



Survey on cross-border transactions in services by non-financial and insurance firms (Direct Reporting)

Database handbook

Reference period for the data: from January 2013 to December 2023

Last update: September 2025

Keywords: non-financial transactions, insurance firms, insurance companies, insurers, balance sheet



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General information

This database contains the data on international trade in services reported by non-financial and insurance firms and gathered through the questionnaire on non-financial quarterly transactions (Transazioni Trimestrali Non Finanziarie, TTN), as part of Banca d'Italia's Direct Reporting sample survey. The purpose of direct reporting is to compile Italy's balance of payments and international investment position. In fact, the survey and sample design have been constructed specifically with a view to preparing the statistics for the 'Other services' aggregate in the Balance of Payments. The accuracy of the information gathered to fill in the variables in the database (especially information obtained from a limited number of observations)¹ may therefore be affected by the precision limits inherent to the sampling approach.

Reference population

The sampling methodology for direct reporting has changed significantly due to the evolution of the statistical and regulatory requirements. It is therefore necessary to distinguish between the method used through 2022 and the one adopted since 2023.

Sampling methodology through 2022

Until 2022, the survey used a cut-off sample design with two main stratification variables: the size of the firm (as measured by turnover) and the presence of cross-border settlements made through banks resident in Italy.

The reference population is divided into two main groups (see Figure 1), separating the firms that settled cross-border transactions through the national banking system from those that did not. In both groups, the largest firms are prioritized by applying differentiated thresholds: €90 million for firms that made cross-border settlements and €165 million for the others. The thresholds were calculated through an empirical analysis of the data on the transactions settled through resident banks to make sure that around 95 per cent of cross-border transactions in value (accounts payable and receivable) can be attributed to the two groups.

Below these thresholds, two more sub-groups of firms were identified: firms with a turnover between €10 and €90 million that made cross-border settlements (through banks resident in Italy)

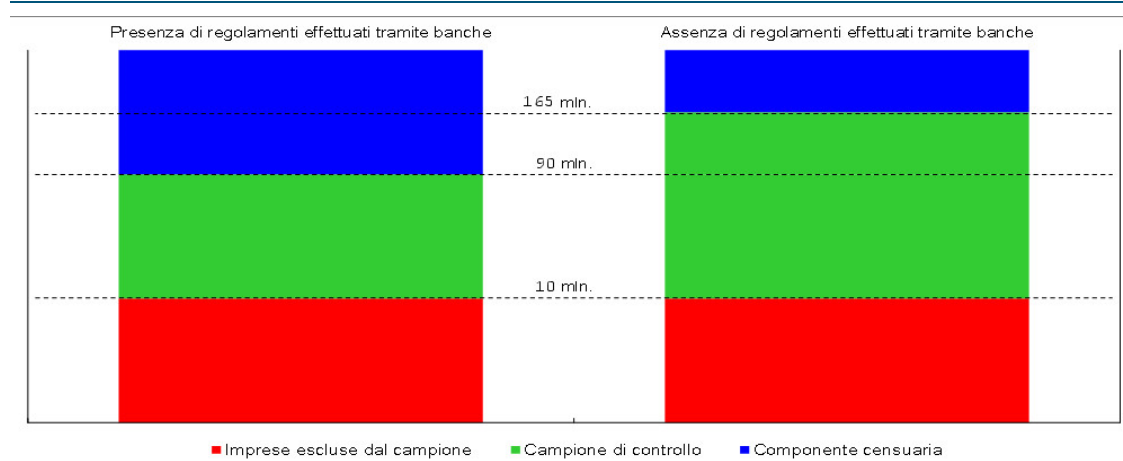
¹ For a detailed list of the variables, see the ['Variable list'](#).

and firms with a turnover between €10 and €165 million that did not make such settlements. From those groups, an additional subset of about 400 firms is drawn, through simple random sampling, to monitor any structural changes in the economic phenomena investigated. Firms with a turnover below €10 million are excluded from the sample, as the analyses carried out showed a negligible contribution to exports and imports of services.

The sample for the survey on non-financial transactions (TTN sample) consists of about 3,500 firms and, as of 2013, it remains valid for two years (prior to that year it was drawn annually).

Figure 1- Pre-2023 sample design for cross-border transactions in services by non-financial and insurance firms

(turnover thresholds in millions of euros – year 2015)



Sampling methodology as of 2023

Starting with the 2023 survey, the reference population for direct reporting is made up of the total of Italian non-financial and insurance firms, i.e. limited companies resident in Italy and entered in the Infocamere and ASIA Istat integrated registers (about one million units).

The TTN sample only includes limited companies with a turnover of over €1 million, which in 2023 amounted to around 350 thousand firms. All the firms with a turnover exceeding €165 million are

automatically included in the sample as they are considered to be self-representative units. The remaining firms, i.e. those with a turnover between €1 million and €165 million, are selected on a random basis.

This approach reduces the reporting burden by excluding the smallest firms and those that are not required to submit a cash flow statement, such as sole proprietorships, for which cross-border flows are generally negligible.

The new sample design is based on four stratification variables:

- Turnover class (€1-€10 million, €10-€165 million, €165-€200 million, over €200 million),
- Sector of economic activity (as per NACE REV.2 classification);
- Number of employees (less than 10, 10-49, 50-249, more than 250 employees);
- Cross-border payments and/or foreign direct investment flows (inward and/or outward);

As of 2023, the TTN sample consists of around 5,000 firms and it has a validity of three years. The firms that dissolve during the three-year validity period are replaced by homogeneous statistical units (i.e. with equal stratification variables).

Availability period and frequency of the data

The data for the survey on international trade in services, which cover all the years since 2013, are collected quarterly. The firms in the sample are required to report the information contained in the TTN questionnaire by the end of the month following the reference quarter. The transactions must be recognized on an accrual basis, i.e. in the period in which the service is provided.

The database is updated annually in October; the relevant amounts are obtained by adding the values reported for the four quarters of the previous year. The time series may be revised after new reports are submitted by the firms.

Data Collection and regulatory references

Banca d'Italia is responsible for compiling Italy's balance of payments and international investment position statistics pursuant to Article 11(1) of Legislative Decree 195/2008 (published in the Official Journal of the Italian Republic (GU) No. 291 of 13.12.2008). Compiling external statistics enables

Italy to meet its statistical obligations vis-à-vis the European Central Bank, the European Commission, the International Monetary Fund and other international organizations. For this purpose, Banca d'Italia uses a composite set of sources, including a data collection system centred around business surveys (direct reporting) and the reporting of financial and non-financial transactions by general government bodies vis-à-vis non-resident entities. Direct reporting is governed by the Banca d'Italia measure of 16 February 2016 (Published in the GU – General Series No. 50 of 1 March 2016) as amended (Banca d'Italia measure published in the GU No. 152 of 1 July 2019).

Aggregate statistics and reference publications

The aggregate data drawn from the database are only partially comparable with those of the balance of payments flow as the database only contains data referring to the firms. The balance of payments statistics are published monthly by Banca d'Italia and adopt the methodological conventions laid out in the sixth edition of the IMF's manual (BPM6). The data are made available through the Bank's statistical publications and on its website in the Statistical Database section (BDS).

Database structure and characteristics

The database consists of one CSV file that can be used for statistical processing but cannot be downloaded. The dataset does not contain all the types of transactions covered by the TTN questionnaire but only a subset referring to some types of services covered by the balance of payments, as detailed in Table 1 of the Appendix.²

The TTN questionnaire is divided into four sections, designed to collect data on:

- details on the reporting firm;
- business (e.g. ATECO code, sector of economic activity) and balance sheet data;
- contact information;
- data on transactions in services, intangible assets, unilateral transfers, wages and salaries.

² More specifically, cross-border transactions in construction, intangible assets, unilateral transfers, wages and salaries are excluded.

In addition to the transaction amounts, the database contains variables relating to the reporting agent's business and balance sheet data, such as balance sheet assets, turnover, net equity and number of employees. To preserve confidentiality, these variables are provided in the form of size classes (see the section 'Description and characteristics of the variables'). Firms are classified by geographical macro-area (North-East, North-West, Centre, South and Islands) rather than by the municipality in which they are headquartered.

The amounts are in euros.

Methodology and imputation of missing data

Starting with the 2023 survey, the cut-off methodology used to determine the total aggregates for the reference population was replaced by stratified sampling and a separate ratio estimator was chosen, using turnover as the auxiliary variable and adjusting the estimates for non-responses. The stratified sampling estimate with turnover as auxiliary variable is determined by a weight for each sample unit in the H stratum, given by:

$$z_h = \frac{F_h}{f_h},$$

where F_h is the total turnover in the population for the H stratum and f_h is the total turnover in the sample for the same stratum.

The adjustment for non-responses makes sure that the absence of responses from one or more selected firms in the sample is taken into account in the final estimate. The non-response adjustment p_h for the generic H stratum is given by:

$$p_h = \frac{f_h}{d_h},$$

where f_h is the total turnover in the sample for the H stratum and d_h is the total turnover of only the respondent firms. The sample weight, which accounts for non-responses, is:

$$v_h = z_h \cdot p_h = \frac{F_h}{f_h} \cdot \frac{f_h}{d_h} = \frac{F_h}{d_h}$$

In practice, non-responses are assumed to be missing at random, and non-respondent firms are

assumed to have similar characteristics to the respondent ones.

Finally, total international trade in services for each category, counterparty country and flow direction is estimated by summing the weighted contributions of all the firms in the sample, according to the following formula:

$$S = \sum_{h=1}^N v_h \cdot \sum_{i=1}^{n_h} s_{h_i},$$

where N is the number of strata and s_{h_i} is the value of the service provided by the firm in the h stratum, and where the respondents are equal to n_h

Each firm in the sample is assigned a grossing-up coefficient that indicates the number of firms in the population represented by that firm. The weights are recalculated quarterly at each round of the survey based on the number of firms that actually transmitted the data in the reference period, adjusted for any distortions due to non-response rates.

For the period prior to 2023, the sampling weights calculated on a small number of strata (see the section ‘Sampling methodology through 2022’) are adjusted accordingly to ensure continuity of the time series, keeping the totals for imports and exports of services unchanged.

It is a two-step process:

1. first, we calculate the estimator for each stratum at firm level;
2. then, for each type of service, we apply an adjustment factor to guarantee consistency of the time series with the results obtained from 2023 onwards.

Accordingly, the sampling weights may vary, for each firm and period, depending on the specific type of service.

As the main objective of the survey is the compilation of the balance of payments, it was conceived to guarantee the accuracy of the estimates for the individual service items on a quarterly basis (at least). The reference period for the information stored in the REX database, instead, is the solar year; estimations are reliable for the couple ‘type of transaction’/‘counterparty area’, but their accuracy may significantly diminish when more dimensions are added to the couple ‘type of transaction’/‘counterparty area’.

Variables description and characteristics

The description of the variables and the domain of the relevant attributes are contained in this excel file.

Variable list [file](#)

How to cite the database

Banca d'Italia (2025): Survey on cross-border transactions in services by non-financial and insurance firms, September 2025 (from January 2013 to December 2023).

Appendix

Table 1

TYPES OF TRANSACTIONS IN THE DATABASE

TELECOMMUNICATIONS AND POSTAL SERVICES
INSURANCE PREMIUMS
INSURANCE CLAIMS
ANCILLARY INSURANCE SERVICES
FINANCIAL SERVICES
COMPUTER AND INFORMATION SERVICES
CHARGES FOR THE USE OF INTELLECTUAL PROPERTY N.I.E.
TRADE-RELATED AND OPERATIONAL LEASING SERVICES
PROFESSIONAL AND MANAGEMENT CONSULTING SERVICES
RESEARCH AND DEVELOPMENT SERVICES
ARCHITECTURAL, ENGINEERING, SCIENTIFIC AND OTHER TECHNICAL SERVICES
WASTE TREATMENT AND DE-POLLUTION, AGRICULTURAL AND MINING SERVICES
OTHER BUSINESS SERVICES N.I.E.
PERSONAL, CULTURAL AND RECREATIONAL SERVICES
GOVERNMENT GOODS AND SERVICES N.I.E.