



7 th WORKSHOP ON LABOUR FORCE SURVEY METHODOLOGY

DATA PROCESSING AND DATA QUALITY

Madrid, Spain, 10 – 11 May 2012

E. Data quality: Quality issues on measurement of variables, issues and opportunities for standardisation between surveys or Internationally

E2 – Quality issues regarding the number of hours actually worked in the French LFS

Loup Wolff – France

Quality issues regarding the number of hours actually worked in the French LFS

Preliminary draft, ask for permission before quoting

1. Introduction

Measuring working time is one of the key issues addressed by the French LFS. A whole set of questions is devoted to describe this reality. In this matter, the questionnaire proceeds very carefully :

- it first addresses the usual working time:
 - i. Is the respondent a part time or a full time worker (and reasons for that)?
 - ii. Does he/she have unusual working time schemes (at home, at night, during the week-end)?
 - iii. Given all that, how many hours does he/she usually work (i.e. during a typical week)?
 - iv. What is his/her official working time (as mentioned in his/her contract or related to collective agreements standards)?
 - v. Does he/she benefit from specific schemes (professional agreements, maternity, disease,...)?
- Later on, a new set of questions addresses working time during the reference week:
 - i. This module begins with a set of questions detailing the many reasons that might explain that the respondent wouldn't be working during the whole week: holidays, days off, disease, Own illness, injury or temporary disability, labour dispute, bad weather, slack work for technical or economic reasons, compensation leave, school education or training.
 - ii. Did the respondent work extra hours during the reference week? If yes, how many (either paid or not)?
 - iii. Only after this set is asked the question about hours actually worked (in the main job and in all jobs if accurate), taking account days off and extra hours.

Despite the burden, such an organisation of the questions is meant to incite the respondents to think carefully about all the events that might have influenced the reference week and disturbed their usual working time. Much effort is indeed invested in describing precisely usual and actual working time in the French LFS.

However, other measures of working time exist and are largely used in France. Deriving from administrative data (related to firm taxes), some numbers are based on working time as seen by the employers. As expected, these numbers are systematically underestimating what is visible from the LFS. This measure doesn't include unpaid extra hours and is based on a different scale than the subjective scale used by the interviewees while responding to the interviewers. In a few words, employers give official hours, while employees give actual working time, beyond the official features of their position in the firm.

National accounts have also their own measure of working time.

The dilemma with working hours is that we are dealing with a blurred reality, that changes its features given the nature of the respondent (employees, self employed, employers) and the definition of its frontiers (extra hours, paid or unpaid, days off, etc.).

The French LFS is mainly used to give an "actual", almost subjective measure of working time in France. It is usually used with a great deal of precautions, given the uncertainties surrounding this measure. This paper aims at presenting the main issues arising from these sets of questions, and how we manage to deal

with them. This paper is also meant to be read and presented in parallel with Thomas Körner's¹. In order to ease the reader's burden and the comparisons, we've tried to organise our paper on a similar plan and propose similar graphics and figures.

Table 1: Number of annual hours actually worked per person in France and Germany

| | | Germany | France * | Diff |
|----------------------------|---------------------|---------|----------|--------|
| Employed persons | LFS (main job only) | 1685 | 1634 | -3,0% |
| | National Accounts | 1408 | 1439 | 2,2% |
| Employees | LFS (main job only) | 1631 | 1554 | -4,7% |
| | National Accounts | 1323 | 1372 | 3,7% |
| Full-time employees | LFS (main job only) | 1903 | 1684 | -11,5% |
| | National Accounts | 1654 | | |
| Part-time employees | LFS (main job only) | 874 | 980 | 12,1% |
| | National Accounts | 640 | | |

* LFS 2011

As Thomas Körner's did in his paper, we also choose to focus the rest of the analyses on full-time employees.

2. Concept and operationalisation of hours actually worked

As noticed by T. Körner, the detailed definition of hours actually worked as settled by ILO is quite complex to operationalise. As in Germany, the French questionnaire doesn't explicitly deal with all these components.

But these informations are nonetheless delivered to interviewers during their training. They are trained to be able to guide the respondent in case of hesitations while responding (in particular, the matter of travel time is an important message that has to be delivered).

However, the questionnaire explicitly deals with three features that might have a significant impact on the measurement of working hours:

- **Days off:** As mentioned in the introduction, an extensive set of questions deals with the reasons that explain why interviewees might work less than usual during the reference week. The questionnaire lists 11 reasons, before asking how many hours were actually worked during this week. Again, this is meant to shed light in the respondent's mind on what happened during this particular week.
- **Overtime or extra hours:** For the same reason, the interviewee is asked if he/she did some overtime or extra hours during the reference week. The results largely underestimates what we know about actual overtime in France, certainly because many employees regularly do overtime without knowing it.
- **Multi-activity:** In case of multiple activity, the questionnaire also tries to clearly distinguish between the main job and the rest.

Table 2

| | Frequencies | Hours actually worked when excluded | Difference with the global mean (1684 h) |
|--|-------------|-------------------------------------|--|
| Days off | 25,9 % | 2 064 h | +22,6 % |
| <i>Only a few days during the ref week</i> | 11,4 % | 1 710 h | +1,5 % |
| <i>The whole week</i> | 14,5 % | 1 982 h | +17,7 % |
| Overtime or extra hours | 8,7 % | 1 625 h | -3,5 % |
| Multi-activity | 5,6 % | 1 681 h | -0,2 % |

Field: Full-time employees

Source: French LFS 2011

¹ "Quality issues regarding the number of hours actually worked in the German LFS (topic B 1)", Thomas Körner, Federal Statistical Office Germany

Amongst those three features, days off (including paid leave, sick leave, maternity and parental leaves, etc.) are clearly the most influential for worked hours measurement. Amongst full-time employees, excluding the 25,9% employees that took one day off or more during the reference week leads to dramatically overestimate working hours to 2.064 h (+22,6% in comparison with the full-time employees mean, i.e. 1.684 h).

Even if of a lesser impact, overtime and multiple activity show also some differences, but leading to underestimations.

3. Measurement issues

3.1. Impacts of the data collection mode

The French LFS is CAPI for waves 1 and 6, and CATI in between. Over the last years, we don't show any significant variation of the estimated worked hours given the data collection mode. In 2011, full-time employees gave an average of 32,3 h actually worked during the reference week in face-to-face interview, and 32,4 h by phone.

The impact of data collection mode seems to be negligible in France.

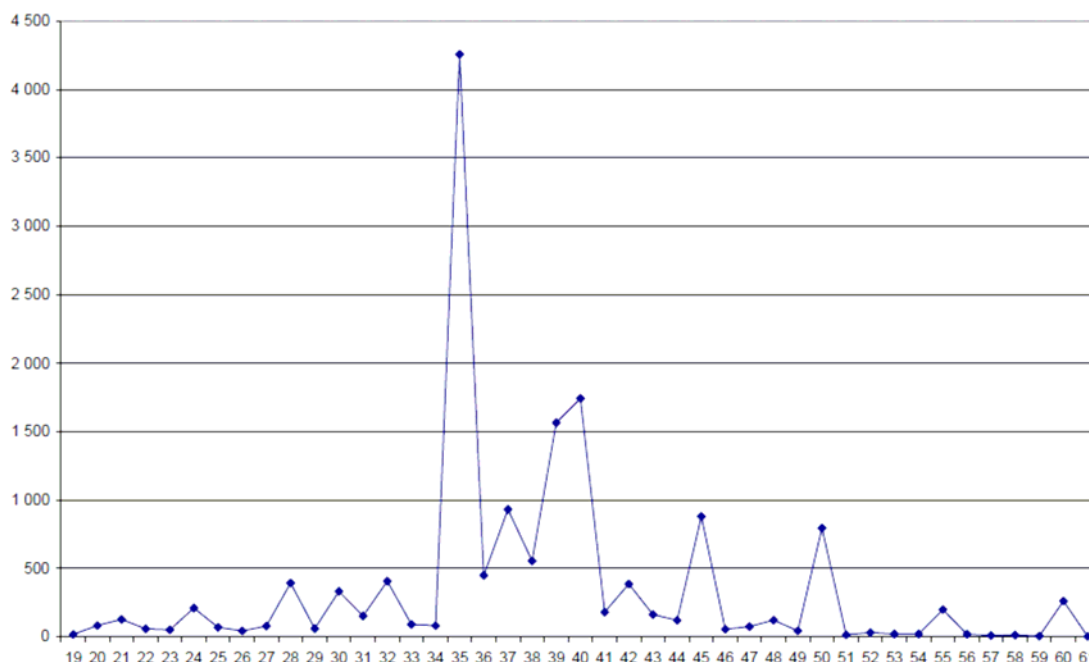
3.2. Effects due to seasonality of hours actually worked

The French collection scheme differs from Germany. The sample is equally distributed amongst the calendar weeks and covers the whole year and the interviewers are given two and a half weeks after the reference week to organise their visits (CAPI or CATI).

Still, due to non-response, some variations exist in the number of persons interviewed per reference week. In 2011, it varied between 7.600 and 8.600, and of course the lowest weeks (in terms of number of respondents) are grouped during holiday seasons.

3.3. Biases due to rounding effects

Despite our efforts to incite respondents to give an accurate answers, the question about the number of hours actually worked still suffers from rounding effects. In particular, the 35h standard is very strongly embedded in the mentalities.



As a reminder, 35h is only a legal standard that allows to distinguish between regular worked hours and overtime (i.e. beyond 35h). It doesn't mean that employees have to work 35h. Moreover, branches and firms have the possibility to renegotiate this standard (and they often do). 35h has then become a very

vivid threshold in France, as well as abroad when talking about French labour market. It doesn't reflect the complexity of the actual situations.

Unfortunately, respondents are also influenced by this standard and they are numerous to give 35h as the actual number of worked hours during the reference week: almost one quarter of full-time employees in 2011 (23,0%). Other pikes are visible around 37h, 39h, 40h, 45h, 50h...

3.4. Deduction for absences due to paid leave

As described in the previous chapter, days off are particularly prominent for the calculation of the number of hours actually worked: an incomplete description of these events during the reference week might lead to a large overestimation of this number.

Amongst days off, paid leave is a critical issue: two thirds of the full-time employees that took some days off during the reference week did it within paid leave.

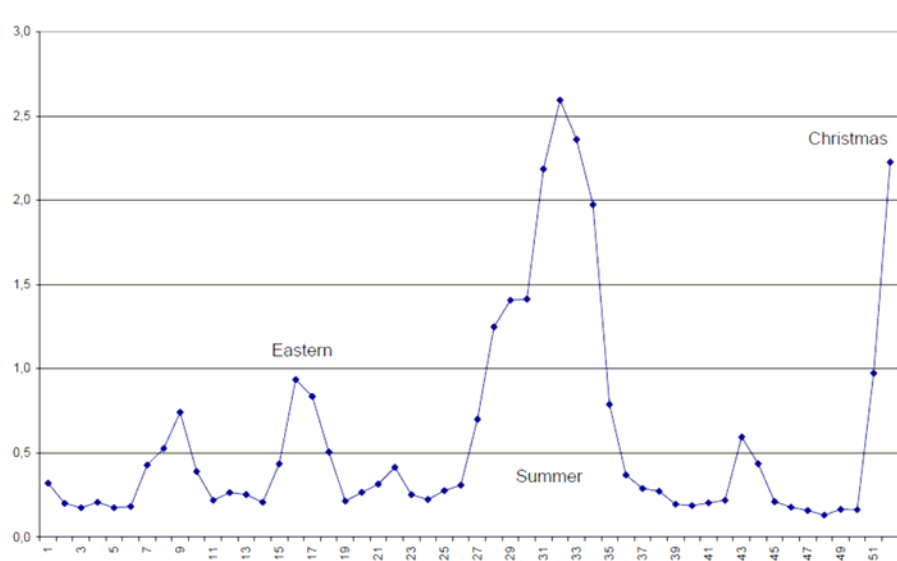
In 2011, 2,2 millions full-time employees were absent of their work during the reference week, due to paid leave. This leads to an estimation of 112,1 millions of holiday weeks taken in total in 2011, which means 6,1 holiday weeks per employees.

When including the partial absences during the reference week, the estimated number of weeks of absence due to paid leave reaches 6,2 weeks (i.e. 31 days on the basis of 5 days per week).

Table 5: Estimation of holiday weeks used in 2011 per full-time employees

| | Full-time employees | Full-time employees with no work in reference week due to paid leave | Full-time employees with less working hours than usual in the reference week due to paid leave |
|---|---------------------|--|--|
| Persons (in 1000) | 18 533 | 2 156 11,6% | 1 242 6,7% |
| Average hours actually worked | 32,4 | 0 | 28,9 |
| Estimated sum of holiday weeks (in 1000) | 114 530 | 112 100 | 2 430 |
| Estimated weeks of absence due to paid leave per full-time employee | 6,2 | 6,1 | 0,1 |

This figure matches with the French legal framework that gives 5 mandatory holiday weeks for all full-time employees, plus various specific leave schemes that allow to complement this legal minimum.



We observe a very strong seasonality of this estimator given the calendar weeks. Summer and Christmas times gather a great deal of these holiday weeks, as well as Easter and winter holidays.

The amount and the distribution of holiday weeks appear to be quite satisfactory and may reveal the accuracy of the French LFS questionnaire in this matter.

3.5. Deduction for absences due to illness

The figures about sick leave are much more consistent with the German ones: around 1,4 weeks of absence per full-time employees due to illness.

Table 6: Estimation of sick leave of full-time employees (2011)

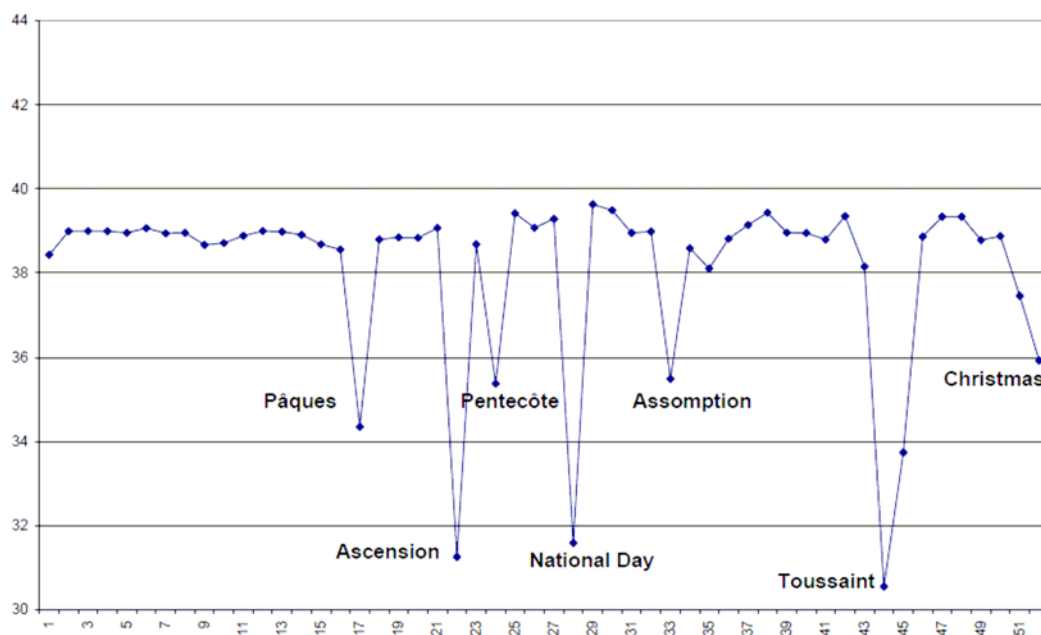
| | Full-time employees | Full-time employees on sick leave for the full reference week | Full-time employees on sick leave for part of the reference week |
|---|---------------------|---|--|
| Persons (in 1000) | 18 533 | 511 2,8% | 124 0,7% |
| Average hours actually worked | 32,4 | 0,0 | 28,9 |
| Estimated sum of weeks on sick leave (in 1000) | 27 009 | 26 586 | 423 |
| Estimated weeks of absence due to sick leave per full-time employee | 1,4 | 1,4 | 0,02 |
| Estimated days of absence due to sick leave per full-time employee | 7,3 | 7,2 | 0,1 |

As in Germany, few employees are absent only a part of the week due to illness. In 2011, around 500.000 full-time employees were absent the whole reference week for this reason, whereas only 136.000 register a partial absence during this week.

3.6. Deduction for bank holidays

Bank holidays are also clearly identified in the data.

Figure 3: Average hours actually worked of full-time employees not absent for the entire reference week, 2011



4. Conclusions

A clear identification of days off (holidays, sick leave, etc.) is crucial when measuring the number of worked hours. This identification relies on a detailed protocol of questions addressed to the respondents in order to help them to remember what happened during the reference week.

This concern is precious when examining the differences between French and German data. As the German LFS seems to underestimate paid leave, the French LFS delivers a consistent estimate of these days off. This mechanically leads to lower the estimated number of hours actually worked in France.