Quarterly Non-financial Sector Accounts in Italy. Sources and Methods
ESA 2010

First edition

2023

This inventory is a collective work by **Marianna Ascione** (ascione@istat.it), **Laura Bisio** (bisio@istat.it), **Claudia Cicconi** (clciccon@istat.it) and **Stefania Cuicchio** (cuicchio@istat.it), all involved in the compilation of Italian quarterly non-financial sector accounts.

Marianna Ascione is the author of sections 2.3.4, 2.3.8, 2.3.10, 2.3.11, 2.3.14, 2.3.21 and 2.3.22;
Laura Bisio is the author of sections 2.3.3 and 2.3.9;
Claudia Cicconi is the author of sections 1, 2.3.5, 2.3.7, from 2.3.15 to 2.3.20, 2.3.23, 2.3.24 and 3.1 to 3.4;
Stefania Cuicchio is the author of sections, 2.3.12 and 2.3.13.

The drafting was coordinated by Claudia Cicconi, which is also responsible of the final editing and proof-reading of the document. The final version of the document also benefited of valuable comments and suggestions by the QSA staff at Eurostat.

Project coordinator
Claudia Cicconi
Istat- Italian national institute of statistics
Directorate for national accounts
Via Agostino Depretis 74/B, 00184- Rome, Italy
Tel: +39 06 4673 3120
Fax: +39 06 4673 3157
Email: clciccon@istat.it

Quarterly Non-financial Sector Accounts (QSA) in Italy. Sources and Methods ESA 2010

First edition

2023

List of tables

List of acronyms and abbreviations

AFA	Annual financial sector accounts
ANA	Annual national accounts
ANFGGA	Annual non-financial general government accounts
ANIA	National association of insurance companies
ASA	Annual non-financial sector accounts
BoP	Balance of payments
BOT	Treasury bills
BTP	Long term treasury bonds
CCT	Treasury credit certificates
CMFB	Committee on monetary, financial and balance of payments statistics
CNA	Division for supply of goods and services and institutional sector accounts Directorate for national accounts)
CNB	Division for final demand, labor and capital input, environmental accounts (Directorate for national accounts)
CNC	Division for the compilation of government finance statistics (Directorate for national accounts)
CND	Division for quality management and processing of input data on institutions and enterprises (Directorate for national accounts)
COMSTAT	Coordinating committee for statistical information
EDP	Excessive deficit procedure
EG SA	Expert group on sector accounts
ESA	European system of accounts
F.159	Other equity
F.512	Unlisted shares
FISIM	Financial intermediary services indirectly measured
GNI	Gross national income
HERP	Harmonized European revision policy
IVASS	Institute for the supervision of insurance companies
NPISH	Non-profit institutions serving households
QFA	Quarterly financial sector accounts
QNA	Quarterly national accounts
QNFGGA	Quarterly non-financial general government accounts
QSA	Quarterly non-financial sector accounts
RoW	Rest of the World
S.14C	Consumer households
S.14P	Producer households
S.1P	Private domestic sectors as a whole, defined as S.1 minus S.13
SDMX	Statistical data and metadata exchange
SISTAN	National statistical system

GENERAL DESCRIPTION

1.1. SECTOR ACCOUNTS COMPILATION IN ITALY

In Italy, responsibilities for annual and quarterly accounts, financial accounts and the Balance of payments (BoP) are shared between the National Statistical Institute (Istat) and the national Central Bank (the Bank of Italy), according to the table below.

Table 1.1 - Compilation responsibility of national, financial and non-financial accounts

Statistical domain	Responsability	
	Istat	Bank of Italy
Annual national accounts (ANA)	X	
Annual non-financial general government account (ANFGGA)	X	
Annual non-financial sector accounts (ASA)	X	
Quarterly national accounts (QNA)	X	
Quarterly non-financial general government account (QNFGGA)	X	
Quarterly non-financial sector accounts (QSA)	X	
Balance of Payments (BoP)		X
Annual financial sector accounts (AFA)		X
Quarterly financial sector accounts (QFA)		X

The collaboration between the two institutions is regulated by a "Memorandum of understanding", a formal act signed by both parties in 2011 and recently renewed until 2025. The memorandum aims at enforcing the collaboration and fostering the research on topics of common interest, as well as at facilitating the exchange of statistical information between the two institutions. A Coordinating Committee, composed of eight members (four per institution) and two secretaries (one per institution), has been established to oversee the activities covered by the memorandum. The committee sets the priorities in terms of methodological issues to discuss and data exchanges, promoting the synergic use of available data sources and the coordination of revision policies. The activities are brought up by technical task-forces to which the committee delegates specific tasks; some task-forces have a permanent nature, while others are temporary and limited to the achievement of specific goals.

Within this context, QSA staff is actively involved in three permanent task-forces: the task-force 'Consistency between BoP and NA data, the task-force 'Coordination of revision policies of BoP and NA data' and the task-force 'Consistency between financial and non-financial sector accounts'. A further (sub)task-force in which QSA staff is involved is that on 'Seasonal adjustment of BoP and NA data'.

1.2. ISTAT, NATIONAL ACCOUNTS AND QUARTERLY SECTOR ACCOUNTS IN ISTAT

1.2.1. *Istat organization*

The executive bodies of Istat (see Table 1.2 below) are the President, the Governing Board, the Policy-making and Co-ordinating Committee for Statistical information (COMSTAT) and the Board of Auditors. The first two perform governance functions, COMSTAT carries out management functions for Istat in dealing with SISTAN[1]'s statistical offices, and the Board of Auditors ascertains that accounting procedures are followed correctly.

---

[1] SISTAN is the National statistical system.

Istat is articulated into a Directorate general, a Directorate for strategic planning, guidance of SISTAN, institutional relations and international affairs and two Departments, the Department for data collection and development of methods and technologies for the production and dissemination of statistical information and the Department of statistical production. The latter is composed of eight Directorates: the Directorate for social statistics and population census, the Directorate for economic statistics, the Directorate for territorial and environmental statistics, the Directorate for national accounts, the Directorate for social statistics and welfare and two thematic directorates, the Directorate for studies and enhancement of economic statistics and the Directorate for studies and enhancement of social and demographic statistics.

Table 1.2 - Istat organization chart
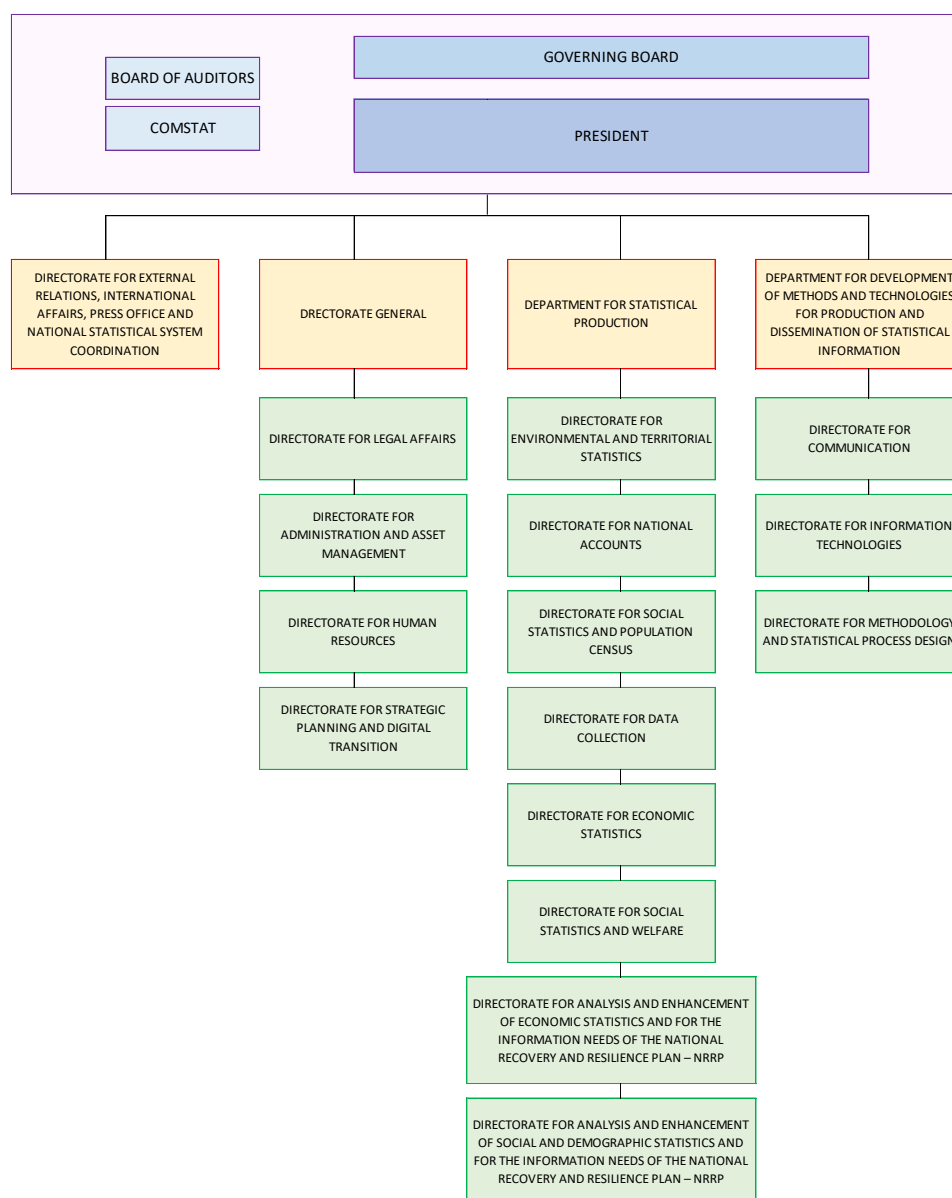
1.2.2. *National accounts in Istat*

In Istat, national accounts are compiled by, and under the responsibility of, the Directorate for national accounts which is assigned the following tasks:[2]:

- To design and implement the system of national and territorial economic accounts aligned to international standards and to criteria set out by the European System of Accounts (ESA 2010), aiming at providing a systematic and detailed description of the functioning of the economic system and its interrelations with the Rest of the World (RoW), as well as of the behaviour of the economic agents;

- To compile the general government accounts as defined by the ESA and of the aggregates that fall under the excessive deficit procedure (EDP);

- To define the list of institutional units belonging to the General Government sector to be maintained in collaboration with the Directorate for economic statistics;

- To design and implement environmental accounting and other satellite accounts.

The staff of the Directorate for national accounts is composed of about ninety people organized into four Divisions (see Table 1.3):

- Supply of goods and services and institutional sector accounts (CNA); responsible of estimating the supply aggregates of agriculture, industry and private services, compiles the accounts of financial corporations and the Rest of the World and coordinates the compilation of annual accounts by institutional sector. It is also responsible of the estimation of GDP from the income side and of territorial accounts. In addition, it develops measures of the income distribution of households;

- Final demand, labour and capital input, environmental accounts (CNB), providing annual estimates of domestic demand aggregates and of external flows of goods and services, compiles estimates of capital stock and consumption of fixed capital, labour input aggregates and productivity indicators. It is also responsible of the production of environmental economic accounts;

- Compilation of government finance statistics (CNC), responsible for compiling the annual and quarterly accounts of the general government (S.13) and its sub-sectors, prepares the procedures for EDP notification and implements the relevant methodologies. It is also responsible for the compilation of social protection and health accounts and of the estimates of the general government aggregates included in national accounts;

- Quality management and processing of input data on institutions and enterprises (CND), responsible of the definition of the S.13 list and of performing analyses to verify the scope of general government, of setting up and developing procedures for processing the data sources for the compilation of government finance statistics and national accounts and for verifying their quality and of the dissemination of national accounts data at national and international level.

The five units directly reporting to the Director are:

- Administrative affairs;

- Quarterly national accounts;

- Quarterly non-financial sector accounts;

---

[2] See the Annex to the Council decision n.11/2021 of 9 June 2021 (only available in Italian): Allegato 1 alla Deliberazione del Consiglio n. 11/2021 del 9 giugno 2021.

- Balancing of supply and use tables at current prices;
- Price and volume measures and balancing of supply and use tables at previous year prices.

Table 1.3 - The Directorate for national accounts organization chart.
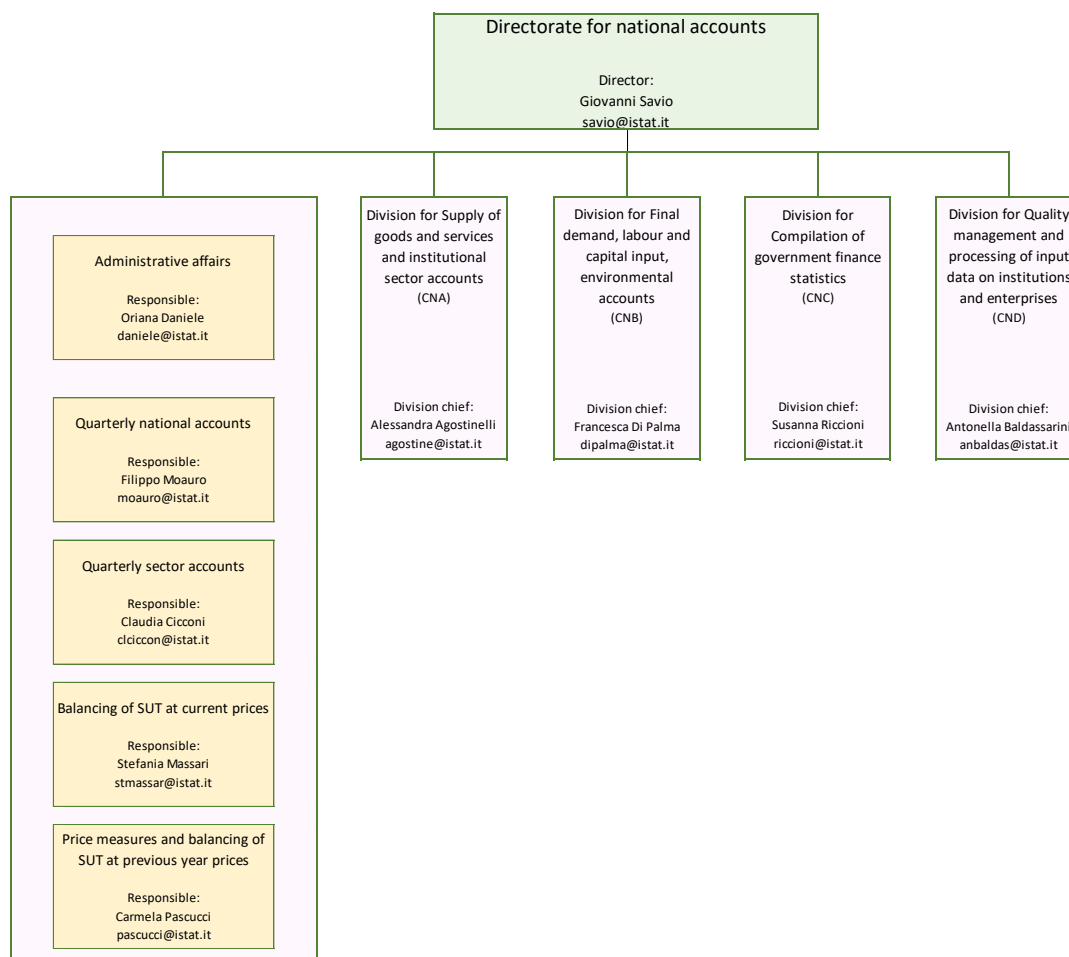
1.2.3. *Quarterly sector accounts in national accounts*

Four people, corresponding to less than two full time equivalent workers, currently contribute to the activities of the Quarterly non-financial sector accounts (QSA) unit. They are responsible of the compilation of Quarterly non-financial accounts of *S.11* (non-financial corporations), *S.12* (financial corporations), *S.1M* (households and Non-profit institutions serving households) and *S.2* (Rest of the World), while quarterly non-financial accounts for S.13 are compiled within the Division CNC (see Table 1.3 above). The synthesis and validation of QSA data, the compilation of Table 801 (and Table 801SAV) and the draft of the press release are performed within the 'Quarterly non-financial sector accounts' unit itself.

Concerning NA datasets flowing into, or used by, QSA,

- QNA are compiled by the above mentioned unit directly reporting to the Director;
- ANA are compiled by the divisions CNA and CNB, Supply and use tables (SUT) being balanced at current and previous year prices by the corresponding units directly

reporting to the Director (see Table 1.3 above). ANA are always consistent with ANFGGA;

- ASA are compiled by the Division CNA (with the annual general government account compiled by the Division CNC) and are always consistent with ANA and ANFGGA.

The quarterly Rest of the World account is compiled within the QSA unit. It is consistent with the estimates of imports and exports of goods and services recorded in QNA at t+60 days, with primary and secondary income flows recorded in the Balance of payments compiled by the Bank of Italy at t+82 days and with the Quarterly non-financial accounts of the general government.

1.3. QUARTERLY SECTOR ACCOUNTS COMPILATION OVERVIEW

1.3.1. *Some specific features of sector accounts in Italy*

Two specific features of institutional sector accounts in Italy are worth mentioning:

1.3.1.1.   Separate accounts for households as consumers and as producers

According to ESA 2010, sector *S.14* includes:

a. Individuals or groups of individuals whose principal function is consumption and that produce goods and non-financial services for exclusively own final use;

b. Private non-profit non market units with no economic relevance, i.e. with no employees;

c. Own account workers and sole proprietorships ("imprese individuali", "società semplici" and "società di fatto" with up to 5 employees);

d. Financial auxiliaries with no employees.

In Italy, given the large number of very small productive units to be classified in *S.14* instead of *S.11*, separate accounts are compiled for

- Household as consumers, or consumer households (*S.14C*), corresponding to point a) and b), and

- Household as producers, or producer households (*S.14P*), corresponding to point c) and d).

This allows:

- to highlight the contribution of very small enterprises, very numerous in Italy, to the generation of income;

- to better analyze the role of the general government in the secondary distribution of income, and, more in general, the effectiveness of the welfare policies;

- to define the households' saving ratio more accurately.

Sector *S.14C* is indirectly defined by the activity attributed to it. In particular, consumer households' production consists of compensation of employees paid to domestics and porters; own account agricultural production; imputed rentals for own occupied dwellings; ordinary and extraordinary maintenance of owned dwellings made on one's own.

Producer households are market oriented units, whose income derive essentially from production (mixed income), but they also receive property income and other transfers. On the other hand, consumer households receive compensation of employees, but also the part of mixed income that the entrepreneur decide to devote to final consumption of his own family (defined under specific assumption on the behaviour of the entrepreneurs), together with property income, all pensions and other transfer incomes.

While imputed rents are included in the own account production of *S.14C*, actual rents are a market production included in the output of *S.14P*.

The two sets of accounts, of consumer and producer households, are compiled and published at the national level on an annual basis, whereas only the accounts of consumer households are available at quarterly frequency.

In Italy the institutional sector *S.11* includes all non-financial incorporated enterprises ("Società per azioni", "Società in accomandita per azioni", "Società a responsabilità limitata", "Consorzi" and cooperatives other than "Cooperative sociali"), all partnerships ("Società in nome collettivo", "Società in accomandita semplice") and sole proprietorships with more than 5 employees, whose behaviour has been considered consistent with the definition of a quasi-corporation. The sector also includes non-profit institutions (NPIs) serving non-financial corporations (for instance, trade associations like "Confindustria" and "Confcommercio") and all other market NPIs. The presence of self-employed persons is relevant also in corporations *strictu sensu*, in particular in the legal form of "Società a responsabilità limitata", which are to all intents and purposes incorporated units, but whose main partners usually do work on a full time basis in the enterprise.

Given such classification, a peculiar feature of the sector non-financial corporations is the presence of a number of self-employed persons, who typically consist of partners of the corporation/quasi-corporation who contribute with their own work to the productive activity of the unit On the one hand, their property income cannot be interpreted as a "pure" property income, since it also includes the payment for the work supplied ; on the other hand, the remuneration they receive for their work is not registered as compensations of employees. This results in an overestimation of gross operating surplus and of profit share of the sector.

To cope with this peculiarity, and to track this income transaction, in the national version of sector accounts a supplementary item has been introduced in the Secondary distribution of income accounts, termed "Other distributed income of corporations", where the remuneration of self-employed in non-financial corporations is registered as a debit of S.11 and a credit of *S.14C* (see section 2.3.13.2).

1.3.2. *Sources*

With few exceptions, the limited availability and insufficient detail of quarterly data sources prevents QSA from replicating sources and methods used for compiling annual sector accounts.

The main sources used for the compilation of quarterly non-financial sector accounts of institutional sectors are briefly described in the methodological note accompanying the press-release[3]. This section describes them in greater detail.

QSA compilation in Italy is mainly based on three quarterly data sources:

- Quarterly national accounts ;

- Quarterly non-financial accounts of the general government;

- Balance of payments.

Sources and methods used for the compilation of QNA, of QNFGGA and of the BoP are on their turn described in dedicated manuals.

At the international level, the two main guides for compiling QNA are:

- The Eurostat '*Handbook on quarterly national accounts - 2013 edition*' and

- The IMF '*Quarterly National Accounts Manual – 2017 edition*'.

---

[3] See as an example 'Quarterly non-financial account of the general government, income and savings of households and profits of non-financial corporations – III quarter 2022', Istat, Statistics flash, published on 5 January 2023 (from page 9).

The inventory of sources and methods of Italian QNA according to ESA 1995 was not updated with the adoption and implementation of ESA 2010. An up to date description of sources and methods used for compiling QNA can be found into two documents:

- A technical note, published in September 2015[4];
- The methodological note accompanying the press-releases[5].

The former provides a synthetic but updated description of sources and methods used for QNA compilation aligned with ESA 2010 standards, as implemented in September 2014, but unfortunately the document is only available in Italian. The latter is shorter but also available in English.

Sources and methods used for compiling Italian QNFGGA are briefly described in the methodological note accompanying the press release[6]. The reference manuals to which compilers in Istat do conform are:

- The Eurostat's '*Manual on Government Deficit and Debt. Implementation of ESA 2010, 2019 edition*';
- The '*Inventory of the methods, procedures and sources used for the compilation of deficit and debt data and the underlying government sector accounts according to ESA 2010. Italy*', 2020 edition;
- The Eurostat's '*Manual on quarterly non-financial accounts for general government – 2011 edition*', which has the advantage of having chapters dedicated to single countries (for Italy see pp. 191-218) but it is not updated to ESA 2010.

The international reference manual for compiling BoP statistics is the 'Balance of Payments and International Investment Position Manual- sixth edition' (BPM6), accompanied with the '*BPM6 Compilation guide – 2017 edition*'. Sources and methods used by the Bank of Italy for compiling the Italian BoP are described into three main documents:

- ECB (2016), '*European Union balance of payments and international investment position statistical sources and methods*', November 2016 (pp. 27-45);
- Banca d'Italia (2018), '*Bilancia dei pagamenti e posizione patrimon- 14 -ord- 14 -nizei'ale sull"estero*', Metodi e fonti: Manuali, Giugno 2018, which is the most comprehensive document among the three but it is only available in Italian;
- Banca d'Italia (2019), '*Balance of payments and international investment position*', Methods and sources: Methodological notes, 19 November 2019, which is a synthetic version of the 2018 edition describing revisions introduced in the data in occasion of that release.

Beside QNA, QNFGGA and the BoP, QSA compilation makes use of annual data sources, which are used both as constraints for benchmarking quarterly series and as inputs (see the sub-section 1.3.2.4). The complete list of available documents reporting information on methods and sources used for compiling QNA, QNFGGA, BoP and ASA is in Table A1 in the Appendix.

The subsections from 1.3.2.1 to 1.3.2.5 below describe how QNA, QNFGGA, BoP and ASA enter the compilation of QSA, subsection 1.3.2.6 reports on the role of other data sources.

---

[4] See 'I conti economici trimestrali, principali elementi informativi', Istat, Nota informativa, published on 2 September 2015 (only available in Italian).

[5] See as an example 'Quarterly national accounts – IV quarter 2022', Istat, Statistics Flash, published on 3 March 2023 (from page 5).

[6] See the reference at footnote 2.

The complete list of data sources used for QSA compilation is reported in table A2 of the Appendix.

1.3.2.1.   Quarterly national accounts in quarterly sector accounts

---

QNA estimated at t+60 (with the exception of the second quarter, refreshed at t+90) enter QSA as both input and constraints. All information from QNA used to estimate QSA is not modified, i.e. full consistency of QSA is ensured with both published and non-published QNA data. QNA estimates that enter QSA estimation can be distinguished into two groups. The first group is that of estimates that are common to the two datasets, the second group consists in QNA estimates that are not in QSA but are used to compile them.

The following aggregates belong to the first group:

-   GDP, value added of the domestic economy, value added of *S.13* and net taxes on products[7]. The value added of *S.13* is compiled by CNC at t+60 and enter in QNA estimates. That means that, on the basis of short-term indicators available at t+60 days, the QNA team compiles value added by industry of the private domestic sectors only (i.e. of *S.1* minus *S.13*). In general, the estimates of value added of the general government made at t+60 are not updated at t+85 days/3 months unless relevant information is available or an error occurs. In these cases, information is given to the users and QNA estimates are re-aligned;

-   Imports and exports of goods and services. It is worth noting that QNA estimates of imports and exports of goods are mainly based on foreign trade statistics compiled by Istat and are transmitted to the Bank of Italy that use them as input in the compilation of the BoP; similarly, imports and exports of services are compiled by the Bank of Italy and transmitted to Istat that uses them as inputs in the estimation of the corresponding QNA aggregates. The only 'conceptual' difference between BoP and QNA estimates of imports and exports of goods and services is the different registration of interbank FISIM. Numerical discrepancies, negligible in normal times, may remain due to a non-perfect synchronization of releases between BoP and QNA, to delays in the inter-institutional data exchanges and to a combination of different compilation methods used (e.g. direct compilation of BoP vs temporal disaggregation of QNA) and revision policies. For greater details see sections 1.4.4 and 1.8.

-   Final consumption expenditures of households (*S.14*), Non profit institutions serving households (NPISH, *S.15*) and *S.13*, the latter distinguished in individual and collective consumptions expenditures. Like value added of the general government, estimates of final consumption expenditure are compiled at t+60 and not revised at t+85 days/3 months. In case they are, information is given to the users and QNA estimates are updated consequently;

-   Fixed capital formation of the total economy (*S.1*). The latter incorporates estimates of fixed capital expenditures in selected assets purchased–by *S.13* - namely R&D, software and weapon systems. These estimates are compiled by the CNC team at t+60 days to be included in QNA and are not updated at t+85 days/ 3 months unless relevant information updates. In this case, information is given to the users and QNA are correspondingly updated.

-   Compensations of employees of *S.1* and of *S.13*. Like value added, the latter is compiled by the CNC team at t+60 days on the basis of the available information and incorporated in QSA at t+85 days/3 months without updates unless exceptional

---

[7] D.21 and D.31 are available separately.

revisions in the data sources are available before t+85 days or an error occurred at t+60 that must be corrected;

- Other taxes on production (*D.29*) received by *S.13* and *S.2* (paid by *S.1*), *D.29* paid by *S.13* and other subsidies on production (*D.39*) paid by *S.13* and *S.2* (hence received by *S.1*). These estimates are compiled by CNC at t+60 days and usually are not modified at t+85/90 days unless it is necessary. Flows between *S.13* and *S.2* are communicated by CNC to the Bank of Italy and included in the BoP at t+82 days ensuring consistency between QSA, BoP, QNA and QNFGGA.

The following aggregates belong to the second group:

- Value added by industry (45 industries, see Table A3.1 in the Appendix) of the general government and of private domestic sectors as a whole (*S.1 minus S.13*). used, together with ASA estimates of value added by sector and industry, to estimate valued added;

- Wages and salaries (*D.11*) and social contributions (*D.12*) by industry (14 industries, see Table A3.2 in the Appendix) of the general government and of domestic private sectors as a whole, used to estimate compensations of employees (*D.1*) paid by sectors;

- Gross fixed capital formation by non-financial asset (at a greater detail than the AN_F6 classification required by the transmission programme[8]), together with estimates of investments in weapon systems and R&D by *S.13*.

Quarterly estimates of value added by industry are used together with annual estimates by sector and industry (ASA) to estimate quarterly value added by sector. Quarterly estimates of *D.11* and *D.12* by industry are used together with the corresponding annual estimates by sector and industry to estimate quarterly compensations of employees by sector, obtained as sum of wages and salaries and social contributions.

1.3.2.2. The Quarterly general government account in quarterly sector accounts

The full sequence of accounts of *S.13* and the corresponding general government account scheme is compiled at t+85 days/t+3 months, simultaneously with QSA. As described above, part of the QNFGGA enters into QSA through QNA (see section 1.3.2.1): these estimates are produced at t+60 days and not modified until the subsequent quarter. The remaining items of the sequence of accounts of the general government are compiled at t+85 days/t+3 months and enter QSA in full. Like QNA, QNFGGA enter into QSA both as inputs and as constraints, the latter in the sense that they are not modified by QSA compilers.

In addition to the items of the general government account required by the transmission program, the CNC team compiling QNFGGA provides the QSA team with a number of additional estimates that help compiling outflows/inflows from/to the private sectors as counterparts to inflows/outflows to/from the general government. A more in-depth treatment of specific cases can be found in the section dedicated to the description by transaction.

It is worth noticing that QNFGGA contributes not only to the compilation of both QNA and QSA, but also to the compilation of the BoP. In fact, transactions between the general government and the Rest of the World are compiled by the QNFGGA team in Istat and transmitted to the Bank of Italy to be incorporated into the BoP transmitted by the Bank of Italy to Istat at t+80/82 days and used for QSA compilation. This procedure, detailed in a

---

[8] See Table A4 in the Appendix.

protocol and regulated according to a calendar of data exchanges between Istat and the Bank of Italy, is the main ingredient ensuring consistency among QNFGGA, BoP and QSA[9].

1.3.2.3.	Balance of payments in quarterly sector accounts

The BoP is published by the Bank of Italy at t+82 days, just a few days before QSA. The BoP is used as a direct source to compile the whole sequence of accounts of the Rest of the World sector (S.2) in QSA, with the exception of imports and exports of goods and services for which QSA relies on QNA estimates (see section 1.3.2.1). Items of the BoP different from imports and exports of goods and services and cross-border interest flows enter QSA with no modifications, BoP data being only adjusted for interbank FISIM between resident and non-resident banks, which are reclassified from as cross-border interest flows[10] due to a different registration of interbank FISIM.

It is worth noting that, like items in the QNFGGA, items of the BoP are available at a greater detail than those in the sequence of the accounts. Such detail helps in the compilation of the transactions of domestic sectors generated as counterpart of the incoming/outcoming transactions of the non-resident operators. Specific cases are described in greater detail in

1.3.2.4.	Annual sector accounts in quarterly sector accounts

All items of the sequence of accounts are used as benchmarks in temporal disaggregations; in addition, more detailed estimates elaborated within ASA *are* used as data sources for compiling QSA. Among these:

- Value added at basic prices by sector and industry, used together with QNA value added estimates by industry to estimate quarterly value added by institutional sector;

- Compensations of employees (both wages and salaries – *D.11* - and social contributions – *D.12*) by sector and industry used, together with QNA estimates of compensations of employees by industry (and BoP data), to estimate quarterly compensations of employees paid by domestic private sectors;

- Other taxes on productions (*D.29*) by paying sector and industry, used as constraints in temporal disaggregations for compiling estimates of *D.29* paid by sector;

- Other subsidies on production (*D.39*) by receiving sector and industry used as constraints in temporal disaggregations for compiling estimates of *D.39* received by sector;

- Gross fixed capital formation by sector and non-financial asset, used together with QNA estimates of gross fixed capital formation by non-financial asset to estimate gross fixed capital formation by institutional sector;

- Who-to-whom matrix of 'Other current transfers' (*D.75*), used together with *S.13* and *S.2* quarterly indicators by counterpart sector, to estimate 'Other current transfers' payed/received by institutional sectors;

- Capital taxes (*D.91*) payments by sector and kind of tax, taken into account for the analysis of the allocation to sectors of quarterly general government flows;

- Who-to-whom matrix of 'Other capital transfers' (*D.9N*), used together with quarterly data from QNFGGA and the BoP for compiling quarterly estimates by sector.

---

[9] See section 1.4 for details on cross-domain consistency.

[10] See sections 1.3.2.1 and 2.3.12.3.

1.3.2.5. Annual general government accounts in quarterly sector accounts

The items of the annual general government account enter QSA compilation indirectly through the quarterly general government account as its items are benchmarked to the corresponding items in the annual account. In addition, selected items of the general government annual account, detailed by sub-sector of the general government and/or by counterpart sector, are used as input to estimate the corresponding quarterly transactions by sector. For more details, see for example sections 2.3.20.2 and 2.3.22.2.

1.3.2.6. Other quarterly sources of information used in the compilation of quarterly sector accounts

Other sources of information used for compiling QSA are:

- Household expenditure survey (Household budget survey until 2013), used to construct a quarterly indicator for estimating non-life insurance premiums paid by households;

- Quarterly financial accounts[11], used to estimate property income;

- Statistics on banks and other financial institutions, credit distribution and interest rates, collected by the Bank of Italy[12], used to estimate property income;

- Supervisory reporting by the financial intermediaries to the Bank of Italy, aggregate financial statements (Balance sheets (BS); Profits and loss accounts (P&L); and note to financial statements) and additional supervisory information collected by the Bank of Italy on banks and other financial intermediaries, all used to estimate transactions of financial corporations;

- FISIM information system, consisting of quarterly stocks and related interest rates of resident bank's loans and deposits by counterpart institutional sector, used to estimate interests;

- Imported and exported FISIM, consisting of quarterly stocks of loans/deposits and the corresponding interest flows accrued on cross-border operations;

- Quarterly gross (life and non-life) premiums collected and provided by the Institute for the supervision of insurance companies (IVASS, Istituto per la Vigilanza sulle Assicurazioni).

A detailed description of the use of these data sources is provided in the paragraphs devoted to the description of sources and methods of the single transactions.

Table A2 in the Appendix reports the list of data sources used for compiling quarterly sector accounts. The table reports the name of the source, the periodicity, type of source (statistical vs administrative), the type of coverage (census, sample, threshold etc.) and the timeliness.

In a nutshell, QNA, QNFGGA and BoP offer the great part of quarterly sources of information for the direct and indirect estimation of transactions of institutional sectors at quarterly frequency. Indirect estimation of private sectors' transactions is necessary as the Italian accounting regulation does not require to enterprises any budget or balance sheets compilation on a quarterly basis so that quarterly indicators on their economic performance are missing. Part of this information - that on *B.1G*, *D.1*, *P.51G*, etc. - is indirectly provided through QNA, whose detailed estimates by industry (*B.1G*, *D.1*) or by asset (*P.51G*), are used to estimate the transactions of private sectors. In addition, the supervisory database

---

[11] Sources and methods to compile Financial Accounts are described in Banca d'Italia (2018), 'I conti finanziari dell'Italia', Metodi e fonti: Manuali, Giugno 2018, (only in Italian).

[12] Most of them are harmonized at the Eurosystem level.

collected by the Bank of Italy (Matrice dei Conti) and the information on insurance companies quarterly premiums and technical provisions provided by IVASS, the sector supervisory authority, are the two main direct sources used for estimating the main transactions of banks, other financial institutions and insurance corporations. FISIM and interest flows estimates are based on FISIM information system and the statistics on banks and other financial institutions, credit distribution and interest rates, collected and disseminated by the Bank of Italy. No specific source for NPISHs is available on a quarterly basis.

1.3.3. *Methods*

1.3.3.1.   General description

As illustrated above, a number of quarterly estimates for the total economy are already available via QNA, while all the account items of the general government and of the Rest of the World are available from QNFGGA and from the Bop, respectively. The compilation of QSA in itself, then, amounts to compile the accounts of non-financial corporations (*S.11*), financial corporations (*S.12*) and households and NPISH (*S.1M*).

As a matter of facts, sector transactions can be divided into four groups according to the prevalent[13] method used to compile them:

- those compiled taking data from QNA, QNFGGA and BoP, with no change (pre-determined data);

- those obtained as indirect estimates, using information from QNA, QNFGGA and BoP or other data sources, through temporal disaggregation techniques. Temporal disaggregation techniques allow to disaggregate the annual figures into quarterly figures and to extrapolate the dynamics of quarters not covered by annual estimates using quarterly indicators for estimating the infra-annual dynamics of the aggregate[14]. This is the case, for example, of *D.1* and *B.1G* based on QNA estimates by industry and of P.51G based on QNA estimates by asset and general government data.

- those for which no infra-annual information is available and are obtained either through temporal disaggregations with a constant or a linear trend or as a residual from horizontal balancing constraints.

In all cases, the most efficient use of available information is made, econometric modelling being only used when direct estimation is not feasible. Similarly, smoothing without indicators is only used for small transactions and only if no indicator is available. Fortunately,

---

[13] Estimates are very often elaborated at a more disaggregate level than the disseminated one, the latter being obtained by aggregation of components in a second step (as for example D75 that is obtained on the basis of an approximate who-to-whom scheme). Therefore, it may happen, for example, that a sector transaction results as the sum of two components: one obtained by direct estimation, the other by temporal disaggregation.

[14] Mainly Chow-Lin (see Chow, G. and Lin, A. (1971), '*Best Linear Unbiased Interpolation, Distribution, and Extrapolation of Time Series by Related Series'*. The Review of Economics and Statistics 53, pp. 372–375) and Fernandez (see Fernández, R. (1981), '*A methodological note on the estimation of time series*'. The Review of Economics and Statistics 63, pp. 471–478) methods are used though a generalized procedure implementing temporal disaggregation through ADL (Autoregressive distributed lags) model is available which allows to use other methods. The Denton method and its variants (see e.g. Denton, F. T. (1971), '*Adjustment of monthly or quarterly series to annual totals: an approach based on quadratic minimization*'. Journal of the American Statistical Association 66, pp. 99–102 and Dagum, E. B. and Cholette, P. A. (2006), '*Benchmarking, Temporal Distribution and Reconciliation Methods for Time Series*'. Springer, New York), is only used in case of very small discrepancies (pure benchmarking).

the latter only concerns a few cases, with negligible effects on the overall quality of the accounts and on the synthetic indicators computed upon them.

Specific procedures are systematically applied to guarantee that

- the sum of quarterly estimates in a year t, $X_{q,t}$, equals the corresponding annual estimates Y_t from ASA:

$$\sum_{q=1}^{4} X_{q,t} = Y_t$$

Consistency with ASA is obtained through temporal disaggregation and/or benchmarking techniques (see section 1.4.1 for more details).

- for each transaction, the sum of the estimates of domestic sectors equals that for S.1, and vice versa:

$$S.1 = S.11 + S.12 + S.13 + S.1M$$

The following three situations may occur:

   o *S.1* is given and one of the sector is obtained as the difference between S.1 and the sum of the others;

   o *S.1* is given and one or more of the sectors are modified to respect the identity;

   o S.1 is obtained as the sum of the sectors and the identity is automatically satisfied.

Which of the three occurs varies across transactions, depending on the expert judgement of the underlying quality of the data sources and of the resulting estimates. *S.13* data is never modified.

- for each transaction, the sum of credits and debits of the total economy (S.1) equals that of the Rest of the World (S.2), and vice versa:

$$S.1\_D + S.2\_D = S.1\_C + S.2\_C$$

Whether the total is calculated on the resources (C) or on the uses (D) side varies across transactions, depending on the quality of the information available on the two sides. In both cases, the total is calculated on one side, and is then used as a constraint on the other side of the transactions and one or more institutional sectors is(are) chosen to be the residual sector(s) balancing the system. Usually the "residual sectors" are *S.11*, *S.12* or *S.1M*, depending on the transaction, while *S.13* is never modified;

- the estimates of each accounting items equals the sum of its components. For example, *D.7N = D.74 + D.75 + D.76*;

- with the exception of *B.1G*, balances are always obtained from the upstream components according to the accounting relationship that defines them.

1.3.3.2.   Standard plausibility checks

Data is first monitored as regards to

- whether specific events/operations are represented in the data and how

- the correspondence between the estimates and the expected macro-economic-scenario;

Further plausibility checks concern:

- internal consistency;

- consistency with other datasets (ASA, ANA, QNA, QNFAGG, BoP);

- presence of outliers;

- presence of unexpected zero or negative values;

- absolute and relative size of the revisions.

At each quarter, the results of the second set of checks are shared with Eurostat through the transmission of an excel file of metadata, compiled according to a standard template agreed with Eurostat within the Expert group on sector accounts (EG SA). The file of metadata is transmitted to Eurostat within two working days after data transmission.

1.3.3.3.   The technical framework

QSA accounts are in general compiled by transaction, not by sector (excluding *S.13* and *S.2*). Each team member, including the team leader, is assigned the compilation of a set of transactions, while the assembling of the accounts, plausibility checks and the validation are centralized on the team leader.

The whole compilation process, from the acquisition of the data sources to the final validation of unadjusted and seasonally adjusted data, is based on written procedures. The procedures are developed in Speakeasy/Modeleasy and run on a LINUX server, where also the results are saved. The same Linux server also hosts the intermediate and final products of the compilation procedures of all other NA domains - ANA, ASA, QNFGGA, QNA, … - independently on whether or not the procedures that generate them are in the same server or not (some procedures are developed in SaS or Excel on Windows or on other Linux servers). All NA members, included QSA team members, have exclusive '*write*' permission on her/his own disk space but '*read*' permission on the working areas of all members so that the same data are available at the same time to everybody.

This has several advantages, among which the most important are:

- integrated compilation process, limited scope for misalignments;

- time compression, no data exchange or conversion format is needed;

- facilitating plausibility checks, data validation and cross-validation (see section 1.3.3.2).

Once data are checked and validated, they are loaded in the QSA database (Oracle). Like compilation, also the loading is based on written procedures, but the software used is SaS and run on a Windows server. The QSA database is a tematic one - nearly all NA domains have one – and is used to store all unadjusted and seasonally adjusted data, independently on whether they are disseminated or not.

The transmission to Eurostat of QSA data and their publication on IstatData – the institute data warehouse – are responsibility of the Division CND (see section 1.2.3). The team in charge of dissemination reads the data from the QSA database, loads it on the centralized NA database (CNOUT), and extracts from it both the SDMX files to be transmitted to Eurostat and the files to be loaded on IstatData. The same team is also in charge of satisfying other ad hoc data requests, as well as of data exchange with the Bank of Italy.

1.4. CONSISTENCY WITH RELATED DATASETS

Consistency of national accounts data across different datasets is a workhorse of Italian national accounts. It is achieved thanks to

- the set up of an integrated production process;

- an IT framework conceived for facilitating data integration and data sharing (written procedure, common areas for data storage, standardization of the outputs, etc.);

- a system of fast and prompt communication of relevant information (revisions, major events, etc) within Istat and between Istat and the major data providers;

- improving the timeliness of the data sources;

- the alignment of national release calendar to ESA 2010 transmission dates

- harmonization of revision policies across NA domains;

- the set up of a workplan based on an internal calendar functional to the release calendar (March and Seprtember).

The sub-sections below provide information on consistency of QSA with related NA datasets.

1.4.1. *Consistency with annual non financial sector accounts*

Non-financial quarterly sector accounts, quarterly national accounts and the Non-financial quarterly account of the general government are always consistent with the corresponding annual data sets. Consistency of quarterly data with annual data is achieved through benchmarking preliminary quarterly estimates or, more often, through temporal disaggregations in which quarterly series are used as indicators (indirect approach to quarterly accounts).

Likewise, annual datasets (annual national accounts, annual sector accounts and annual non-financial account of the general government) are consistent with each others and, in particular, ASA are consistent with both ANA and ANFGGA.

These two pillars are the basis of the overall cross-domain consistency within the Italian national accounts.

1.4.2. *Consistency with quarterly national accounts*

Consistency of QSA with QNA is achieved by freezing QNA data (t+60) and by incorporating them into QSA at t+85 days/3 months. Notice that, together with QNA, all QNFGGA estimates included in QNA (value added of *S.13* by industry, taxes on products received by *S.13*, subsidies on products paid by *S.13*, taxes on production and other taxes received and paid by *S.13*, individual and collective consumption expenditure of S.13, compensation of employees by industry paid by *S.13*, etc.…), are frozen at t+60 to be integrated in QSA at t+85 days. This practice ensures consistency of QSA with QNA data but would pose some risks on the quality of QSA data at t+85 days if QNA/QNFGGA data sources were subject to significant updates between t+60 and t+85 days. In occasion of the 2019 benchmark revision, an analysis was conducted, verifying that the gain in terms of information from updating QNA (and related QNFGGA items) at t+85 days was not significant, which brought to validate the practice of freezing data at t+60. This evidence has been confirmed in normal times, a bit less so during the first quarters affected by the COVID-19 pandemics, when the quality of preliminary data sources used in QNA at t+60 was lower than usual.

1.4.3. *Consistency with general government data*

Consistency with QNFGGA is ensured by incorporating QNFGGA estimates (consistent with ANFGGA) in QSA estimates (consistent with ASA, consistent in turn with ANA and ANFGGA) in real-time: compilation is made contemporaneously, during the production round, when any update in QNFGGA is immediately incorporated into QSA. As mentioned above, QSA team is only responsible of compiling the sequence of accounts of *S.1*, *S.11*, *S.12*, *S.1M* and *S.2*, while the sequence of accounts of *S.13* is compiled by the CNC Division, which is also responsible of the EDP procedure and the transmission of the main aggregates of the general government according the ESA 2010 transmission programme. Normally, once *S.13* estimates are validated, one working day is necessary to finalize and validate QSA data.

1.4.4. *Consistency with balance of payments*

Consistency of QSA data with BoP data is ensured in terms of definitions thanks to the alignment between BPM6 and ESA 2010[15]. The only difference in the accounting criteria concerns the recording of accrued interest on interbank relationships between resident and non-resident banks in BoP and in NA. These transactions are recorded as imports/exports of FISIM in the BoP and as cross-border interest in the Rest of the World (*S.2*) accounts.

The compilation of the BoP and of the Rest of the World accounts is the result of a close collaboration between Istat and the Bank of Italy. As mentioned above (see section 1.1), a dedicated task-force on consistency between BoP and NA operates discussing on methodological issues, sector delineation and the treatment of new entities or flows, but also setting out a protocol of data exchange between the two institutions. Indeed, actions to facilitate numerical consistency between national accounts and BoP data include a calendar of bilateral data exchanges, which also involves the Division CNC (see section 1.2.2). In particular, this Division communicates to the Bank of Italy the flows of *S.13* (from and to S.2) to be included in BoP. The calendar of data exchanges is set out every six months for the subsequent six months and, together with the dates of data exchanges, also specifies the reference person responsible of the transmission and the reference periods subject to revisions, for facilitating the harmonization of the respective revision policies.

Though the protocol of bilateral data exchange is well functioning, differences between BoP and NA remain. These differences are due to a number of factors. In order to better characterize such differences a distinction should be made between:

- differences in imports and exports of goods and services and

- differences in the remaining items of the sequence of accounts.

1.4.4.1.   Imports and exports of goods and services

As mentioned above (see section1.3.2.3), the only conceptual difference between BoP and the Rest of the World account is in the accounting of FISIM. Yet, imports and exports of goods and services in QSA may differ numerically from those in the balance of payments also because they are taken from QNA at t+60 and not from BoP at t+82 days as the remaining items of the Rest of the World account are. On the one hand, this ensures full consistency between QSA and QNA, but on the other hand, it let differences between QSA and BoP emerge. Such differences are mainly due to:

---

[15] Consistency is not ensured for Bop data between 1999 and 2008 (BoP data based on BPM5).

- updates in BoP between t+50, when BoP data on services are transmitted to QNA, and t+82 (mainly concern imports and exports of services net of the adjustment for imported and exported FISIM).

- a combination of two factors:

   o different revision policies (15 to 18 quarters in QNA, zero or one quarter in BoP[16]), though both consistent with the Harmonized European Revision Policy (HERP), and

   o different compilation methods in the two domains (year given by the sum of quarters in BoP, and benchmarking/temporal disaggregation in QNA) [17];

1.4.4.2.   Remaining items of the sequence of accounts

As far as the remaining items of the sequence of accounts are concerned, NA completely draws from BoP data, which in turn rely on general government data provided by Istat (Division CNC) for the transactions between *S.13* and *S.2*. Also in this case, consistency is based on bilateral data exchanges: Istat provides the Bank of Italy with S.13/S.2 data around t+70 days after the end of the quarter to incorporate them into the BoP and the Bank of Italy provides Istat with BoP complete BoP data around t+ days 80 (a couple of days before the official release), in time to be incorporated into QSA at t+85 days.

Yet minor discrepancies between BoP and QSA data occur, mainly due to:

- Late updates in *S.13* data not considered in BoP compilation. In this case, QSA privilege consistency with *S.13* data and maintain discrepancy with BoP;

- Small revisions in *S.13* data not taken into account by BoP compilers as, normally, they revise more than one quarter only in September;

- Exceptional revision in BoP of one or more quarters of years that cannot be modified in NA because of the adopted revision policy. In facts, annual national accounts data can only be revised in March and in September and for a limited number of years.

1.4.5. *Consistency with financial accounts*

The consistency between financial and non-financial accounts is jointly analysed and monitored by Istat, responsible of compiling non-financial sector accounts, and the Bank of Italy, responsible of compiling financial accounts.

The compilation of financial and non-financial sector accounts results from a close collaboration between Istat and the Bank of Italy, set out within a 'Memorandum of understanding' between the two institutions. In particular, the methodological and technical issues related to the consistency between financial and non-financial accounts are discussed within the 'Task force for consistency between financial and non-financial accounts' that is also in charge of monitoring the discrepancies and analyzing their causes. The monitoring and the analysis of discrepancies is preliminary to a re-conciliation procedure that operates on financial accounts only and is applied every quarter by the Bank of Italy on Quarterly financial accounts (QFA)[18]. The procedure affects the assets and

---

[16] In September/October QNA/QSA revise the whole series while BoP only quarters of the most recent year(s).

[17] On this point, it is worth mentioning that QNA estimates of imports and exports of goods mainly rely on the monthly survey on foreign trade of goods conducted by Istat, not on BoP data, though BoP data are also used. Differently, QNA estimates of imports and exports of services mainly rely on BoP data. For a description of how BoP data are used in QNA and vice-versa refer to Istat (2015), '*I conti economici trimestrali. Principali elementi informativi*' (only available in Italian, https://www.istat.it/it/files//2015/09/I-CONTI-ECONOMICI-TRIMESTRALI1.pdf).

[18] Notice that AFA are derived from QFA as sum of quarters.

liabilities of unlisted shares and other equity (*F.512*, *F.519*) of non-financial corporations, households and some sub-sectors of financial corporations (i.e. in detail these are the other financial intermediaries (*S.125*), financial auxiliaries (*S.126*) and captive financial institutions (*S.127*)). Automated instead of manual adjustments are applied when more than four quarters are involved. In this case, an optimisation-based balancing routine is used. The routine relies on the constrained minimisation of a quadratic loss function that accounts for:

- the vertical discrepancies of institutional sectors (non-financial corporation, financial corporation and households sectors);

- the deviation of revaluations of unlisted shares and other equity from a target indicator (the Italian stock exchange growth rate index).

The procedure aims at computing balancing items that reduce the vertical discrepancies and, at the same time, are coherent with stock-flow relationships of the unlisted shares and other equity instruments. The balancing targets are exemplified in the following table. For the government sector, the prevalence of sector specific guidance is acknowledged, and reference is made to the *Manual on quarterly financial accounts for general government* (see Table A1 in the Appendix).

Table 1.4 - Balancing targets in reconciling financial and non-financial sector accounts

	Target for individual quarters	*Target for four-quarter sums and/or annual data*
non-financial corporations (S.11)	<= 1% of GDP	<= 1% of GDP
financial corporations (S.12)	<= 1% of GDP	<= 1% of GDP
households and NPISH (S.1M)	<= 1% of GDP	<= 1% of GDP
Rest of the world (S.2)	No adjustment	No adjustment

1.5. SHORT DESCRIPTION OF THE METHODS USED TO ESTIMATE BACK DATA

[Not relevant]

1.6. SEASONAL ADJUSTMENT POLICY

Seasonal adjustment of QSA data is performed following the Arima-model-based approach. The software used is Tramo-Seats+ (version 2017) implemented on a Linux server. In line with Istat recommendations on standard methods and tools for seasonal adjustment, issued in 2015, the migration to JD+ (version 2.2.2), the software officially recommended by Eurostat[19], is in the agenda (see also section 1.10).

A partial concurrent approach is used as a revision strategy, i.e. the model, outliers and other deterministic effects are re-identified once a year and the respective parameters and factors re-estimated at each production round. The software used for checking the validity of old models specifications and eventually updating them is the client version of JD+, version 2.2.2[20].

Seasonally adjusted data are also calendar adjusted if calendar effects are statistically significant and economically meaningful. Calendar effects considered are:

- Trading or working days;

- Leap year;

- Easter.

Trading/working days regressors take into account national holidays.

Seasonally adjusted data are benchmarked to the corresponding annual data, calendar adjusted if the effect is significant (calendar effects may not cancel out in a year).

Seasonal adjustment is performed at the maximum feasible detail at the transaction level, aggregate transactions as well as balancing items are derived from their components in bottom up setup.

As for unadjusted data, seasonally adjusted estimates of selected transactions are taken as such from QNAs at t+60 (see section 1.3.2.1). In particular, this is the case for value added, compensation of employees and gross fixed capital formation of the total economy, taxes and subsidies on products and on production paid/received by the total economy, final consumption expenditure by sector, as well as imports and exports of goods and services.

Seasonal adjusted series for *S.13*, including BoP transactions involving S.13 (e.g. taxes and subsidies, VAT- and GNI-based EU own resources, etc.), are provided by the QNFGGA team, in most cases at the same disaggregation level as for unadjusted series.

Seasonally adjusted series of the RoW account, with the exception of imports and exports of goods and services (taken from QNA), are obtained by seasonally adjusting unadjusted series (direct approach) and by benchmarking them to the corresponding annual figures in ASA.

Seasonally adjusted series of domestic private sectors are in general obtained replicating the same estimation procedures used for unadjusted data, i.e. by substituting seasonally adjusted to unadjusted reference indicators in temporal disaggregations. This is the case for:

- Value added and compensations of employees;

---

[19] See https://ec.europa.eu/eurostat/cros/content/software-jdemetra_en.

[20] The translation of model specifications from Tramo-Seats to JD+ is made using a java plugin which is available on the github page of the JD+ project; translation of xml JD+ specifications into Tramo-Seats input files is made through a written procedure. Translations will not be necessary after migration to JD+ in production.

- Taxes and subsidies on production;
- Current taxes;
- Net social contributions and Social benefits other than social transfers in kind;
- Gross fixed capital formation;
- Change in inventories;
- Net acquisition/disposal of valuables.

Seasonally adjusted estimates of the remaining transactions of private domestic sectors are obtained by seasonally adjusting the corresponding unadjusted series (direct approach). This holds in particular for Current transfers (*D.71*, *D.72* and *D.75*) and property income (*D.41* and *D.4N*).

Seasonally adjusted series, like unadjusted series, are internally consistent, in the sense that the accounting relationships are satisfied, and consistent with the other national account data sets. In particular, they are consistent with QNA, QNFGGA, ANA and ASA.

1.7. RELEASE POLICY

According to the ESA 2010 transmission program, preliminary unadjusted QSA data are transmitted to Eurostat within 85 days after the end of the reference quarter and revised a few days later (t+3 months), if necessary. This is especially the case in March and September if EDP data are refreshed after t+85 days. Seasonal adjusted data of selected aggregates are transmitted, in accordance with the ESA 2010 transmission program, within three working days from the transmission of final data, hence within 3 months plus 3 working days after the end of the quarter.

QSA (both unadjusted and seasonally adjusted) data are disseminated at national level about 3 months after the end of the reference quarter both through a press release and, contextually, through the institutional data warehouse IstatData. Press release dates do not reflect a rigid release scheme expressed in terms of maximum number of days/months after the reference period: they are agreed at the end of each year for the following year between the Directorate of national accounts and the Directorate for communication[21].

The release policy of Italian national accounts takes into account four main factors:

- Availability, timeliness and quality of relevant internal and external source data. Release dates necessarily follow the dates at which the relevant piece of information used to estimate the data are available;

- The use that national authorities make of national accounts data for updating official economic and political documents. National accounts are fundamental pillars used for analysis scenario and projections of macroeconomic variables into a number of official documents, as for example the budget law. A gentlemen agreement commits Istat to provide the Ministry of Finance with up to date national accounts data a few days in advance with respect to the drafting and public discussion or transmission of relevant programmatic official documents to the European Commission;

- The deadlines set out by the ESA 2010 transmission program. A substantial mutual alignment is sought between the national and the European calendar in order to provide both internal and foreign users with aligned information. In general, transmission of QSA data to Eurostat usually precedes the dissemination at national level, so that especially unadjusted data are most often transmitted to Eurostat under embargo;

- Cross-domain consistency of national accounts data. It is of primary importance for Istat and for the Directorate of national accounts to provide users with consistent national accounts data, which are conceived as a complete and fully integrated system of data providing a consistent picture of the economic situation of the country. In order to achieve this goal

  o the official calendar reporting both national and European release dates is complemented with a non-official internal calendar setting out deadlines for the delivery of intermediate outputs so that they can be consistently incorporated into final outputs in line with the official calendar;

  o Some releases have been added to those required in the ESA 2010 transmission program, as for example ASA at t+3 months, to make it consistent with ANA (t+2 months) and ANFGGA, and the re-alignment of QNA to annual data at t+9 months (second quarter);

---

[21] Dissemination dates of QSA data, together with those of all Istat products, are included in the Istat release calendar which is published every year and which is available at https://www.istat.it/en/information-and-services/journalists/release-calendar/press-room-calendar.

- o some transmissions have been anticipated with respect to the Eurostat deadlines to enlarge the set of consistent NA data available at a given time (e.g. tables 3, 5, 20 and 22 of the transmission programme are transmitted together with main aggregates at t+2 months).

QSA are released every quarter between t+85 days and t+3 months + 3 working days after the end of the reference quarter, fully incorporating contextual QNFGGA estimates and QNA estimates disseminated at t+2 months. All quarterly data are benchmarked to corresponding annual data (ANA, ASA, ANFGGA), which are all updated twice a year, at t+2/t+3 months and t+9 months. ANA, ASA and ANFGGA are always consistent with each other and ANFGGA is always consistent with contextual EDP transmissions. QNA at t+2 months referring to the second quarter are re-aligned to updated ANA and ANFGGA figures at t+3 months. Table 1.5 illustrates the release policy scheme in a given year Y of the main national accounts data sets.

Table 1.5 - Releases of QSA and main related national accounts

Release by released period	NA dataset (description)	Transmission/Release dates
GDP_Flash_Q4_Y-1	GDP flash estimate, fourth quarter of the previous year, based on ANA (released in September/October Y-1))	End of January Y
ANA_Y-1_R1	ANA, previous year, based on preliminary ANFGGA	End of February Y
QNA_Q4_Y-1	QNA, fourth quarter of the previous year, based on ANA_Y1_R1 and preliminary QNFGGA	End of February Y
QNFGGA_Q4_Y-1	QNFGGA, fourth quarter of the previous year, based on preliminary ANFGGA	26 March Y: Transmission to Eurostat only
QNA_Q4_Y-1	QNA, fourth quarter of the previous year, based on QNFGGA	26 March Y: Transmission to Eurostat only
QSA_Q4_Y-1	QSA, fourth quarter of the previous year, based on QNA_Q4_Y-1, QNFGGA_Q4_Y-1 and preliminary ASA	26 March Y: Transmission to Eurostat only
ANFGGA_Y-1_R1	ANFGGA, previous year, first estimate	31 March Y: Transmission to Eurostat only
ANA_Y-1_R1_REV	ANA, previous year, fourth quarter of the previous year, based on ANFGGA_Y-1_R1	31 March Y (Retransmission to Eurostat if ANFGGA modified ANA with respect to t+2 months)(
QNA_Q4_Y-1_REV	QNA, fourth quarter of the previous year, based on ANFGGA_Y-1_R1 and ANA_Y-1_R1(REV)	31 March Y(Retransmission to Eurostat if ANFGGA modified ANA with respect to t+2 months)
ASA_Y-1_R1	ASA, previous year, based on ANFGGA_Y-1_R1 and ANA_Y-1_R1(_REV)	31 March Y: Transmission to Eurostat only
QNFGGA_Q4_Y-1	QNFGGA, fourth quarter of the previous year, based on ANFGGA_Y-1_R1	31 March Y (Retransmission to Eurostat if ANFGGA modified with respect to t+85 days))
QSA_Q4_Y-1	QSA, fourth quarter of the previous year, based on ASA_Y-1_R1, QNA_Q4_Y-1(_REV) and QNFGGA_Q4_Y-1	31 March Y (Retransmission to Eurostat if ANFGGA modified ASA and QNFGGA with respect to t+85 days)
ASA_Y-1_R1, QSA_Q4_Y-1, QNFGGA_Q4_Y-1	QSA and QNFGGA, fourth quarter of the previous year, based on ASA_Y-1_R1 and ANFGGA_Y-1_R1	First week of April: national release
GDP_flash_Q1_Y	GDP flash estimate, first quarter of the current year, based on ANA_Y-1_R1 and preliminary QNFGGA	End of April Y

QNA_Q1_Y	QNA, first quarter of the current year, based on ANA_Y-1_R1 and QNFGGA	End of May Y
QNFGGA_Q1_Y	QNFGGA, first quarter of the current year, based on ANFGGA_Y-1_R1	24 June Y: Transmission to Eurostat only
QSA_Q1_Y	QSA, first quarter of the current year, based on ASA_Y-1_R1, QNA_Q4_Y-1(_REV) and QNFGGA_Q1_Y	24 June Y: Transmission to Eurostat only
QSA_Q1_Y and QNFGGA_Q1_Y	QSA and QNFGGA, first quarter of the current year, based on ASA_Y-1_R1 and ANFGGA_Y-1_R1	First week of July Y: national release
GDP_flash_Q2_Y	GDP flash estimate, second quarter of the current year, based on ANA_Y-1_R1 and preliminary QNFGGA	End of July Y
QNA_Q2_Y_R1	QNA, second quarter of the current year, based on ANA_Y-1_R1 (see above) and QNFGGA	End of August Y
ANA_Y-1_R2	ANA, previous year (revised estimates), based on preliminary ANFGGA	23 September Y
QNFGGA_Q2_Y	QNFGGA, second quarter of the current year, based on preliminary ANFGGA	23 September Y: Transmission to Eurostat only
QNA_Q2_Y_R2	QNA, second quarter of the current year, based on ANA_Y-1_R2 and QNFGGA	23 September Y: Transmission to Eurostat only
QSA_Q2_Y	QSA, second quarter of the current year, based on preliminary ASAand QNA_Q2_Y_R2 and QNFGGA_Q2_Y	23 September Y: Transmission to Eurostat only
ANFGGA_Y-1_R2	ANFGGA, previous year, second estimate	30 September Y: Transmission to Eurostat only
ANA_Y-1_R2_REV	ANA, previous year, based on ANFGGA_Y-1_R2	30 September Y (Retransmission to Eurostat if ANFGGA modified ANA with respect to t+85 days)
QNFGGA_Q2_Y_REV	QNFGGA, second quarter of the current year, based on ANFGGA_Y-1_R2	30 September Y (Retransmission to Eurostat if ANFGGA modified with respect to t+85 days)
QNA_Q2_Y_R2_REV	QNA, revised second quarter of the current year, based on ANA_Y1_R2(_REV) and QNFGGA_Q2_Y(_REV)	30 September Y (Retransmission to Eurostat if ANFGGA modifies ANA with respect to t+85 days)
ASA_Y-1_R2	ASA, previous year, second estimate	30 September Y: Transmission to Eurostat only
QSA_Q2_Y_REV	QSA, second quarter of the current year, based on ASA_Y-1_R2 and QNFGGA_Q2_Y(_REV)	30 September Y (Retransmission to Eurostat if ANFGGA modifies ASA with respect to t+85 days)
ASA_Y-1_R2, QSA_Q2_Y and QNFGGA_Q2_Y	QSA and QNFGGA, second quarter of the current year, based on ASA_Y-1_R2 and ANFGGA_Y-1_R2	First week of July Y: national release
GDP_flash_Q3_Y	GDP flash estimate, third quarter of the current, based on ANA_Y-1_R2 and preliminary QNFGGA	End of October Y
QNA_Q3_Y	QNA, third quarter of the current year, based on ANA_Y-1_R2 and QNFGGA	End of November Y
QNFGGA_Q3_Y	QNFGGA, third quarter of the current year, based on ANFGGA_Y-1_R2 (see above)	24 December Y
QSA_Q3_Y	QSA, third quarter of the current year, based on ASA_Y-1_R2, QNA_Q3_Y and QNFGGA_Q3_Y	24 December Y

| QSA_Q3_Y, | QSA and QNFGGA, third quarter of the current year, based on | First week of July: national release |
| QNFGGA_Q3_Y | ASA_Y-1_R2 and ANFGGA_Y-1_R2 | |

1.8. REVISION POLICY

QSA data are subject to both routine and major revisions.

Routine revisions of national accounts quarterly data in general, and of QSA in particular, are due to:

- Updates or revisions of data sources (every quarter);

- Updates or revisions of annual accounts (twice a year, at t+2/3 months and t+9 months)

- Temporal disaggregation and benchmarking, through revisions/updates in data sources (every quarter) and/or annual accounts (twice a year);

- Seasonal adjustment. Routine revisions due to seasonal adjustment can be of three types: *i*) due to the addition of one observation, without revision of past observations (every quarter); *ii*) due to the revision of backward observations (potentially every quarter depending on the data source); *iii*) due to the update of model specifications (normally once a year in September).

Major or benchmark revisions are less frequent, normally every five years. They may be due to either the adoption of a new Regulation or classification(s), or the introduction of new data sources or methods. Such events are normally scheduled every five years in September and are in general coordinated across countries in order to improve data comparability and to allow the construction of consistent European aggregate data. The last benchmark revision took place in 2019, while the next one is scheduled in 2024.

QSA routine revisions take place every quarter according to a pre-defined, stable, public revision policy[22].

The revision policy of QSA is harmonised with the revision policies of the other national accounts data sets and with the revision policy of BoP data. The harmonization between national accounts and BoP is taken on and monitored by the Istat-Bank of Italy task force 'Revision policy of national accounts and BoP data' (see above), while the alignment between the revision policy QSA and that of the other national accounts datasets is ensured by the harmonization of revision policies within the Directorate for national accounts.

Within Italian national accounts, the revision policy for QSA (and QNFGGA) coincides with that for QNA (at t+90 days for the second quarter, and at t+60 days for the other quarters) which is in line with the Harmonized European Revision Policy (HERP). This perfect harmonization of revision policies within national accounts favours cross-domain consistency in national accounts. However, the compliance with the European recommendations on the revision policies in terms of QNA/QSA alignment may result of

---

[22] Information on revisions and on the revision policies of QNA, QSA and QNFAGGA are published by Istat on a dedicated webpage: https://www.istat.it/it/congiuntura/revisioni. The latter contains an introductory section on revision and revision policies of Istat short-term statistics (among which QNA, QSA and QNFGGA). The Italian version of the webpage https://www.istat.it/it/congiuntura/revisioni also contains a section dedicated to the revision policy of single domains. The latter is structured into two-subsections, one dedicated to the description of the revision policy of the domain, the other (for selected domains only) containing revision triangles (see e.g. https://manualzz.com/doc/7070171/users--manual-for-the-revision-spreadsheets), a detailed revision analysis and a synthetic card with the main results from revision analysis. Unfortunately, the second sub-section is not available yet for most of the domains, including QSA, and the updating of the revision triangles for the other domains is under maintenance.

difficult application in occasion of the release of the fourth quarter, as both the annual general government account and the annual sector accounts may have a larger revisions and larger revision windows than annual main aggregates. Table 1.6 below shows the depth of revisions of Italian national accounts quarterly and annual data.

Concerning the harmonization between national accounts and BoP revision policies, both Italian national accounts and balance of payments adhere to the HERP principles as described in the CMFB document dated 13 October 2017 according to which, "Quarterly estimates are usually revised retrospectively for up to four years, although the policy allows unlimited revisions in quarter 3" (release of quarter 2). Nonetheless, it is worth noting that QSA and BoP revision policies may be not aligned in practice. In fact, while Istat always revises the maximum number of quarters within the revision window, BoP are rarely revised more than one quarter back, with the only exception of September. Further, annual data are revised only in the first and third quarter, while it may happen that BoP revision of quarters modify annual data also in the second and the fourth quarter.

Table 1.6 – Routine revision windows of quarterly and annual national accounts data along year Y by released reference period.

	ANA	ASA	ANFGGA	QNA	QSA	QNFGGA
Y-1_March	Y-4 to Y-2*	Y-4 to Y-2	Y-4 to Y-2			
Q4_Y-1	-	-		From Q1_Y-4	From Q1_Y-4	From Q1_Y-4
Q1_Y	-	-		From Q1_Y-4	From Q1_Y-4	From Q1_Y-4
Q2_Y_t+2months	-	-		From Q1_Y-4		
Y-1_September	Y-4 to Y-1*	Y-4 to Y-1	Y-4 to Y-1*			
Q2_Y_t+85days/3months	-	-		Whole series	Whole series	Whole series
Q3_Y	-	-		From Q1_Y-4	From Q1_Y-4	From Q1_Y-4

*Most often Y-3

1.9. REMARKS OR PROBLEMS

The main difficulties in compiling QSA concern the limited availability or quality of independent infra-annual information on certain sectors and/or transactions.

As for sectors, subsectors S.15 and S.14P are difficult to measure at quarterly level: S.15 mainly because of its size and the lack of direct data sources for the relevant transactions; S14P as, especially for some transactions, the sectors is hardly distinguishable from S.11 on the basis of available infra-annual data sources. As for transactions, the scarcity of independent information on credit and debits of certain transactions forces the use of accounting identities for compiling missing cells (sectors). Improvement of data sources is advisable for D.8, D.61SC, and, especially, for D.29, D.71 and *D.72, D.12* and *D.611, D.612*, D.613, D75 and *D.9N*. More in detail,

- the main data source for disentangling *D.29* revenues of *S.13* by paying sector consists of *S.13* revenues by tax type provided by CNC which does not allow sector allocation in some cases. Further investigation is underway on this topic;

- information used for *D.71* and *D.72* proves to be weak, investigation is needed of complementary data sources from IVASS and ANIA (National association of insurance companies);

- no infra-annual data sources is available for D.8 and D.61SC;

- consistency between *D.12* and *D.611+D.612* in *D.61* proves difficult. The main difficulties derive from *i*) a different coverage of the respective infra-annual data sources used for estimating the to transactions; *ii*) different timing of registration; *iii*) no data sources for *D.612* for *S.13*; *iv*) the unavailability of independent infra-annual information on *D.611 and D.612* received by *S.11* and *S.12*;

- quarterly who-to-whom S.13 information for *D.75* and *D.9N* is only partially available. In fact, intra-annual flows are only available for firms or firms + households as counterpart sectors;

1.10. FUTURE PLANS

Any changes in methods or data sources will be eventually introduced at the next benchmark revision, in October 2024. Changes may regard any aspect of QSA compilation that improve data quality by solving the difficulties listed above (see section 1.9 above) or *alleviating* their *impact on data quality*.

One major change will regard the migration of the estimation procedure to a new production environment characterized by a new Linux server and a new software, namely SaS[23]. In the new environment also seasonal adjustment procedures will be updated and migrated to JD+, most probably in its *jwsacruncher* version[24].

A further change may regard the enlargement of the data set of published seasonally adjusted data, including those related to *S.13*.

Consistently with available resources, the system is also planned to be enriched with

- a systematic analysis of revisions based on indicators such as mean and median revisions, mean absolute revisions, mean square revisions, etc.;

- a completely automated comparison between BoP and RoW data integrated in the production process.

---

[23] https://www.sas.com/en_us/home.html.

[24] The JD+ (GUI, version 2.2.2) is currently used only for guiding the annual review of seasonal adjustment models' specifications. For more information on JD+, see the dedicated Eurostat webpage at https://ec.europa.eu/eurostat/cros/content/download_en and the references therein.

2. DESCRIPTION BY TRANSACTION

2.1. GENERAL REMARKS (OPTIONAL)

2.2. OVERALL PICTURE (OPTIONAL)

2.3. DETAILED REVIEW OF TRANSACTIONS

2.3.1. *Output (P.1)*

[not relevant]

2.3.2. *Intermediate consumption (P.2)*

[not relevant]

2.3.3. *Value added, gross (B1.G)*

Quarterly gross value added (VA) by sector is estimated through indirect methods that combine quarterly estimates by industry from QNA released at t+60 with annual information by industry and sector from ASA. The aggregates are estimated by industry and sector and estimates by sector are obtained by summing up across industries. *S.14C*, *S.14P* and *S.15* are estimated separately and S.1M is obtained by sum.

Sources

The main sources for the estimation of gross value added by sector are

- QNA estimates of quarterly gross value added by industry, available distinctly for *S.13* and for private domestic sectors as a whole (*S.1P = S.1 minus S.13*) [25]. The breakdown level considered is *A*45* (see Table A3.1 in the Appendix), the maximum available at quarterly frequency;

- Annual gross value added (from ASA) by sector and industry.

Methods

Gross value added of *S.13* is available from QNA by summing up the estimates across industries. As for private sectors, *S.11, S.12, S.14C, S.14P* and *S15*, the allocation of QNA quarterly gross value added of an industry to sectors is the result of either direct assignment of the entire gross value added of the industry to a sector or temporal disaggregations of annual value added of that industry in the sector.

More formally, let *s* denote private institutional sectors (*s = S.11, S.12, S.14C, S.14P, S.15*) and *j* industries (*j = 1, …, 45*). For each industry j, sectors are sorted in descending order on the basis of the share of value added of the industry in the sectors, $w_{VA}^{j,s} = \frac{VA^{j,s}}{VA^j} \times 100$, with j = 1, …, 45 and $\sum_s w_{VA}^{j,s} = 100$ (see Table 2.1 below). Hence, $w_{VA}^{j,s_1} > w_{VA}^{j,s_2} > \cdots > w_{VA}^{j,s_5}$ implies for industry j the sequence $s_1, s_2, …, s_k$, $k \le 5$. If the share of industry *j* in s_1 is 100, its value added is entirely allocated to sector s_1, so that $VA^{j,s} := VA^j$. This is the case for Dwelling services (j=34) and Domestic services (*j=45*) whose value added is 100% assigned to sector *S.14C* and for Financial intermediation (*j=30*) and Insurance (*j=31*), entirely allocated to *S.12*. If, as in most cases, $w_{VA}^{j,s} < 100$, a sequence of temporal disaggregations is performed, following the order $s_1, s_2, …, s_{k-1}$. The quarterly indicator used in the first temporal disaggregation is the value added of industry j, VA^j. Then, the value added of industry j allocated to the first sector is subtracted from the total value added of

---

[25] For more details on the sources and methods about Italian QNA see reference in Table A1 in the Appendix.

industry j, i.e. $VA^j - VA^{j,s_1}$, yielding the reference indicator for the subsequent temporal disaggregation. The sequence ends when the whole value added by industry is allocated to the last-but-one sector ($s = k\text{-}1$). The residual value added of industry j is directly assigned to the last sector in the sequence, s_k.

Then, for each private sector s, a non-balanced version of quarterly value added by sector is obtained by summing up over industries the estimates by sector and industry ($VA^{s^*} = \sum_{j=1}^{J} VA^{j,s^*}$). The resulting quarterly series by sector, VA^{s^*}, are reconciled to the corresponding ASA totals by means of Denton benchmarking method[26].

Finally, value added of institutional sectors are balanced so that the sum of the estimates across sectors equals QNA estimates of value added for the domestic economy. The balancing is obtained lefting $S.13$ value added unchanged and allocating the difference between $S.1$ (from QNA) and the sum of sectors to $S.11$ and $S.14P$ according the respective share of annual value added over $S.1$[27].

The same estimation strategy applies to seasonally adjusted data which are obtained by substituting QNA and QNFGGA unadjusted input series with the corresponding seasonally adjusted series and considering calendar adjusted annual data where annual calendar effects are significant.

Table 2.1 – Private domestic sectors' shares of gross value added of industries at the A*45 level of disaggregation (ASA, year 2021)

Industry code	Industry description	Value added weights				
		S.11	S.12	S.14C	S.14P	S.15
A*45_1	Crop and animal production, hunting and related service activities; Forestry and logging	18.1	-	5.2	76.8	-
A*45_2	Fishing and aquaculture	61.0	-	-	39.0	-
A*45_3	Mining and quarrying	99.2	-	-	0.8	-
A*45_4	Manufacture of food products, beverages and tobacco s	95.0	-	-	5.0	-
A*45_5	Manufacture of textiles, wearing apparel and leather products	91.1	-	-	8.8	-
A*45_6	Manufacture of wood and wood products, except furniture; of articles of straw and plaiting and of paper and paper products; Printing and reproduction of recorded media	92.1	-	-	7.9	-
A*45_7	Manufacture of coke and refined petroleum products	99.9	-	-	0.1	-
A*45_8	Manufacture of chemicals and chemical products	99.6	-	-	0.4	-
A*45_9	Manufacture of basic pharmaceutical products and pharmaceutical preparations	100.0	-	-	0.0	-
A*45_10	Manufacture of rubber and plastics products and other non-metallic mineral products	97.9	-	-	2.1	-
A*45_11	Manufacture of basic metals and of fabricated metal products, except machinery and equipment	95.9	-	-	4.1	-
A*45_12	Manufacture of computer, electronic and optical products	99.0	-	-	1.0	-
A*45_13	Manufacture of electrical equipment	98.7	-	-	1.3	-
A*45_14	Manufacture of machinery and equipment n.e.c.	99.3	-	-	0.7	-
A*45_15	Manufacture of motor vehicles, trailers and semi-trailers	99.8	-	-	0.2	-
A*45_16	Manufacture of other transport equipment	99.6	-	-	0.4	-
A*45_17	Manufacture of furniture; other manufacturing; Repair and installation of machinery and equipment	88.9	-	-	11.1	-
A*45_18	Electricity, gas, steam and air conditioning supply	99.4	-	-	0.6	-
A*45_19	Water supply, sewage and waste management	98.9	-	-	1.1	-
A*45_20	Construction	73.4	-	0.8	25.9	-
A*45_21	Wholesale and retail trade and repair of motor vehicles and motorcycles	79.5	-	-	20.6	-
A*45_22	Wholesale trade, except of motor vehicles and motorcycles	75.4	-	-	24.6	-
A*45_23	Retail trade, except of motor vehicles and motorcycles	66.6	-	-	33.4	-
A*45_24	Transportation and Warehousing and support activities for transportation	83.5	-	-	16.5	-
A*45_25	Postal and courier activities	95.6	-	-	4.4	-

---

[26] Notice that by construction discrepancies are very small.

[27] T-1 annual weights are used for year T.

A*45_26	Accommodation; food and beverage service activities	76.2	-	-	23.7	0.0
A*45_27	Publishing audio-visual and broadcasting activities	93.7	-	-	6.3	-
A*45_28	Telecommunications	98.4	-	-	1.6	-
A*45_29	Computer programming, consultancy and related activities; information service activities	93.1	-	-	6.9	0.0
A*45_30	Financial service activities, except insurance and pension funding	-	100	-	-	-
A*45_31	Insurance, reinsurance and pension funding, except compulsory social security	-	100	-	-	-
A*45_32	Activities auxiliary to financial services and to insurance activities	16.4	58	-	25.2	-
A*45_33	Real estate activities	37.7	-	-	62.3	-
A*45_34	of which: imputed rents of owner-occupied dwellings	-	-	100.0	-	-
A*45_35	Legal, accounting, consultancy, architecture and engineering activities	38.6	0	-	61.3	0.0
A*45_36	Scientific research and development	69.5	-	-	23.9	6.7
A*45_37	Advertising and market research; other professional scientific, technical and veterinary activities	52.1	-	-	47.9	0.0
A*45_38	Administrative and support services	89.9	-	-	10.1	0.0
A*45_39	Public administration and defence; compulsory social security	-	-	-	-	-
A*45_40	Education	63.4	-	-	31.9	4.7
A*45_41	Human health activities	42.3	-	-	57.2	0.5
A*45_42	Social work activities	93.3	-	-	4.3	2.4
A*45_43	Art, entertainment and recreation activities	67.1	-	-	28.9	4.0
A*45_44	Activities of membership organisations; Repair of computers and other personal services activities	43.2	-	-	48.8	8.0
A*45_45	Activities of households as employers of domestic personnel and undifferentiated goods and services production of households for own use	-	-	100.0	-	-

2.3.4. *Final consumption expenditure (P.3)*

Final consumption expenditure by sector is obtained as sum of Individual and Collective final consumption expenditure by sector as in QNA (and QNFGGA) at t+60.

$$P.3 = P.31 + P.32$$

Sources

The only source for individual and collective final consumption expenditure is QNA (and QNFGGA). This is the case for both unadjusted and seasonally adjusted series.

Methods

Final consumption expenditure is taken from QNA (*S1M, S.13, S.14, S.15*) with no modification. See the references in Table A1 in the Appendix to have more information on sources and methods used for compiling QNA and QNFGGA estimates of final consumption expenditure.

2.3.5. *Gross fixed capital formation (P.51G)*

Quarterly estimates of gross fixed capital formation of private domestic sectors is obtained by summing up across assets the corresponding quarterly estimates by sector and asset (15 assets, ANF*15 classification, see Table A4 in the Appendix):

$$P.51G^s = \sum_{j=1}^{J} P.51G^{j,s} \ ,$$

where the index j = 1, …, 15 denotes assets and s = *S.11, S.12, S.14C, S.14P, S.15*. The estimates by sector and asset are obtained using QNA estimates of gross fixed capital formation by asset in temporal disaggregations of ASA estimates by sector and asset. Estimates of *S.1* and *S.13* are taken from QNA and QNFGGA respectively, and are used as constraints. Quarterly discrepancies between *S.1* and the sum of domestic sectors are distributed across private sectors according to the annual sectoral weights of gross fixed capital formation of residential buildings.

Sources

Quarterly estimates of gross fixed capital formation of instutional sectors are based on two main data sources:

- QNA by asset, including partial information on S.13 gross fixed capital formation expenditure included in QNA at t+60 (namely, weapon systems and R&D);

- QNFGGA of total gross fixed capital formation expenditure of S.13 (t+85/90 days).

Annual estimates of gross fixed capital formation by sector and by asset and sector from ASA and by sector are used as constraints in temporal disaggregations.

<u>Methods</u>

QNA estimates by asset are available at a breakdown level that is finer than the ESA 2010 ANF*6, but less detailed than the estimates available from ASA. As a result of a study conducted in occasion of the 2019 benchmark revision, the estimation procedure is based on 15 assets (ANF*15). Table A4 in the Appendix reports the correspondence of the ANF*15 classification with the ESA2010 classification of non-financial assets.

The first step of the estimation procedure consists of aggregating the ASA estimates by sector and asset, available at a greater detail, at ANF*15 level. Then, the estimates from QNA, including

- gross fixed formation expenditure by asset at *ANF*6* (ESA 2010);

- more detailed estimates for some assets (e.g. for Transport equipment, ICT, Other machinery and equipment);

- estimates of gross fixed capital formation expenditure of *S.13* in selected assets (namely weapon systems, R&D)

are used to get a set of *S.1* quarterly estimates of gross fixed capital formation expenditure at the *ANF*15* level of disaggregation, consistent with quarterly QNA estimates at *ANF*6* level and with ASA/ANA at *ANF*15*.

In the next step, the quarterly information by asset is used to distribute across sectors gross fixed capital formation of the total economy in that asset and get quarterly estimates of *P.51G* by asset and sector. This is done, for each asset, running temporal disaggregations of *P.51G* of sectors (*S.11*, *S.12*, *S.1*M, *S.14C*, *S.14P* and *S.15*[28]) using the quarterly estimates of *S.1* (or *S.1-S.13* where available) as indicator. The quality of these estimates very much depends on the concentration of capital expenditures in a given asset across sectors: the higher the concentration in a sector, the better the quality of the indicator and hence of the estimate for that sector. In general, estimates for *S.11* and *S.1M* (*S.14C*) are of very good quality, as they concentrate a high share of gross fixed capital formation expenditure in a given asset for the most relevant assets in the sector. Estimates for S.12 and S.13 are in general less robust. In the former because of the small size (no asset is concentrated in the sector), in the latter because of the limited availability of S.13 capital expenditure by asset and the impact of one off operations in certain assets (see e.g. securitizations). Table 2.2 below shows how the expenditure in *P.51G* in a given asset is distributed across sectors (ASA).

*Table 2.2 – Domestic sectors' shares of gross fixed capital formation at the ANF*15 asset level of disaggregation (ASA, year 2021)*

Non financial assets		*S.11*	*S.12*	*S.13*	*S.14C*	*S.14P*	*S.15*
*ANF*15_1*	Dwellings excluding associated purchase costs	3.0	0.9	0.0	88.3	7.9	0.0

---

[28] For some assets *S.1M* is estimated and *S.15* obtained as the difference between *S.1M* and *S.14C+S.14P*; for the others *S.1M* is obtained by summing up *S.14C*, *S.14P* and *S.1*5.

ANF*15_2	Costs associated to purchasing dwellings	3.0	0.7	0.2	88.2	7.9	0.0
ANF*15_3	Other buildings and structures	53.2	4.5	31.8	0.0	10.4	0.1
ANF*15_4	Costs associated to purchasing other buldings and structures	63.2	8.0	10.9	0.0	17.7	0.1
ANF*15_5	Road transport equipments	79.5	0.8	3.5	0.0	16.0	0.1
ANF*15_6	Repair of motor vehicles	88.6	0.0	0.0	0.0	11.4	0.0
ANF*15_7	Other transport equipments	83.4	0.0	15.1	0.0	1.5	0.0
ANF*15_8	Other machinery and equipments	86.0	0.4	4.9	0.0	8.5	0.3
ANF*15_9	ICT equipment	76.4	5.7	9.4	0.0	8.2	0.2
ANF*15_10	Weapons systems	0.0	0.0	100.0	0.0	0.0	0.0
ANF*15_11	Cultivated biological resources	21.4	0.0	0.0	0.0	78.3	0.4
ANF*15_12	Research and development	65.9	1.7	31.3	0.0	0.0	1.2
ANF*15_13	Mineral exploration and evaluation	100.0	0.0	0.0	0.0	0.0	0.0
ANF*15_14	Entertainment, literary or artistic originals	54.5	0.0	15.4	0.0	29.7	0.4
ANF*15_15	Software and Other intellectual property products	77.2	6.7	12.5	0.0	3.4	0.2

The sum across assets of estimates by sector and asset is taken as a preliminary estimate by sector. This is benchmarked to the corresponding annual series by sector (ASA) obtaining non balanced estimates by sector, characterized by discrepancies between the estimate of $S.1$ and the sum of domestic sectors given $S.13$ form QNFGGA.

The discrepancies are distributed across private sectors according to the weights of expenditure for 'Other buildings and structure', that is the asset with the most relevant share of expenditure of $S.13$ on which no information is available on a quarterly basis.

2.3.6. *Consumption of fixed capital (P.51C)*

Sources

The quarterly data sources used to estimate $P.51C$ by sector are QNA and QNFGGA. The latter provides the estimate of consumption of fixed capital for the total economy, the latter for the general government. Notice that the estimate for the general government is not included in QNA's estimate of the total economy as it is available later than t+2 months.

ASA are used as constraints in temporal disaggregations of the private sectors.

Methods

The estimate of consumption of fixed capital of the general government and of the total economy, taken respectively from QNFGGA and QNA are taken as constraints. The difference between the two, $S.1-S.13$, is used as indicator for disaggregating consumption of fixed capital of $S.11$, which represents more than 60 per cent of consumption of fixed capital of private domestic sectors. The estimate of consumption of fixed capital of the sector $S.1M$ is obtained using $S.1-S.13-S.11$ as indicator in the temporal disaggregation of the corresponding annual estimates (ASA), while that of $S.12$ is obtained as a residual.

Seasonality is not significant in P.51C series so seasonally adjusted series are set equal to undadjusted series.

2.3.7. *Changes in inventories and acquisitions less disposals of valuables (P.5M)*

Quarterly estimates of $P.5M$ by sector are given by the sum of its components, namely Changes inventories (P.52) and Acquisitions less disposals of valuables ($P.53$):

$$P.5M = P.52 + P.53.$$

The subsections below describe sources and methods used for estimating P.52 and P.53.

Sources

The data sources used to estimate changes in inventories of institutional sectors are QNA for *S.1* and QNFGGA for *S.13*. No other direct or indirect data source is available.

Methods

When estimating *P.52*, estimates for *S.1* and *S.13* are taken respectively from QNA and QNFGGA. Changes in inventories of *S.12* are in general irrelevant and quarterly estimates are obtained dividing by four the corresponding annual estimates with extrapolated quarters set to zero. Estimates for *S.1*1 are obtained through temporal disaggregation of the corresponding ASA estimates using *S.1-S.13-S.12* as indicator (the correlation between annual estimates of *S.11* and annualized quarterly estimates of *S.1-S.13-S.12* is .988 in levels, .955 when first differences are considered). The residual is assigned to *S.14P*, hence to *S.1M*, as both *S.14C* and *S.15* equal zero.

For seasonally adjusted estimates, the same estimation procedure is adopted, with seasonally adjusted estimates from QNA and QNFGGA replacing unadjusted estimates as data sources. Annual constraints used for seasonally adjusted estimates take into account annual calendar effects present in QNA estimates.

2.3.7.2. Acquisitions less disposals of valuables (P.53)

Sources

The main sources used to estimate Acquisitions less disposals of valuables are QNA for S.1 and QNFGGA for S.13. Annual estimates by sector from ASA are used as constraints in the temporal disaggregations.

Methods

The difference between quarterly estimates of *S.1* and *S.1*3 is used to estimate *S.1M* (nearly 90% of *S.1-S.13* according to annual estimates); the latter is then used as reference indicator to estimate S.14C while S.14P is derived as *S.1M-S.14C*. *S.11* and *S.12* flows are relatively small. The former is obtained by temporally disaggregating the corresponding ASA estimates with the quarterly indicator given by *S.1-S.13-S.1M*; the latter is derived as a residual (*S.12=S.1-S.13-S.1M-S.11*).

For seasonally adjusted estimates the same estimation procedure is adopted, with seasonally adjusted estimates from QNA and QNFGGA replacing unadjusted estimates as both data sources and constraints.

2.3.8. *Exports (P.6) and imports (P.7) of goods and services*

Sources

The only source for the compilation of exports and imports of goods and services is QNA. This is the case for both unadjusted and seasonally adjusted series.

Methods

Exports and imports of goods and services are taken from QNA with no modification. For more details on the issue, please refer to sections 1.3.2.3 and 1.4.4.1 and the references on QNA compilation procedures reported in Table A1 of the Appendix.

2.3.9. *Compensation of employees (D.1)*

Wages and salaries (*D.11*) and social contributions (*D.12*) are separately estimated and Compensation of employees (*D.1*) by sector is obtained as sum of its components, i.e.

$$D.1 = D.11 + D.12.$$

From the use side, estimates by sector are obtained through indirect methods combining quarterly information by industry from QNA with annual estimates by industry and sector from ASA. Consistently with estimates from QNA, the industries breakdown level considered is A*14 (see Table A3.2 in the Appendix). *S.14C*, *S.14P* and *S.15* are estimated separately and *S.1M* is obtained by summing up the three subsectors.

Sources

Three main sources are used for estimating *D.11* and *D.12* by sector at quarterly frequency:

- QNA estimates of *D.11* (*D.12*) by industry, distinguished in estimates for

  o *S.13* (provided by the QNFGGA team) and

  o *S.1P* (= *S.11*+*S.12*+*S.1M*), the private sectors.

  Both estimates of *S.13* and *S.1P* are available at a *A*14* breakdown of economic activities (see Table A3.2 in the Appendix);

- BoP estimates of *D.11* and *D.12* from/to non-residents;

- ASA estimates of *D.11* and *D.12* by sector and by sector and industry.

Methods

Both wages and salaries and social contributions paid/received by non-resident operators (*S.2*) are taken from the BoP.

On the use side *D.11* (*D.12*) paid by *S.13* and *S.1* (=*S.13* + *S.1P*) are taken from QNA as such. QNA breakdown by industry of Wages and salaries (Social contributions) paid by the private domestic sectors as a whole is used as indicators in temporal disaggregations for obtaining the estimates of *D.11* (*D.12*) by industry paid by *S.11*, *S.12*, *S.14P*, *S.14C*, *S.15*. Let us denote them $D.11^{i,s}$ ($D.12^{i,I}$), where *i* indicates industries (*i = 1, 2, …, 14* and *s* sectors (*s = S.11*, *S.12*, *S.14P*, *S.14C*, *S.15)*.

More in detail, for each industry *i,* quarterly estimates of wages and salaries (social contribution) are allocated to relevant sectors by temporally disaggregating the corresponding annual estimate by sector of that industry from ASA. The only exception is domestic services (*i* = 14) for which the corresponding wages and salaries (social contribution) is totally and directly assigned to *S.14C*. Similarly to gross value added, the sequence of temporal disaggregations of sectors is implemented starting from the largest share of wages and salaries (social contribution) up to the full allocation of the quarterly estimate of the industry. Shares, which are relatively stable, are computed from ASA (see Table 2.3). The reference indicator used in the first temporal disaggregation of a given industry/sector is the QNA estimate of wages and salaries (social contributions) for that industry in *S.1P*. The resulting estimate is allocated to the first sector in the sequence and the difference between the QNA estimate of S.1P and the latter is used as indicator in the subsequent temporal disaggregation. The sequence of the estimates ends when the quarterly aggregate by industry has been allocated to the last-but-one sector, so that the residual is directly assigned to the reminder sector. The procedure is very effective due to the strong polarization across sectors of the estimates by industry, the only exception being the industry 'Agriculture, Forestry and Fishing'.

Table 2.3 - Private domestic sectors shares of Compensation of employees by industries at the A*14 classification level (ASA, year 2021, ed. March 2022)

	Industries (A*14 classification)	S.11	S.12	S.14C	S.14P	S.15[a]
A*14_1	Agriculture, Forestry and Fishing	55.4	-	-	44.6	-
A*14_2	Mining and Quarrying; Manufacturing; Energy; Water Supply, Sewerage and Waste Management	98.7	-	-	1.3	-
A*14_3	Construction	90.7	-	-	9.3	-
A*14_4	Wholesale and Retail Trade; Transportation and Storage; Accomodation and Food service	94.0	-	-	6.0	0.0
A*14_5	Information and Communication	99.6	-	-	0.4	0.0
A*14_6	Financial and Insurance Activities	7.2	92.8	-	0.0	
A*14_7	Real Estate Activities	93.3		-	6.7	
A*14_8	Professional, Scientific and Technical Activities; Administrative and Support Service Activities	94.3	0.1	-	5.3	0.2
A*14_9	Public Administration and Defence; Compulsory Social Security	-	-	-	-	-
A*14_10	Education	90.6	-	-	3.5	5.9
A*14_11	Human Health and Social Work Activities	90.1	-	-	8.3	1.6
A*14_12	Arts, Entertainment and Recreation activities	87.8	-	-	4.2	8.0
A*14_13	Other Service Activities	69.0	-	-	15.1	15.9
A*14_14	Activities of households as employers of domestic personnel and undifferentiated goods and services production of households for own use	-	-	100.0	-	-

Estimates by sector are then obtained by summing up over industries estimates by sector *s* and industry *i*:

$$D.11^s = \sum_i D.11^{i,s}$$

$$D.12^s = \sum_i D.12^{i,s},$$

with *s = S.11, S.12, S.14P, S.14C, S.15* and *i = 1, 2, …, 14*.

The preliminary (non-balanced) estimates of quarterly Wages and salaries (Social contributions) by sector are benchmarked to the corresponding ASA estimates by means of Denton benchmarking method.

Finally, estimates of Wages and salaries (Social contributions) by sector consistent with the QNA estimate for *S.1* are obtained by assigning to *S.11* the quarterly discrepancies between *S.1* from QNA and the sum of sectors *S.11, S.12, S.13, S.1M*.

On the resource side, Wages and salaries (Social contributions) paid by the domestic sectors are determined by the accounting identities:

D.11_S.1_C = D.11_S1_D + D.11_S.2_D – D.11_S.2_C and

D.12_S.1_C = D.12_S1_D + D.12_S.2_D – D.12_S.2_C,

where C and D denotes credits and debits, respectively. The whole amount of D.11 and D.12 received is assigned to consumer households, hence to *S.1M*.

Seasonally adjusted estimates are obtained adopting the same estimation procedure, with estimates of *S.2* obtained by direct seasonally adjustment of unadjusted series and by benchmarking to the corresponding annual data from ASA. Annual constraints used for seasonally adjusted estimates take into account annual calendar effects where significant (inherited from QNA).

2.3.10. *Taxes on production and imports (D.2)*

Taxes on production and imports (*D.2*) are obtained by summing up Taxes on products (*D.21*) and Other taxes on production (*D.29*):

$$D.2 = D.21+D.29.$$

2.3.10.1.   Taxes on products (D.21)

Sources

The source for QSA estimates of *Taxes on products* is QNA for both unadjusted and seasonally adjusted data. Estimates of *D.21* in QNA come from the QNFGGA and the BoP. For more information on sources and methods used for compiling QNFGGA and BoP estimates of *D.21* see the references in Table A1 in the Appendix.

Methods

The estimates of taxes on products received by *S.13* and by non residents are taken with no modification from QNA and is allocated to non-sectorized sector (S.1N). Seasonally adjusted data of both *S.13* and *S.2* are elaborated by the QNFGGA team.

2.3.10.2.   Other taxes on production (D.29)

Sources

The data sources used for compiling estimates of Other taxes on production are:

- QNFGGA, for *D.29* received by *S.13* by tax type;

- BoP, providing *D.29* paid to *S.2*;

- QNA, for *D.29* paid by resident operators;

- ASA, for *D.29* paid by sector and industry used as constraints in temporal disaggregations;

- QSA estimates of value added by industry and sector (see section 2.3.3).

Most part of the information concerning indirect taxes levied by the general government and by the institutions of the European Union are from administrative sources. For more information on sources and methods used for compiling QNFGGA and BoP estimates of D.29 see the references in Table A1 in the Appendix.

Methods

On the resource side *S.13* and *S.2* data are taken from QNA (see above). The latter determines total *D.29* paid by the whole domestic economy (*D.29_S.1_D).*

On the use side, other taxes on production paid by S.13 are taken from the QNFGGA, while those paid by private sectors are obtained as the sum of D.29 levied by S.13 and by S.2. The latter are all paid by S.12; as for the former, quarterly series by type of taxes from the QNFGGA is used to assign some taxes to specific sectors (es. TASI to S.1M, tax for funds in favor of banks to S.12). The remaining amount of taxes received by S.13 is allocated by temporal disaggregations of the annual flows of D.29 by sector and industry (net of flows directly assigned to sectors on the basis of the tax type). Quarterly data for D.29.S.1 processed in QNA domain, are broken down by industry on the basis of the annual series (ASA are available by industry and by sector; for this purpose, S.1 only is used). Once quarterly estimates of D.29.S.1 by industry are obtained, the indirect tax burden is distributed by sector by means of weights computed starting from data on quarterly estimates of value added available by activities and by sector (see section 2.3.3). Estimates by sector are then obtained by summing up over industries the corresponding quarterly estimates by industry and sector.

Discrepancies between the estimate of *D.29* paid by the total economy (from QNA/QNFGGA) and the sum of unbalanced estimates of *D.29* paid by domestic sectors is allocated to *S.11*.

The same procedure is applied to both unadjusted and seasonally adjusted series by substituting seasonally adjusted data sources to unadjusted ones. Seasonally adjusted estimates of D.29 received by S.2 are obtained by direct seasonal adjustment of unadjusted estimates and benchmarking to the corresponding annual estimates from ASA.

2.3.11. *Subsidies (D.3)*

Subsidies (*D.3*) are obtained by summing up Subsidies on products (*D.31*) and Other subsidies on production (*D.39*):

$$D.3 = D.31 + D.39.$$

2.3.11.1.   Subsidies on products (D.31)

Sources

The source for QSA estimates of *Subsidies on products* is QNA, for both unadjusted and seasonally adjusted figures. Estimates of *D.31* in QNA come from the QNFGGA and the BoP. For more information on sources and methods used for compiling QNFGGA and BoP estimates of D.31 see the references in Table A1 in the Appendix.

Methods

Subsidies on products received by *S.1* are taken from QNA, compiled on the basis of BoP and QNFGGA data on subsidies paid by *S.2* and *S.13* respectively. On the resouces side, flows are assigned to the non-sectorized sectors (*S.1N*).

Seasonally adjusted data of both *S.13* and *S.2* are elaborated by the QNFGGA team.

2.3.11.2.   Other subsidies on production (D.39)

Sources

The data sources used for compiling estimates of Other taxes on production are:

- QNFGGA, providing D.39 paid by the general government by type of subsidy;

- BoP, providing *D.39* paid by *S.2*, and estimates of *FEAGA* funds;

- QNA, providing *D.39* received by resident operators;

- ASA, providing *D.39 received* by sector and industry used as constraints in temporal disaggregations;

- QSA estimates of value added by industry and sector (see section 2.3.3).

Most part of the information on Subsidies come from administrative sources. For more information on sources and methods used for compiling QNFGGA and BoP estimates of D.39 see the references in Table A1 in the Appendix.

Methods

On the use side *S.13* and *S.2* data are taken from QNA (see above). The latter determines total *D.39* received by the whole domestic economy. FEAGA are directly assigned to *S.1M* while the remaining amount of subsidies is allocated through temporal disaggregations by sector and industry using ASA estimates of *D.39* by sector and industry as constraints and

quarterly series by sector and industry as indicators. The latter are obtained in two steps: *i)* quarterly estimates of *D.39* by industry is obtained disaggregating *D.39* on the basis of annual sectoral weights from ASA; *ii)* for each industry, *D.39* by sector is obtained on the basis of its quarterly value added by sector (see section 2.3.3). The above described temporal disaggregations provide estimates of *D.39* received by sector and industry and estimates by sector are then obtained by summing them up over industries.

Any discrepancy between the total amount of subsidies received by the total economy and the sum of unbalanced estimates of *D.39* received by domestic sectors is allocated to *S.11*.

The same procedure is applied to both unadjusted and seasonally adjusted series by substituting seasonally adjusted data sources to unadjusted ones. Seasonally adjusted estimates of D.29 received by S.2 are obtained by direct seasonal adjustment of unadjusted estimates and benchmarking to the corresponding annual estimates from ASA.

2.3.12. *Interest (D.41)*

Interest is estimated by subtracting FISIM from Total interest before FISIM allocation (*D.41G*):

$$D.41 = D.41G - FISIM.$$

2.3.12.1.   Total interest before FISIM allocation (D.41G)

Sources

The data sources used for compiling estimates of Total interest before FISIM allocation are:

- FISIM information system from the Bank of Italy, providing quarterly stocks and related interest rates of resident bank's loans/deposits by counterpart institutional sector;

- *D41.G* paid and received by non-resident units from the BoP;

- Imported and exported FISIM from BoP, providing the imported and exported FISIM flows on a quarterly basis, the stocks of loans/deposits and the interest flows accrued on cross-border operations;

- Eurosystem Statistics, Securities issues;

- Statistics on interest rates from the Bank of Italy, in particular "Banks and Money: National Data" and "Financial Markets", Statistics;

- *D.41G* paid/received by *S.13* broken down by financial instrument provided by QNFGGA;

- QFA, who-to-whom matrices for financial assets and liabilities at a very high degree of detail (instrument/sector) provided by the Bank of Italy;

- ASA who-to-whom matrices of interest flows broken down by financial instrument (deposits, loans, securities, other financial assets) with the following breakdown by institutional sub-sector: Central government, local government, Social security funds, non-financial corporations, households, NPISHs, Central Bank, Other monetary financial institutions, Non-MMF investment funds, Financial auxiliaries, Pension funds, Insurance corporations, financial corporations other than the previous listed sub-sectors.

<u>Methods</u>

Quarterly estimation of Total interest before FISIM allocation flows is based on indicators derived via a "stock x interest rate" procedure, by sector and by financial instrument, too.

The sources are basically the same ones used for the calculation of annual data, i.e. quarterly financial accounts, FISIM information system, statistics on interest rates. Again, Interest paid/received by *S.2* and *S.13* comes from BoP and QNFGG, respectively. The information on quarterly interest paid/received by banks, currently collected by Bank of Italy, proved to be not reliable enough and was not included in the procedure.

The complete set of QFA is disseminated at t+105 days and therefore it cannot be used for estimating the last quarter at t+85 days. Only the stocks of banks' deposits and loans by counterpart sector used in the estimation of FISIM are available (FISIM information system). For the other financial assets/liabilities used in the estimation of quarterly interest, the stocks for the last quarter are estimated using the corresponding monthly series disseminated by the Bank of Italy and the ECB (Eurosystem Statistics).

The approach chosen for the quarterly calculation of *D.41G* (pay/rec) simplifies the annual procedure by selecting and modelling only the most relevant relations attaining to those sectors who are *mainly* engaged in financial intermediation and issuing of securities (*S.13*, *S.12* and *S.2*) vs the counterpart sectors.

The QNFGGA provides *D.41G* paid and received by *S.13*. Separate estimate are made for the following types of interest flows paid by *S.13*:

- Interest on bonds, of which BOT, CCT and BTP (*S.13* vs all other sectors);

- Interest on postal savings (*S.13* vs *S.14*);

- Interest on foreign debt (*S.13* vs *S.2*);

- Interest on loans (*S.13* vs *S.12*).

Each flow is attributed to the counterpart sector by means of an indicator based on the quarterly stocks of the relevant instrument (QFA).

As to *S.12*, in order to estimate quarterly interest flows on loans and deposits of banks (*S.122*) by counterpart sector, we derive indicators by multiplying the relevant quarterly stocks by the quarterly interest rates (FISIM information system and Imported and exported FISIM).

A similar procedure is applied to interest on bonds issued by banks received by the counterpart institutional sectors: adequate interest rates are applied to quarterly stocks (QFA).

The approach described for banks is also followed for estimating interest on securities issued by Other financial intermediaries, Insurance corporations and non-financial corporations. As to sub-sectors *S.125* and *S.128*, the quarterly indicator is defined by the theoretical interest flow calculated as outstanding securities stocks x interest rate on bonds issued by banks and as outstanding securities stocks x average redemption yield on bonds with regard to S.11.

The BoP provides *D.41G* paid and received by *S.2*. In order to ensure consistency between the BoP (BPM6 definitions) and ESA 2010, data are adjusted to net interest flows related to imported/exported interbank FISIM.

The indicators used in the temporal disaggregations of annual total gross interests paid and received by each institutional sector are obtained by adding up the quarterly flows described above. A balancing procedure is applied for guaranteeing the internal consistency of the estimates.

2.3.12.2. Financial intermediation services indirectly measured, FISIM

<u>Sources</u>

The main data sources used for estimating quarterly Financial intermediation services indirectly measured in QSA are:

- the FISIM information system from Bank of Italy: quarterly stocks and related interest rates of resident banks' loans/deposits by counterpart institutional sector;

- imported and exported FISIM (BoP): the imported and exported FISIM flows on a quarterly basis, the stocks of loans/deposits and the interest flows accrued on cross-border operations;

- ASA: domestic FISIM on deposits and on loans and Imported/exported FISIM by institutional sector.

<u>Methods</u>

Domestic output of FISIM is calculated adopting a bottom-up approach. The total output is the sum of the FISIM on deposits of Monetary financial intermediaries (MFIs, *S.122*) and the FISIM on loans granted by MFIs and Other financial intermediaries, except insurance corporations and pension funds (*S.122* and *S.125*) to be "charged" to each user institutional sector other than *S.121* (Central Bank), *S.122* and *S.125*:

$$DOMESTIC\ OUTPUT\ OF\ FISIM = \sum_i FISIM\ ON\ DEPOSITS(i) + \sum_i FISIM\ ON\ LOANI(i)$$

where *i* represents a generic resident institutional sector other than FISIM producers.

FISIM on deposits is computed by applying to the quarterly average stocks of deposits collected by MFIs (*S.122*) from the units belonging to the resident institutional sector other than FISIM producers, the spread between the internal reference rate and the average market interest rate applied by MFIs on deposits.

FISIM on loans is calculated by applying to the quarterly average stocks of loans, granted by intermediaries included in *S.122* and *S.125* to units included in the resident institutional sector other than FISIM producers, the spread between the average market interest rate applied by MFIs on loans and the internal reference rate.

The internal reference rate is calculated at annual level as the ratio of the interest receivable on loans within and between subsectors *S.122* and *S.125* to the stock of loans within and between subsectors *S.122* and *S.125*. The calculation does not include some operators of the subsector *S.125*, such as Confidi[29], consumer credit operators and credit card providers. These categories are not taken into account because their implicit interest rate is particularly unstable, so that their inclusion in the calculation of the internal reference rate would cause an increase in the volatility of the results with negative repercussions on the overall quality of the estimates. The data not included in the calculation represent a small amount of the loans between intermediaries in the sectors *S.122* and *S.125*. The information used to calculate the internal reference rate is the supervisory reports carried out by monetary financial institutions and other financial intermediaries authorized by the Bank of Italy (see Table A2 in the Appendix). The reference rate is estimated at the annual level; the quarterly estimate of the internal reference rate is obtained indirectly using the 6-month Euribor rate as indicator.

---

[29] Confidi (consortia and collective guarantee cooperatives) carries out the activity of issuing collective guarantees of exposures vis-à-vis small and medium-sized enterprises or associated self-employed persons, in order to facilitate their access to the credit of banks and other financial intermediaries (Article 13(1) of Legislative Decree No 269/2003).

Exports and imports of FISIM are calculated by the Bank of Italy in the framework of the compilation of the BoP and included in exports and imports of services of services, while in national accounts they are deducted from the calculation, in compliance with ESA 2010 (see sections 1.3.2.1, 1.3.2.3 and 1.4.4). Exports of FISIM corresponds to the sum of FISIM on loans granted by resident operators in *S.122* and *S.125* to non-resident operators, and of FISIM on deposits of non-resident operators in resident financial intermediaries (*S.122*). Imported FISIM are calculated as the sum of FISIM imported on loans and FISIM imported on deposits. FISIM imported on loans and deposits of each resident institutional sector, other than resident producer sectors, are estimated through a top-down approach: the total value of imported FISIM on loans and deposits is allocated institutional sectors as users according to the underlying stocks, in order to properly allocate imported FISIM between final and intermediate consumption. The calculation of the imported and exported FISIM requires the use of an external reference rate. The external reference rate is calculated as the ratio between interests accrued on loans and deposits and the stock of loans and deposits between resident and non-resident financial intermediaries*.

2.3.12.3. Interest (D.41)

S.11, S.14, S.13, S.15:
Interest paid is obtained by subtracting FISIM on loans consumed by the sector from the Total interest before FISIM allocation.

Interest received is obtained adding FISIM on deposits consumed by the sector to the Total interest before FISIM allocation.

S.12:
Interest paid is obtained by subtracting FISIM on loans consumed by the sector and adding domestic output of FISIM on deposits to Total interest before FISIM allocation.

Interest received is obtained by adding FISIM on deposits consumed by the sector and subtracting domestic output of FISIM on loans from Total interest before FISIM allocation.

S.2:
The BoP compilers provide interest payable by the Row to resident units and interest receivable by the Row from resident units, broken down by counterpart sector, and data on interbank FISIM to make the adjustment needed to ensure consistency between BoP data (BPM6 definitions) and ESA 2010 definitions, where interbank FISIM must be null.

Seasonally adjusted estimates of *D.41* are obtained by direct seasonal adjustment of the corresponding unadjusted series and by benchmarking them to the annual estimates of D.41 from ASA.

2.3.13. *Property income other than interest (D.4N)*

The estimates of property income other than interest (*D.4N*) are obtained by summing up its components. Namely,

- Dividends (*D.421*);

- Withdrawals from the income of quasi-corporations (*D.422*);

- Reinvested earnings on foreign direct investment (*D.43*);

- Other investment income (*D.44*);

- Rent (*D.45*).

Seasonally adjusted series of *D.4N* are obtained at a greater aggregation level, as the sum of seasonally adjusted *D.42*, *D.43*, *D.44* and *D.45*. Seasonally adjusted estimates of these series of private domestic sectors and the RoW are obtained by direct seasonal adjustment of the corresponding unadjusted series, while those of *S.13* are provided by the colleagues compiling the QNFGGA. Seasonally adjusted data are benchmarked to the corresponding annual estimates from ASA.

The subsections below describe the sources and the methods used for estimating each component of *D.4N*.

2.3.13.1. Dividends (D.421)

Sources

The main data sources used for compiling estimates of Dividends are:

- Balance of Payments: dividends paid and received by non-resident units to/from resident units broken down by institutional sector;
- QNFGGA: dividends received by S.13;
- QFA who-to-whom matrices of assets and liabilities stock listed and unlisted equities at a very high level of detail by institutional sectors;
- Supervisory data for banks: quarterly indicator of dividends received by the banks;
- ASA who-to-whom matrices of dividends flows.

Methods

On the uses side, Dividends paid by non-financial corporations and financial corporations other than the Central bank are estimated by applying to the stocks of listed and non-listed equity, as registered in QFA, a *dividend yield index*. Dividends paid by the Central bank are available on a quarterly basis. Dividends paid by the RoW are provided by the BoP, broken down by counterpart sector.
On the resources side, Dividends received by S.13 are provided by QNFGGA. Dividends received by S.12 are disaggregated by means of an overall indicator based on the quarterly figures for dividends received by banks (Supervisory data for banks). Dividends received by the RoW are provided by the BoP by counterpart sector. Dividends received by S.11 and S.14 are computed as shares of the total dividends paid not yet assigned to the other sectors. The attribution to S.11 and to S.14 relies on the relative percentage of the stocks of equity owned by the two sectors (QFA).

2.3.13.2. Withdrawals from the income of quasi-corporations (D.422)

In Italy, sector *S.11* includes corporations employing self-employed workers (see section1.3.1.2). In order to represent the remuneration of self-employed workers in corporations, the same methodology applied for quasi-corporations is used. In the national publication, this income is disseminate as "Other income distributed by corporations" with the code *D.423*, while it is included in the *D.422* flows in the Table 8 of ESA2010 Transmission programme.

Sources

The data sources used for compiling estimates of Distributed income of corporations other than dividends are;

- Balance of Payments, *D.422* paid and received by non-resident units to/from resident units broken down by institutional sector;

- ASA, who-to-whom matrices of Withdrawals from the income of quasi-corporations and Other income distributed by corporations flows;

- QSA, quarterly estimates of the disposable income gross of *D.42*, *D.43* and *D.44* received/paid by non-financial corporations.

Methods

No specific quarterly information is available on units classified as quasi-corporations and on the remunerations of self-employed works in corporations.

As a consequence, the quarterly estimate of the disposable income of non-financial corporations, gross of *D.42, D.43* and *D.44* flows, is used as an indicator for the quarterly reporting of *D.422* paid to households by non-financial corporations. As to the quarterly estimation of D.422 paid by financial corporations to households, annual figures are smoothed over quarters. D.422 paid by the RoW are provided in the BoP. Withdrawals from the income of quasi-corporations receivable by households are estimated using quarterly data on total withdrawals distributed by domestic and foreign enterprises.

2.3.13.3. Reinvested earnings on foreign direct investment (D.43)

Sources

The only data source used for compiling estimates of Reinvested earnings on FDI is the BoP. In particular, the BoP provides estimates of *D.43* flows paid/received by non-resident units to/from resident units broken down by institutional sector and by counterpart geographical area.

Methods

Quarterly estimates of Reinvested earnings on FDI payable and receivable by S.2 are taken from the BoP with no modification.

2.3.13.4. Other investment income (D.44)

Sources

The data sources used for compiling estimates of *D.44* are:

- Balance of Payments, providing quarterly data on "Property income attributable to insurance policy holders" (*D.441*), "Investment income payable on pension entitlements" (*D.442*) and "Investment income attributable to collective investment fund shareholders" (*D.443*) paid and received by non-resident units to/from resident units broken down by counterpart sector;

- QFA, providing whom-to-whom matrices of assets and liabilities stock investment fund shares or units;

- ASA, providing who-to-whom matrices of *D.441*, *D.442* and *D.443* flows.

Methods

Direct information on *D.441* and *D.442* is only available for *S.2* from the Balance of Payments. As for the quarterly estimate of *D.441* paid by Insurance corporations and *D.442* paid by Pension Funds, annual figures are smoothed over quarters. The same quarterly

pattern as *D.441* and *D.442* paid by the financial corporations is applied to annual *D.441* and *D.442* receivable by households and other counterpart sectors.

As to *D.443*, quarterly information on flows paid and received by the RoW by counterpart sector is provided in the Balance of Payments. In order to estimate quarterly *D.443* paid by *S.12*, the QFA outstanding stock of investment fund shares or units issued is used as indicator in temporal disaggregation. *D.443* paid by *S.12* to resident sectors is calculated using the percentage composition of stocks of investment fund shares held by each sectors as an indicator.

2.3.13.5.   Rent (D.45)

Sources

The data sources used for compiling estimates of Rents are;

- QNFGGA, providing rents paid and received by *S.13;*

- ASA, providing who-to-whom matrices of *D.45* flows.

Methods

No direct quarterly information is available for Rents paid and received by enterprises and households. Only quarterly figures of rents payables and receivable by *S.13* from QNFGGA are available. Flows from/to the RoW are null.
As to the quarterly estimation of rents receivable by *S.11* and *S.14* and payable by *S.11*, annual figures are smoothed over quarters. The quarterly estimate of rents paid by *S.14* is obtained residually, by subtracting from the total rents received by resident sectors the rents paid by *S.11* and *S.13*.

2.3.14.   *Current taxes on income, wealth, etc. (D.5)*

Sources

The main data sources used to estimate *D.5* come from ASA, QNFGGA and BoP. Data from the QNFGGA are available by kind of taxes, annual data from ASA are available by paying sector and kind of taxes[30]. For more information on sources and methods used to compile estimates of *D.5* in QNFGGA, BoP and ASA see the references reported in Table A1 of the Appendix.

Methods

D.51 and *D.59* are not estimated separately at quarterly frequency. The procedure for estimating *D.5* payed by private sectors at quarterly frequency is set up in order to replicate as much as possible the annual procedure but direct information by paying sector is only partially available on a quarterly basis.

On the resource side, the only domestic sector receiving D.5 payments is *S.13* whose estimates are taken from the QNFGGA. *D.5 received by S.2 is taken from the BoP*.

On the use side, *D.5* paid by *S.2* is taken from the BoP; *D.5* paid by *S.13* is taken from the QNFGGA. The procedure to allocate the total amount of D.5, consisting of *D.5* paid to *S.13* and (net) *D.5* paid to *S.2,* is arranged in two steps.

The first step of the estimation procedure consists in the construction of ad-hoc sector indicators on the basis of estimates of *D.5* received by *S.13*, which are by kind of taxes. As emerges from Table 2.4 below, in some cases this detail level allows to distinguish between

---

[30] Annual estimates of D.5 by sector and kind of taxes are elaborated by the ASA team on the basis of ANFGGA data.

taxes payed by households and NPISH and those payed by financial or non-financial corporations (e.g. IRPEF is only paid by households, while IRES is only paid by corporations). In all these cases, the corresponding flows are directly assigned to the paying sector; in the other cases, the total amount received by *S.13* from a given tax is used to disaggregate payments of involved sectors (this is the case of several withholding taxes).

Table 2.4 – Current fiscal burden on institutional sectors by main kind of taxes.

Kind of current taxes on income, wealth,… (D.5)	Sectors	
	S.11/S.12	S.1M
IRPEF, the personal income tax		X
IRES, the company income tax	X	
ILOR, the local income tax	X	X
Withholding tax on income from deposits		X
Capital gains tax on shares		X
Withholding tax on life insurance and on complementary welfare		X
Capital gains tax on company assignation	X	
Withholding tax on the mathematical reserve of insurance		X
INVIM, Municipal capital gains tax on buildings	X	X
Withholding tax on company dividends	X	X
New tax on imputed income derived from the appreciation of corporate assets	X	
ICIAP, the municipal tax on industry, crafts and professions		X
SOCOF, the municipal surcharge on real estate	X	X
IMU on building plots	X	X
Motor vehicle duty paid by household		X
Ta' on enterpr'ses' net wealth.	X	
Tax on games and prediction contest		X
Tax on licenses		X
Tax on boats and aircraft	X	
Flat-rate income tax on letting out a house		X
Stamp duty on"secretat"on"of "shie"ded" capitals		X
RAI television fee		X
Other current taxes on income, wealth	X	X

The second step of the estimation procedure consists in the allocation to domestic sectors of current taxes paid to the Rest of World. The working hypothesis relies on the assumption that the quarterly pattern of taxes paid by the domestic sectors to *S.2* follows the same quarterly pattern of current taxes paid to *S.13*.

D.5 paid by S.1 (*D.5_S1_D*) is determined by imposing the accounting identity:

$$D.5\_S1\_D = D.5\_S.1\_C + D.5\_S.2\_C - D.5\_S.2\_D,$$

where *D.5_S.1_C* is the total amount of current taxes received by *S.1 and D.5_S.2_C and D.5_S.2_D* are the total amount of taxes received and paid, respectively, by *S.2.*

The quarterly discrepancies between the amount of *D.5* paid by S.1 and the sum of the preliminary estimates of *D.5* paid by domestic sectors are allocated to *S.1M*.

The same procedure is used for producing seasonally adjusted estimates, with seasonally adjusted data sources substituting unadjusted ones. Seasonally adjusted series from/to *the* RoW are obtained by direct seasonal adjustment of unadjusted series and by benchmarking

them to the corresponding annual series from ASA. Seasonally adjusted series of *S.13* are provided by the QNFGGA team.

2.3.15. *Net social contributions (D.61)*

The main data sources used to estimate *D.61* come from *QNFGGA*, *QNA*, the *BoP and ASA, the latter being used as constraints in temporal disaggregations*. As no infra-annual information is available on *D.614* and *D.61SC*, Net social contributions are estimated as the sum of two components:

$$D.61 = D.61N + D61NN$$

where *D.61N* represents Employers' social contributions, actual (*D.611*) and imputed (*D.612*), and *D.61NN* represents Other social contributions, including Employees net social contributions (*D.613*), households' social contribution supplements (*D.614*) and Social insurance scheme service charge (*D.61SC*).

2.3.15.1.   Employers' social contributions (D.61N = D.611 + D.612)

Sources

The only data sources used for estimating employers' social contributions come from QNFGGA, QNA and the BoP. ASA are used as constraints in temporal disaggregations.

Methods

On the uses side, the total amount of Employers' social contribution is paid by households (*S.1 = S.1M = S.14C*) and, in line with ESA 2010, is set equal to the total amount of social contributions received by the domestic sectors (*D.12_S.1_C*), which is taken from QNA (see section 2.3.9 for details on sources and methods used to estimate *D.12*). Estimates of Employers' social contributions paid by non-residents are taken from the BoP.

From the resources side, the total amount of Employers' social contributions received is set equal to Employers' social contributions payed by *S.1* and *S.2* (see above) minus Employers' social contributions received by S.2 (BoP data). Employers' social contributions received by the general government, representing more than 85% of Employers' social contributions received by the domestic sectors, are taken from the QNFGGA. As no infra-annual information is available for Employers' social contributions received by private domestic sectors (*S.11, S.12* and *S.1M*), that the corresponding flows are estimated by temporally disaggregating the annual figures (ASA) using the difference between the estimates for *S.1* and *S.13* as an indicator. Notice that by doing so any misalignment between S.1, which is based on QNA and BoP data, and *S.13*, which is autonomously and independently estimated in the QNFGGA and represents almost 90% of S.1, is implicitly assigned to *S.11*, *S.12* and *S.1M*. Residual discrepancies, which are in general of very small size, are assigned to *S.12*.

Seasonally adjusted data are produced using the same estimation procedure used for unadjusted data, with seasonally adjusted input series replacing unadjusted ones. Seasonally adjusted BoP data are obtained by seasonally adjusting unadjusted figures, and benchmarking them to the corresponding annual data from ASA. *S.13* seasonally adjusted data are provided by the QNFGGA team. All seasonally adjusted data are benchmarked to annual figures, calendar adjusted where appropriate.

2.3.15.2.	Households' social contributions (D.613) + households' social contribution supplements (D.614) + Social insurance scheme service charges (D.61SC): D.61NN

Sources

The only sources used to estimate *D.61NN* are QNFGGA for the infra-annual dynamics and ASA as annual constraints. The BoP is not involved as there is no flow is registered for this transaction between residents and non-residents.

Methods

No independent data source is available on a quarterly basis for *D.61SC* and *D.614C.* However, the information on households' social contributions (D.613) received by S.13 (taken from QNFGGA) is a valid data source for *D.61NN* transactions between sectors. In facts, as the Employees' social contributions received by the general government represents 100% of Other social contributions received by the general government and between 94% and 99% of Other social contributions received by S.1 as a whole, it is used as an indicator to estimate the latter. The difference between the resulting quarterly estimates of Other social contributions received by S.1 and the estimates of Other social contributions received by S.13 is assigned to *S.12*.

The only paying sector is S.14 and no transaction is registered between residents and non-residents, so that *D61NN* received by *S.1* equals *D.61NN* paid by *S.1*. Seasonally adjusted data are produced using the same estimation procedure as unadjusted data, with unadjusted data sources replaced by seasonally adjusted ones. S.13 seasonally adjusted data are provided by the QNFGGA team. Seasonally adjusted series are benchmarked to annual data from ASA.

2.3.16. *Social benefits other than social transfers in kind (D.62)*

Sources

The only data sources available for compiling *D.62* on a quarterly basis are the QNFGGA and the BoP. Data from ASA are used as constraints in temporal disaggregations.

Methods

The estimates of *D.62* paid/received by *S.2* to/from resident units are taken from BoP.

On the uses side, quarterly estimates of *social benefits* paid by *S.13* are taken from the QNFGGA. The obtained series is then used as reference indicator for social benefits paid by S.1 as a whole (D.*62_S.1_D*). The amount of *D.62* paid by the domestic private sectors (*S.11, S.12* and *S.1M*) is estimated through temporal disaggregations using the difference between social benefits paid by S.1 and social benefits paid by S.13 as an indicator.

On the resources side, the whole amount of *D.62* paid in the economy is received by households (by consumer households in particular) and is set equal to D.62 paid by resident units plus net flows from the rest of the world.

Seasonally adjusted data are produced using the same estimation procedure as unadjusted data, with unadjusted data sources replaced by seasonally adjusted ones. S.2 seasonally adjusted series are obtained through direct seasonally adjustment of unadjusted data. S.13 seasonally adjusted data are provided by the QNFGGA team. All seasonally adjusted data are benchmarked to the corresponding annual series from ASA.

2.3.17. *Social transfers in kind (D.63)*

Sources

The main data sources for compiling estimates of *D.63* are QNA published at t+60 (t+85/90 for reference quarter Q2) and QNFGGA for the general government. The latter is incorporated in the former, ensuring full consistency with both QNA and QNFGGA.

Methods

No transaction is registered between residents and non residents. The compilation of both unadjusted and seasonally adjusted social transfers in kind by sector entirely relies on QNA and QNFGGA data, which are taken as such and allocated to sectors.

On the uses side, social transfers in kind paid by *S.13* and by *S.15* are set equal to the individual final consumption expenditure of the two sector. The total amount of social transfers in kind of S.1 is also taken from QNA and equals the sum of social transfers in kind by *S.13* and *S.15*.

On the resources side, social transfers in kind paid by *S.13* and *S.15* are allocated to (consumer) households.

2.3.18. *Non-life insurance premiums (D.71)*

Sources

The main source used for compiling Non-life insurance premiums is the Households' budget survey (since 2014) whose data are available at t+60[31]. In particular, the series of households' expenditure for insurance contracts, excluding life insurances, is considered. The estimates of flows from/to the RoW are taken from the BoP and general government data from QNFGGA.

Methods

The estimates of non-life insurance premiums paid/received by non-residents to/from residents are taken from the BoP.

On the uses side, non-life insurance premiums paid by the general government is taken from the QNFGGA. Non-life insurance premiums paid by households is estimated by temporal disaggregating the corresponding annual series using the series of expenditure in non-life insurance premiums taken from the Istat households' budget survey as indicator (see Table A2 in the Appendix for information on the survey). No infra-annual information is available for non-life insurance premiums paid by *S.11* and *S.12* and no independent data source is available for non-life insurance premiums received by *S.12*[32], which may serve (together with BoP data on flows from/to the RoW) as an indicator of Non-life insurance premiums paid by domestic sectors as a whole. As a (sub-optimal) solution, the estimate of Non-life insurance premiums paid by households is used as an indicator to estimate those paid by S.1M and the sum of the estimates of Non-life insurance premiums paid by *S.1M* and *S.13* is used for the temporal disaggregation of Non-life insurance premiums paid by *S.1*. The difference between the latter and *D.71* paid by *S.1M* and *S.13* is used in the *temporal* disaggregation of *D.71* paid by *S.11* and *D.71* paid by *S.12* is obtained as a residual.

---

[31] The household budget survey (HBS) focuses on consumption expenditure behaviours of households residing in Italy. It analyses the evolution of level and composition of household consumption expenditure according to their main social, economic and territorial characteristics. The survey is conducted at annual frequency but data are made available for internal use on a quarterly basis, around 60 days after the end of the reference quarter. For more information see the webpage https://www.istat.it/en/archivio/180353 and references therein.

[32] Data from ANIA may serve this role but the quality of the indicator is not good. Further, data are not published regularly and available time series are short. Further investigation on the quality and availability of infra-annual information from ANIA, and from IVASS, is advisable for this transaction.

On the resources side, as mentioned above, no independent data source is available for Non-life insurance premiums received by financial corporations. Then, the total amount of Non-life insurance premiums received by *S.12* (*S.1*) is set equal to Non-life insurance premiums paid by domestic sectors plus the net flows between residents and non-residents.

Seasonally adjusted figures are obtained by seasonally adjusting the corresponding unadjusted series and benchmarking them to the corresponding annual data (ASA). General government data are provided by the QNFGGA team.

2.3.19. *Non-life insurance claims (D.72)*

Sources

The data sources for compiling quarterly estimates of *D.72* are estimates of *D.71* received by *S.1*, the QNFGGA for *S.13* flows and the BoP for *S.2* flows.

Methods

The estimates of Claims paid/received by non-residents to/from residents are taken from the BoP.

On the uses side, all claims are paid by *S.12* and the estimate is set equal to total premiums (*D.71*) received.

On the resources side, Claims received by the domestic sectors as a whole are set equal to claims paid by S.1 plus net claims paid by non-residents. Claims received by the general government are taken from the QNFGGA. As no infra-annual information on claims received is available for private domestic sectors, the difference between *D.72* received by *S.1 and D.72* received by *S.13* is used as an indicator to estimate insurance claims received by S.1M (which is used in turn to estimate *S.14C)*. Insurance claims received by *S.11* are estimated using the difference between claims received by S.1 and claims received by S.13 and S.12 as an indicator in the quarterly disaggregation of the corresponding annual figures; claims received by S.12 are estimated as residual.

Seasonally adjusted figures are obtained by direct seasonal adjustment of the corresponding unadjusted series and by benchmarking them to annual data (ASA). Seasonally adjusted data for *S.13* are provided by the team responsible of compiling the QNFGGA.

2.3.20. *Other current transfers (D.7N)*

The quarterly estimates of Other current transfers are obtained as the sum of the estimates of Current international cooperation (*D.74),* Miscellaneous current transfers (*D.75)* and VAT – and GNI – based own resources (*D.76)*:

$$D.7N = D.74 + D.75 + D.76.$$

Sources and methods used to estimate the three components of *D.7N* are described below.

2.3.20.1.   Current international cooperation (D.74)

Sources

The data sources used for compiling estimates of *D.74* (and *D.74A*) are the QNFGGA and the BoP. The two are mutually consistent, with occasional misalignment mainly due to late arrival of data sources for compiling QNFGGA and, consequently, late data transmission to the compilers of the BoP. Normally, misalignments are temporary and solved in the subsequent production round.

Methods

The only sectors involved in this transaction are *S.2* and *S.13*. Data are taken from BoP and the QNFGGA. In synthesis,

$$D.74\_S.13\_C = D.74\_S.1\_C = D.74\_S.2\_D \text{ and}$$

$$D.74\_S.13\_D = D.74\_S.1\_C = D.74\_S.2\_C$$

where *C* and *D* denote credits and debits, respectively.

Seasonally adjusted figures of D.74 are provided by the QNFGGA team.

The detail 'Of which: payable to/receivable by European institutions (e.g. EDF)' (D.74A) is taken from QNFGGA/BoP as well[33].

2.3.20.2.   Miscellaneous current transfers (D.75)

Sources

Miscellaneous current transfers by sector are compiled on an approximate who-to-whom basis. The data sources used for compiling *D.75* are:

-   ANFGGA by counterpart sector;

-   BoP data by counterpart sector (partial availability);

-   QNFGGA by sub-sector and counterpart sector (partial availability);

-   ASA who to whom flows (consistent with the ANFGGA and the BoP above).

The team responsible of the QNFGGA provides quarterly data on total *D.75* paid/received by the general government and on:

-   *D.75* paid by central government (*S.1311*), by local government (*S.1313*) and by social social security funds (*S.1314*) to firms;

-   *D.75* paid by central government (*S.1311*), by local government (*S.1313*) and by social security funds (*S.1314*) to households and NPISH;

-   *D.75* received by central government (*S.1311*) from households and NPISH;

-   *D.75* received by central government (*S.1311*) from firms;

-   *D75* received by local government (*S.1313*) from firms;

-   *D.75* received by social security funds (*S.1314*) from households and firms.

Together with estimates of the total amount of *D.75* paid/received by *the Rest of the World*, the BoP provides data on *D.75* paid/received to/from households.

No information is available on a quarterly basis for *D.75* paid/received by the other sectors, for which the who-to-whom matrix is built though temporal disaggregation based on trend indicators.

Methods

As mentioned above, miscellaneous current transfers by sector are compiled on an approximate who-to-whom basis. In a first step indicators for who-to-whom temporal disaggregation are computed using available data sources. Quarterly general government

---

[33] In general QNFGGA and BoP coincide; if not, QNFGGA is taken (see section 1.4).

data (see above) are used together with annual data (ANFGGA) to get the following quarterly indicators:

- *D.75_S.13* from/to Firms (used for both Financial and non-financial corporations;

- *D.75_S.13* from/to households;

- *D.75_S.13* from/to NPISH.

As for S.2, the difference between *D.75* paid/received by *S.2* to/from all sectors and to/from S.14, (BoP) is used to compute indicators of D.75 paid/received by S.2 to/from S.11, *S.12* and *S.15,* using annual weights from the corresponding who-to-whom matrix (ASA).

The above indicators for *S.13* and S.2 are used for disaggregating the corresponding annual figures (who-to-whom from ASA). Quarterly who-to-whom estimates of S.12, S.14 and S.15 flows are obtained using trends for smoothing the corresponding annual series. Preliminary estimates of *D.75* uses and resources of sectors are obtained by appropriately summing up who-to-whom data. In the last estimation step, flows are balanced in order to respect the usual accounting constraints: quarterly discrepancies, non-significant in general, are assigned to non-financial corporations.

Seasonally adjusted figures come from direct seasonal adjustment of the corresponding unadjusted time series. The latter are benchmarked to annual data from ASA. General government seasonally adjusted series are provided by the QNFGGA team.

2.3.20.3. VAT- and GNI-based EU own resources (D.76)

Sources

The data sources used for compiling estimates of *D.76* are the QNFGGA and the BoP. The two are mutually consistent, with occasional misalignment mainly due to late arrival of data sources for compiling QNFGGA and, consequently, late transmission of data to the compilers of the BoP. In case of misalignments between the two data sources, QNFGGA is preferred and the misalignment of the BoP are solved in the subsequent production round.

Methods

The only sectors involved in this transaction are S.2 and S.13. Data are taken from QNFGGA and are consistent with BoP data. In synthesis:

$$D.76\_S.13\_D = D.76\_S.2\_C,$$

$$D.76\_S.1\_D = D.76\_S.13\_D \text{ and}$$

$$D.76\_S.13\_C = D.76\_S.1\_C = D.76\_S.2\_D = 0,$$

where *C* and *D* denote credits and debits, respectively. Seasonally adjusted figures for *D.76* are provided by the QNFGGA team.

2.3.21. *Adjustment for the change in net equity of households in pension funds reserves (D.8)*

Sources

No information is available on a quarterly basis to estimate changes in the net equity of households in pension funds reserve.

Methods

The lack of information on this transaction requires the use of a simple smoothing method of the ASA constraint to define the quarterly flows by sector as payer (*S.11*, *S.12* and *S.1M*). In particular, a linear time trend is used as indicator in temporal disaggregations.

Seasonally adjusted series are set equal to unadjusted ones as seasonality is not significant.

2.3.22. *Capital transfers (D.9)*

Estimates of Capital taxes by institutional sectors are obtained as the sum of Capital taxes (*D.91*) and Other capital transfers (*D.9N*).

Sources and methods used for estimating the two components are provided below.

2.3.22.1. Capital taxes (D.91)

Sources

The main data sources used to estimate Capital taxes on a quarterly basis come from the QNFGGA and the BoP. For more information on sources and methods used for compiling estimates of capital taxes in QNFGGA and the BoP see the references in Table A1 of the Appendix. QNFGGA data on *D.91* are also available by kind of capital tax (see Table 2.5 below).
ASA are used as annual constraints in temporal disaggregations. In addition, ASA estimates of *D.91* payments by sector and kind of tax are taken into account for the analysis of the allocation to sectors of quarterly general government flows.

Methods

The estimation procedure for quarterly data is set up in order to conform as much as possible to the annual one, but direct information by paying sector is only partially available on a quarterly basis.

Estimates of capital taxes paid/received by non-residents to/from residents are taken from the BoP. The total amount of *D.91* paid by private domestic sectors equals *D.91* paid to *S.13* and to *S.2*[34]. The latter is entirely attributed to *S.11* based on detailed information from the BoP (available from 2010). D.91 received by *S.13* are allocated to sectors as payers on the basis of ad-hoc indicators that take into account the amount of *D.91* received by *S.13* by kind of taxes. These flows allow to distinguish capital taxes payed by households and NPISH from those paid by corporations (non-financial or financial) and are used to construct ad hoc indicators of *D.91* payments by sector.

The Table 2.5 below shows the correspondence between kind of taxes and institutional sectors as payers. As shown in the table, some capital taxes can be directly assigned to a unique paying sector (e.g. fiscal shield has to be charged on households); when more than one paying sector is involved, the total amount of the relevant tax kind received by *S.13* is used as reference indicator to estimate the amount of that tax kind paid by each sector.

Table 2.5 – Capital fiscal burden on institutional sectors by main kind of taxes.

Capital taxes by kind of taxes	Sectors	
	S.11/S.12	*S.1M*
Tax derived from the appreciation of corporate assets	X	
Withholding tax on TaxesFR (severance pay)		X
Extraordinary transfer to EU		X

---

[34] Notice that payments from S.2 are null.

Resources from regularization of delayed payments		X
Tax amnesty	X	X
Tax on estate / inheritance net value	X	X
Extraordinary tax on buildings	X	X
Extraordinary tax on deposits	X	X
Substitute tax on corporate assets	X	
Tax on luxury goods	X	X
Fiscal shield		X
Resources from adaptation of extraordinary directives on banks	X	
Amnesty on buildings	X	X
IAS	X	
Mortgage and cadastral taxes	X	X
Substitute tax on emersion	X	X
TARES surcharge	X	X
Tax on successions and donation		X
Voluntary disclosure		X
Resources from resolution of tax disputes		X
Other capital taxes	X	X

The quarterly discrepancies between *D.91 paid by the whole economy* and the sum of payments of domestic sectors are allocated to *S.1M*.

For this transaction, seasonally adjusted series are set equal to unadjusted series as seasonality is not significant.

2.3.22.2. Other capital transfers (D.9N)

Sources

Quarterly data sources used to estimate *D.9N* are the QNFGGA and the BoP and ASA. For more information on sources and methods used for compiling estimates of other capital transfers in QNFGGA, BoP and ASA see the references reported in Table A1 of the Appendix.

Methods

Although detailed information concerning *D.92* and *D.99* are available for *S.13* and *S.2*, quarterly estimates of private institutional sectors are arranged at *D.9N* level.

The estimation procedure is based on a who-to-whom matrix of Other capital transfers. Such matrix is used to represent flows to/from *S.13* and *S.2* by counterpart sector at yearly and quarterly frequency. Quarterly *D.9N* paid and received by institutional sectors are separately treated: flows between private sectors and S.13 on one side, and flows between domestic sectors and S.2 on the other side.

On the uses side, *D.9N* received by *S.13* from domestic sectors is taken from QNFGGA. The quarterly pattern of *S.13* revenues is used as an indicator for the payments of all the domestic sectors *S.11*, *S.12* and *S.1M*. On the resources side, *D.9N* payments by *S.13* can be assumed as the result of extraordinary operations and registered on the basis of ad-hoc collected information. Such operations are detected and directly assigned to the relevant quarter/sector (transfers paid to productive institutional units during COVID-19 emergency, for instance). *S.13* Capital transfers other than capital taxes to/from *S.2* are calculated by the QNFGGA team on the basis of quarterly direct information provided by the Ministry of

Finance and are detailed by recipient sector. These data are shared with the collegues at Bank of Italy to be included in the BoP.

The indicators built with quarterly data to/from *S.13* and *S.2* are used to disaggregate ASA constraints by sector. The first step of the procedure consists in the estimation by sector on the resources side, for which the information is more reliable. Then, on the basis of the accounting relationships, indicators are used to estimate *D.9N* payments of domestic sectors. Quarterly discrepancies between *D.9N* paid by *S.1* and the sum of domestic sectors are allocated to *S.11* in order to ensure internal consistency.

Seasonally adjusted series for this transaction are obtained through direct adjustment of the unadjusted series, followed by benchmarking to annual totals. Seasonally adjusted data of the general government are elaborated by the QNFGGA team.

2.3.23. *Consumption of fixed capital (P.51C)*

Sources

The quarterly data sources used for compiling estimates of consumption of fixed capital are the QNFGGA, for the general government, and QNA published at t+60 (t+85/90 for Q2). ASA are used as constraints in temporal disaggregations.

Methods

Though not published, estimates of Consumption of fixed capital of *S.1* are compiled within QNA, taking into account *S.13* data provided by the *t*eam involved in the compilation of QNFGGA[35]. The two enter with no change in QSA. No data sources is available on a quarterly basis for private domestic sectors, hence the following procedure is used: the difference between the two (*S.1* minus *S.13*) is used as an indicator for *S.11* and, in turn the difference between *S.1* and *S.13* plus *S.11* is used as an indicator for *S.1M*; finally *S.12* is obtained as a residual.

Seasonally adjusted series equal unadjusted series as seasonality is not significant.

2.3.24. *Acquisitions less disposals of non-financial non-produced assets (NP)*

Sources

The only two quarterly data sources available to estimate net disposals of non-financial non-produced assets are the BoP and the QNFGGA, while no information is available on a quarterly basis for private domestic sectors. ASA are used as annual constraints in temporal disaggregations.

Methods

Net disposals of non-financial non-produced assets are compiled on the use side.

NP of the total economy (*S.1*) equals that of *S.2* with opposite sign. The estimate of NP of the general government is taken from the QNFGGA. The resulting estimate of NP of domestic private sectors, given by *S.1* minus *S.13*, is used as indicator in the temporal disaggregation for estimating *S.11*. Then, *S.1* minus *S.11* minu*s S.13* is used to estimate *S.1M* and *S.12* is obtained as residual.

Seasonality in *NP* series by sector is not significant, hence seasonally adjusted series are set equal to unadjusted series.

---

[35] For sources and methods used in QNA and QNFGGA for compiling estimates of *P.51C*, refer to the manuals in Table A2 of the Appendix.

3. APPENDIX

3.1. REFERENCE MANUALS AND OR INVENTORIES (M&I)

Table A1 - Reference manuals and or inventories (M&I) for BoP and selected NA domains

Data sources	References of manual and/or inventories
BOP	ECB (2016), "European Union balance of payments and international investment position statistical sources and methods", November 2016 (pp. 27-45).
	Banca d'Italia (2018), "Bilancia dei pagamenti e posizione p'trimoniale 'ull'estero", Metodi e fonti: Manuali, Giugno 2018 (in Italian only).
	Banca d'Italia (2019), Balance of payments and international investment position", Methods and sources: Methodological notes, 19 November 2019.
QNFGGA	Eurostat (2019), "Manual on Government Deficit and Debt. Implementat–on of ESA 2–10 - 2019 edition", Manuals and guidelines.
	Istat (2020), "Inventory of the methods, procedures and sources used for the compilation of deficit and debt data and the underlying government sector accounts according to ESA 2010. Italy", July 2020.
	Eurostat (2011), "Manual on quarterly non-financial accounts for gen–ral governm–nt - 2011 edition", Eurostat Methodologies and working papers.
ASA	Istat (2019), "Italy annual non-financial accounts by institutional sector inventory (ESA 2010)", May 2019.
QNA	Istat (2008), "Quarterly national accounts inventory. Sources and methods of Italian quarterly national accounts". (outdated)
	Istat (2015), "I conti economici trimestrali. Principali elementi informativi" (in Italian only).

3.2. *DATA SOURCES USED FOR THE COMPILATION OF QSA AND THEIR CHARACTERISTICS*

Table A2 - Data sources used for compilation of QSA and their main characteristics.

Data source	Main characteristics
Balance of Payments*	**Type of source** Statistical **Type of collection method** Census data for IMF and OFI; NA estimates for goods; sample surveys for tourism, international travel and merchandise transport; direct reporting systemfor non-financial and insurance corporations about their transactions with RoW;administrative data **Population and reporting units** All MFIs and OFIs supervised by the Bank of Italy ; about 7,000 non-financialand insurance corporations selected on the basis of their size (value of total assets) and their volume business with RoW; general government; households and other units involved in transactions with non-resident units **Contents** The compilation of BoP complies with BPM6 standards. BoP provides all variables to compile RoW account broken down for the following counterpart sectors: central bank, MFIs, financial corporations other than MFIs, general government and other institutional units (non-financial corporations, householdsand NPISHs) **Valuation principle** Accrual **Organization collecting data** Bank of Italy **Periodicity** Monthly, quarterly **Timeliness** M+50 days, Q+83 days
Household Expenditure Survey (from2014)	**Type of source** Statistical **Type of collection method** Survey **Population and reporting units** About 25,700,000 resident households

	Annual theoretical sample of about 28,000 households, annual actual sample of about 17,000 households
	Contents Socio-demographic characteristics of the household members, housing condition, household expenditures on goods and services for private use.
	Organization collecting data Istat
	Periodicity Quarterly/annual
	Timeliness t+60 days (quarterly)/t+6 months (annual)
Supervisory reporting by the FIs to theBank of Italy	**Type of source** Administrative data
	Type of collection method Census data
	Population and reporting units Deposit-taking corporations: domestic banks (excluding CDP S.p.A.) entered inthe Register of banks held by the Bank of Italy (legal basis, article 13 of the Consolidated Law on Banking (TUB), Legislative Decree No. 385/1993), and domestic branches of EU banks entered in the List of bank branches held by theBank of Italy (legal basis, Banking supervisory instruction). Securities investment firms (SIM): SIM entered in a register held by Consob (legal basis, article 20 of the Consolidated Law on Finance (TUF), Legislative Decree No. 58/1998); SIM groups entered in a register held by the Bank of Italy(article 11 of the TUF). Other financial intermediaries: financial intermediaries entered in the Special register of financial companies held by the Bank of Italy (legal basis, article 107 of the TUB, Legislative Decree No. 385/1993, before the adoption of LegislativeDecree 141/2010); payments intermediaries and Electronic money institutions (EMIs) entered in the Register of EMIs held by the Bank of Italy (legal basis, article quarterater of the TUB, Legislative Decree No. 385/1993)
	Contents Aggregate financial statements (Balance Sheet, Profit and Loss accounts, note to financial statements) and additionalsupervisory information. The Bank of Italy collects information on banks and other financial intermediaries, through regular and structured prudential and statistical-accounting reporting. References: Bank of Italy, "Vigilanza bancaria e finanziaria – Matrice dei conti", Circolare n. 272, dated 30th July 2008 and following amendments; Bank of Italy, "Manuale delle segnalazioni statistiche e di vigilanza per gli intermediari del mercato mobiliare", Circolare n. 148, dated 2nd July 1991 and following amendments; Bank of Italy, "Manuale per la compilazione delle segnalazioni di vigilanza per gli intermediari finanziari, per gli istituti di pagamento e per gli IMEL", Circolare n. 215, dated 5th August 1996 and subsequent amendments]
	Valuation principle Accrual
	Organization collecting data Bank of Italy
	Periodicity Quarterly, annual
	Timeliness t+55 days, t+7 months
FISIM information system	**Type of source** Administrative data
	Type of collection method Census data
	Population and reporting units Deposit-taking corporations: domestic banks (excluding CDP S.p.A.) entered inthe Register of banks held by the Bank of Italy (legal basis, article 13 of the Consolidated Law on Banking (TUB), Legislative Decree No. 385/1993), and domestic branches of EU banks entered in the List of bank branches held by theBank of Italy (legal basis, Banking supervisory instruction)
	Contents Quarterly stocks and related interest rates of resident bank's loans bycounterpart institutional sector Quarterly stocks and related interest rates of resident bank's deposits bycounterpart institutional sector
	Valuation principle Accrual
	Organization collecting data Bank of Italy
	Periodicity Quarterly
	Timeliness q+38 days

Imported and exported FISIM	**Type of source** Administrative data **Type of collection method** Census data **Population and reporting units** Deposit-taking corporations (S.122), Money market funds (sub-sector S.123) and a macro sector that gathers together the institutional sectors different from S.122 and S.123 **Contents** Imported and exported FISIM, the stocks of loans/deposits and the interest flowsaccrued on cross-border operations **Valuation principle** Accrual **Organisation collecting data** Bank of Italy **Periodicity** Quarterly **Timeliness** q+55 days
Quarterly national accounts*	**Type of source** Statistical **Type of collection method** Elaborations of statistical and administrative data according to ESA 2010 accounting standards **Population and reporting units** Institutional units **Contents** Quarterly estimates of GDP and its components by supply, demand and income **Valuation principle** accrual **Organization collecting data** Istat **Periodicity** quarterly **Timeliness** q+60 days (and q+85/90 days for second quarters)
Annual sector accounts*	**Type of source** Statistical **Type of collection method** Elaborations of statistical and administrative data according to ESA 2010 accounting standards **Population and reporting units** Institutional units **Contents** Annual estimates of non-financial transactions of institutional sectors **Valuation principle** accrual **Organization collecting data** Istat **Periodicity** annual **Timeliness** t+3 months and t+9 months
Financial Accounts	**Type of source** Statistical **Type of collection method** Census data for MFIs, insurance corporations, general government,administrative information for other units **Population and reporting units** Institutional units

	Contents Stocks and flows of Italy's financial assets and liabilities classified by institutional sector (S.11, S.12, S1.13, S.14, S.15, S.2) and by financialinstrument **Valuation principle** accrual **Organization collecting data** Bank of Italy **Periodicity** quarterly **Timeliness** q+95 days
General Government non-financialaccounts*	**Type of source** Statistical **Type of collection method** Census data (annual), Elaborations of statistical and administrative data (quarterly) according to ESA 2010 accounting standards and the Manual on Government Deficit and Debt. Implementation of–ESA 2010 - 2019 edition. **Population and reporting units** All public non-market units included in S.13 **Contents** All items of non-financial accounts of S.13 and its sub-sectors (S.1311, S.1313, S.1314), tax/subsidy by category and/or by counterpart sector (partial availability at quarterly level) **Valuation principle** Accrual (or adjusted cash for quarterly estimates) **Organization collecting data** Istat **Periodicity** Annual, quarterly **Timeliness** t+3/9 months (annual), q+85 days/3 months (quarterly)

* References of manuals and/or inventories of sources and methods are indicated in Table A1 above.

3.3. CLASSIFICATIONS BY INDUSTRY USED IN QSA

Table A3.1 – A*45 classification of industries and correspondence with A*64 (ESA 2010).

Code	Description	Correspondence with A*64 (ESA 2010)
A*45_1	Crop and animal production, hunting and related service activities; Forestry and logging	A*64_1_a*64_2
A*45_2	Fishing and aquaculture	A*64_3
A*45_3	Mining and quarrying	A*64_4
A*45_4	Manufacture of food products, beverages and tobacco products	A*64_5
A*45_5	Manufacture of textiles, wearing apparel and leather products	A*64_6
A*45_6	Manufacture of wood and wood products, except furniture; manufacture of articles of straw and plaiting; Manufacture of paper and paper products; Printing and reproduction of recorded media	A*64_7_A*64_9
A*45_7	Manufacture of coke and refined petroleum products	A*64_10
A*45_8	Manufacture of chemicals and chemical products	A*64_11
A*45_9	Manufacture of basic pharmaceutical products and pharmaceutical preparations	A*64_12
A*45_10	Manufacture of rubber and plastics products; Manufacture of other non-metallic mineral products	A*64_13_A*64_14
A*45_11	Manufacture of basic metals and of fabricated metal products, except machinery and equipment	A*64_15_A*64_16
A*45_12	Manufacture of computer, electronic and optical products	A*64_17
A*45_13	Manufacture of electrical equipment	A*64_18
A*45_14	Manufacture of machinery and equipment n.e.c.	A*64_19
A*45_15	Manufacture of motor vehicles, trailers and semi-trailers	A*64_20
A*45_16	Manufacture of other transport equipment	A*64_21
A*45_17	Manufacture of furniture; other manufacturing; Repair and installation of machinery and equipment	A*64_22_A*64_23
A*45_18	Electricity, gas, steam and air conditioning supply	A*64_24
A*45_19	Water supply, sewage and waste management	A*64_25_A*64_26
A*45_20	Construction	A*64_27
A*45_21	Wholesale and retail trade and repair of motor vehicles and motorcycles	A*64_28
A*45_22	Wholesale trade, except of motor vehicles and motorcycles	A*64_29
A*45_23	Retail trade, except of motor vehicles and motorcycles	A*64_30
A*45_24	Transportation and Warehousing and support activities for transportation	A*64_31_A*64_34
A*45_25	Postal and courier activities	A*64_35
A*45_26	Accommodation; food and beverage service activities	A*64_36
A*45_27	Publishing audio-visual and broadcasting activities	A*64_37_A*64_38
A*45_28	Telecommunications	A*64_39
A*45_29	Computer programming, consultancy and related activities; information service activities	A*64_40
A*45_30	Financial service activities, except insurance and pension funding	A*64_41
A*45_31	Insurance, reinsurance and pension funding, except compulsory social security	A*64_42
A*45_32	Activities auxiliary to financial services and to insurance activities	A*64_43
A*45_33	Real estate activities	A*64_44 minus 68.201 (NACE rev 2.2)
A*45_34	of which: imputed rents of owner-occupied dwellings	68.201 (Nace rev 2.2)
A*45_35	Legal, accounting, consultancy, architecture and engineering activities	A*64_45_A*64_46
A*45_36	Scientific research and development	A*64_47
A*45_37	Advertising and market research; other professional scientific, technical and veterinary activities	A*64_48_A*64_49
A*45_38	Administrative and support services	A*64_50_A*64_53
A*45_39	Public administration and defence; compulsory social security	A*64_54
A*45_40	Education	A*64_55
A*45_41	Human health activities	A*64_56
A*45_42	Social work activities	A*64_57
A*45_43	Art, entertainment and recreation activities	A*64_58_A*64_59
A*45_44	Activities of membership organisations; Repair of computers and other personal services activities	A*64_60_A*62
A*45_45	Activities of households as employers of domestic personnel and undifferentiated goods and services production of households for own use	A*64_63

*Table A3.2 – A*14 classification of industries and correspondence with A*45 (ESA 2010).*

Code	Description)	Correspondence with A*45 (see Table A3.1)
A*14_1	Agriculture, Forestry and Fishing	A*45_1_A*45_2
A*14_2	Mining and Quarrying; Manufacturing; Energy; Water Supply, Sewerage and Waste Management	A*45_3_A*45_19
A*14_3	Construction	A*45_20
A*14_4	Wholesale and Retail Trade; Transportation and Storage; Accomodation and Food service	A*45_21_A*45_26
A*14_5	Information and Communication	A*45_27_A*45_29
A*14_6	Financial and Insurance Activities	A*45_30_A*45_32
A*14_7	Real Estate Activities	A*45_33_A*45_34
A*14_8	Professional, Scientific and Technical Activities; Administrative and Support Service Activities	A*45_35_A*45_38
A*14_9	Public Administration and Defence; Compulsory Social Security	A*45_39
A*14_10	Education	A*45_40
A*14_11	Human Health and Social Work Activities	A*45_41_A*45_42
A*14_12	Arts, Entertainment and Recreation activities	A*45_43
A*14_13	Other Service Activities	A*45_44
A*14_14	Activities of households as employers of domestic personnel and undifferentiated goods and services production of households for own use	A*45_45

3.4. CLASSIFICATION BY NON-FINANCIAL ASSETS USED IN QSA

Table A4 – ANF*15 classification of non-financial assets and correspondence with the ESA 2010 classification.

Code	Description	Correspondence with the ESA 2010 classification of non-financial activities
ANF*15_1	Dwellings excluding associated purchase costs	AN.111
ANF*15_2	Costs associated to purchasing dwellings	AN.111
ANF*15_3	Other buildings and structures	AN.112
ANF*15_4	Costs associated to purchasing other buldings and structures	AN.112
ANF*15_5	Road transport equipments	AN.1131
ANF*15_6	Repair of motor vehicles	AN.1131
ANF*15_7	Other transport equipments	AN.1131
ANF*15_8	Other machinery and equipments	AN.1139
ANF*15_9	ICT equipment	AN.1132
ANF*15_10	Weapons systems	AN.114
ANF*15_11	Cultivated biological resources	AN.115
ANF*15_12	Research and development	AN.1171
ANF*15_13	Mineral exploration and evaluation	AN.1172
ANF*15_14	Entertainment, literary or artistic originals	AN.1174
ANF*15_15	Software and Other intellectual property products	AN.1173, AN.1179