERISTICS

	ECHP	LFS
	%	%
Household size		
1 persons	29.7	31.2
2 persons	34.7	33.5
3 persons	12.8	13.3
4 persons	15.7	15.2
5 persons	5.7	5.1
6+ persons	1.4	1.7
Total	100.0	100.0
Size of sample	5014.0	34909.0
Type of household		
one-member household	29.7	31.2
pair ¹ without children ²	32.0	29.9
pair with children ²	33.2	32.9
one parent household ²	4.6	5.0
other	0.5	1.0
Total	100.0	100.0
Size of sample	5014.0	5014.0
Age of the head		
16-24 years	5.0	4.5
25-34 years	22.0	21.0
35-44 years	21.9	20.8
45-54 years	17.0	18.3
55-64 years	13.4	13.6
65 and over	20.7	21.8
Total	100.0	100.0
Size of sample	5014.0	34909.0
Activity status of the head		
employed	61.6	60.0
unemployed	2.8	4.0
inactive	35.6	36.1
Total	100.0	100.0
Size of sample	5014.0	34909.0
Activity status of the partner of the head		
employed	48.9	47.1
unemployed	3.1	3.7
inactive	47.9	49.2
Total	100.0	100.0
Size of sample	3181.0	21933.0

¹ pair means two adults, whether or not married

² incl. other household members (family or not-family members)

Table 9 classifies households according to the number of employed, of unemployed and of inactive adults (persons 16 years and over). Some differences between the ECHP and LFS distributions are evident. For example table 9 shows that according to the ECHP 30.5 % of households have one inactive member, while in the LFS this percentage is 32.5.

**TABLE 9. HOUSEHOLDS BY NUMBER OF ACTIVE/INACTIVE MEMBERS (AGE 16 AND OVER)
- DISTRIBUTIONS**

	ECHP		LFS	
	%	numbers	%	numbers
Number of employed^(a)				
no employed	34.1	1699	33.8	11807
one employed	34.1	1697	34.2	11923
two employed	28.5	1416	27.1	9444
three employed	2.8	141	4.0	1389
four employed	0.5	22	1.0	347
Total	100.0	4975	100.0	34909
Number of unemployed^(a)				
no unemployed	94.8	4715	92.4	32246
one unemployed	5.1	250	7.3	2538
two unemployed or more	0.2	9	0.4	126
Total	100.0	4975	100.0	34909
Number of inactive				
no inactive	29.8	1484	31.2	10879
one inactive	30.5	1519	32.5	11352
two inactive	25.8	1285	24.8	8668
three inactive	9.9	489	7.8	2729
four inactive or more	3.9	197	3.7	1261
Total	100.0	4975	100.0	34909

(a) Households with maximum 4 persons 16 years and over.

4. Methodological remarks: ensuring comparability

Raw data from different surveys are not the most suitable for describing a phenomenon, without taking account of sample design and other important methodological considerations. The realised samples very often are not representative, owing to such factors as sample design, biases and so on. These and other issues may require consideration before unbiased population estimates can be derived. For the same reasons, a comparison between different sources is only useful when elements of non-comparability are eliminated. This section describes the treatment of three sources of non-comparability.

4.1. Variables

Age of respondents

The coverage of the Dutch LFS and ECHP shows some minor differences. In the former, all family members of 15 years and older are interviewed. In the latter, the age limit is 16 years. The comparisons in this paper uses an age limit of 16 years.

Employment

The definition of employment used in both surveys corresponds to that of the International Labour Office, according to which a person is regarded as employed if, during the reference period (week), he/she had a job of one hour per week or more³.

Unemployment

The definition of unemployment used in both surveys also corresponds to that of the International Labour Office. According to this definition, a person is unemployed if, during the reference week, he/she was without work, actively searching for work and available to start work within 2 weeks⁴. In addition, unemployed persons include those who had no employment and had already found a job to start later. However, there are some slight practical differences in applying this definition.

- a) Unemployment among persons who are seeking a job for less than 12 hours per week cannot be derived directly from these (1994) surveys because this group is not asked the questions on job-search activities and availability for a job on short notice. Thus, this part of unemployment has been imputed. This has been done in the same way in both surveys.
- b) The question on 'job search activities' in the LFS is specified in detail (for example, 'inserting and answering advertised vacancies in newspapers' or 'contacting public/private employment agency') while the ECHP, given its multidimensional objectives, has a very general question ('have you taken any steps during the past 4 weeks to find work?').

³ In the ECHP this definition is implemented as follows :

(P01001=1 and P01003<5) ⇒ for those working for at least 15 hours per week
(P01002=1 and P01003<5) ⇒ for those who are temporarily absent from their job
(of 15 and more hours per week), and
(P01058=1 and P01061<5) ⇒ for those working less than 15 hours in the reference week

⁴ In the ECHP this definitions of unemployment is implemented as follows :

(P01058=2 and P01059=1 and P01074=1 and ((P01076=1) or (P01076 ne 1) and (P01077=1)))) for those seeking work, and
(P01058=2 and P01059=2 and P01060=6) for those who had found a job but not started yet.

Remark: In the Dutch situation persons aged 60 and over are not obliged to search for work and therefore will seldom be defined as unemployed.

- c) Moreover, there is a difference between the criteria-questions on being registered at a public employment office. In the LFS the question is whether a person had contacted a public employment office to find work, and in the ECHP the question is whether a person was registered at a public employment office. The LFS formulation seems slightly more indicative of active job search than the question in the ECHP. A check for the Netherlands shows that the fact of being registered at employment offices or not has no effect on the number of unemployed among the sample population⁵. However, this relationship should be examined for other countries.

The rest of the selected variables (e.g. place in household, nationality, country of birth, region, e.t.c) are derived directly from the questions which had been harmonised in both surveys, which means that practically no differences appear between them.

4.2. Sample structure

The raw data should be weighted for comparison purposes. The general reason is that the decisions on sampling design and weighting are logically interrelated and cannot be subsequently separated without invalidating the results. For these comparisons, four specific points can be made:

- a. prestratification: the unemployed in the LFS(EBB) are deliberately and strongly over represented.
- b. systematic differences in response: the amount of non response differs but, more important, the subject of the surveys and also the duties of the respondent differ markedly between the LFS(EBB) and the ECHP(SEP). So bias caused by non response should be corrected.
- c. differences caused by unforeseen factors: an example is when a part of the sample is not interviewed because of sudden illness of an interviewer. This can cause a bias because circumstances (for example, unemployment) are sometimes geographically clustered.
- d. panel attrition: can result in accumulated bias, and should be corrected by weighting.

For these reasons the unweighted data from both surveys deviate from the population register and also from each other. Columns 1, 3, 5 and 7 in table 10 show this clearly. The comparison of unweighted data or weighted for sample selection probabilities alone would not be valid, at least for the Netherlands.

⁵ All NL respondents who meet the first three conditions in the definition :
- has no job (P01058=2) and
- seek for a job (P01059=1) and
- available for a job within two weeks (P01074=1)
(regardless of being registered or not) said that they had taken some other steps to find a job (P01077=1). Therefore, the definition based on the reduced number of criteria (P01058=2 and P01059=1 and P01074=1 and P01077=1) gives us the same number of unemployed in the NL-ECHP sample.

TABLE 10. WEIGHTING ECHP AND LFS DATA: POPULATION (16+) IN PRIVATE HOUSEHOLDS, BY DEMOGRAPHIC VARIABLES

Group	Population Register ¹⁾	ECHP sample		LFS 1994 sample		LFS April sample			
		unweighted	weighted	unweighted	weighted	unweighted	weighted	corrected	
	1	2	3	4	5	6	7	8	9
	(%)	(cases)	(%)						
1. not married males 16-24	7.72	542	5.8	7.7	7.9	7.5	7.9	7.4	7.7
2. not married males 25-34	6.04	397	4.2	6.0	5.9	6.5	5.8	6.1	6.0
3. not married males 35-49	3.50	279	3.0	3.5	3.0	3.5	2.8	3.3	3.5
4. not married males 50-64	1.60	117	1.2	1.6	1.4	1.6	1.5	1.8	1.6
5. not married males 65+	1.36	148	1.6	1.4	1.0	1.4	1.1	1.5	1.4
6. not married females 16-24	7.98	531	5.6	7.0	7.1	7.0	6.8	6.6	7.0
7. not married females 25-34	4.28	425	4.5	4.3	4.2	4.5	4.0	4.2	4.3
8. not married females 35-49	3.06	301	3.2	3.1	3.0	3.0	3.0	3.1	3.1
9. not married females 50-64	2.28	203	2.2	2.3	2.0	2.2	1.9	2.2	2.3
10. not married females 65+	5.00	408	4.3	5.0	3.2	5.1	3.3	5.4	5.0
11. married males 16-24	0.27	11	0.1	0.3	0.2	0.2	0.1	0.1	0.3
12. married males 25-34	4.91	436	4.6	4.9	5.1	4.4	5.4	4.7	4.9
13. married males 35-49	11.19	1279	13.6	11.2	13.0	11.1	12.6	10.7	11.1
14. married males 50-64	7.85	725	7.7	7.9	8.1	7.9	8.2	7.9	7.9
15. married males 65+	4.89	525	5.6	4.9	4.2	5.2	4.5	5.7	4.9
16. married females 16-24	0.79	44	0.5	0.8	0.6	0.6	0.6	0.7	0.8
17. married females 25-34	6.20	640	6.8	6.2	6.8	5.8	7.0	5.9	6.2
18. married females 35-49	11.11	1273	13.5	11.1	12.8	11.0	12.6	10.8	11.1
19. married females 50-64	7.18	693	7.4	7.2	7.4	7.3	7.4	7.3	7.2
20. married females 65+	3.80	427	4.5	3.8	3.0	4.1	3.4	4.6	3.8
Total	100.00	9403	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1 Excluding persons in institutional households

Remark: The LFS is also weighted by regional variables. The slight differences between column 4 and column 6 are caused by small cells, where the regional distribution has received priority over "marital status" (Van de Hurk, 1992)

For the LFS-annual sample data, the standard weights as described in the annex were used. Standard weights for the Dutch ECHP were not available at the time of writing this report. Therefore in this paper the ECHP data are provisionally weighted with a simplified scheme, based on three cross-classified demographic variables: age, sex and marital status. The reasons for choosing these are:

- good population figures are available from the population register;
- they are part of the normal weighting of both SEP and EBB;
- they determine to a considerable degree the chance that a person has a job;
- they are not sensitive to time of interviewing (seasonal effects).

To avoid problems with small or empty cells, caused by the relatively small amount of observations in the ECHP, the number of categories are limited: two for sex, two for marital status (not-married; married) and five for age (16-24; 25-34; 35-49; 50-64 and 65+).

4.3. Reference period

The Dutch ECHP survey was held in April 1994. Fieldwork for the Eurostat version of the Dutch LFS-1994 sample was done from January-May 1994. To adjust for temporal effects, a sample for April, extracted from the LFS-1994, would be preferable, and even important for variables which are subject to seasonal and other temporal influences (e.g. unemployment). Otherwise, deviations caused by different reference periods may be taken for measurement errors. But the April sample alone is much smaller than the LFS-1994, and would be less fitted for a detailed check of the ECHP. Therefore, the magnitude of the difference between the LFS-1994 and its April component was considered. If the difference was small, the LFS-1994 was used for the comparison with the ECHP.

The differences between LFS-1994 data (table 11, column 1) and the standard weighted April data (column 2) are rather large, up to 1.5 percent point. But this is mostly due to differences on demographic variables. As these differences are not real but caused by random error, they are corrected using the same simple weighting scheme mentioned in paragraph 4.2. After correcting these demographic differences (column 3) almost no temporal effect remains. Therefore, the LFS-1994 sample data was used for the comparisons with the data coming from the (April) ECHP-sample. Of course, this approach is valid for the Netherlands in 1994, and may not necessarily apply to other countries or years.

TABLE 11. EFFECT OF REFERENCE PERIOD

	LFS-1994 sample	LFS-April sample	
	(standard weighted)	(standard weights)	(corrected weights)
Inactive	40.9	42.4	40.9
Active	59.1	57.6	59.1
from which :			
- employed	54.9	53.7	55.1
- unemployed	4.2	3.9	4.1
Total	100.0	100.0	100.0
Size of sample	66616.0	16041.0	16041.0

ANNEX : Some important features of the two surveys
- European Community Household Panel
- Labour Force Survey

1. Common features

1.1. Sampling

Sampling in both surveys was done in two stages. Addresses were selected by equal chance procedures. In the first stage municipalities were selected with a chance proportional to the number of residents. This added a strong element of geographic stratification to the sample. The second stage involved the systematic selection of addresses in the municipalities selected in the first stage. The address samples were drawn from the address-database of the national PTT company. Only addresses occupied by private households were taken into the sample.

1.2. Data collection

The fieldwork for both surveys was largely common in method and standard practice at Statistics Netherlands. Trained interviewers used hand-held computers, which contained the questionnaire and detailed instructions and explanations (computer aided personal interviewing, CAPI). Routing within the questionnaire and a number of checks for consistency and validity of entries were executed automatically, and errors detected were rectified during the interview (Van Bastelaer, 1988, p.6).

The collected data were transmitted by modem (telephone) to the Statistics Netherlands network. The data then became immediately available for the coding of occupation, economic activity and education and for other statistical processing.

2. Specific features

2.1. The Dutch ECHP (SEP)

Sample design and attrition

The Dutch part of the ECHP survey was a slightly modified continuation of the Socio-Economic Panel survey (SEP), which had started more than one decade ago. As the SEP served about the same socio-economic uses as the ECHP, it had many features in common with the ECHP. However, its questionnaire had nevertheless to be adjusted to the standard ECHP version, though not entirely because of the need to preserve some continuity of time series and coordination with other surveys within Statistics Netherlands.

The first wave of the SEP occurred in April 1984. The SEP started with an intended net sample of about 5000 households. All households (with a maximum of three) living at the same private address were included in the sample (Lemmens, 1991, p.22). Every member who was 16 years or older was asked to complete a questionnaire. Since information was collected on every member of these households, it was also a sample, by equal probability, for every person not living in an institutional household. (Winkels and Davies 1993,p.3).

All persons who participated once were to be included in subsequent waves with the exception of those who 'left the sample' (by death, emigration or entering an institutional household). Some of them had however refused to participate again. Children who became 16 at the time of a new wave were interviewed. In that way persons were added to the panel by natural increase. If individuals left the household to which they belonged at the time of the previous wave and formed their own households or joined another, all members of the new households were interviewed, if they were 16 years of age or older.

Initial non-response (or permanent unit non-response in wave 1) in the SEP was 50% (CBS, 1991,p.17), more than had been expected. Subsequent inter-wave drop-outs tended to diminish the sample further. For these reasons, supplementing the sample was necessary. In the period 1984-89, three sample replenishments took place. In later waves, the number of drop-outs was reduced but not enough to be compensated for by 'natural increase'. Therefore, every year a couple of hundred new households had to be added to the sample. The new addresses are selected with an equal probability for all private households, just as was done in the initial sample.

Recently, Winkels and Davis (1993) tried to assess the extent of bias in the sample population of the SEP due to attrition in the first 14 waves of its existence. They found that attrition was not strongly correlated with socio-economic and demographic characteristics. However, this does not mean that attrition can never become an issue: even a slight bias in the inter-wave attrition could in the long-run accumulate to become a problem.

These researchers did find some correlation between changes in household composition and attrition. Non-response was biased towards residential mobility, that is the panel was conditioned over time towards households who remained at the same address (ibid, p.21).

2.2. The Dutch LFS (EBB)

The Labour Force Survey (LFS) in the Netherlands is a continuous survey. Annually about 1% of all private households are interviewed (CBS 1994, p.24). For all members of a household, data on family ties, sex, age, marital status and nationality are obtained. Questions about labour market position and employment status are addressed to persons of 15 years and older. A maximum of 4 persons per household are interviewed.

Sample design

The EBB has a strong element of stratification as the sample is carefully divided over all months of the year and over the municipalities (Van Gils, 1990, p.7). Addresses of unemployed persons taken from the Labour Office registers are added to the LFS sample. Unemployed persons have therefore a bigger chance to be included into the sample. This is done to improve the quality of the unemployment data.

Response and weighting

The latest figures show that the rate of non-response is about 45% (CBS 1994, p.24). This is due mostly to refusal. Another reason is absence at the time of interview. To reduce non-response due to absence, the members of the household are allowed to answer for temporarily absent members ('proxy interview').

The sample results are adjusted to the population totals. The grossing up of the sample results is done in three stages. In the first stage, households in the LFS sample are associated with a starting weight. Those weights correct for the higher selection probabilities of unemployed persons registered in the Employment Office. In the second stage weights are computed for each municipality to correct for non-response differences between them. In the third stage the results are grossed up to the Population Register controls on various characteristics: age, sex, region, marital status and ethnicity (Van den Hurk, 1992). Because of this very fine post stratification, differential non-response is corrected to a substantial degree (Altena, Van Bochove and Leunis, 1990 p.4.).

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