

## Quarterly national accounts

### Publication

As of January 2016, three estimates of the quarterly national accounts are released for each quarter:

- The “first estimate” is issued less than 30 days after the end of the quarter. It covers quarterly growth in gross domestic product (GDP) as well as transactions on goods and services (output, value added, consumption, investment, foreign trade, changes in inventories). It is an advance estimate: all of the indicators are not available over the entire quarter. Econometric techniques are used to forecast missing information.
- The “second estimate”, issued less than 60 days after the end of the quarter, updates the first estimate, integrating the indicators that have become available in the meantime. This may result in revisions to growth and its breakdown, particularly to the share between foreign trade and changes in inventories.
- The third publication, called “**detailed figures**” (*résultats détaillés*), is issued less than 85 days after the end of the quarter. It updates the second estimate of quarterly GDP growth and goods and services transactions. Furthermore, it provides a first estimate of agent accounts (household, non-financial corporation, general government accounts, etc.).

Insee publishes not only quarterly growth rate figures but also the “statistical overhang”, or carry-over effect, for the current year. The statistical overhang of a variable is the annual growth rate which would be obtained if this variable was to remain at its level of the last known quarter. For example, when the second quarter of a given year (Y) is the last known, the statistical overhang of the variable is equal to the growth rate between Y-1 and Y that would be obtained if the third and fourth quarters stayed at the same level as the second one.

### Compilation procedure

The quarterly national accounts are designed to provide, within the year, a comprehensive set of macroeconomic information which is relatively detailed and consistent with past annual accounts. The information (in value, volume, and price) is seasonally and working-day adjusted in order to highlight significant cyclical movements.

The quarterly national accounts share the same conceptual framework as the annual accounts, the European system of accounts (ESA 2010). Annualised quarterly accounts are consistent with the data of past annual accounts. As well as for annual accounts, volumes of the quarterly accounts are chain-linked volume in previous year prices. The year 2010 serves as the reference year for the computation of chain-linked volumes. For a given aggregate, the only difference between the annual and the annualised quarterly accounts is that the latter is working day adjusted.

The quarterly accounts are compiled from **monthly and quarterly indicators** (see *Appendix*). A document of the *Insee Méthodes* collection available on the web site [insee.fr](http://insee.fr) describes general principles and every indicator used ( *Insee Méthodes* No. 126, “[Methodology of quarterly national accounts](#)”, May 2012). This document outlines the whole set of methodologies and indicators used in the previous base (base 2005), until its update in “base 2010”; but as a matter of fact, for most operations, there is little or no change in methods or indicators from one base to another.

The methodology is the same for the three publications. The numbers of forecasted indicators and the number of published series for the last quarter distinguish the three estimations.

For some series, whose weight is generally marginal, no cyclical data is available. The annual accounts are then nowcasted by an extrapolation of the current year, most often based on ad hoc assessments (such as the forecasts of the Social Security Commissions) and the quarterly accounts result from a “quarterly smoothing” of the annual series. This smoothing consists in estimating a quarterly series that minimizes the quarter on quarter variability of the series.

## Revisions

### *From one quarterly publication to another*

With each successive publication, the quarterly accounts may be revised due to:

- replacement of extrapolations by indicators which were not initially available;
- revisions of raw indicators, on the last quarter or earlier;
- revisions in the seasonal adjustment coefficients;
- once a year, in May, revisions of the annual accounts;
- about every five years, change of the base .

### *Integration of annual accounts*

The quarterly profile of series may be modified since their origin. In principle, however, annual aggregations of their raw data are not as they are benchmarked on their annual counterpart up to the last published provisional account. Once a year, the final accounts (year Y-3), semi-final (year Y-2) and provisional (year Y-1) are published in May of year Y and revise annual estimates of macroeconomic aggregates. The quarterly national accounts include these data when publishing the "second estimate " of the first quarter for the year Y.

The revisions of the quarterly accounts when the provisional account is published in May Y derive from three main sources:

- the re-estimation of SA and WDA models;
- the re-estimation of the calibration relationships, integrating the two latest annual points: final accounts and semi-final of the ongoing campaign. This modifies the dynamic of macroeconomic aggregates on the end of period;
- the benchmarking on some annual data known for the first time then more accurately determined: in particular the general government accounts, those of financial corporations, non-profit institutions serving households (NPISHs) and agricultural industries, some items of household consumption.

### *Changes of base*

Furthermore, national accounts regularly carry out changes of base. After the "bases" "1995", "2000", and "2005", the national accounts are since May 15 2014 in "base 2010".

This is an important source of revisions of macroeconomic aggregates published until then, on the recent years and the whole period published (newbackcasting). Compared to the previous base, the national accounts in "base 2005" were in particular produced in a new classification (NACE-rev. 2). Compared to the base 2005, the base 2010 follows the new concepts and principles of the European system of accounts (ESA 2010, which has replaced the ESA 1995). This change led to reconstruct the quarterly national accounts as a whole, that is to say re-estimate all the models, from the annual accounts and economic indicators throughout the period 1980-2013.

For more detailed information about the change in base 2010, see ["Les comptes nationaux passent en base 2010"](#) (in French).

### *Study on revisions to GDP*

Between 1991 and 2013, the mean absolute revision is 0.06 percentage points between the first estimate of quarterly GDP growth (then published no later than 45 days after the end of each quarter) and that published in the "detailed figures".

Over the same period 1991-2013, the mean absolute revision of quarterly GDP growth between the 45-day estimate and the one published one year later is 0.15 percentage points. The mean absolute revision is 0.19 percentage points after two years and 0.24 percentage points after three years.

## Particularities of the general government account

### *Several approaches*

The general government quarterly account (GG) can be presented through various approaches.

The 'public finance statistics' framework, which is produced within the framework of the European regulation, favors an 'expenditures/receipts' approach, in which the GG accounts are described synthetically, with the major expenditure items on one side, receipt items on the other. This approach registers the actual monetary flows first and excludes some of the imputed flows of the national accounts.

The economic summary table (EST) presents a different breakdown, in the central framework of the national account (approach 'central framework'). The latter lists successively a series of accounts (production, operating, allocation and use of income, then capital account).

By different ways, these two approaches allow to obtain the same balance, the general government's net lending (if the balance is positive) or the net borrowing (if negative).

The financial approach of the measure, which the Banque de France is in charge of for general government as for the other economic agents, gives information about the way the balance is financed, by financing instruments. This approach is consistent with the measure of the GG quarterly debt, which the INSEE, the DGFIP and the Banque de France are in charge of. Financial flows impact the debt without affecting the net borrowing (changes in financial assets and in other payable and receivable financial accounts). Thus net borrowing and change in debt are not easily connected. Theoretically, the financial and non financial approaches of the net borrowing point to the same balance, but practically deviations arise, because these approaches are based on different statistical sources.

### *Precautions of use*

As for other national accounts aggregates, the quarterly measure of the GG account is an economic statistic plagued with imprecisions and undergoes possible revisions. The principles which are selected for their compilation are the general principles for the compilation of the quarterly accounts. They primarily require to have sub-annual statistical indicators which are re-processed: fitting-calibration based on the annual accounts with a major use of econometrics, seasonal adjustment (SA) and working day adjustment (WDA).

Fitting based on the national accounts allows to have, regarding raw and SA data, equality between the corresponding national account and the total of the four quarters. Conversely, annualised SA-WDA data series contain minor deviations compared to raw annual data series, depending on the specific schedule for each year.

Arbitrations (such as the choice of indicators involving the same field) and methodological choices (like the choice of the registry date) are a common occurrence when compiling accounts. The quarterly indicators cover the accounts only partly and non covered annual data have to be extrapolated so that the quarterly account is complete (the quarterly profile then ensues from the smoothing of the annual data series). All these factors imply revisions, as for other relevant national accounts aggregates.

It means that, if the profiles remain globally the same ones from one estimate to another, the analysis for the period 2005-2012 reveals that the mean revision, in absolute deviation, of the net borrowing amounts to:

- 0.2 percentage points of GDP after one quarter,
- 0.4 percentage points after one year, when the provisional annual account is available.

These elements of reviewability are comparable to that of other quarterly national account aggregates (GDP, operating margin, household savings rate).

Hence extreme caution must be exercised in the possible use and interpretation of the published estimates. Most notably, one has to be particularly cautious when analysing quarters for the current year, which are not yet covered by the exhaustive annual data.

## Appendix: main items

### Foreign trade

Sources: customs' statistics; balance of payments; price indexes for imports and exports of industrial goods; unit value indexes for external trade in agriculture; foreign exchanges of electricity.

### Production

Sources: industrial production index (industry except water, gas and electricity); agricultural and transportation statistics; turnover index from VAT forms, producer price index for industrial branches and some service activities.

For the other activities (services except transportation, energy, water and waste), output is obtained indirectly from total demand.

### Gross Fixed Capital Formation

Sources: vehicle registrations; turnover index (from VAT forms) in industry, wholesale trade and services; quarterly housing production index (Department of Observation and Statistics [SoeS]); new non-residential construction statistics, statistics from the French national federation for civil engineering (FNTP).

### Household consumption

Sources: retail-trade surveys by Banque de France; statistics from public bodies (e.g. health insurance (CNAMTS), communications regulation authority (ARCEP)), professional unions' statistics (for example, the French institute of fashion and the Board of Oil [CPDP]), panelist (GFK); turnover index (from VAT forms); consumer price indices.

Household expenditure in goods is published every month (see [economic indicators](#) on the INSEE website).

**Intermediate consumption:** mostly computed from the output figures for the corresponding industry and technical coefficients.

**Changes in inventories** (industry except energy, water and waste, agriculture): obtained as a balancing item from resources minus uses other than inventories (intermediate consumption, final consumption, GFCF, exports).

### Taxes

Sources: monthly records of central-government's revenue collection and local taxes (Directorate of Public Finances [DGFIP]); central agency for social security (ACOSS) for taxes earmarked for social security (such as the CSG [*contribution sociale généralisée*, or general social contribution]).

### Wages, salaries and work duration

Sources: quarterly statistics from payroll employment (DARES-INSEE), Survey on Labor Activity and Employment Status (ACEMO) from DARES (Ministry of Employment), ACOSS, DGFIP (Directorate of Public Finances).

Statistics on leaves for industrial accidents, sickness and maternity from the national health-insurance (CNAM).

### Social contributions and benefits

Sources: ACOSS (contributions to general social security scheme); statistics from national health insurance, pensions, and family-benefits; Pôle Emploi (unemployment contributions and benefits); other social-protection agencies, DGFIP.