

Hours actually worked in the French LCS

Workshop on Labour Cost Data

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Mesurer pour comprendre



Hourly Labour Cost

- Hourly labour cost (COST_H) = main variable of interest in the LCS

- $$\begin{aligned} \text{COST_H} &= \frac{\text{Total labour cost}}{\text{Total number of hours actually worked}} && \frac{\text{D}}{\text{B.1}} \\ &= \frac{\text{Annual labour cost per employee}}{\text{Annual number of hours actually worked per employee}} \end{aligned}$$

- Measuring the hours actually worked is essential to compute a reliable hourly labour cost
- Even though paid hours are easier to observe in employer surveys
- The gap between paid hours and hours actually worked may strongly vary according to the economic background...

Two notions of hours

Paid hours

- **Paid hours include**

- normal and overtime hours worked during the year
- hours not worked during the year but nevertheless paid
 - ✓ annual holidays / vacations
 - ✓ official public holidays
 - ✓ absences due to sickness
 - ✓ maternity / paternity leave

- **Information on paid hours**

- is available in administrative data sets (e.g. DADS)
- can be reported by establishments sampled in the LCS without much difficulties

- **In France, legal 35-hour workweek since 2000**

for employees working full-time for the full-year with no overtime hours, 1820 paid hours

Two notions of hours

Hours actually worked

- **Include**

- hours paid during normal periods of work
- periods of paid overtime
- periods of unpaid overtime

- **while excluding**

- hours not worked and not paid (e.g. strikes)
- hours not worked but nevertheless paid
 - ✓ official public holidays
 - ✓ absences due to sickness and accident
 - ✓ partial unemployment
 - ✓ maternity / paternity leave
 - ✓ annual holidays / vacations (≥ 25) BUT days for working time reduction (RTT days) should not be excluded, as they represent a compensation for working more than 35 hours per week

Two notions of hours

Hours actually worked

- **not directly available in administrative data sets (e.g. DADS)**
 - ⇒ necessary to use surveys
- **Employee versus employer interview ?**
 - the employee may be more aware of her working time, in particular of overtime unpaid hours, than her employer
 - BUT she can also over-estimate her “true” working time
- **Choice:** employer interview ⇒ overtime unpaid hours not taken into account
- **The number of hours actually worked would be difficult to calculate for employers => instead, they are asked to provide all the necessary information for its computation**

The French LCS

Annual survey : 2 years labour cost (LCS) and 2 years wage structure (SES)

2011- 2012 : 300 000 employees from 32 000 legal units from 10+ employee firms

The employers are asked to answer to two types of questionnaires: one on the legal unit, and one on specific employees, between 1 to 24 employees present in the unit.

The number of employees on whom the employee questionnaires relate come from the sampling method (remuneration dispersion minimization per strata).

Labour Cost questionnaires :

The local unit questionnaire covers the labour cost and its main constitutive elements, including social security contributions & social welfare and bonuses.

The employee questionnaire covers the main elements that make up pay and employer contributions and working hours, including compensation & time worked in the year.

The survey information are completed by administrative data coming from the *Annual Declarations of Social Data (DADS)*

Worked time in the employee questionnaire

- paid hours (annual total also reported in the DADS)
- overtime paid hours
- contractual working hours
- usual weekly working hours
- usual weekly working days
- number of days of paid leave and RTT (*from 2011, employers are asked to report RTT separately but it is unlikely to be reliable enough for a direct use*)
- days saved into a time savings account
- number of days of absences due to sickness, accident
- number of days of absences due to maternity / paternity leave, partial unemployment, strikes, etc.
- amount of working time (if part time)

Survey data are matched with administrative data set (DADS), which gives information on

- employment period
- number of paid hours in the year
- amount of working time (if part time)

How to construct hours actually worked ?

The first idea is to obtain hours actually worked by subtracting un-worked hours from paid hours.

This method was used until 2004. However, due to the 35h working time reduction (RTT), this method cannot be implemented anymore. Indeed, it is impossible to disentangle paid leaves and RTT days given in compensation for working more than 35h a week.

A new method was then proposed in 2008 and refined in 2012.

The general idea is the following: hours actually worked are computed based on days actually worked and the number of hours worked per day. Paid hours serve as a reference variable, which enables to validate the computation.

Computation of hours actually worked, ECMO 2012

Hours actually worked = (days actually worked * reported usual daily hours) + overtime paid hours

Days actually worked = bdb – (holidays & RTT + public holidays + absences)

where *business day basis* (bdb) = number of weeks * usual reported weekly days of work

Example : 52 weeks, 5 days a week, 7h a day, 25 holidays & 5 public ones, 50 overtime hours, 10 days of absences.

$$\text{Bdb} = 52 * 5 = 260$$

$$\text{Days actually worked} = 260 - 25 - 5 - 10 = 220$$

$$\text{Hours actually worked} = 220 * 7 + 50 = 1590 \text{ worked hours}$$

$$\text{Working 7h30 a day, with 15 days of RTT : } 205 * 7,5 + 50 = 1587,5$$

But there are also some particular cases such as the annual working days system and other subtleties.

Specific case : the annual working days system

- For 10% of the employees, annual working days system applies
 - fixed number of days per year : usually 218
 - no limit to the daily working time
- **Hours actually worked = (annual working days - absences) × daily working time**
- The employer provides information on
 - the fixed number of days per year
 - the number of days of absence

BUT no information on the **daily working time**

⇒ We use the LFS

- **Example 2012**

218 working days, industry manager,
8 days of absence for sickness

Hours worked = (218 - 8) × 9,4 = 1974 hours

| Type of occupation | NACE | 2008 | 2012 |
|---------------------------------------|------|------|------|
| Managers and intellectual occupations | BE | 8,7 | 9,4 |
| | F | 8,7 | 9,8 |
| | GS | 8,7 | 9,6 |
| Intermediate occupations | - | 8,7 | 8,5 |
| Employees | - | 8,7 | 7,7 |
| Workers | - | 8,7 | 8 |
| All | - | 8,7 | 9 |

Validation procedure

- Calculation of paid hours using the same method

Hours paid = (number of paid days * usual daily hours of work) + overtime paid hours

*with number of paid days = bdb – unpaid absences – RTT**

** we determine RTT by subtracting the legal paid leave (according to the amount of working time) from the reported “Paid leave and RTT”*

Paid hours reported in the survey serve the reference variable. Comparison between computed and reported paid hours enables us to:

- validate the choice of the global computation method
- perform some imputations and adjustments in the data
- identify the specific cases, for which adjustments in the computation method are needed (*part-time workers, D section*)

Paid hours ECMO 2012

| A21 | reported in the survey | computed |
|-----------|---------------------------|--------------|
| BN | 1 441 | 1 439 |
| B | 1 657 | 1 671 |
| C | 1 644 | 1 634 |
| D | 1 634 | 1 604 |
| E | 1 557 | 1 551 |
| F | 1 487 | 1 541 |
| G | 1 381 | 1 382 |
| H | 1 535 | 1 527 |
| I | 1 030 | 1 040 |
| J | 1 590 | 1 560 |
| K | 1 645 | 1 625 |
| L | 1 422 | 1 403 |
| M | 1 509 | 1 506 |
| N | 1 017 | 1 018 |

Worked hours 2008 – 2012

| | 2008 | | 2012 | | Evolution 2012 / 2008 | | Evolution 2012 / 2008 | |
|-----------|--------------|--------------|--------------|--------------|-----------------------|--------------|-----------------------|--------------|
| | Worked hours | Worked hours | Worked hours | Worked hours | Worked hours | Paid hours | Worked hours | Paid hours |
| | Full time | FTU | Full time | FTU | Full time | | FTU | |
| BE | 1 575 | 1 574 | 1 566 | 1 560 | -0,6% | 0,1% | -0,9% | -0,1% |
| B | 1 574 | 1 574 | 1 606 | 1 606 | 2,0% | -1,3% | 2,0% | -1,3% |
| C | 1 576 | 1 574 | 1 575 | 1 568 | -0,1% | 0,4% | -0,4% | 0,3% |
| D | 1 673 | 1 657 | 1 448 | 1 445 | -13,4% | -8,3% | -12,8% | -7,6% |
| E | 1 530 | 1 530 | 1 541 | 1 538 | 0,7% | -0,1% | 0,5% | -0,5% |
| F | 1 607 | 1 605 | 1 590 | 1 585 | -1,1% | -1,0% | -1,2% | -1,3% |
| GN | 1 614 | 1 606 | 1 590 | 1 576 | -1,5% | -1,6% | -1,9% | -1,9% |
| G | 1 620 | 1 612 | 1 608 | 1 586 | -0,7% | -0,3% | -1,6% | -0,9% |
| H | 1 587 | 1 586 | 1 569 | 1 563 | -1,1% | -3,0% | -1,5% | -3,2% |
| I | 1 658 | 1 637 | 1 625 | 1 595 | -2,0% | -5,3% | -2,6% | -5,4% |
| J | 1 636 | 1 627 | 1 632 | 1 628 | -0,2% | 0,2% | 0,1% | 0,4% |
| K | 1 633 | 1 614 | 1 579 | 1 565 | -3,3% | -3,9% | -3,0% | -3,4% |
| L | 1 582 | 1 575 | 1 496 | 1 490 | -5,4% | -4,6% | -5,4% | -4,5% |
| M | 1 650 | 1 635 | 1 644 | 1 632 | -0,4% | -0,2% | -0,2% | 0,0% |
| N | 1 554 | 1 557 | 1 490 | 1 492 | -4,1% | -1,3% | -4,2% | -2,0% |
| QS | 1 486 | 1 496 | 1 433 | 1 439 | -3,6% | -1,8% | -3,8% | -1,9% |
| Q | 1 471 | 1 484 | 1 423 | 1 431 | -3,3% | -1,6% | -3,6% | -1,8% |
| R | 1 570 | 1 573 | 1 496 | 1 507 | -4,7% | -2,6% | -4,2% | -2,4% |
| S | 1 550 | 1 553 | 1 500 | 1 496 | -3,2% | -1,9% | -3,7% | -2,4% |
| BN | 1 601 | 1 596 | 1 583 | 1 572 | -1,1% | -1,0% | -1,5% | -1,3% |

Improvements between 2008 & 2012

Differentiated imputation according to available information of :

- compensatory rest (repos compensateur)
- working time reduction (RTT days)

Statistical treatment of mistakes between deposit and stock in reported time save account (CET)

Extensive use of coherence tests for :

- imputing missing data
- adjusting inconsistencies between variables

In last resort, specific adjustments are implemented when needed at each step of the computation

example : employees in the Health sector are allowed to save more days on time savings accounts

Evolution comparison with other sources

| | LCI wages | DADS LCS | National accounts | LCS wages / worked hours |
|-----------|-------------|-------------|-------------------|--------------------------|
| BE | 2,4% | 2,2% | 3,0% | 2,2% |
| B | 2,7% | 2,2% | 2,4% | -0,2% |
| C | 2,4% | 2,2% | 3,2% | 1,9% |
| D | 1,8% | 2,8% | 1,5% | 4,1% |
| E | 1,8% | 1,7% | 0,0% | 0,2% |
| F | 2,1% | 2,2% | 2,0% | 2,1% |
| GN | 2,2% | 1,9% | 2,1% | 2,0% |
| G | 1,9% | 2,1% | 1,4% | 2,1% |
| H | 1,9% | 2,1% | 1,4% | 2,1% |
| I | 2,3% | 1,9% | 2,3% | 0,8% |
| J | 2,2% | 1,9% | 2,3% | 0,9% |
| K | 1,9% | 1,4% | 2,1% | 1,2% |
| L | 2,6% | 0,9% | 1,7% | 3,3% |
| M | 1,7% | 1,5% | 2,9% | 2,9% |
| N | 3,3% | 2,5% | 2,0% | 2,9% |
| O | 1,9% | 1,3% | - | - |
| P | 1,3% | -0,5% | - | - |
| QS | - | 1,4% | 1,9% | 1,5% |
| Q | 2,2% | 1,5% | 2,1% | 1,5% |
| R | 3,1% | 0,6% | 1,9% | 4,0% |
| S | 1,9% | 1,7% | 1,3% | 1,8% |
| BN | 2,3% | 2,0% | 2,3% | 2,0% |

Hours actually worked in French LCS

Thank you for your attention !

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9h to 17h