

III quarter 2024

QUARTERLY NATIONAL ACCOUNTS

- In the third quarter of 2024 the seasonally and calendar adjusted, chained volume measure of Gross Domestic Product (GDP) remained stable with respect to the previous quarter and increased by 0.4% in comparison with the third quarter of 2023.
- Compared to previous quarter, final consumption expenditure increased by 1 per cent, gross fixed capital formation decreased by 1.2 per cent, imports increased by 1.2 per cent and exports decreased by 0.9 per cent.
- With respect to the third quarter of 2023, final consumption expenditure increased by 0.4 per cent, gross fixed capital formation decreased by 1.1 per cent, imports by 0.6 per cent, and exports by 1 per cent.
- The carry-over annual GDP growth for 2024 is equal to +0.5%.

CHART 1. GROSS DOMESTIC PRODUCT

Q1 2012 – Q3 2024, seasonally and calendar adjusted chain-linked values (reference year 2020), billions of euros

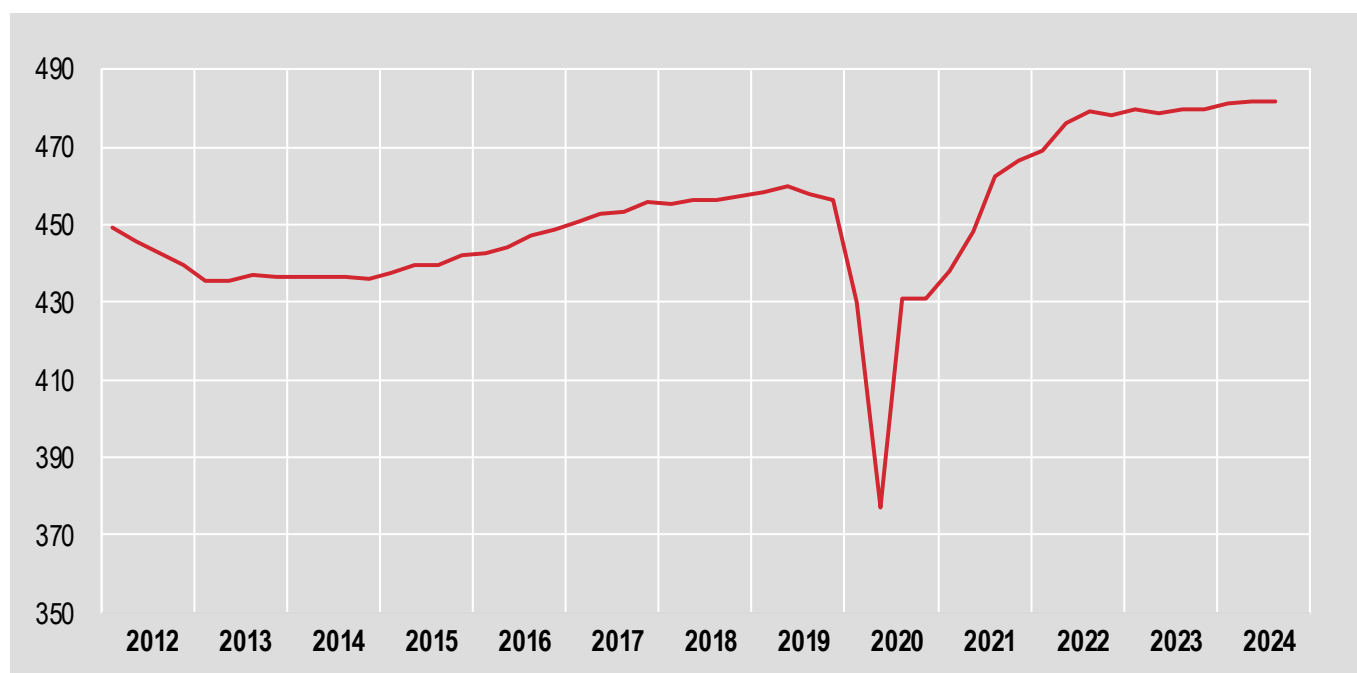


CHART 2. GROSS DOMESTIC PRODUCT, QUARTER ON PREVIOUS QUARTER PERCENT CHANGES

Q1 2017 – Q3 2024, chain-linked and seasonally adjusted data (reference year 2020)

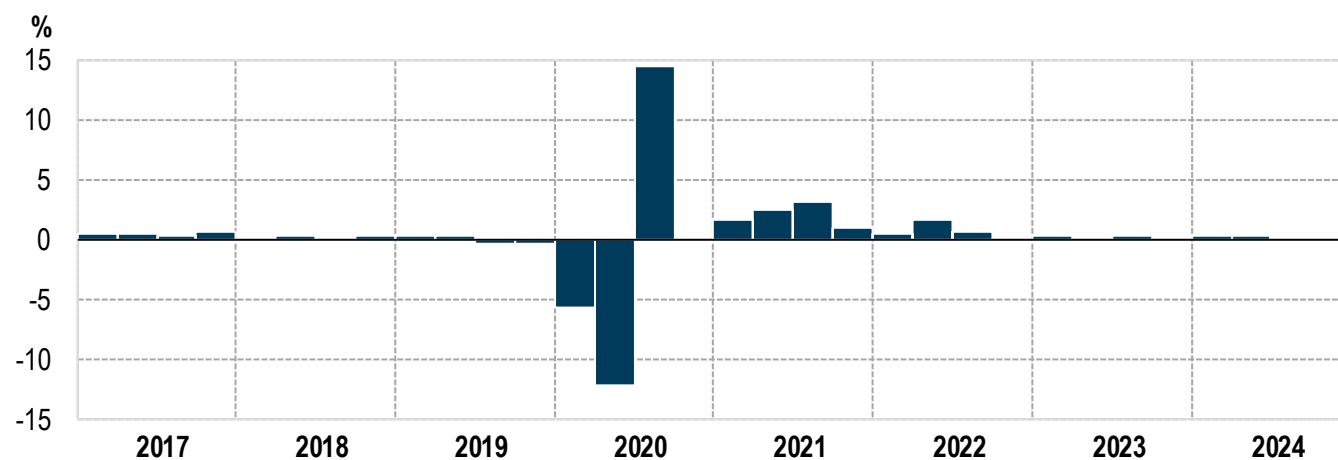


CHART 3. GROSS DOMESTIC PRODUCT, , QUARTER ON SAME QUARTER A YEAR AGO PERCENT CHANGES

Q1 2017 – Q3 2024, chain-linked and seasonally adjusted data (reference year 2020)

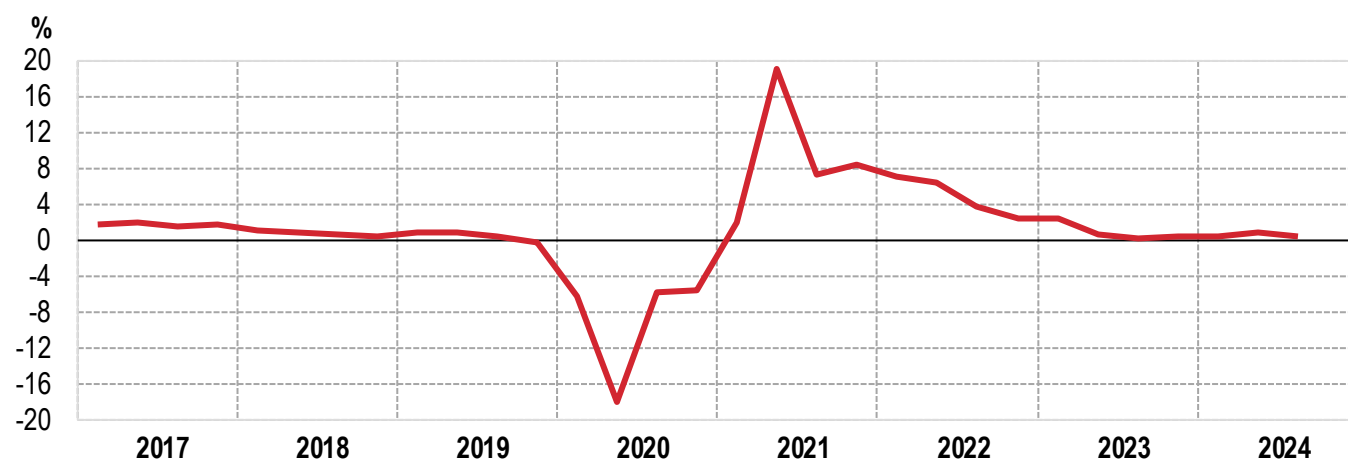


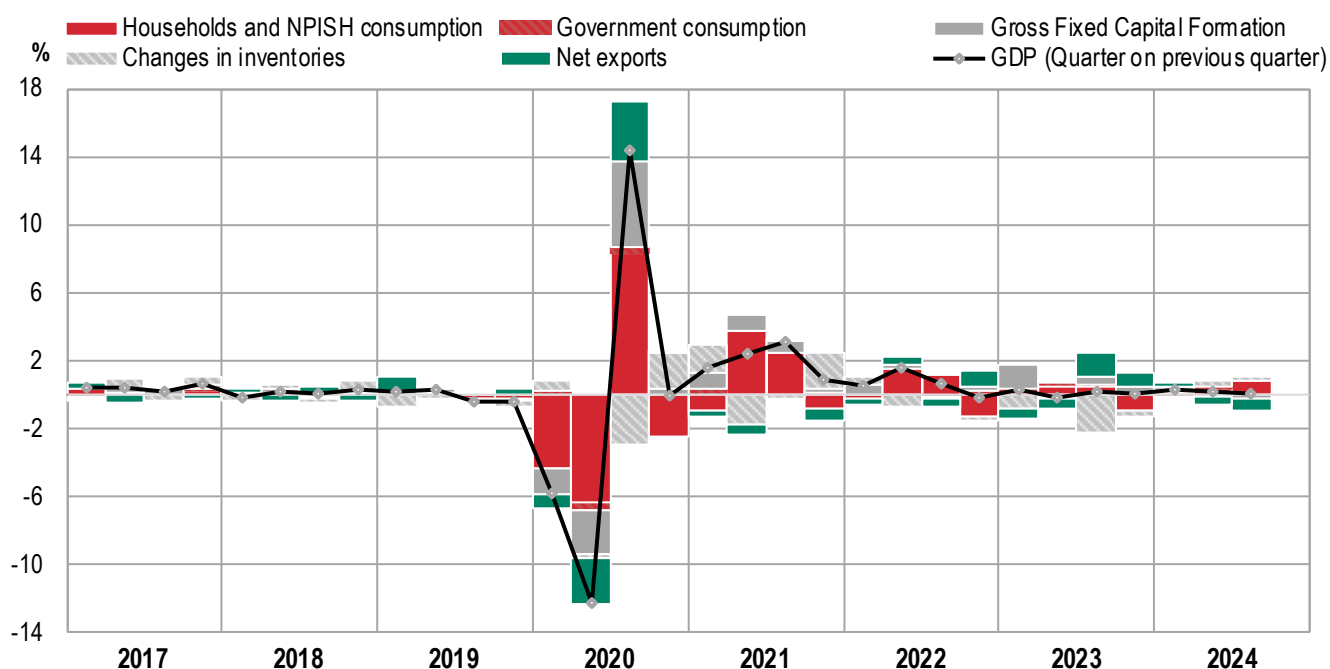
TABLE 1. GDP AND EXPENDITURE COMPONENTS

Q3 2024, chain-linked and seasonally adjusted data (reference year 2020) and percent changes.

AGGREGATE	CHAIN-LINKED VALUES IN MILLION OF EURO	PERCENT CHANGES	
		Quarter on previous quarter	Quarter on same quarter a year ago
		III quarter 2024 II quarter 2024	III quarter 2024 III quarter 2023
Gross Domestic Product	481,980	0.0	+0.4
Imports	136,013	+1.2	-0.6
Final Consumption Expenditure	366,534	+1.0	+0.4
- Households final consumption expenditure and NPISH	275,109	+1.4	+0.4
- Government final consumption expenditure	91,418	-0.2	+0.4
Gross Fixed Capital Formation	107,296	-1.2	-1.1
- Dwellings	31,785	-1.1	-3.4
- Other buildings and structures	25,430	+1.8	+8.9
- Machinery and equipment and weapon systems	33,692	-3.9	-6.2
- Transport equipment	6,087	-5.9	-10.2
- Cultivated biological resources	148	0.0	-0.7
- Intellectual property products	16,020	-0.5	+0.9
Changes in inventories, including valuables	-	-	-
Exports	150,499	-0.9	-1.0

CHART 4. QUARTER ON PREVIOUS QUARTER PERCENT CHANGES OF GDP AND CONTRIBUTES OF EXPENDITURE COMPONENTS

Q1 2017 – Q3 2024, percent changes



Calendar adjusted data: time series where the calendar effects due to number of working days, Easter holidays (that can fall in different quarters) and the leap year effects are removed in case they are significant.

Carry-over annual growth rate: annual growth rate under the assumption that the quarters of the year which have not been released yet perform a null growth (or in other words that the quarterly levels of GDP in that year remain at the same level as those in the last observed quarter).

Chain linked volume: measure of national accounts aggregates referred to data net of price movements. For each aggregate and each quarter from the second year on, a volume index is calculated as the ratio between its value at previous year prices and that at current prices referred to the average of previous year quarters. These volume indices are linked by multiplying (and dividing by 100) the consecutive indices starting from a value of 100 relative to the average of first year quarters (quarterly data of first year at current price standardized to an average of 100 and deflated by quarterly price indexes with base same year) and then shifting the base to the year taken as reference (currently 2020). The result is a chain-linked index that multiplied for the average of quarterly values at current prices of the reference year (and divided by 100) produces the chain-linked volume measure of the aggregate.

Contributions to GDP growth: breakdown of GDP growth in a given quarter by demand (or supply) components for which the the sum of contributions of each sub-component is equal to GDP growth.

Gross domestic product at market prices (Gdp): final outcome of the production activity of resident units. Sum of the values added by all activities producing goods and services, plus taxes less subsidies on products.

Price deflators: ratio of the nominal (or current-price) measure of an economic aggregate to the corresponding real (or chain linked value) measure. It points out the relative part of the nominal growth due to **Seasonal adjusted data:** time series where the effects due to seasonal fluctuations are removed. If not alternatively specified, seasonal adjusted data also include the removal of calendar effects. However, in quarterly national accounts we further specify "calendar adjusted data" when the effect is significant.

Quarter on quarter percent changes: changes registered with respect to previous quarter.

Quarter on same quarter a year ago percent changes: changes registered with respect to same quarter of previous year.

Value added at basic prices: difference between output at basic prices and intermediate consumption at market prices. The basic price is the amount received by the producer from the sale of goods and services, net from taxes on products but including subsidies on products.

Methodological note

Introduction and regulatory framework

Quarterly national accounts adopt principles, definitions and structure of annual accounts, with few exceptions that account for specific features of quarterly estimation. Since the October 2014 edition, methods and sources used in the estimate of quarterly national accounts follow the criteria defined by the European System of national and regional Accounts (ESA 2010), that represents the application, at European level, of the System of National Accounts (SNA 2008) by the United Nations. The methodological provisions of ESA 2010 are embedded in a Regulation that applies to all member countries of the European union, ensuring comparability among estimates. ESA 2010 was adopted with [Regulation \(EU\) No 549/2013 of the European Parliament and of the Council](#) and recently modified with the [Regulation of the European Parliament and of the Council, n. 734/2023](#), that provides a compulsory data transmission program. Concerning both the preliminary estimate of GDP and the full set of quarterly national accounts, the regulation foresees processing and transmission of data, respectively, within 30 days and two months by the end of the reference quarter.

Estimation of quarterly national accounts is the result of a process that takes into accounts the main aggregates of the accounting system, both at current prices and in volume. From the supply side, the components are imports and gross domestic product (GDP), while the demand side distinguishes final consumption expenditure of households and NPISH (non-profit institutions serving households) and that by the general government, gross fixed capital formation, net acquisition of valuables and exports. Estimation of GDP is obtained by a balance between estimates from the demand side - sum of domestic and net exports - and those by the supply side - sum of value added components and taxes net of contributions. However, it should be highlighted that in occasion of the estimates relative to extrapolated quarters, i.e. before data relative to current year are available, supply side aggregates are considered more robust, and therefore, GDP is calculated as the sum of value added and net taxes. The independent estimates computed from the demand side take the important function of double-checking for the overall coherence of the macroeconomic framework, but the sum of consumption, gross fixed capital formation and net exports when subtracted from GDP determines the aggregate "change of inventories and statistical discrepancies" in which the second component (i.e. discrepancies) prevails.

The elaboration is inserted in the [National Statistical Programme](#) (current edition: PSN 2020-2022 – updating 2022) approved by Presidential Decree of 11 July 2023, published in Gazzetta Ufficiale - serie generale - n. 201 del 29 agosto 2023)¹.

Data processing: framework, tools and techniques

National accounts, processed for Italy by Istat, provide a quantitative description of the macroeconomic system of the Country.

In Italy, similarly to several other countries worldwide, quarterly national accounts adopt an indirect method of estimation based on economic short-term indicators, that allow overcoming the limits imposed by reduced availability of direct measures. These methods consist of distributing annual data over quarters on the basis of the pattern of quarterly reference indicators. In particular, the technique adopted by Istat produces quarterly estimates on the basis of the relation - identified through an econometric method - between the specific annual accounts aggregate, and the value assumed in the same period by one or more suitable reference indicators. The method is used for estimation of quarterly data, both for periods referred to the past, i.e. when the annual value is already known and for extrapolation, i.e. when the annual information is not yet available. This procedure is carried out separately for each of the significant aggregates required for the compilation of the accounts.

In general, the series of quarterly national accounts are processed and issued both in unadjusted and adjusted form, where the adjustments concern both calendar and seasonal effects. Moreover the measures are at current prices (millions of euros), at prices of previous year and in chain linked values with reference year 2020. The implicit price deflators used for the estimates are on a mobile basis of Paasche type.

The adjustment procedure of the aggregates for the calendar effects is based on the regression method, and takes into account the different number of working days, Easter holidays and the leap year effects. Both the calendar and seasonal effects correction operates on the reference indicators, and is performed applying the Reg-Arima approach within the TRAMO-SEATS procedure (both the versions 942 of 2017 for Linux and the one included into JDemetra+

¹ Only available in Italian.

version 2.x).

For further details see the information note [I Conti economici trimestrali. Principali elementi informativi](#) of October 2024 (in Italian), that presents the indirect method of quarterly disaggregation, a selected list of main indicators used in the estimates, a summary description of the main variables object of estimation and the link between accounting schemes and short-term indicators. Moreover, the document outlines estimation methods for value added and double deflation, for final uses, labour inputs, income, costs and margins indicators, as well as the revision policy currently adopted.

Major innovations introduced by the adoption of ESA 2010 are discussed in [I conti trimestrali: innovazioni metodologiche e risultati](#) (in Italian) relative to the presentation provided within the Istat seminar "Adoption of ESA 2010 and the general revision of national accounts" of December 2014.

Main indicators used in the estimate (sources)

Within the adopted system, each annual aggregate to be disaggregated into quarters is associated to one or more quarterly or monthly indicators able to describe the short-term pattern of the same variable. The following section presents a list of the indicators used by main variable categories.

Production and value added. For industrial activities, the most important source is provided by the monthly index of turnover, split at level of 12 branches of economic activity for mining (NACE B) and manufacturing (from NACE CA to CM, with the exception of CL) and the industrial production index, adopted for the branches of production of autovehicles (NACE CL) and supply of electricity, gas, steam and air (NACE D). For water and waste industries (NACE E), a composite indicator is used, built by aggregating the 16 production indices by means of a set of weights computed over intermediate consumptions of the corresponding branches. For construction, the relative monthly production index is used. For market services, the quarterly (monthly from January 2021) indices of turnover is used. In particular this indicator is used for trade of transport vehicles, for wholesale, transport, postal services, hotel and restaurant services, information and communication, real estate, legal services, management consultancy of engineering and architecture, advertising and market research and personnel recruitment activities, travel agencies, security agencies and other services to businesses. For agriculture, both production, harvest and input indicators are used and they are computed on data provided by ISMEA - the Italian institute for services for farming and food market - and Istat); these elaborations assume for each elementary production a fixed quarterly calendar of activities over the year. For fishing, data on specific quantities in transit through national ports are used (provided by IREPA - the institute for economic research in fishery and aquaculture).

System of price indicators to derive QNA estimates in volume. The main sources are the following Istat surveys on prices: producer price indices for industrial products on domestic and foreign markets, import price indices of industrial products, import-export unit value indices (as integration of the corresponding price indices), harmonised consumer price indices, price indices of agricultural products, producer price indices for construction, for telecommunication, postal services and courier services (from 2006), water and air transport, warehousing and storage services (from 2010) business to business price indices. The quarterly indices of business to business service prices, being issued at approximately 85 days from the end of the reference quarter are incorporated into the estimate with a delay of one quarter.

In general, price indices are acquired at elementary detail and aggregated in a second step using a system of weights consistent with annual accounts. At the end of the process a complete set of price indicators is derived for volume estimation of all QNA aggregates. In particular, the sub-systems are processed as detailed below.

- Input and output price indicators by branch of economic activity.* Constructed for estimating the volumes of both production and intermediate consumption (and therefore of the value added through double deflation). Output prices are an average, at branch level, of production prices of the products sold within the economic territory and production prices of exported products. Input prices are derived at branch level as average of producer prices for products used as intermediate goods and acquired on the domestic market and import prices relative to imported products. The weighting system derives from annual supply and use tables according to a Paasche-type aggregation scheme.
- Price indicators of final household consumption by purpose of consumption,* through harmonised consumer prices indices.
- Import and export price indicators for goods and services by product,* through producer prices of exported products and prices of imports integrated, where necessary, by import-export unit values.

Foreign trade and balance of payments. Istat data of foreign trade, available on a monthly basis, constitute the main system of indicators for indirect estimation of the quarterly flows of imports and exports of QNA goods at current prices; for services, data on balance of payments are used.

Household consumptions. Household consumptions are estimated on the basis of quarterly data coming from the household budget survey (HBS). This survey is conducted on monthly basis, it is subject to quarterly statistical validation and it is published at annual time span. For consumption of goods, indicators which are derived from the commodity flow approach are also used. The method consists in estimating, for a specific grouping of goods, the amount of goods available for consumption (as well as for investments) as sum between domestic production and imports net from exports. Further indicators come also from Istat (service turnover indices, index of sales, occupancy in collective tourist accommodations), as well as by external sources, such as Unrae (association of foreign car makers) for vehicle registrations, Iqvia (for pharmaceutical data), Unione energie per la mobilità (energy producers association), Assaeroporti (Italian association of airport managers), Ferrovie dello Stato (Italian National Railway System).

Gross fixed capital formation. The main indicators are obtained through the commodity flow approach. Other relevant sources come from Unrae for data on transport vehicle components, and the Ministry of Defense for weapon system expenditures.

Other economic indicators. The estimate of the aggregates related to hotels and restaurants uses the monthly statistics on occupancy in collective tourist accommodations, both for aggregates from the demand side (household consumption) and for those from the supply (production and value added); the estimate of the production relative to financial intermediation services directly measured uses the quarterly data of supervisory reports issued by the bank of Italy; the estimate of financial intermediation services indirectly measured (Fisim) uses data of the stock of deposits and loans, and the relative interest rates to which they are applied. These data are split by counterpart sector and are issued by the bank of Italy; the estimate of insurance production uses the quarterly indicator of premiums from Ivass (institute for the supervision of insurance). The estimate of components of household consumption and gross fixed capital formation uses monthly data on vehicle registrations from Unrae; the estimate of household food expenditure uses the monthly index of retail sales (from Istatù) in combination with data from Hbs. As regard the variables related to non-market activities, we consider data on general government expenditures from Mef (the ministry of the economy), data of the public health budget from Ministry of Health, monthly and quarterly data of taxes and subsidies on products from Mef and other administrative data.

Labour input. Indicators are derived from the following Istat sources: the labour force survey (Lfs), the quarterly employment, earnings and social security contributions indicators (Oros) which are based on administrative information collected by Inps (the Italian national institute for social insurance), hours worked per employee from Vela statistics (quarterly survey on job vacancies and hours worked).

The Lfs provides indicators related to the number of employed persons, job positions and per capita hours worked. Since the Lfs results from interviews to households, their data capture the non-regular employment component.

The quarterly Oros indicators used are as follows: data related to job positions of employees in the industrial sector and in main market services; earnings and social security indices for employees available for industry and market services and relative to regular employment.

Vela statistics concern the regular per employee hours worked of industrial and market services enterprises.

Other indicators are those of contractual earnings for employees in agriculture, and the indicators from Mef regarding the annual projections of public administration employees on the basis of the current regulations.

Output: main measures of analysis

Quarterly national accounts provide a framework of main macroeconomic variables from both the supply and demand sides, for which Gdp is the representative measure.

Demand variables are the expenditures for households final consumption, Npish and the general government, gross fixed capital formation, net acquisition of valuables, exports and change of inventories.

The supply variables are value added, net taxes and imports.

Evaluation of Gdp according to the income approach considers an independent estimate of gross wages and salary from employed work, while the gross operating surplus is obtained as balance.

Measures of labour inputs concern number of employed persons, of job positions, hours worked and the number of full time equivalent.

Finally, 5 cost and margin indices are released: the implicit output deflator at factor costs, the implicit input deflator at purchaser prices, unit labour costs, variable unit costs and a mark-up indicator.

Data revision policy

Istat adopts a revision policy for quarterly national accounts, that is completely aligned with the European recommendations regarding the cycle of ordinary revisions derived from the normal update of adopted indicators.

The case of extraordinary revisions is somewhat different, as these occur following wider modifications, and affect the entire time series of estimates, as in the case of general revisions of national accounts, carried out to incorporate improvements of sources and methods. Usually, these revisions occur every five years.

The preliminary estimate of GDP reviews the data from the first quarter of four years preceding the release date of the estimated quarter.

QUARTERS REVISED BY REFERENCE PERIOD AND TYPE OF ESTIMATE

Last quarter of estimate	Preliminary estimate of GDP with release at t+30 days	Complete estimate with release at t+2 months	Complete estimate with release at t+3 months
I	16	16	-
II	17	17	complete time series
III	18	18	-
IV	15	15	-

Coverage and territorial breakdown

The main geographic reference of quarterly national accounts is the economic territory. For expenditures of resident households and in some other cases, the reference also extends to the national territory.

Main aggregation and classification schemes in use refer to: the ATECO 2007 classification of economic activities, Italian application of NACE Rev. 1, CPA 2008 classification of products associated to the activities, COICOP 1999 classification of individual consumption by purpose and the ANF classification of non-financial activities according to ESA 2010.

Households expenditures in the economic territory is divided among durable, non-durable, semi-durable goods and services. For the releases related to the fourth quarter a further split among 13 expenditure items is provided. National expenditure of resident households is obtained by adding the estimate of final consumption expenditure of resident households in the rest of the world net of that of non-resident households on the economic territory to domestic consumptions.

Gross fixed capital formation are split into 6 items: i) dwellings, ii) other buildings and structures, iii) transport equipments, iv) ICT equipment, weapons systems, other machinery and equipment, v) cultivated biological resources and vi) intellectual property products. Exports are split in goods and services.

Value added, salaries, income and labour input measures are currently made available in 10 groupings of economic activities: agriculture, industry, construction and 7 groups of services. A further detail concerns total manufacturing and total of non-market activities. In occasion of the releases related to the fourth quarter a further disaggregation of manufacturing into 8 groupings is made available. Like exports, also imports concern total and the split in goods and services.

Unit cost and margin indices are computed at 10 economic activity groupings: i) total economy, ii) agriculture, forestry and fishing, iii) industry and construction, iv) industry, v) manufacturing, vi) construction, vii) total services, viii) trade, transportation and storage, accommodation and food service activities, information and communication, ix) financial, insurance, real estate, professional, administrative and support services, x) public administration and defense, compulsory social security, education, human health and social work activities, arts, entertainments, recreation, repair of household goods and other services.

Timeliness

The full set of quarterly national accounts is released within two months by the end of the reference quarter. A preliminary estimate of GDP at chain-linked values is published at 30 days. Data related to the second quarter are issued a third time within 3 months, to make quarterly data coherent to the updates of annual accounts issued a second time in September.

Dissemination

The series of quarterly national accounts are processed and issued by the Institute several forms: unadjusted, adjusted for both calendar and seasonal effects in millions of euros, at previous annual prices and chain linked values with reference year 2020. Time series of quarterly national accounts are available from the first quarter of 1995 for current price values and from the first quarter of 1996 for previous year price measures and chain linked values.

In occasion of the releases related to the fourth quarter, a larger detail of publication is issued for several aggregates: see value added, compensation of employees, wages and salaries, employers' social contributions and labour input measures which split manufacturing into 8 groupings, as well as domestic households expenditures detailed into 13 expenditure items.

Main data series in excel format are also released together with the quarterly press release of quarterly national accounts.

The complete set of series is issued through the Istat data warehouse [I.Stat](#) in the section "[National Accounts/Quarterly National Accounts](#)" together with press releases. [IstatData](#) is the new Istat's data dissemination platform that will gradually replace the I.Stat data access system. Until the data transfer is completed, the two systems will coexist.

Time series according to ESA 2010 from 1995 are available on the Istat data warehouse I.Stat. Moreover, the ESA 1995 time series are also available on I.Stat, covering the period from first quarter 1981 to second quarter 2014.

For technical and methodological information

Filippo Moauro

tel. +39 06 4673.3188

moauro@istat.it
