

SYNTHETIC INDEX OF RELIABILITY



SYNTHETIC INDEX OF RELIABILITY: A NEW, EFFECTIVE TOOL TO PROMOTE TAX COMPLIANCE IN ITALY



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1 INTRODUCTION

In Italy there are over 3.7 million enterprises, 95% of which employ between 1 and 9 workers. In terms of controls to reduce tax evasion, this represents an important issue, since it is nearly impossible to investigate adequately such a high number of small companies.

Country	TOTAL				Total number of	GDP/enterprise (million of US
	1-9	10-49	50-249	250+	enterprises	dollars)
Australia	1.377.743	39.650	-	2.619	1.420.012	0,8
Brazil	2.600.795	402.471	53.418	11.806	3.068.490	1,0
France	2.794.775	118.910	19.544	4.207	2.937.436	0,9
Germany	1.788.773	322.291	52.685	10.361	2.174.110	1,9
Greece	682.132	19.631	2.576	397	704.736	0,4
Italy	3.538.488	159.637	18.082	3.140	3.719.347	0,6
Japan	2.559.220	332.286	66.296	10.957	2.968.759	1,8
Netherlands	966.191	41.334	8.236	1.511	1.017.272	0,8
Poland	1.391.776	55.784	13.678	2.817	1.464.055	0,7
Russian Fed.	1.548.213	297.546	65.882	10.405	1.922.045	1,9
Spain	2.185.879	107.163	13.803	2.560	2.309.405	0,7
Turkey	2.416.448	49.415	21.514	4.044	2.491.421	0,8
United Kingdom	1.572.327	159.358	26.027	5.871	1.763.583	1,6
United States	3.260.520	699.710	125.620	23.898	4.109.748	4,5

Table 1: Number of enterprises by size (number of workers) in selected OECD countries (2013, or latest available year)

Source: OECD, 2016





Chart 1: Number of enterprises and GDP (2013, or latest available year)

Source: OECD, 2016

Therefore, since the Nineties, the Italian Tax Administration has developed tools to facilitate the detection of possible areas of tax evasion with the goal of promoting compliance by the taxpayers.

Until now the main tools utilized have been "Parameters" and "SdS" (from now on SdS)¹, which regard over 4 million companies and professionals and were introduced, respectively, in 1995 and 1998. In short, SdS is an audit method that helps the Tax Administration to distinguish between "auditable" and "non auditable" firms. Through the utilization of complex economic and statistical elaborations, SdS calculate specific presumptive revenues for each taxpayer on the basis of enterprises' data. If the company's declared revenues are lower than the Tax Administration's estimates, the company itself can decide to comply to the estimates, i.e. raising its declared revenues

¹ In Italy it is also used the abbreviation SdS for "Studi di Settore", literally translated as "Sector Studies".



and paying taxes based upon the estimated revenues, or possibly undergo tax controls in order to verify the causes of the deviation.

The SdS system was instrumental in reducing tax evasion in Italy. An analysis performed with regards to different sectors (particularly in retail and services)² shows that the introduction of Sector Studies, possibly together with other structural market changes, has brought a dramatic decrease of the percentage of undeclared revenues on total revenues.

Chart 1: Percentage of undeclared revenues in selected retail and services sectors (1998-2015)



From the creation and implementation of SdS to 2016, the cumulated tax base increase accounted for over 50 billion euros.

 $^{^2}$ The analysis was conducted comparing the data coming from households consumption in the selected sectors (source: ISTAT) with the revenues declared by the companies operating in the same sectors (source: VAT returns).





Chart 2: Cumulated tax base increase due to SdS (1999-2016)

Source: SOSE, 2016

The peak of the tax base variation (5.1 billion euros) was set in 2006, with an average increase of over 3 billion euros a year. At the same time, from this year onwards we can observe a progressive reduction of the tax base variation and this is the reason why it became necessary to reform the SdS system in order to:

- make them more effective;
- maximize the reliability of their estimates;
- increase cooperative compliance;
- simplify the process, also through a reduction in the number of the analyzed studies.





Chart 3: Annual tax base variation due to SdS (1998-2016)

Source: SOSE, 2016

The tax reform implemented in Italy in recent years has established a new system of relations between the Tax Administration and the taxpayers, promoting tax compliance, transparency and dialogue, also through the utilization of IT tools, which enable the taxpayers to do a real time evaluation of the economic and financial results of their activity in order to identify possible deviations and make the necessary adjustments before the due dates for tax declarations.

Italian Law n. 225 of December 1st 2016 has introduced the new Synthetic Index of Reliability (in Italian, ISA), which will allow a progressive replacement of SdS.

The Synthetic Index of Reliability will promote compliance of the most virtuous taxpayers and will enable a better fight against those non-virtuous behaviors that distort the rules of competition and markets, while improving economic efficiency and tax system's neutrality in accordance with the recommendations of the main international Institutions (OECD, IMF).

Whilst the previous SdS system was based upon an estimation of an "adequate" level of revenues and on the consequent possibility for the Italian Tax Administration to perform presumptive controls, the new system takes into account multiple elementary



indicators, which regard not only the declared revenues, but also indicators of "reliability" and "anomaly" for a given economic activity³. Most important, the new system allows the most reliable taxpayers to access a reward system, which implies several advantages such as shorter deadlines for controls, exclusion from some tax controls and faster procedures for VAT reimbursements.

The new approach intends to replace "repression" in favor of a rewarding logic based on cooperation between the Tax Administration and the taxpayers.



 $^{^{3}}$ The new methodology will be explained in more detail in Paragraph 3.



2 THE NEW METHODOLOGY

The project of elaboration and application of the new indexes presents important methodological innovations, with the goal of determining the degree of reliability of taxpayers' behaviors.

Through a cooperative process with the representatives of the entrepreneurial and professional organizations, the goal is, on one hand, to determine more precisely the production capacity of companies and professionals and, on the other hand, to implement a product with a new methodology, completely different from the previous one.



2.1 THE MAIN INNOVATIONS

The new methodology presents several innovations, with the goal of obtaining estimates that are increasingly precise with regard to the Italian economic context.

DEFINITION OF STATISTICAL SAMPLE AND BUSINESS MODELS

The Sds methodology grouped the taxpayers in clusters according to their structural characteristics. According to the new approach, the taxpayers are grouped in clusters based upon the factors that define their business activity which are classified following the concept of "Business Model"; this choice comes from two main reasons: it is well



consolidated in the economic analysis (especially in management studies), and it accurately represents the way a company operates on the market⁴.

The Business Models are linked to the structure of the Value Chain, which is the result of the production process of goods and services; they synthetically express the differences deriving from various combinations of the business internal functions (production, logistics and sales).

The crucial elements of Value are analyzed based upon a "grid" which is utilized for all industries and articulated in four areas:



According to this outline, it is possible to determine a "metamodel" for the whole sector, i.e. the fundamental structure with which we can explain the Value generation of a company operating in any industry. The different combinations of the factors which mainly determine the production process for a firm generate different business models.

The main advantages of this methodology can be summarized as follows:

- a) strong theoretical foundations which are well consolidated in the scientific literature;
- b) uniform and standardized approach of analysis;
- c) an essential representation concept (Business Model) of the way the company operates that does not necessarily need to explain the single specializations, since they do not imply different structures within the firm's Value Chain. This new representation leads to a reduction in the number of clusters which represent the fundamental ways of competing within an industry.

⁴ Amit e Zott (2009), Osterwalder et al. (2005), Morris et al. (2005), Al Debei e Avison (2010) Teece (2010)



TIME SPAN

The analysis considers a time span of **8 tax periods**. Choosing such a long time span implies replacing the "Cross Section" regressions (related to a single tax period and previously utilized in the SdS), in favor of regression models based upon "**Panel data**", i.e. data and information concerning taxpayers that are present in some or all the considered tax periods (unbalanced panel in 8 years)⁵.

Panel data allow, at the same time, to identify economic phenomena which could have had an influence in the different periods and to make more solid estimates of the single taxpayer's production efficiency. Through this, **the effects of the economic cycle are incorporated in the analysis**.

In short, panel data offer the following advantages:



ESTIMATE OF ONE SINGLE REGRESSION AND MORE TAX BASES

Another innovation of the new methodology compared to the SdS is that the estimate is based upon data and information related to all taxpayers selected within the whole study and not within the single cluster. Nevertheless the methodology determining the different tax bases takes into account the probability of belonging to the different business models of the whole group of taxpayers.

Moreover the analysis is extended to more tax bases and aims at evaluating not only the degree of reliability of revenues, as in the past, but also of value added⁶.

⁵ The statistical sample includes taxpayers that are present at least one year in the observation period (even if they stopped their activities before the last year considered), with a specific reconstruction for the respective years of activity of their business model.

⁶ The variables are normalized using the total number of workers. This choice is made to give more stability to the estimates, reducing the variability effect of the costs related to the value added.



The function determining the value added per worker also puts in evidence a different methodological approach: it was used a microeconomic model (**Cobb-Douglas** type) estimated in logarithms. With the new methodology, there is a linear regression calculated on a logarithmic scale, not a simple linear regression.

Transforming the variables in logarithms brings advantages in terms of a better interpretation of coefficients. To make an example:



The deviation between the estimate of the value added per worker and the declared one is measured on a 1:10 scale and contributes to determine the level of reliability of the taxpayer. The same process is used with regard to revenues and income.



Summary of the main innovations

SYNTHETIC INDEX OF RELIABILITY

It represents the **positioning** of each taxpayer based upon a series of elementary reliability (on a 1:10 scale) and anomaly (on a 1:5 scale) indexes

INDEXES OF ECONOMIC NORMALITY

Formerly used to estimate revenues, they now become **elementary indexes to calculate the level of reliability**

ESTIMATE OF MORE "TAX BASES"

The estimates concern revenues, value added and income

PANEL DATA

The regression model regards **panel data (8 years instead of 1)**, which contain more information and make **more efficient and precise estimates**

CLUSTERS

New methodology of identification of clusters: reduction of number, more stability over time and more solid assignment of the taxpayer to the corresponding cluster

SINGLE REGRESSION

 Not a regression per each cluster (as in the past), but a single regression in which the probability of assignment to the clusters is one of the explanatory variables

NEW ESTIMATION MODEL

• The estimation of revenues and value added per worker is made through the utilization of a production function of the **Cobb-Douglas** type, in logarithmic form: better economic interpretation of the estimated coefficients (elasticity) and results that are closer to the economic reality

ECONOMIC CYCLE

• The new estimation model captures the economic cycle, therefore it is not necessary to calculate ex-post corrections («crisis adjustments»)

INDIVIDUAL EFFECTS

• The results are personalized for each taxpayer, based upon the individual effects calculated with the new estimation models

SIMPLIFICATION OF QUESTIONNAIRE

· Reduction of the information requested in the questionnaire



2.2 CONSTRUCTION PHASES

The new methodology is articulated into the following methodological phases:



3 THE SYSTEM OF ELEMENTARY INDICATORS

The overall estimation of the reliability level includes revenues, value added, and consequently income. Another important component of the overall reliability is also the coherence among accounting data (e.g. stock management, depreciation, provisions or other items of extraordinary or financial nature) and a verification of the accuracy of structural elements as declared on ISA questionnaires⁷ (e.g. the declared number of employees).

The reliability degree can be valued either by verifying the plausibility of the declared data on the basis of a specific business-economic analysis, and by comparing the same declared data with other external sources of information. This validation can be done by comparing information required at the same time in different declaration forms, or by comparing it with other external databases of the whole tax information system. As an example, how the employment structure declared in the ISA questionnaires differs from the data declared for social security or for other tax purposes.

⁷ The previous SdS were elaborated based upon specific questionnaires for each economic sector to be compiled each year by every taxpayer with revenues up to 7.5 million euros. These questionnaires, appropriately simplified and modified, will become ISA questionnaires.



Therefore, in order to capture the taxpayer profile in its complexity, two integrated groups of reliability indicators were developed:



3.1 ELEMENTARY RELIABILITY INDICATORS

The first group (elementary reliability indicators) includes:

- estimates of revenues, value added per employee and income;
- reliability of relations that express typical aspects of business management;
- the outcome of tax controls that regarded by the taxpayer.

The degree of reliability of the obtained estimates, based upon the differences calculated on the declared data, is expressed on **a 1 :10 scale**.

Related to reports of typical business management aspects (e.g. inventory and its reduction) the evaluation of the reliability degree depends on the taxpayer's positioning identified by the results of the specific analysis⁸.

The indicator measures the progressive reduction of the cumulated final inventories aimed at improving the reliability profile of the taxpayer who has a slow inventory turnover.

Regarding the indicator reflecting tax controls, the structural elements found in the audit report are highlighted. If they do not correspond to the statements made by the

 $^{^8}$ The positioning is based upon the determination of plausible economic thresholds for each utilized variable. Depending on these thresholds, the different indicators take values between 1 and 10.



taxpayer (e.g. the number of tables or the number of ovens in the restaurant industry, etc.), there will be a correction of the data. Moreover the indicator, detecting any misalignment of the structural data declared by the taxpayer in the ISA form and those found during the tax control, gives a lower reliability score. Regarding the tax period in which it occurs, it is also possible for the taxpayer to retroactively modify the reliability profile with specific procedures.

In the tax control report, which includes the higher revenues identified, the analysis determines a distribution in terms of the difference between the revenues originally declared and the revenues recorded at the time of verification.

3.2 ELEMENTARY ANOMALY INDICATORS

The second group includes both indicators of serious discrepancy (referring to misalignments between data and information present in different declaration forms or emerging from comparisons with external databases) and indicators related to the plausibility of the accounting and management profile specific for that sector. Also for this group of indicators, the taxpayer will be able to modify the accounting data in order to correct possible anomalies (with appropriate procedures) and reach a higher level of reliability.

Considering that elementary indicators refer only to anomalies or situations to be considered atypical with respect to the specific economic sector, the different degree of reliability is measured on a **1** : **5** scale.

4 SYNTHETIC INDEX OF RELIABILITY

The Synthetic Index of Reliability (ISA, by using the Italian acronym) represents each taxpayer's positioning related to his/her tax behavior.

It is a simple average of elementary reliability and anomaly indicators and can have a **final value between 1 and 10**.





The synthetic index can be calculated referring to each tax period considered; in this way it is possible to evaluate the company's performance over the different periods.

A visualization of the elementary indicators and the synthetic reliability index allows the taxpayer, who has an excessively low reliability rate, to promptly modify his/her declaration to improve his/her accounting and income profile.

Taxpayers can basically check their tax reliability level and can revise the company's accounting through specific procedures (e.g. in case of integration and adjustment at the moment of the financial statements' closing) or they can comply by declaring a higher value of revenues to directly increase the tax base and obtain a higher score.

In short the ISA Project is aimed at:

- I. allowing taxpayers to know their degree of reliability as determined by the Tax Administration. With the goal of reaching tax compliance, taxpayers can also improve or adjust their declaration;
- II. providing, in case of a high reliability level of the synthetic index, a diversified reward mechanism, in order to ensure a clearer and better relation between the taxpayers and the Tax Administration.





5 THE REWARD SYSTEM

Taxpayers with a high degree of reliability can access a reward system structured in one or more levels. The aim is to induce taxpayers to a greater compliance and to prevent evasion areas more efficiently. In this way, the previous SdS application and inspection mechanism is completely replaced.

According to the different levels of reliability, there are specific rewards for the taxpayers in terms of simplification of tax procedures, exemption from some tax controls and reduction of their timeframe, fewer and faster procedures also regarding VAT requirements.

6 THE DIALOGUE WITH THE TAXPAYER

The new dialogue with the taxpayer will be implemented through a new IT infrastructure that will affect two different application phases:

• Communication of the taxpayer's reliability profile and the economic sector of belonging.

• Provision of a software to be used for the declaration, offering also the possibility of adjusting data to make tax bases more adherent to the company's economic reality.



OPPORTUNITIES FOR THE TAXPAYERS



To correct the data of the declaration in order to improve the values of the synthetic index, also to access the specific benefits linked to the different levels of reliability

To indicate further positive income elements on income taxes and regional tax on production, therefore determining a higher turnover for VAT purposes

6.1 INFORMATION SERVICES / TAX DRAWER

The information related to the previous years reliability indicators and synthetic index is contained in the so called "Tax Drawer", i.e. the online service, provided by the Italian Revenue Agency, which can be accessed by taxpayers or intermediaries.

The "Tax Drawer" will include, in addition to information and data on SdS already available to taxpayers, several reports with the aim of providing support tools to the companies involved.

✓ Sector Report



The Report provides a snapshot of the main economic sectors through a synthetic description of their structure and dynamics.

A number of aspects are analyzed in order to assess the positioning and performance of the micro, small and medium-sized companies and of the main industries. Particular attention is also given to the various Business Models and to the successful competitive factors that can outline the possible evolutions of each industry.



Each Sector Report has 4 sections:

1. Sector Structure



This section represents the industry and the main economic actors. It reports the characteristics of such operators; it describes the products made and / or sold and the services provided or the activities carried out. It also provides a snapshot of companies / professionals operating on the italian territory, their regional distribution and the number of their employees. It reports the data on the sector's dynamics and the trend of domestic demand.

2. Focus on micro, small and medium companies

It provides a detailed analysis on the sectoral micro, small and medium companies, their distribution by ATECO code, by territory and by employees.



3. Business models

The industry analysis is based on the market supply and on the key factors of production processes; it also reports the sectoral business models.

4. Sector Evolution

The competitive success factors are highlighted.



✓ Audit and Benchmarking Report



It provides the results of the analysis based upon the data coming from the Italian companies subject to the reliability indicators.

The Report will be divided into two macro sections:

- Audit: analysis of the single company and its performance evaluation;

- Benchmarking: comparison between the company and a reference

group.



✓ Sector Reliability Report



The Report provides the overall value of the Synthetic Index of Reliability by industry and its performance over time.

Through a graphical representation, it is possible to visualize the average yearly values of individual reliability indicators and also the distribution of taxpayers divided by classes of reliability.



Supplementary Notes Analysis Report



It reports the analysis, and subsequently the classification, of the supplementary notes transmitted in specific thematic areas by taxpayers. The aim is to highlight the distinctive problems of each sector. The Report provides a general overview of the industry and a summary of the analyzed notes and their results. Moreover, through text mining techniques, the main issues reported by taxpayers are listed and classified into thematic areas.

✓ Personal Reliability Report



It is a synthetic Report created for each taxpayer and shows the Synthetic Index of Reliability originated by the analysis of data acquisition forms filled in by the taxpayer.

It graphically reports the system of elementary reliability and anomaly indicators.

It is reported: the value of the synthetic index of the single taxpayer compared with the index of the sector he/she belongs to; the

average values of the individual reliability indicators for the years analyzed; the elementary anomalies indicators, grouped into four management categories (main activity, assets, secondary activity, profitability).



6.2 MICRO, SMALL AND MEDIUM COMPANIES' PORTAL PROJECT

In order to expand the service package to the taxpayer, an Information Sharing Web Platform for micro, small and medium-sized Italian companies will be implemented.

The aim is to provide taxpayers with an economic-management support tool, which allows to evaluate the **company's performance**, to conduct **benchmarking analysis** with different business groups, to perform geo-sectoral analysis to know in more detail the performance of a specific territory / sector.



The Project, together with the dissemination of the Reports described above, has a twofold objective:

- ✓ enrich the innovative service package for the taxpayer providing not only a tax support but also an economic-management support;
- ✓ focus on transparency and sharing of small Italian companies' information assets.



7 THE ANALYSIS OF SUPPLEMENTARY NOTES

Of particular interest and innovation is the Analysis of Supplementary Notes which aims to return to the taxpayer an evaluation of his communications.

In the process of compiling the ISA questionnaire, the taxpayer is required to pay particular attention to the "Supplementary Notes" field. In case of situations of inadequacy and / or incoherence of the results of the ISA, taxpayers can indicate the reasons why they believe that the specific ISA does not consider some peculiarities of the activity. In specific cases, this could stop the application of the ISA.

The form must be compiled by:

- taxpayers who are in a **period of non-normal business activity**, explaining the reasons why they could not have a regular implementation of the business;
- taxpayers who have stated the causes explaining the **inadequacy** of declared revenues compared to those determined by ISA and / or the causes that can justify the incoherence compared to the economic indicators.

The analysis of supplementary notes is therefore crucial under an economic point of view in order to read the profound changes that have occurred during these years in the Italian production system and that have influenced every business.



8 WORK IN PROGRESS

With Italian law n. 96 of 2017, the legislator introduced the discipline of Synthetic Index of Reliability (in Italian, ISA), whose implementation allows the gradual overcoming of sector studies and parameters.

In 2017, SOSE performed ISAs for 70 sectors (29 in Trade, 17 in Services, 15 in Manufacturing and 9 regarding Professionals), which concerned a total of approximately 1.400.000 taxpayers.

	15 MANUFACTURING	17 SERVICES	29 TRADE	9 PROFESSIONALS
Number of taxpayers	81.481	705.402	310.307	359.204
Number of MOB	83	137	173	68
Score>=8	31,5%	24,5%	28,2%	21,2%
Score >= 6	61,9%	55,0%	58,0%	57,9%

Main results of 2017 ISAs

In 2017 SOSE was invited to 3 hearings before the parliamentary committees. The process was also shared with the entrepreneurial counterparts through 4 meetings of the Commission of Experts, 4 meetings of macro-sectors with entrepreneurial organizations (Trade, Services, Manufacturing and Professionals) and 70 industry meetings with trade organizations.

The production of 2018 will concern ISAs for 82 sectors (29 in Services, 22 in Trade, 17 in Manufacturing and 14 regarding Professionals), for a total of approximately 1.800.000 taxpayers.



Summary of 2018 ISAs



With Ministerial Decree of March 23rd, 2018, published in the Italian Official Gazette of April 12th, the Ministry of Economy and Finance approved the Synthetic Index of Reliability for 70 economic activities in the Manufacturing, Services, Trade and Professional sectors.

The process will be completed in 2019.



9 CONCLUSIONS

The definition of the Synthetic Index of Reliability is part of a wider strategy with the aim of strengthening the preventive collaboration between Tax Authorities and taxpayers, through dialogue, simplification of requirements and preventive verification of risk situations.

The application of the ISA allows to replace the traditional concepts of tax audit, in order to guide the taxpayers to improve their tax profile through a deeper knowledge of his territorial and market environment. Furthermore, it promotes tax compliance through the validation of information already available in the tax register or made available by the Revenue Agency.

Compliance is oriented towards improving the overall taxpayer's reliability profile and to stimulate, as a preventive tool, a correction of accounting data. It is also based on a deeper knowledge of the sector and of the operators who have a similar organizational model.

The information acquired during the year by the Revenue Agency will be made absolutely transparent to the taxpayers, who will be able to verify their reliability profile and possibly improve it.

The reward system will be a crucial factor to ensure tax compliance and a new, more open relationship between Tax Authorities and taxpayers.