Payroll employment

The scope of INSEE employment estimates

INSEE employment estimates tracks the number of persons **in employment defined as "registered"**, after processing multiactivity:
- employment is measured on the last week of the year and any employment declared in the administrative data (social declarations,payroll files) is recorded;
- Processing multiactivity means that persons who have more than one job during the last week of the year are counted only once for their main job, which corresponds to the one that provides the highest remuneration over the year.

Employment estimates cover France (excluding Mayotte). Total employment data are produced on an annual basisfor (payroll employment and self-employment). **Two quarterly estimates** are also computed :
- The flash estimate, published about 45 days after the end of the quarter, covers private payroll employment (excluding extraterritorial activities).[1]
- The second estimate, issuedabout 70 days after the end of the quarter, covers total payroll employment.[2] It covers all sectors of activity in the French classification of activites NAF rev. 2, excluding extraterritorial activities. Compared to the flash estimate, employment in the civil service is added.

The split between the public field (or civil service) and the private field is based on the legal category of employers. The public field corresponds to the one that is annually followed by INSEE through the System for Information on Civil Servants (SIASP, see documentation in the "Sources and methods" section on www.insee.fr). On thisfield, the concept adopted for the year-end level in the employment estimates differ from the concept of workforce as published in the *Informations Rapides* on civil service employment, which results from the SIASP system:
- The employment estimates take into account all jobs, including secondary jobs (see definition of "post of work" in the "Definitions" section on www.insee.fr), while the number of employees in the public service published in the *Informations Rapides* on civil service employment is measured as final main jobs as at 31 December.
- Public / private multiactivity is taken into account in the employment estimates but not in the calculation of civil service workforce numbers.

Sources of quarterly employment estimates

The flash estimate is mainly based on calibration models estimated by DARES (statistical service of the Ministry of Labor) and INSEE, using data from the ACEMO survey (labour force activity and employment conditions) and from INSEE business tendency surveys. Modelling makes it possible to extrapolate the results of the Acemo survey – which covers only the companies of at least 10 employees to all the companies of the market sectors. In agriculture and principally non-market services, estimates are made by INSEE by extending the recent trends. Finally, temporary employment is estimated byDARES.

---

[1] Until the results of the first quarter of 2017, the flash estimate covered the non-farm market sectors (sectors DE to MN and sector RU of the French classification of activities, NAF Rev. 2) and covered only metropolitan France.

[2] Until the results of the fourth quarter of 2016, the quarterly estimates of payroll employment covered competitive sectors (sectors DE to MN + RU, as well as private OQ). As from the results for the first quarter of 2017, the scope has been extended to farm payroll employment, the civil service, and all individual employers, including in non-market sectors. The geographical scope has been extended to France (excluding Mayotte).

Insee
Mesurer pour comprendre
Conjoncture

The **second estimate of payroll employment published 70 days after the end of the quarter** is drawn up from different sources:
- declarations of social contributions made to the URSSAFs (social security contribution collection offices), either in the form of "bordereaux récapitulatifs de cotisations" (BRC) or simplified nominative declarations, namely "déclarations sociales nominatives" (DSN);
- payroll files for civil servants;
- declarations of social contributions collected by the agricultural social-security mutual fund (Mutualité Sociale Agricole, or MSA);
- declarations of private individual employers from three administrative requirements: simplified nominative declaration (DNS), universal employment service check (*chèque emploi service universel*, CESU) and childcare allowance (*prestation d'accueil du jeune enfant*, PAJE);
- the monthly declarations that temporary employment agencies send to Pôle emploi, which have been gradually replaced by "déclarations sociales nominatives" (DSN) since mid-2016.

In private sector excluding temporaryemployment, BRCs and DSNs are processed by the central agency of social security organisations, ACOSS, within the SEQUOIA system (see documentation, in French only). On the civil service scope, INSEE processes the BRCs and DSNs within the Épure system, as well as the civil service payroll files (which were previously integrated into the Siasp system). MSA data are also processed by INSEE via the Épure system. The declarations about private individuals' employees are processed throuh the system for information on private individuals' employees set up by INSEE. Finally, the monthly declarations or the DSNs of the temporary empoyment agencies are processed by DARES (see DARESmethodological note, in French only).

The method to compute quarterly employment estimates

The method used to compute quarterly employment estimates is based on the employment levels derived from the annual estimates produced by INSEE. Quarterly growth rates are applied to these reference employment levels. When new annual estimates are available, the quarterly estimates are revised accordingly. Indeed, the annual estimates are more reliable because they benefit from a longer data processing time and are the subject of a more in-depth expertise.

Since the results of 2007[3], the **definitive annual employment estimates** are based on the localised employment estimates system (Estel), which summarises several administrative sources. These localised estimates are based, in part, on the annual declarations of social data (DADS) for employees (private sector, civil service and workers employed by private individuals) and in part on the database on self-employed, built from ACOSS and MSA data. Over the period for which the Estel data are not yet available (the last year or the two last years), provisional annual estimates are computed from other administrative sources available more quickly, most of them already used in the quarterly estimates.

In the employment estimate published 70 days after the end of the quarter:
- For some activity sectors, the quarterly employment growth rates result from both data processed by ACOSS on the private sector excluding temporary employment and private individuals' employees, and by INSEE on the public service. This is the case for water supply (EZ), research and development (MB), public administration (OZ), education (PZ) and human health activities (QA). In social work activities (QB), the tracking of the employment of private individuals' employees is added.
- The quarterly rates of change for private individuals' employees are obtained by smoothing annual data[4]. Over the period not covered by the annual employment estimates, the recent trends areextended. These data are used to track the home-based employment of private individuals' employees (TZ), and the employment of private individuals' employees in social work activities (QB).

---

[3] Previously, definitive annual employment estimates were based on population censuses.

[4] Except in case of a specific measure, such as in 2013, where the possibility of paying flat-rate contributions was abolished: the quarterly data of the system for information on private individuals'eemployees were directly mobilized to estimate the evolution of employment.

- The administrative and support services activities sector (NZ) is also monitored by using several sources: the source handled by ACOSS on the private sector excluding temporary employment and that handled by DARES on temporary employment.
- The source used is processed by INSEE except for the French overseas departments, for which the quarterly growth rates are provided by ACOSS. For metropolitan France, MSA data are available with two quarters of delay: INSEE estimates these two quarters by extending recent trends.
- For all other sectors, quarterly growth rates are provided by ACOSS.
- In all sectors of activity (excluding EZ, MB and OQ), annual employment levels cover all employees, in both private and public sectors. However, the quarterly employment rates of change only cover the private sector, clearly predominant in these activities.
- Regardless of the sector, all establishments in the field are included, even those created during the quarter irrespective of their size.

On **temporary employment**, the quarterly indicator used is the change in the average number of outstanding contracts during the last five working days of the month. At the time of the flash estimate, DARES calculates a so-called "revised" estimate for the first two months of the quarter that takes into account the late statements of temporary assignments and is based on the completeness of the temporary work agencies that had temporary assignments. For the last month of the quarter, DARES calculates a provisional result by applying the "data balancing" method: only the statements of agencies that had missions during both the second and third months of the quarter are recorded. The quarterly change in temporary employment is then calculated by combining the revised trend for the first two months and the provisional change estimated for the last month of the quarter. For the publication 70 days after the end of the quarter, the quarterly change in temporary employment is calculated by chaining the revised trend of the three months of the quarter. This quarterly trend is then chained to the previous ones. This chaining finally applies to the last annual estimate of the number of temporary workers, adjusted for multiactivity as processed by INSEE.

The series disseminated are corrected for seasonal variations, with the X13 Arima method in the JDemetra+ software.

Available series of employment

The flash estimate only refers to the private field. It is broken down by major activity sector: agriculture, industry, construction, market services, non-market services. In market services, temporary work is isolated. When a quarter flash employment is published, data for previous quarters are not revised excepting for temporary employment.

The **estimate published 70 days** after the end of the quarter covers all employees. It is disseminated at A38 level of NAF rev. 2, with, in some sectors, a breakdown at A88 level (29, 30, 41, 42, 43, 45, 46, 47, 55, 56). In the administrative and support services (NZ), temporary employment is isolated in the sector 78.20Z (Temporary employment agency activities). It is also broken down by user sector, at A17 level of NAF rev. 2. For all employees, the private field is distinguished from the public field. The same applies to the large activities sectors (agriculture, industry, construction, market services, non-market services).

L'*Informations Rapides* on the flash estimate is published in partnership betwenn DARES and INSEE partnership. L'*Informations Rapides* on 70-day employment estimate is published in partnership between ACOSS, DARES and INSEE. On the same day, ACOSS publishes, on the private field, quarterly series on workforce, wage bill and average wage per capita. In this publication, as in the tripartite *Informations Rapides*, data on temporary employment come from DARES. The levels published by ACOSS, in terms of workfoce (or "posts"), are not processed regarding multiactivity (see documentation on the ACOSS website, in French only) and thus differ from INSEE employment levels.

Revisions

When the 70-day employment estimate is published, data for previous quarters are subject to revision. On the one hand, the raw data can be revised, either by incorporating new information (delayed declarations, etc.), or additional processing, or by taking into account new annual estimates (in autumn n+1 for the provisional annual estimate of the year n, in March n+3 for the final estimate). On the other hand, every quarter, the updating of the seasonal variation coefficients leads to a slight revision of the series

published. Specifically, seasonal adjustment models are recalculated once a year, when the results for the first quarter are released. In the publications for the other quarters, the seasonal coefficients are revised but the models remain unchanged.
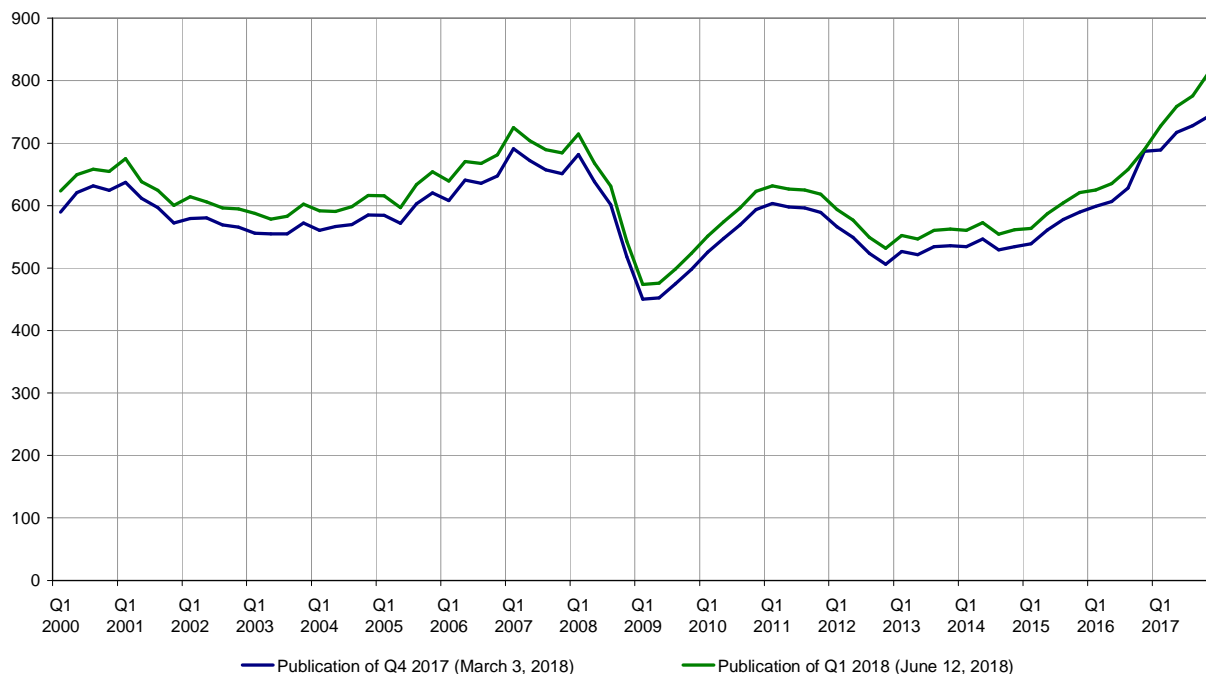
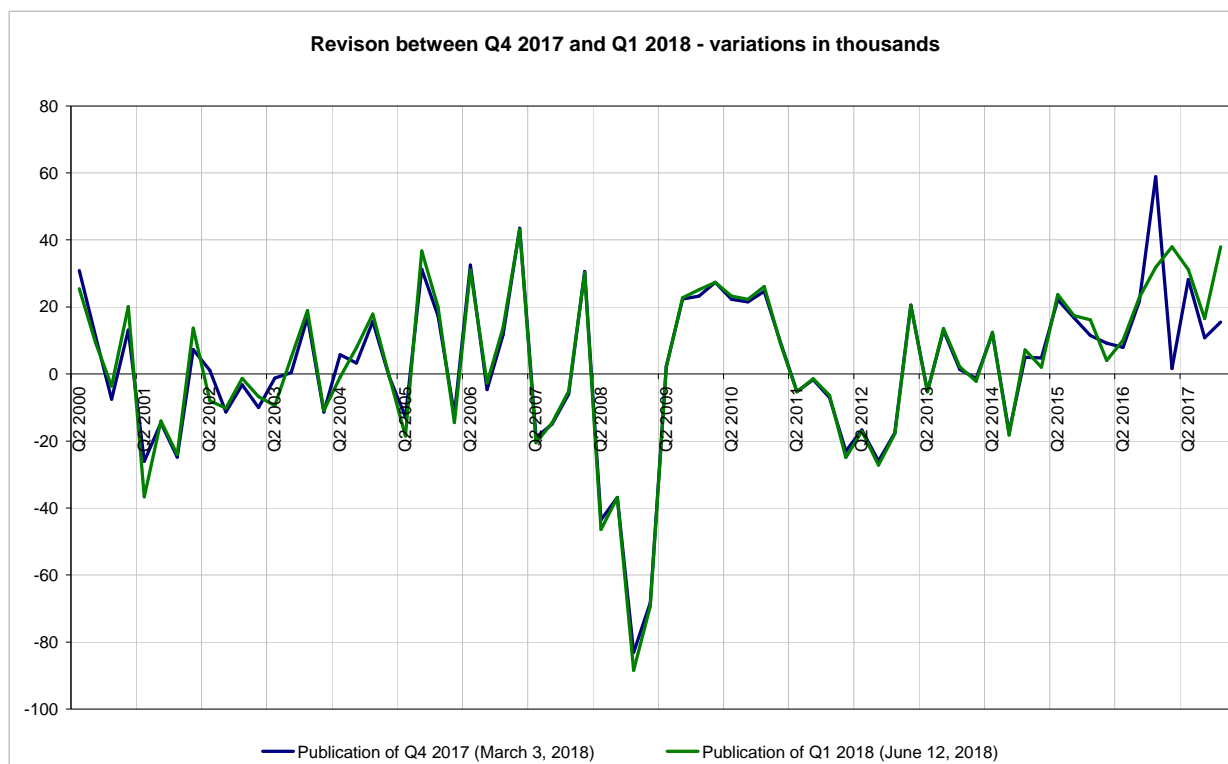**<u>Annex 1 : Revision of payroll employment between Q4 2017 (March 13, 2018) and Q1 2018 (June 12, 2018)</u>**

The revision of the quarterly employment estimates between the releaseof Q4 2017 (March 13, 2018) and Q1 2018 (June 12, 2018) is mainly explained by temporary employment figures. The main change is related to the processing of the new "Déclaration Sociale Nominative" (DSN) since 2016. This switchhas improved the coverage quality compared to the historical source, leading to a correction of the whole time series, with an increase of about 30,000 at the national level (4.5%). An *ad hoc* treatment had been adopted since the beginning of 2017 to neutralize the effect of the establishments newly appearing with the DSN, which did not previously declare a RMM. Frow now on, this treatment is lifted, and all establishments are now included in the estimates.

Until mid-2016, the evolutions of the new series of temporary employment are comparable to the old one with a slightly higher level of employment. The profile between mid-2016 and the end of 2017 is smoother, due to a correction of transition problems related to the DSN between the end of 2016 and the beginning of 2017. In addition, temporary employment is more dynamic in 2017 (about +40,000 for the whole of 2017).

The quarterly estimates are based on definitive annual estimates of Insee (end of 2015), explaining why the revision does not translate into an increase in total employment, but instead in a slight change in business sectors shares in administrative and support service activities (sector MN). On the other hand, revisions of temporary employment lead to revisions in total employment in 2016 (-28,000) and 2017 (+50,000).

Revison between Q4 2017 and Q1 2018 - data in thousands

Publication of Q4 2017 (March 3, 2018) ———— Publication of Q1 2018 (June 12, 2018)

Revison between Q4 2017 and Q1 2018 - variations in thousands

— Publication of Q4 2017 (March 3, 2018)   — Publication of Q1 2018 (June 12, 2018)

Annex 2 : Revision of payroll employment in 2015 with the integration of the definitive annual employment estimates

In March 2018, the increase in payroll employmentin France between the end of 2014 and the end of 2015 was revised slightly downwards with the integration of the definitive annual estimates: + 0.4%, against + 0.5% in the preliminary estimates.The revision amounted to -31,300 jobs for raw data (see table) - and - 25,400 when corrected for seasonal variations.

The payroll employment changes were reduced in construction (-2.7%, against -2.4% in the provisional annual estimates), in mainly non-market services (+ 0.2% against + 0.4% previously) and in market services (+ 1.3% against + 1.5%). The decline in payroll employment in industry remained unchanged (-1.1%, as in the provisional annual estimates). On the contrary, the change was enhanced in agriculture (+ 1.5%, against + 0.8% previsously).

Revision of payroll employment in France in 2015

| Sector | Payroll employment change between the end of 2014 and the end of 2015 | | | | Revisions | |
| | Definitive estimates | | Provisionnal estimates | | | |
	in thousands	in %	in thousands	in %	in thousands	in rate
AZ_Agriculture	3,8	1,5	1,9	0,8	1,9	0,8
BE_Industry	-35,1	-1,1	-34,8	-1,1	-0,3	0,0
FZ_Construction	-36,8	-2,7	-32,9	-2,4	-3,9	-0,3
GU_Market_services	153,2	1,3	170,1	1,5	-17,0	-0,1
OQ_Non-market_services	17,2	0,2	29,2	0,4	-12,0	-0,1
Total	**102,2**	**0,4**	**133,5**	**0,5**	**-31,3**	**-0,1**

Note : « raw » data (non-corrected for seasonal variations)