

Employment Estimates

Employment Estimates are the reference source for cyclical employment monitoring. They measure, annually and quarterly, employment located at the workplace in France (excluding Mayotte).

They are based on a synthesis of several statistical sources of administrative origin. These sources are based on social declarations made by employers or self-employed workers. Any employment reported in the administrative data is recorded. In the Employment Estimates, multi-employed persons, i.e. persons who hold several jobs at the same time (either because they are employees and have several employers, or because they are both self-employed and salaried) are counted only once, as their main job, which corresponds to the one that provides them with the highest remuneration over the year.

Employment Estimates provide employment levels by geographical level (up to the employment zone) and sector of activity (up to level A88 of the Naf rev. 2). They cover metropolitan France and the French overseas departments (DROM), excluding Mayotte.

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I. Annual Employment Estimates

I.1 Definition, scope

Annual Employment Estimates measure employment at the workplace over the last week of the year. They cover total employment (salaried and self-employed) in France (excluding Mayotte), across all sectors of activity.

They provide employment levels by geographical level (up to the employment zone¹), sector of activity (up to level A88 of the Naf rev. 2) and gender, according to the following levels:

Geographical level	Salaried employment	Self-employment
Metropolitan France	- By activity in A88 since 1989 - By activity in A38 and gender since 1989 (1970 in A4, 1954 in A0)	By activity in A5 since 1989
Regions and departments of France (excluding Mayotte)	By activity in A38 and gender since 1989	By activity in A5 since 1989
Employment zones in France (excluding Mayotte)	By activity in A5 since 1998	Since 1998 (without sectoral breakdown)

Until 2006, the Annual Employment Estimates were based on the general population censuses, conducted every 6 to 9 years. Between two censuses, annual employment trends were calculated from administrative sources or business surveys. In 2004, the general population censuses were replaced by annual census surveys, reflecting an average situation over five years. As these annual surveys are no longer exhaustive, the system for calculating Employment Estimates has had to evolve.

Since the 2007 year, the annual employment estimates come from the **Estel** process (Estimations d'emploi localisées – Localized Employment Estimates), which synthesizes several sources of administrative origin. These are based on social declarations made by employers and self-employed workers.

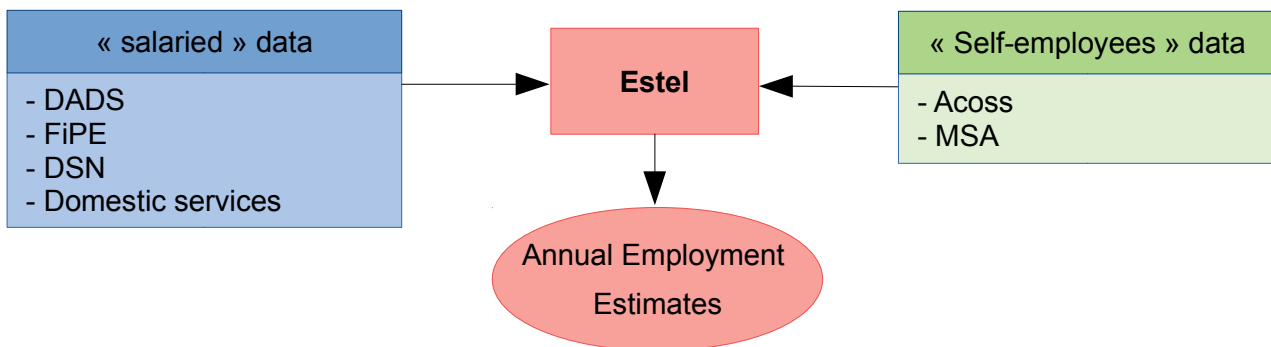
Beyond the latest year from the Estel process, provisional annual employment estimates are produced from administrative sources that are available more quickly. These preliminary estimates are not produced for employment zones, and do not include a gender breakdown.

I.2 Sources

The **Estel** process (Estimations d'emploi localisées – Localized Employment Estimates) synthesizes several sources of administrative origin. Estel's main contribution is the treatment of multi-activity : people who hold several jobs at the same time (either because they are employees and have several employers, or because they are both self-employed and employees) are counted only once, as their main job, which corresponds to the one that provides them the highest remuneration over the year

Employment is measured over the last week of the year and any employment reported in the sources mobilized is counted. In the salaried field, Estel's data come from social declarations made by employers (DADS then DSN), supplemented by data from the State payroll files (Fichiers de paie de l'Etat – FiPE) and those of individual employers. For self-employed persons, the sources are the files of the Mutualité sociale agricole (MSA) for those affiliated to the agricultural regime and the files of the Agence centrale des organismes de sécurité sociale (Acos) for the others.

¹ An employment zone is a geographical area within which most of the labour force lives and works, and in which establishments can find the main part of the labour force necessary to occupy the offered jobs. The division into employment zones (322 zones in France, including overseas departments) provides a breakdown of the territory adapted to local studies on employment.



I.2.1. DADS

Until 2017, the annual declaration of social data (Déclaration annuelle de données sociales – DADS) was a formality that had to be completed by any company with employees. In this common document for social and tax administrations, all employers, including government and local authorities, were required, annually and for each establishment, to communicate the total payroll, the number of employees and a list of their employees' names indicating for each the amount of salary received. This declaration provided a wide range of information, including the identification of the employer, the characteristics of the job held and the employment contract and the period of employment.

The scope of the DADS covered all employers and their employees, with the exception of ministries' agents, tenured or not, domestic services and extra-territorial activities.

The DADS is gradually being replaced by the nominative social declaration (DSN), first for private sector employers (almost complete replacement by 2018), then for those in the Civil Service (by 2022).

I.2.2. FiPE

The State payroll files (Fichiers de paie de l'Etat – FiPE) provide monthly information contained in the pay slips of civil servants and contract employees of ministries and certain public institutions of the State Civil Service. These files will also be replaced by the DSN by 2022.

I.2.3. DSN

The nominative social declaration (Déclaration sociale nominative – DSN) is carried out monthly by employers from payroll data. It is intended to communicate to the relevant administrations the information they need to manage employees social coverage. It is based on the single, monthly and dematerialized transmission of payroll data and event reports. It replaces all the declarations and administrative formalities previously completed by employers (excluding individual employers), in particular the DADS (in 2017/2018 for private sector employers, by 2022 for civil service employers) and the State payroll files (FiPE – by 2022).

I.2.4. Private individuals employees

Private individuals may have employees working at or near their home for non-profit purposes, in order to meet needs relating to their personal life, in particular family life. These employees are accounted for through three declarations :

- Simplified nominative declaration (DNS) : the oldest declaration system, gradually replaced by CESU and PAJE.
- Universal service employment voucher (Chèque emploi service universel – CESU) : set up in 1993, it simplifies the administrative formalities related to the hiring, remuneration and declaration of an employee at home.
- Early childhood care benefit (Prestation d'accueil du jeune enfant – PAJE) : created in 2004, this benefit was accompanied by the introduction of a special collection method similar to that of the universal service employment voucher. It is reserved for early childhood (nursery assistants and home childcare).

I.2.5. Data on self-employed persons

The data on self-employed persons used in Estel come from AcoSS and MSA *via* two declarations :

- Social declaration of the self-employed (Déclaration sociale des indépendants – DSI) : annual declaration addressed to Urssaf (Unions de recouvrement des cotisations de sécurité sociale et d'allocations familiales – Unions for the collection of social security contributions and family allowances) by all company directors exercising a craft, liberal or commercial activity, in individual or corporate form.
- Declaration of professional income (Déclaration des revenus professionnels – DRP) : annual declaration addressed to MSA by agricultural self-employed persons.

I.2.6. Sources of Preliminary Annual Employment Estimates

Beyond the latest year from Estel, provisional annual employment estimates are produced from sources of administrative origin available more quickly :

Sources on salaried employment :

- Quarterly data on salaried employment delivered by MSA (agriculture) and AcoSS (private employment + territorial and hospital public functions), processed in the "Epure" chain ;
- Data from the State payroll files (FiPE) processed in the "Epure" chain ;
- Data on temporary employment provided by Dares (statistical service of the Ministry of Labour) ;
- Preliminary data on domestic services.

Sources on self-employment :

- Provisional data on self-employed persons reported to AcoSS (non-agricultural) ;
- Data on self-employment delivered by MSA (agriculture), without INSEE treatment.

I.3 Methodology

Before Estel, Annual Employment Estimates were produced from population censuses, which made it possible to calculate "reference" employment levels. Between two censuses, annual employment trends were estimated using various administrative sources, from which growth rates applied to the previous year's employment levels were derived. In doing so, it was assumed that there was constant multi-activity between two censuses.

The Estel process synthesizes various sources on employment, salaried and non-salaried. A certain number of processes are carried out in order to obtain a homogeneous measurement of employment between year N and year N-1 : selection of jobs present in the last week of December, correction of possible delivery errors, automatic adjustments and validation, manual adjustments and validation as part of an appraisal campaign, by comparing the data by establishment with the quarterly source "Epure" (only on the salaried field).

Once all the processing has been carried out, the employment levels for years N and N-1 obtained in Estel are used in evolution in order to calculate the Employment Estimates. The process is divided into four steps :

- 1) Calculation of the N-1/N growth rates of salaried employment by sector of activity in A88 (in A5 for self-employment) and department.
- 2) Application of these growth rates to the Annual Employment Estimates for year N-1, to calculate the employment levels for year N.
- 3) By aggregation, calculation of the different levels of diffusion employment (example : departments x sectors A38).
- 4) Constitution of the time series, by concatenation with the series already calculated in previous campaigns.

Employment levels by employment zone are computed in a similar way, but then adjusted to an "encompassing area" (usually the region), in order to ensure the consistency of the different geographical levels. The male/female distribution of salaried employment is calculated only on the Estel data for year N (by department x sector A38), and applied directly to the Employment Estimates for year N.

I.4. Diffusion

The Annual Employment Estimates for year N are published :

- **In the autumn of N+1 in provisional version**, i.e. approximately 9 months after the end of year N ;
- **In March N+3 in final version** (from Estel), i.e. approximately 2 years and 3 months after the end of year N.

These estimates are updated for the following insee.fr products :

- Insee Résultats « Estimations d'emploi » ("Employment Estimates") : <https://www.insee.fr/fr/statistiques?debut=0&theme=22&collection=118>
- Chiffres clés « Emploi salarié et non salarié » ("Salaried employment and self-employment") : <https://www.insee.fr/fr/statistiques/2012800>
- Chiffres clés « Structure de l'emploi total par grand secteur d'activité » ("Structure of total employment by major sector of activity") : <https://www.insee.fr/fr/statistiques/2012798>
- Données détaillées « Estimations d'emploi par zone d'emploi et secteur d'activité » ("Employment estimates by employment area and sector of activity") : <https://www.insee.fr/fr/statistiques/1893177>

I.5. Revisions

For a year N, there are several factors explaining revisions between the provisional version of the Annual Employment Estimates (released in the autumn of N+1) and the final version (released in March of N+3, from Estel) :

- The change in source used to calculate salaried employment : data from the "Epure" chain and the Dares on temporary employment for provisional estimates, against DADS/DSN in the final version ;
- Differences in treatment and calculation methods (in particular the inclusion of the evolution of multi-activity in the final Estimates) ;
- The freshness of the data available on self-employed persons.

II. Quarterly Employment Estimates

II.1 Definition, scope

The Quarterly Estimates determine salaried employment located at the workplace at the end of the quarter in France (excluding Mayotte). Since the Q1 2017, they have been co-produced by Acoiss (Agence centrale des organismes de sécurité sociale), Dares (statistical service of the Ministry of Labour) and INSEE.

They provide employment levels by geographical level (up to the department) and sector of activity (up to level A88 for some sectors of the Naf rev. 2), according to the following levels :

Geographical level	Salaried employment
France (excluding Mayotte)	- By activity in A17 since Q4 1970 - By activity in A38 since Q4 1989 - By activity in A88 since Q4 1989 for certain sectors ²
Regions and departments of France (excluding Mayotte)	By activity in A17 since Q4 2001

For a given quarter, two estimates of national employment (i.e. without geographical detail) are published :

- The flash estimate, restricted to the field of private salaried employment. The private field is determined from the legal category of employers. This estimate is published approximately 45 days after the end of the quarter. It provides a breakdown of employment for the five main sectors of activity : agriculture, industry, construction, market services and non-market services.
- The estimate for all salaried employment, published around 70 days after the end of the quarter. Compared to the flash estimate, this estimate also includes salaried employment in the public service.

In addition to these two national employment estimates, estimates of salaried employment by department and region of France (excluding Mayotte) are also produced. They are published approximately 90 days after the end of the quarter.

II.2 Sources

The **quarterly estimates of national 70-day employment and localized 90-day employment** are compiled from various cyclical sources of administrative origin :

- The contribution summary slips (BRC) : social security contribution declarations sent quarterly by the establishments to the Urssaf (Unions de recouvrement des cotisations de sécurité sociale et d'allocations familiales), which have gradually been replaced by nominal social declarations (DSN) as from mid-2016 ;
- Payroll files for civil servants in the State Civil Service (FiPE) ;
- Social contribution declarations collected by the Mutualité sociale agricole (MSA) ;
- The employment declarations of individual employers resulting from three administrative formalities : simplified nominative declaration (DNS), universal service employment voucher (CESU) and early childhood care benefit (PAJE) ;
- Until June 2018, the monthly declarations of temporary employment agencies (ETTs) sent to Pôle emploi, which were gradually replaced by the DSNs from mid-2016.

In the private sector except temporary employment, BRCs and DSNs are processed by Acoiss within the "Sequoia" process.

² Sectors 29, 30, 41, 42, 43, 45, 46, 47, 55 et 56 of the Naf rév. 2.

In the civil service, INSEE processes BRCs and DSNs within the "Epure" chain, as well as the civil service payroll files, previously integrated into the "Siasp" chain. The MSA data for the agricultural field are also processed by INSEE *via* "Epure".

The declarations of individual employers are processed in the "Individual Employers" application of INSEE.

Finally, for the temporary work field, the monthly declarations or DSNs are processed by Dares.

The **flash estimate on national employment** is produced largely from the results of the Acemo survey (activity and conditions of employment of the workforce) carried out by Dares, and data from INSEE's business surveys of entrepreneurs. The temporary employment comes from the monthly declarations or DSNs processed by Dares.

II.3 Methodology

Quarterly Employment Estimates are obtained by applying **quarterly growth rates** to the last levels of the Annual Employment Estimates, considered as reference levels. Indeed, annual estimates are by nature more precise, as they are based on more detailed source data and are subject to more in-depth expertise *via* the Estel process. When new annual estimates are produced, the quarterly estimates are therefore adjusted accordingly.

The quarterly trends allowing the calculation of **quarterly estimates of national 70-day employment and localized 90-day employment** are obtained in a different way according to the sectors of activity :

- For some so-called "mixed" sectors of activity, the quarterly employment growth rates come from both the data processed by Acoiss in the private sector (excluding temporary workers and individual employers) and by INSEE in the public sector. This is the case for water supply (EZ), scientific research and development (MB), public administration and defence (OZ), education (PZ) and human health (QA). In social action (QB), in addition to these two components, there is also the monitoring of the employment of individual employers.
- The quarterly change rates for individual employers are obtained by smoothing the annual data. Over the period not covered by the annual employment estimates, recent trends are prolonged. These data are used to monitor the employment of individuals in their homes (TZ sector), as well as that of private care givers (QB sector).
- The administrative and support services (NZ) sector is also monitored using several sources : the Acoiss source for the private permanent employment and the Dares source for temporary employment.
- For agriculture (AZ), the source from the MSA is processed by INSEE, with the exception of the French overseas departments, for which quarterly growth rates are provided by Acoiss. In metropolitan France, MSA data are available with a lag of several quarters (usually two) : INSEE makes an estimate of these missing quarters, extending recent trends.
- For all other sectors of activity, quarterly growth rates are provided by Acoiss.

Note : in all non-mixed sectors of activity (i.e. excluding EZ, MB and OQ), annual employment levels cover all employees, both private (overwhelmingly) and public (minority), but quarterly employment growth rates only comes from the private sector, which is clearly predominant in these activities.

Regardless of the sector of activity, all businesses are taken into account, including those created during the quarter, regardless of size.

For temporary employment, the quarterly indicator used is the average number of contracts in progress during the last five working days of a "relevant week" at the end of the month. The last week of the month is generally used, but this may be a week before in the case of public holidays. (in December in particular).

All time series are seasonally adjusted, using the Arima X13 method in the JDemetra+ software.

The **flash estimate on national employment** is mainly based on calibration models estimated by Dares and INSEE, based on data from the Acemo survey and data from INSEE's business surveys of entrepreneurs. The use of modelling makes it possible to extrapolate the results of the Acemo survey, which only covers companies with at least 10 employees, to all companies in the commercial sectors. In agriculture and mainly non-market services, estimates are established by INSEE by extending recent trends. Temporary employment is taken from the so-called "provisional" estimates of the Dares.

II.4. Diffusion

Quarterly employment estimates for quarter T are published :

- About 45 days after the end of the quarter for flash estimates of national employment (private employees) ;
- About 70 days after the end of the quarter for national employment estimates (all employees);
- About 90 days after the end of the quarter for regional and departmental estimates (all employees).

These estimates are updated for the following insee.fr products :

- For national employment :
 - Informations Rapides « Flash estimate of payroll employment » (45-day) <https://www.insee.fr/en/statistiques?debut=0&theme=30&conjoncture=26>
 - Informations Rapides « Payroll employment » (70-day) <https://www.insee.fr/en/statistiques?debut=0&theme=30&conjoncture=27>
 - Time series <https://www.insee.fr/en/statistiques/series/103167884>
- For localized employment :
 - Time series <https://www.insee.fr/en/statistiques/series/102759768>
 - Chiffres clés « Emploi et évolution par grand secteur d'activité » ("Employment and development by major sector of activity") : <https://www.insee.fr/fr/statistiques/2134435>

The 45-day's *Informations Rapides* is published as a Dares-Insee partnership. The 70-day *Informations Rapides* is published as an Acoess-Dares-Insee partnership. On the same day, Acoess publishes quarterly series of salaried employees, payroll and average wage per capita, in the private sector. In this publication, as in the *Informations Rapides*, the temporary employment's data come from Dares. The number of employees published by Acoess (in number of "positions") does not correct for multi-activity and thus differs from INSEE's employment levels.

II.5. Revisions

From one quarter to another, the Quarterly Employment Estimates may be revised for several reasons.

On the one hand, the raw data may be revised, either because new information (late declarations, etc.) or additional treatments have been taken into account, or because new annual estimates have been set (in autumn N+1 for the provisional annual estimate for year N, in March N+3 for the final estimate).

On the other hand, each quarter, the updating of seasonal variation coefficients leads to a slight revision of all published series. More specifically, seasonal adjustment models are recalculated once a year, at the time of publication of the first quarter of the year's results. In the other quarters publications, the seasonal coefficients are revised, while keeping the models unchanged.