

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.² 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, 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 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](#)” 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 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 Labor) and INSEE.

In addition, a forecast is made by INSEE on private individuals employees.

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

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.

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).

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 nominative declarations, namely “déclarations sociales nominatives” (DSN) declarations of social contributions made to the URSSAFs, on the private field excluding temporary work; the DSN has replaced the BRC (“bordereaux récapitulatifs de cotisations”); this field is processed by the Urssaf within the Sequoia system;
- The DSN in the field of temporary employment; they have replaced the Pôle Emploi files of declarations from temporary employment agencies; this field is handled by Dares (Dares methodological note).
- Insee uses different sources for the other fields :
 - payroll files for central government civil servants;
 - the BRCs and DSNs for the rest of the civil service within the Epure system;
 - directly operated DSNs and the declarations of social contributions collected by the agricultural social-security mutual fund (Mutualité Sociale Agricole, or MSA) in the field of agriculture;
 - 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);

Since the first quarter of 2021, Acoss has switched its entire statistical system to the DSN source, generating revisions in the long time series of the number of salaried positions. The impact of these revisions in the Quarterly Employment Estimates from Q1 2022 onwards can be found below in the section "Revisions between successive publications".

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 2007³, 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 individuals' employees, 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 individuals' employees (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 agricultural sector (AZ), INSEE processes its source except for the French overseas departments, for which the quarterly growth rates are provided by URSSAF. For metropolitan France, since the beginning of 2020, INSEE directly uses the DSN it receives, on the same field as the MSA.
- 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 (see [documentation on the ACOSS website](#), in French only) and thus differ from employment levels published by INSEE.

Revisions

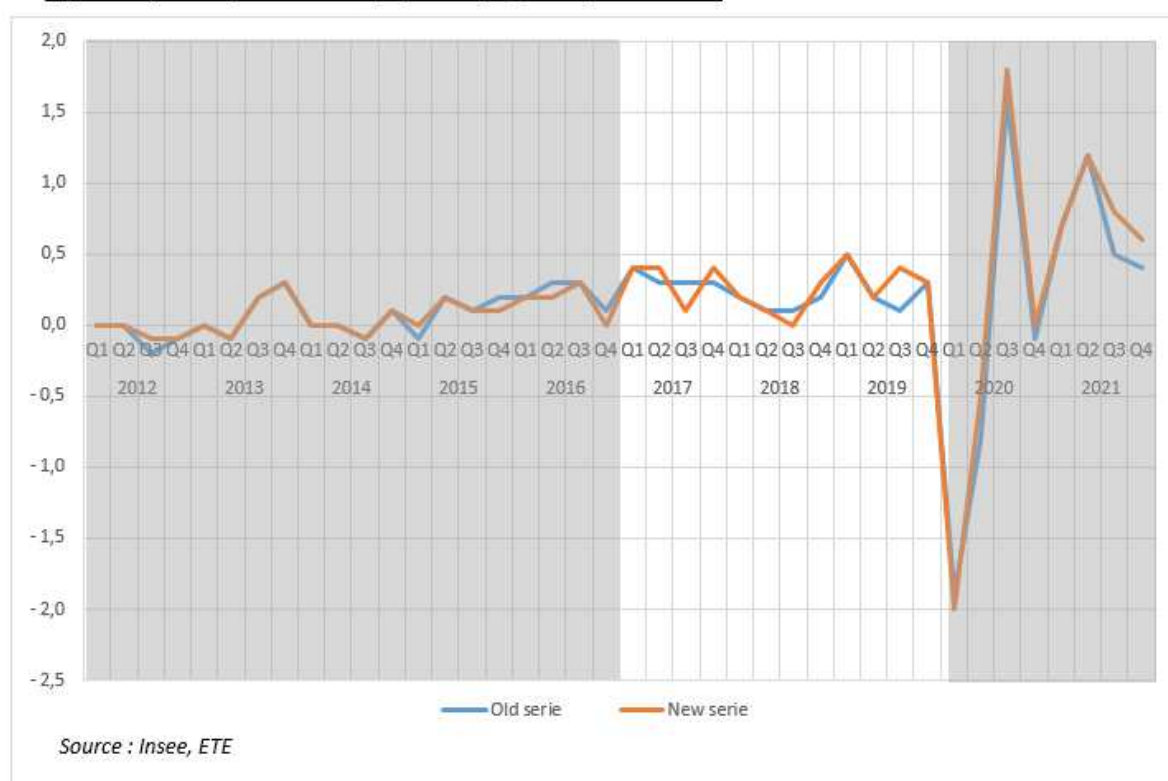
When the 70-day detailed employment estimate is published, data for previous quarters are subject to revision. On the one hand, the raw data can be revised, either by incorporating new information (delayed

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 first quarter of 2022, the Quarterly Employment Estimates have been particularly revised in the past as they benefit from several methodological changes.

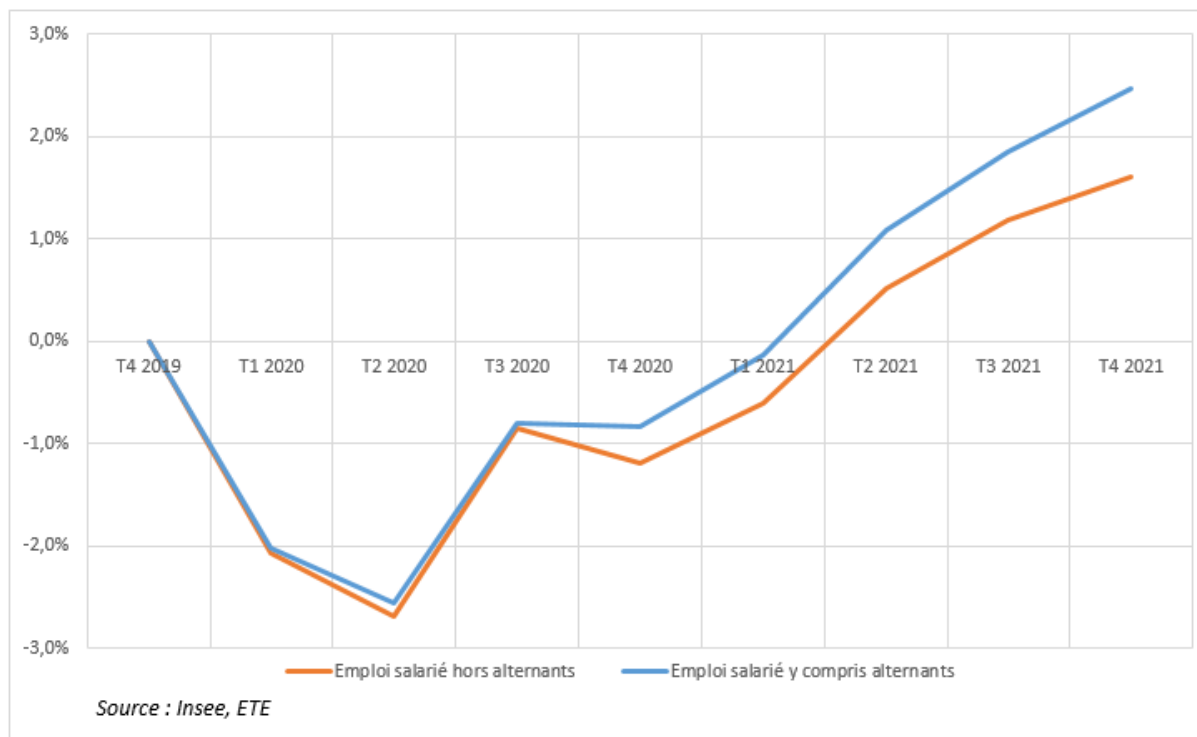
- The first methodological change is that in June 2021, the Urssaf Caisse national switched its entire statistical system to the source of nominative social declarations (DSN), generating revisions to the long series of the number of salaried jobs in the private sector, excluding temporary work. These revisions have now been taken into account in the employment series published by INSEE and concern exclusively the years 2017 to 2020. Overall, the impact of these revisions on the Quarterly Employment Estimates is rather moderate (Figure 1). This methodological change is in addition to the revision, usual at this time of year, linked to the updating of the models calculating the seasonal variations corrections.

Figure 1. Quarterly evolution of payroll employment (SA data in %)



Moreover, until now, the quarterly changes in private payroll employment over the two most recent years (here 2020 and 2021) were based on aggregations of salaried positions that excluded alternating work-study students (beneficiaries of an apprenticeship or professionalisation contract). However, work-study students are unambiguously included in employment, according to the definitions of the International Labour Office (ILO). This restriction had no major consequences until 2019, insofar as the dynamics of work-study contracts did not differ significantly from the rest of employment. But it has caused a bias since then, as apprenticeship has increased strongly in 2020 and especially 2021. This is why work-linked training is now explicitly included in the dynamics of salaried employment. This revision leads to an additional 240,000 jobs being created between the end of 2019 and the end of 2021, that is raising the increase in employment over this period by 0.9 points (Figure 2).

Figure 2. Payroll employment compared to the end of 2019 (SA data in %)



Finally, the employment levels in the long series of the Quarterly Employment Estimates are adjusted to the Annual Employment Estimates, which have been rebased and backcast in the spring of 2022. In addition to this exceptional revision of the long series up to 2018, there is the more usual revision at this time of year of the changes in the year "n-3" (in this case 2019), due to the switch from a "provisional" estimate to a "final" estimate. These revisions have been the subject of a dedicated presentation in a methodological note.

Annex : Revision of payroll employment in 2019 with the integration of the definitive annual employment estimates

In June 2022, the change in payroll employment in France between the end of 2018 and the end of 2019 is revised upwards with the integration of the Final Estimates by 0.4 points, i.e. +107,000 jobs in seasonally adjusted data.

The changes are revised upwards in all sectors: +0.6 points in industry (+0.9% compared to +0.3%), +0.8 points in construction (+4.1% compared to +3.3%), +0.4 points in the market services sector (+2.0% compared to +1.6%) and +0.3 points in the non-market services sector (+0.5% compared to +0.2%).

The rebasing leads to a slight upward revision in the level of payroll employment: +183,000 in seasonally adjusted data at the end of 2018. The level of employment in the non-market service sector (+221,000) and in construction (+38,000) is revised upwards, while agriculture (-14,000) and, more moderately, the market service sector (-66,000) are lowered. The level of employment in industry is only slightly revised (+5,000 jobs).

The main contribution to the total increase is made by the non-market service sector. This is explained in particular by a conceptual change, namely the inclusion in the scope of employment of elected officials with significant remuneration in order to better approximate the criteria of the International Labour Office (ILO) delimiting the concept of employment and its borderline with voluntary work. For more information, see the note "Concepts and methods for estimating cyclical salaried employment" available on Insee.fr.

Revisions of payroll employment in Q4 2019

SA data

	Revision of Q4 2019 level (in thousands)			Change between the end of 2018 and the end of 2019 (in %)		
	Total	<i>of which rebasing of the 2018 level</i>	<i>of which revision of the 2018/2019 evolution</i>	Provisional data (published in Q4 21)	Definitive data (published in Q1 22)	Revision
Total	290	183	107	1,1	1,5	0,4
<i>by sector</i>						
Agriculture	-14	-14	0	2,0	2,0	0,0
Goods-producing industries	23	5	18	0,3	0,9	0,6
Construction	50	38	13	3,3	4,1	0,8
Market services	-14	-66	52	1,6	2,0	0,4
Non-market services	246	221	25	0,2	0,5	0,3
<i>by employer</i>						
Public sector	79	68	11	0,4	0,5	0,1
Private sector	211	115	96	1,3	1,8	0,5