



PROS and CONS of DIFFERENT REFERENCE PERIODS FOR DATA on PARTICIPATION IN EDUCATION AND TRAINING

This document presents the main issues related to the interpretation of results based on different reference periods for statistics on adult participation in lifelong learning (i.e. to which period the question refers to in interviews: education and training in the last 4 weeks or in the last 12 months).

1. Introduction

The reference period of the EU-LFS variables on participation in education and training is currently the 4 weeks prior to the interview.

However, several different reference periods are used in the LFS by the Member States: 1 week, 4 weeks, 3 months and 12 months. These differences are caused by the national and EU needs, sample design or response burden limits.

From the education policy perspective, the indicators on adult participation in (lifelong) learning should reflect any participation (for the indicator on adult participation in learning) or no participation (for the indicator 'early leavers from education and training') of the population in formal or non-formal education and training activities. Those indicators are published on a yearly basis and currently calculated from variables collected for the reference period of four weeks.

With a four weeks reference period the level of participation in education and training may be underestimated and misinterpreted:

- **Risks of misinterpretation:** The variable does not measure individual paths along the year, e.g. someone who completed recently an educational programme may not be counted as participant if he/she is asked the question more than four weeks after this event. However, the sample being distributed over all the weeks of the year, the indicator reflects the frequency of the participation of individuals in education and training activities all over the year on the basis of at least one hour in the last four weeks.
- **Possible underestimation:** The comparison with other data sources, including national data sources, shows also that in some countries the participation rate in education and training calculated on the basis of LFS data may be underestimated.
- **Coherence with other statistics:** The variables contributing to the calculation of the indicators refer currently to another reference period than the Adult Education Survey (AES). Due to the above and because of other methodological aspects (e.g. surveys

main topics, interview methods and proxies) the results from both surveys differ significantly.

2007 and 2011 AES results are available and policy users and countries seem to refer to them as the most appropriate measure of participation in education and training. The AES cannot, however, be repeated every year as it requires too many resources.

The sections present pros and cons of the reference periods 'four weeks' and twelve months'.

2. Four-week reference period

2.1 Actual implementation in the LFS: history

The 4-week reference period was historically considered the most appropriate for monitoring the level and characteristics of participation in education and training. Until 2007 when the AES was conducted for the first time¹, there were no other complete data sources on the characteristics of education and training activities in which respondents at any age participated but the LFS.

From 1992 to 2002 information on participation in education and training was collected through one unique variable. Since 2003 the data collection has been based on two variables: the variable EDUCSTAT on participation in regular (formal) education on the one hand and the variable COURATT on participation in other taught activities on the other hand (non-formal education and training with the exception of guided-on-the-job training).

When the EU policy on adult learning became more visible, the LFS variables were considered as the most appropriate for the calculation of the indicator aiming at monitoring progress in the EU and its Member States. A unique quarter was used at that time (quarter 2 in most countries) since the EU-LFS was not yet a quarterly survey in all countries. Since 2006 the indicator on adult participation in learning is calculated as an annual average of quarterly data².

2.2 Pros of the 4-week reference period

From an historical point of view, the choice of a 4-week reference period for educational variables is logical since:

- It is consistent with the reference periods used most frequently for other variables in the LFS.
- It reduces the burden on the respondents respecting the fact that the LFS is already requiring a complex and long interview: the 4-week reference period serves as facilitator for the data collection.
- The characteristics of the activity refers mostly to a specific (the most recent) training and this way the memory effect could be minimised.

¹ The Continuing Vocational Training Survey which is conducted every 5 years from 1999 focuses on vocational training of persons employed in enterprises of 10 and more persons employed in certain sectors.

² The same calculation method is used for the indicator on 'early leavers from education and training'

- It corresponds to the most appropriate reference period to cover different degrees of participation in all Member States (a way between generally high levels in the Northern countries and low levels in the Southern countries) and time series are available on this basis from 1992 (with a break in 2003).

2.3 Interpretation the 4-week reference period

The availability of quarterly LFS in all countries since 2005 and Adult Education Survey every 5 years since 2007 raise the issue of interpretation of results using two different reference periods.

a) What do we measure through the current LFS indicator?

The tables below show that the LFS rather measure intensity of participation i.e. how many people are involved all over the year. This method can be compared to an accounting approach focussing on the number of training events as used for results on education spending for a given country in a given year. The AES measures participation to education and training in the last 12 months and therefore the number of people who could follow an education and training activity all over the year.

The best way to understand the issue behind the 4-week reference period is to take a very simple example. Let us assume that from a register we know that in a country A with a population of 100 thousands people, the same 10 (thousands) persons from one region and no one else participated in education and training every quarter of the whole year. The LFS indicator on adult participation in learning for this country would be 10%.

COUNTRY A	Q1	Q2	Q3	Q4
Region A1	10	10	10	10
Region A2	0	0	0	0
Region A3	0	0	0	0
Region A4	0	0	0	0

In a country B, 10 thousand people and no one else from the region B1 participated in education and training during the first quarter, 10 thousand persons from the region B2 during the second quarter, 10 thousand persons from the region B3 during the third quarter and 10 thousand persons from the region B4 during the fourth quarter. The LFS indicator on adult participation in learning would be 10% in this country too although over the period of 12 months 40 thousands persons participated in education and training.

COUNTRY B	Q1	Q2	Q3	Q4
Region B1	10	0	0	0
Region B2	0	10	0	0

Region B3	0	0	10	0
Region B4	0	0	0	10

This example shows two extreme cases but reflects the interpretation one might give to the indicator since:

- A four-week reference period might be more similar to a measure of “training events” distributing the year in blocks of four weeks (even though the LFS does not measure events but participation of persons). This is demonstrated by the simple example above, i.e. the indicator provides the same value in two very different situations.
- It might not measure the number of persons involved in any kind of training during a given year. In country A, 10 thousand persons are concerned (on a regular basis), while in country B; 40 thousand people are concerned (on an occasional basis).

The reality is of course in between these two situations since there is never such a clear cut between geographical areas and type of participants (regular versus occasional).

The obvious question behind this is what users would expect?

b) What do users expect?

If policy interests lie in the number of persons participating in education and training in a particular moment, the indicator on adult participation in learning based on the LFS measures well the phenomenon. However if the interest is in the number of people who were involved in any education and training in a given year, an indicator covering participation over the 12 months of the years might capture this better.

One other aspect of the quality of the indicator is the clarity and adequacy of the results for the monitoring of the EU policy. There are indeed some risks of misinterpretation of the current adult learning indicator based on a four weeks reference period. Its calculation as an annual average of quarterly data (to remove the seasonal effect and to improve the reliability through a larger sample size) might be understood as an indicator covering a 12-month reference period.

Important note: regardless of the reference period used the participation rate should obviously be put in the context of the duration of the participation (measured by number of hours spent in education and training).

c) Main issues regarding coherence with other statistics and policy domains

Outside any consideration of quality of the LFS data, the indicator based on a 4-week reference period is difficult to interpret together with other statistics available on adult education such as the Adult Education Survey (for which a reference period of 12 months is used) and the Continuing Vocational Training Survey (which refers to the calendar year).

A parallel with the ILO unemployment rate can even be made since the unemployment rate measures the stock of people at a given moment in time (a reference week). However, in the context of employment analyses, more information is collected on the individual, for example

how long the person has been looking for a job. The LFS education variables miss such a time perspective from an individual point of view.

As concerns flexicurity and employability, the indicator based on a 4-week reference period does not fully reflect the individual perspective of accumulating relevant knowledge and competencies through education and training, and it is more difficult to assess the performance of countries on the basis of data referring to such a short reference period. The important aspect for these policy areas is the mere fact of having followed education and training activities (and their type) over a certain period of time (e.g. 12 months, long enough to capture important activities and short enough to prevent the inclusion of obsolete activities). The education or training activities' relative proximity in time (as e.g. captured with a reference period of four weeks) on the other hand is of lesser importance in this respect. This is especially important since the majority of the participation in education and training activities is job-related.

A short reference period limits the possibilities of cross tabulations and analysis of the individual's paths, for instance, the impact of education and training on the duration of unemployment. One could argue that a short and incidentally captured activity might not be a determinant for an increased employability of the individual.

d) Additional features of the 4-week reference period

The LFS allows proxy interviews. One can assume that a 4-week reference period and reporting details of the most recent activity could be problematic during a proxy interview. Short and incidental participation should be reported, but other household members who are replying to the questionnaire instead of the selected respondent may not be aware of it. In this way participation in short activities might not be reported through proxy interviews. On the other hand the studies done in France show that the short activities are reported better when the interview takes place shortly after.

3 Twelve-month reference period

Already now different reference periods are used for different variables in the LFS, e.g.:

- Employment: reference week
- Search for employment: previous four weeks
- Availability to start working: two weeks after the reference week
- Atypical work - evening, night, Saturday, Sunday: last four weeks
- Education and training: last four weeks
- Situation before survey: one year ago

Looking at the sequence and variety of reference periods, an education module covering a 12-month reference period placed at the end of the questionnaire might not be incompatible with the LFS. Some countries like Belgium and Germany have already implemented such a reference period in their national survey. The rotation patterns to lower the potential memory problems and the place of these questions during the year (e.g. on the fourth quarter only) are other aspects considered in few national LFSs.

3.1 Pros of the 12 months

For formal education and training the 12 months reflect more the school year. Moreover persons who changed educational institutions or just completed an educational programme or dropped out would be counted with such a reference period.

Additionally more participation in the population could be covered and analysis of smaller population groups would be possible. More possibilities for cross tabulation of different LFS variables would also be open.

The results based on the 12 months reference period would be more coherent with other surveys measuring educational participation like the Adult Education Survey and the Continuing Vocational Training Survey.

With a 12-month reference period, data on non-formal education and training activities refer to all activities in AES and CVTS, a reference to the most important activity can be done for surveys not dedicated to education and training. Alternatively as the second could significantly increase the burden a way of approximation will have to be elaborated.

The advantage of choosing for detailed questions the activity which was the most important to the respondent would be capturing activities relevant and important for the professional and/or personal development of the interviewee. Moreover, this way the respondent should not have big difficulties in replying to questions and the memory problems would be minimised. The important educational activities should also be better reported in the proxy interviews as it would be more probable that they were discussed by the household members.

Information on the activities most important to the respondent could also be more relevant for policy making in the context of flexicurity and employability. The duration or field of the learning activity important for some reasons (presumably job-related ones but as the reason of participation is one of the variables included in the LFS the job-related important activities will possibly be clearly identified) for the respondent would have more meaning to the policy user than incidental activities.

An ad-hoc module on 'lifelong learning' was conducted in the EU in 2003 to provide more details on the participation in education and training. A 12-month reference period was chosen for that module of 11 variables.

3.2 Problems of the 12-month reference period in a survey like the LFS

When the 12-month reference period is used in the LFS, attention should be paid on the implementation. As the LFS is designed on quarterly samples the effective time over which the questions would apply need to be studied carefully. If such a question is implemented from quarter 1 of a given year, the indicator would actually cover the last 24 months from a statistical point of view. Indeed the person interviewed in the first quarter of a year would report on activities from the past year while the person interviewed in the last quarter would refer to the recent year (12 months in each case but from a different starting date). One solution might be to use one single quarter (quarter 4) if the LFS design and sample size allow for it. The related issue of the LFS sample rotation pattern is described below.

From an individual point of view, a 12-month reference period would be less sensitive for a reporting on incidental non-formal learning activities (in theory the indicator calculated for the country B in the example above would be higher). However, very short activities are remembered better if they are asked just after they have been completed or while they take place.

In case the most important activity is to be described by the respondent, it should be noted that the criteria (level, length, relevance, cost, etc.) of classifying the activity may differ from

one person to another and this could influence comparability of the results. A 12 months reference period could be confusing for the respondent as it differs from the one most frequently used in the LFS if the questions are not placed after those relating to the situation one year before the survey (at the end of the questionnaire for example). If the activity for detailed description is selected by the respondent as the most important for him/her this selection being subjective could lead to biased results. Moreover if it refers to an activity which took place a long time before the interview the respondent may have memory problems with providing detailed information on that particular training.

Another possibility in the implementation of such a reference period is the LFS sample rotation pattern. In order to complete the 12 months reference period, questions on participation in education and training during the last 3 months could be asked each quarter to a group of respondents in case of a suitable rotation panel at national level. This would still allow for a reporting on the last 12 months confronting the 4 sets of replies across the four quarters of the year.

However, this solution requires:

- a focus on specific waves which would imply a third category of individual weights beside those currently used for quarterly and annual data.
- a high level of harmonisation of sample designs for the LFS which is not feasible in the near future for all Member States.

Nevertheless, the questionnaires could be adapted to take account of possible overlaps for interviewees participating in the interview for the first time or not. This is obviously linked to the sample size required to report on adult participation in learning although the low rates of participation in education and training in many Member States might not allow a restriction of the LFS variables to the status 'annual' in the LFS regulation (wave approach). This requires further analyses at national level.

Annex

	Relevance		Accuracy		Comparability, coherence		Implementation	
	pros	cons	Pros	cons	pros	Cons	pros	Cons
Four weeks	Reference to a precise training (most recent): interviewer perspective Provides detailed information on a given training	Annual average looks like 12 months for non LFS specialists Limited cross tabulations with other LFS variables Little use at national level	From the survey design point of view, the most recent activity might be easier to memorise	Most recent activities (even 1h): risk of under-coverage (additional questions required to list the most typical activities under-reported) Impact of proxies		AES, CVTS	More in line with other reference periods in the LFS	
Twelve months	Refers to the last 12 months as understood by non LFS specialists (using one quarter for the data collection) Most important: practical relevance (interviewee perspective) for flexicurity and cross tabulations with other LFS variables Satisfactory in the few Member States using it	Reports on a 24 months using a continuous LFS Would not allow detailed information on a given training in the LFS (interviewee dependent)	From the interviewee point of view, the most important activity might be easier to report despite the long reference period (to be tested)	Is the information collected accurate enough? To be tested Impact of proxies to be tested	AES, CVTS	Time series		Not in line with other reference periods in the LFS unless placed at the end after 'situation one year before' as already in many Member States