Payroll employment

The scope of INSEE employment estimates

INSEE employment estimates tracks the number of persons **in employment** after processing multiactivity:
- employment is measured over the last week of the year and any employment recorded in the administrative data (social declarations, payroll files) is accounted for;
- 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 (payroll employment and self-employment) **are produced on an annual basis**. **Two quarterly estimates** are also computed :
- The flash estimate, published about 40 days after the end of the quarter, covers private payroll employment.[1]
- The second estimate, issued about 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, it adds employment in the civil service.

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 INSEE follows annualy through the System for Information on Civil Servants (SIASP, see documentation in the "Sources and methods" section on www.insee.fr). Over this field, 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

Since the first quarter of 2020, the flash estimate for the private sector (excluding agriculture and private individuals employees) is mainly based on an arbitrage made from several sources:
- The "Declarations sociales nominatives" (DSN) received and processed on an early basis by the URSSAFs (social security contribution collection offices), DARES (statistical service of the Ministry of Labor) and INSEE constitute the main part of the information used.
- Calibration models estimated by INSEE from INSEE business tendency surveys are used for information purposes.

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

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

For agricultural employment, estimates are produced by INSEE based on the first information extracted from the DSN. A forecast is made by INSEE on private individuals employees. Finally, temporary employment is compiled by Dares.

Before 2020, 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 used to be the main source of information available. Modelling made 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.

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 nominative declarations, namely "déclarations sociales nominatives" (DSN);
  - payroll files for central governement 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);
  - temporary employment agencies "déclarations sociales nominatives" (DSN).

In the private sector excluding temporary employment, 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 central government civil service payroll files (which were previously integrated into the Siasp system). INSEE also processes MSA data 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 DSNs of the temporary employment agencies are processed by DARES (see DARES methodological note, in French only).

For the publication of the first quarter of 2021, Acoss has switched its entire statistical system to the DSN source, generating revisions to the levels and changes in the number of salaried positions in the long time series. These revisions have not yet been taken into account in the employment series published by INSEE and will be so later.

▌ The method to compute quarterly employment estimates

The method used to compute quarterly employment estimates is based on the employment levels derived from INSEE's annual estimates. Quarterly growth rates are applied to these reference employment levels. When new annual estimates become available, the quarterly estimates are revised accordingly. Indeed, the annual estimates are more reliable because they benefit from a more in-depth expertise and a complete treatment of multi-activity.

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. They are based, in part, on the social declarations for employees (private sector, civil service and private individuals employees) 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.

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

- For private individuals' employees, data for the last three quarters are not available and estimates are obtained by extending recent trends[4]. 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).
- 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 the one handled by DARES on temporary employment.
- For the agricultural secteor (AZ), INSEE processes its source 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. Until the first quarter of 2020. INSEE used to make an estimate for these two quarters by extending recent trends. Since the beginning of 2020, INSEE directly uses the DSN it receives, on the same field as the MSA (there is therefore no longer any time delay).
- 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 exhaustive monthly DSN declarations of temporary employment agencies. 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. Then DARES sends INSEE monthly series (both corrected and non-corrected for seasonal variations) taking into account the revised evolution for the first two months and the estimated provisional evolution for the last month of the quarter. For publication 70 days after the end of the quarter, the Dares sends monthly series corrected and non-corrected for seasonal variations where the evolution of temporary employment is final for the three months of the quarter.

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 covers 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. 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).

The *Informations Rapides* on the flash estimate is published in partnership between DARES and INSEE. The *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 headcount, payroll 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

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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.

Annex : Revision of payroll employment in 2018 with the integration of the definitive annual employment estimates

In March 2021, the change in payroll employment in France between the end of 2017 and the end of 2018 remains almost unchanged with the integration of the definitive annual estimates: + 0.6. The revision is limited: -7 000 jobs for raw data (see table).

The payroll employment changes were increased in agriculture (+3,1% against -0,5%) and construction (+2,5% against +2,0%). On the contrary, changes were reduced in non-market-services (-0,4% against -0,1%). The increase in industry (+0,4%) as in market services (+1,0%) are unchanged.

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

Revision of payroll employment in France in 2018

Secteur	Change between the end of 2017 and the end of 2018				Revision	
	Provisional data		Final data			
	Thousand	Percentage	Thousand	Percentage	Thousand	Percentage points
Agriculture (AZ)	-1	-0,5%	8	3,1%	9	3,5%
Industry (BE)	13	0,4%	12	0,4%	-1	0,0%
Construction (FZ)	27	2,0%	34	2,5%	7	0,5%
Market services (GU)	121	1,0%	125	1,0%	4	0,0%
Non-market services (OQ)	-6	-0,1%	-31	-0,4%	-25	-0,3%
Total	**154**	**0,6%**	**147**	**0,6%**	**-7**	**0,0%**

Note : "Raw" data (not seasonally adjusted)