

Payroll employment

The scope of INSEE employment estimates

INSEE employment estimates track the **number of persons in employment** after processing multiactivity:

Employment is measured over the last week of the year and any job 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:

- A **flash** estimate, published about 40 days after the end of the quarter, covers private payroll employment.¹
- A **detailed** estimate, published about 70 days after the end of the quarter, covers total payroll employment.⁰ It covers all sectors of activity in the French classification of activities (NAF rev. 2), excluding extraterritorial activities. Compared to the flash estimate, it adds employment in the civil service. This national estimate is completed, approximately 90 days after the end of the quarter, with a breakdown of employment by geographical area (regions, departments).

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 annually through the System for Information on Civil Servants ([SIASP](#)). Over this field, the concept adopted for the year-end level in the employment estimates differ slightly 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](#)"), 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 based on 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 Labour) and INSEE.

In addition, a forecast is made by INSEE on the employment of private individual employers.

Before 2020, calibration models estimated by DARES 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

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) and only metropolitan France.

⁰ 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).

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 companies of the market sectors.

The **detailed estimate of payroll employment on the total field, about 70 days after the end of the quarter** is drawn up from different sources:

- The Urssaf (via its Séquoia system) processes the “*déclarations sociales nominatives*” (DSN) of establishments in the private non-agricultural field, excluding temporary work; the DSN have replaced the “*bordereaux récapitulatifs de cotisations*” (BRC) since 2016.
- Dares uses DSNs for temporary employment agencies; they have replaced the *Pôle emploi* files of declarations from temporary employment agencies; this field is handled by Dares (see [Dares methodological note](#)).
- INSEE processes different sources for the other fields:
 - on the public field, until the second quarter of 2022:
 - payroll files for central government civil servants;
 - BRCs and then DSNs for other civil service sectors, within the [Épure](#) system;
 - on the public field, from the third quarter of 2022:
 - DSN, via the Héraclès system;
 - in the field of agriculture, DSNs (directly operated until Q2 2022, then within the Héraclès system), and the 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 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 employment 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 benefit from a more in-depth expertise and a complete treatment of multi-activity. In the quarterly estimates, the share of the multi-activity is implicitly assumed to be stable within each sector.

Since the results of 2007, 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 URSSAF 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 detailed 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 URSSAF on the private sector 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.
- For private individual employers, data for the last three quarters are not available and estimates are obtained by extending recent trends. These data are used to track the home-based employment of private individual employers (TZ), and the employment in social work activities (QB).
- The administrative and support services activities sector (NZ) is also monitored by using several sources: the source handled by URSSAF on the field of private sector excluding temporary employment and the one handled by DARES on temporary employment.
- For the agriculture sector (AZ), the DSN for the MSA field is processed by Insee, except for the DOM, for which quarterly changes are provided by URSSAF. In addition to this source, the “*titres agricoles simplifiés*” that have not been converted to DSN are transmitted by the MSA and processed by INSEE.
- For all other sectors, where the payroll employment is almost exclusively private, quarterly growth rates are provided by URSSAF (but the employment levels do cover all employees, both private and public).
- 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 estimates 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 estimates 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 detailed **estimate published about 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).

Since the publication of the first quarter of 2022, some series, which started only in the fourth quarter of 2010, have been extended and now start in the fourth quarter of 1989:

- by sector, the series of payroll employment in agriculture and the non-market services sector (public administration, education, health and social work);
- by employer, the public/private split of the agricultural, industrial, construction and market and non-market services sectors.

Total payroll employment and by employer (public/private) is thus available since 1989. This was made possible by backcasting the annual estimates on the above-mentioned fields, and by applying statistical smoothing to obtain the intermediate quarters, which were not observed "in real time" on these fields.

When the *Informations Rapides* on 70-day employment estimate is published, in partnership with the URSSAF and DARES, on the same day, URSSAF publishes, on the private field, quarterly series on workforce headcount, payroll and average wage per capita. The levels published by URSSAF, in terms of workforce (or "posts"), are not processed regarding multiactivity and thus differ from employment levels published by INSEE.

Revisions

When the 70-day detailed 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.

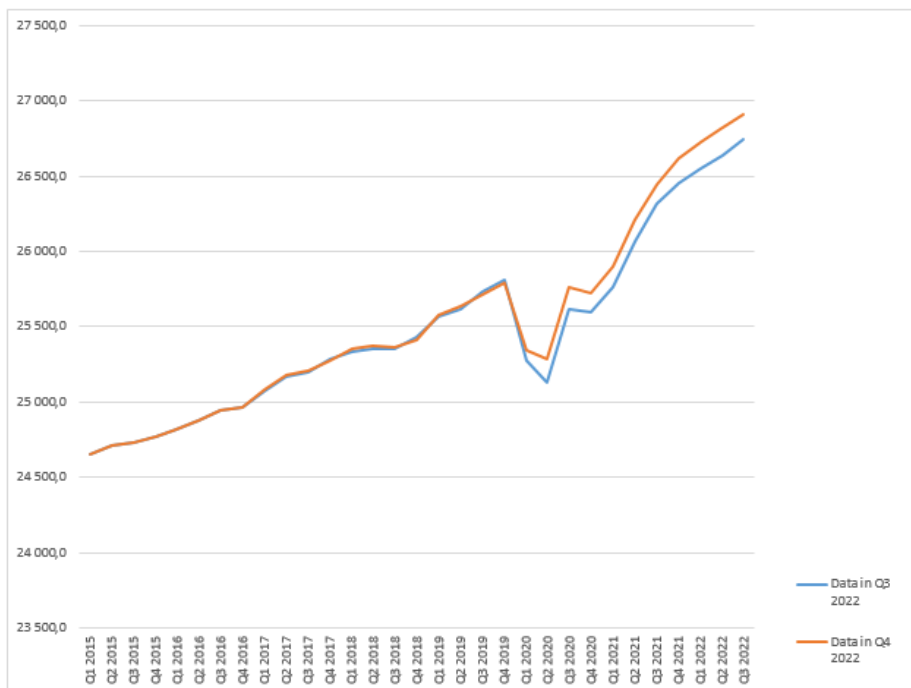
In the **publication of the third quarter of 2022**, in the field of public employment, the switch to the DSN source may have led to a break in seasonality. The most obvious ones have been neutralized, but less obvious and smaller breaks may remain. The evolution of the third quarter of 2022 should therefore be considered with caution in this field.

In the **publication of the fourth quarter of 2022**, two type of revisions have been made:

- On one hand, accordingly with principles of the estimation of quarterly employment estimates, these have been produced to be consistent with the last definitive annual employment estimates (2020), published in [January 2023](#). The consequence was an increase of quarters estimates since 2020 (*figure 1*).
- On the other hand, quarterly series of apprenticeship in private payroll employment produced by the URSSAF have been revised, due to updates of coefficients of seasonal variations, which led to slightly revise employment quarterly since 2020.

Figure 1. Levels of total payroll employment in quarters (in thousands)

Data corrected of seasonal variations



Source : Insee, quarterly employment estimates published in Q3 and Q4 2022

Finally, the shape of the evolution of payroll employment has been slightly modified for these reasons (*figure 2 and 3*). Especially on total payroll employment, since 2021, the gaps between quarterly evolutions did not exceed 0.1 points in absolute value, except in Q4 2021 where the revision is +0.2 points.

Figure 2. Evolution of payroll employment in quarters (in %)

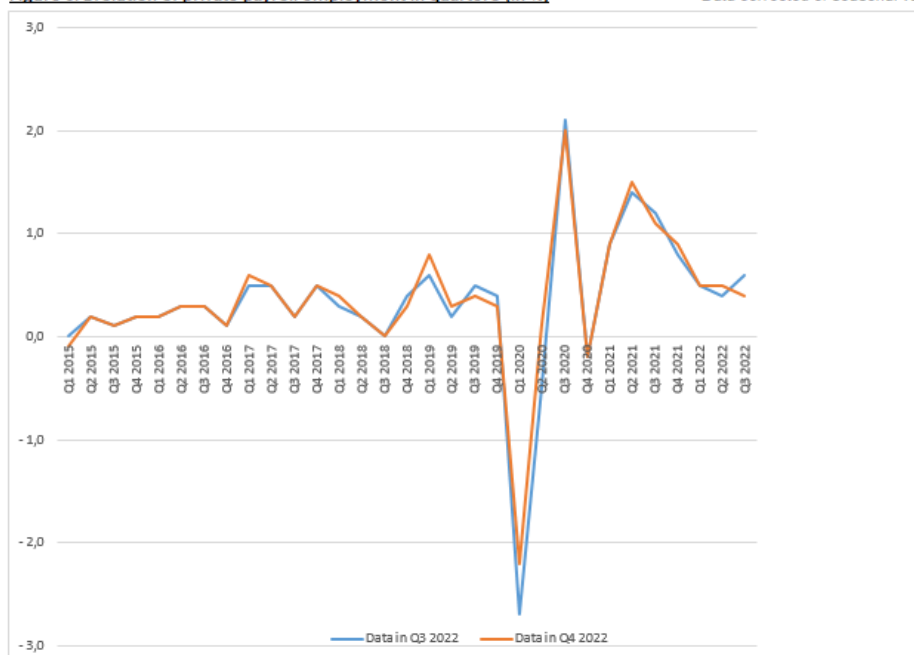
Data corrected of seasonal variations



Source : Insee, quarterly employment estimates published in Q3 and Q4 2022

Figure 3. Evolution of private payroll employment in quarters (in %)

Data corrected of seasonal variations



Source : Insee, quarterly employment estimates published in Q3 and Q4 2022

Similarly to national payroll employment, the evolution of employment across regions has been revised significantly upward for the 2020 quarters (except in Corsica and Guyane), and slightly upward for the 2021 quarters (Table 1).

Table 1 : Revisions to the 2020 and 2021 year-on-year changes in payroll employment by regions between the quarterly employment estimates (QEE) published in Q3 2022 and in Q4 2022

Data corrected of seasonal variation

Region	Year-on-year change 2020			Year-on-year change 2021		
	QEE in Q4 2022 (%)	QEE in Q3 2022 (%)	Revision (points)	QEE in Q4 2022 (%)	QEE in Q3 2022 (%)	Revision (points)
01 - GUADELOUPE	1.1	0.0	1.1	2.5	2.4	0.1
02 - MARTINIQUE	1.9	-0.5	2.4	2.9	2.8	0.1
03 - GUYANE	1.8	2.3	-0.5	3.6	3.5	0.1
04 - LA RÉUNION	2.8	1.7	1.1	5.7	5.3	0.4
11 - ÎLE-DE-FRANCE	-0.9	-1.6	0.7	3.2	3.0	0.2
24 - CENTRE-VAL DE LOIRE	-0.3	-0.8	0.5	2.4	2.3	0.1
27 - BOURGOGNE-FRANCHE-COMTÉ	-0.7	-1.0	0.3	1.8	1.7	0.1
28 - NORMANDIE	-0.1	-0.6	0.5	2.7	2.6	0.1
32 - HAUTS-DE-FRANCE	0.2	-0.3	0.5	3.0	3.0	0.0
44 - GRAND-EST	-0.6	-1.1	0.5	2.8	2.7	0.1
52 - PAYS DE LA LOIRE	0.2	-0.3	0.5	3.8	3.7	0.1
53 - BRETAGNE	0.4	0.0	0.4	3.7	3.6	0.1
75 - NOUVELLE-AQUITAINE	0.4	-0.2	0.6	3.9	3.8	0.1
76 - OCCITANIE	0.0	-0.7	0.7	4.2	4.1	0.1
84 - AUVERGNE-RHÔNE-ALPES	-0.8	-1.4	0.6	4.3	4.1	0.2
93 - PROVENCE-ALPES-COTE D'AZUR	-0.1	-0.5	0.4	4.4	4.3	0.1
94 - CORSE	1.1	1.2	-0.1	3.3	3.2	0.1

Source : INSEE, quarterly employment estimates published in Q3 and Q4 2022