

2022 UNECE EXPERT MEETING

ON STATISTICAL DATA COLLECTION

Penalties management strategy and quality of economic official surveys

“TOWARDS A NEW NORMAL?”

Silvia Binci – Istat - Directorate for Data Collection (binci@istat.it)

Silvana Curatolo - Istat - Directorate for Data Collection (curatolo@istat.it)

Francesca Monetti – Istat - Directorate for Data Collection (fmonetti@istat.it)

Pasquale Papa – Istat - Directorate for Data Collection (papa@istat.it) - Speaker

Rome, 26-28 ottobre 2022

Progress of the work

Steps of the work carried out by ISTAT on the effectiveness of penalties application on business surveys

- [Bilbao, 2019] Istat presented the features of the new penalty procedure designed for STS surveys and the preliminary effects on response rates
- [Oslo, 2022] The analysis included the effects of the new procedure, after the first year of real application, on response rates of the STS surveys, pointing out possible negative «side effects» in terms of quality of the information produced
- [Rome, 2022] In this presentation the analysis is extended to Structural Business surveys, enhancing the possible features of a balanced data collection strategy

The legal framework

In Italy there is a reference legislation (articles 7 and 11 of the legislative decree n. 322/1989) updated annually by means of a specific decree that identifies the **surveys subject to penalties** and the related **penalty thresholds** determined in terms of the number of employees or turnover

Obligation and penalties do not coincide, most of the official surveys have an obligation but do not provide for the application of penalties

Penalties are applied mainly in the context of **business surveys** and in particular for those subject to EU regulations

Operational application criteria are set out in specific methodological notes published on the Istat website and in the information letters sent in the start-up phase of each survey

The economic amount of the penalty is not commensurate with the "statistical damage" caused but **it is fixed and equal to all defaults** (amount about 1000 Euros). For instance, the amount is the same for a company that has omitted the delivery of data for one month and one that has omitted 12 months

Articulation of penalties on **an annual basis**

Statistical framework

Integrated penalties management approach in the framework of **Centralised Data Collection (CDC)** approach

The **basic criteria** are standardization, efficiency, fairness, transparency, digitalisation, consistency with the rules

Defined and **strict deadlines** for the transmission of data

Predefined **inclusion/exclusion criteria** in the lists of units subject to penalties

Definition of a penalties provision procedure shared among all involved **stakeholders** (DC, thematic, legal, technical experts)

Different procedures according to surveys types

2022 UNECE EXPERT MEETING

ON STATISTICAL DATA COLLECTION

Business **short-term**
surveys (monthly or
quarterly)

Business **structural** surveys
(annual or multi-year)

Rome, 26-28 ottobre 2022

Penalty operational procedure applied to STS surveys

New procedure introduced in 2018 but **fully implemented in 2021**

Two types of **flexibilities**:

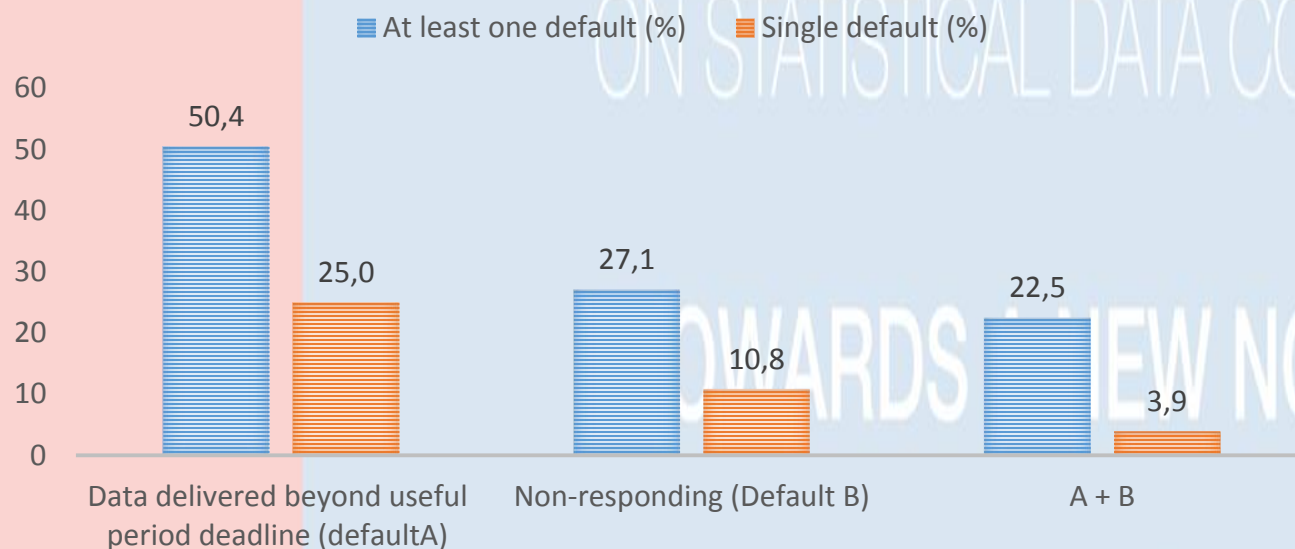
- days of tolerance with respect to each monthly or quarterly deadline, varying from survey to survey,
- tolerated annual cumulative delay

Provision of the administrative **penalties in the following cases**:

- Unit is non-responding for one or more periods (*default A*)
- Unit provides the data beyond the days of tolerance with respect to each monthly or quarterly deadline, varying from survey to survey (*default B*)
- Unit provides the data beyond the annual cumulative tolerance (less than the sum of the tolerance of the single periods)

Units subject to penalty by type of violation: monthly STS surveys

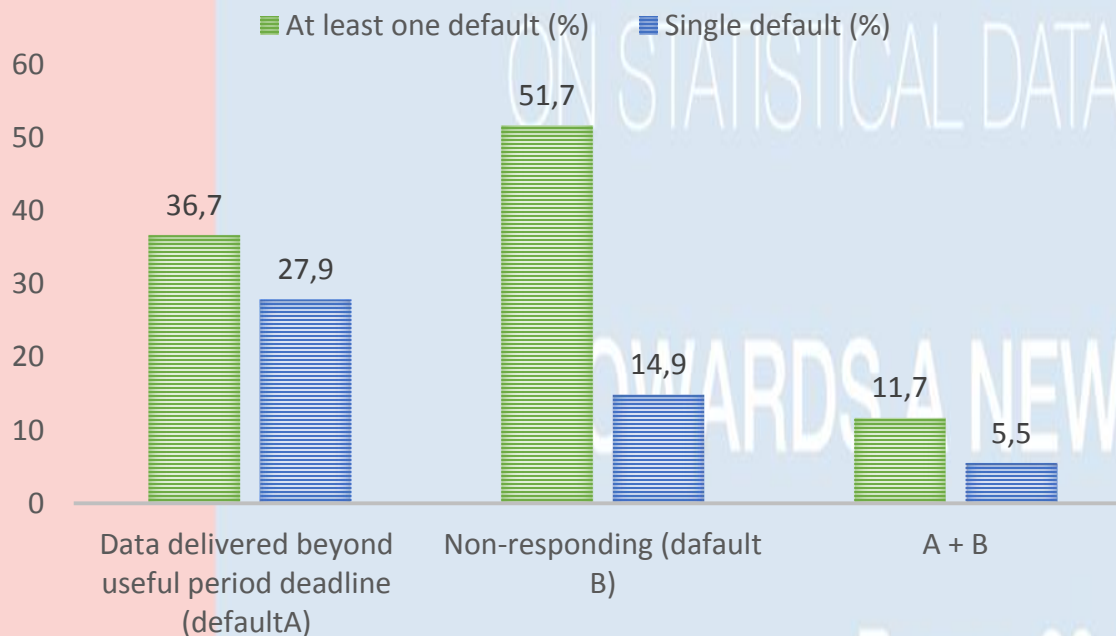
Monthly short-term business surveys, units subject to penalty by type of violation (%), year 2021.



A relevant number of companies received the penalty for omission and / or delayed supply for just one period (35.8%)

Units subject to penalty by type of violation: quarterly STS surveys

Quarterly short-term business surveys, units subject to penalty by type of violation (%), year 2021.

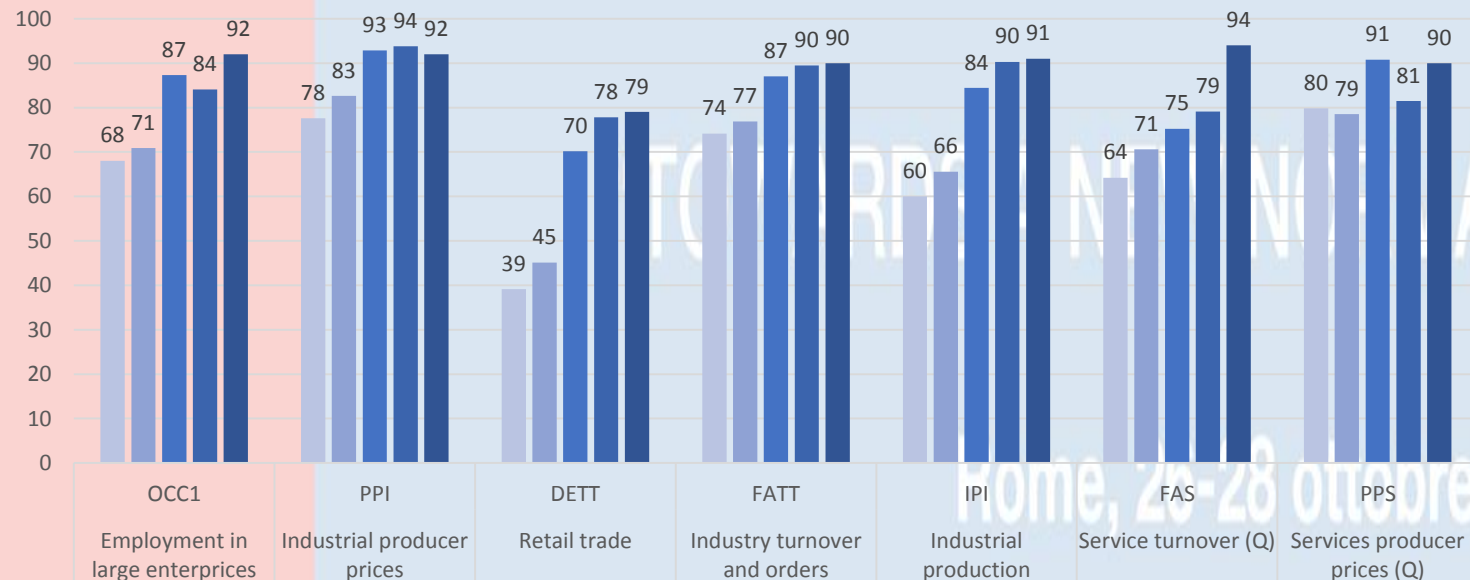


42,8% of companies received the penalty for omission and / or delayed supply for just one period.

Effects on response rates of STS

Average raise in year 2018 for all business ST surveys of about **14 pp** starting from 70 percent in 2017. The increase is consolidated over the following years and in particular in 2022 (**90%rr +5pp compared to 2021**)

*Short-term business surveys - Average response rates (%) – Years 2016, 2017, 2018, 2021, 2022**

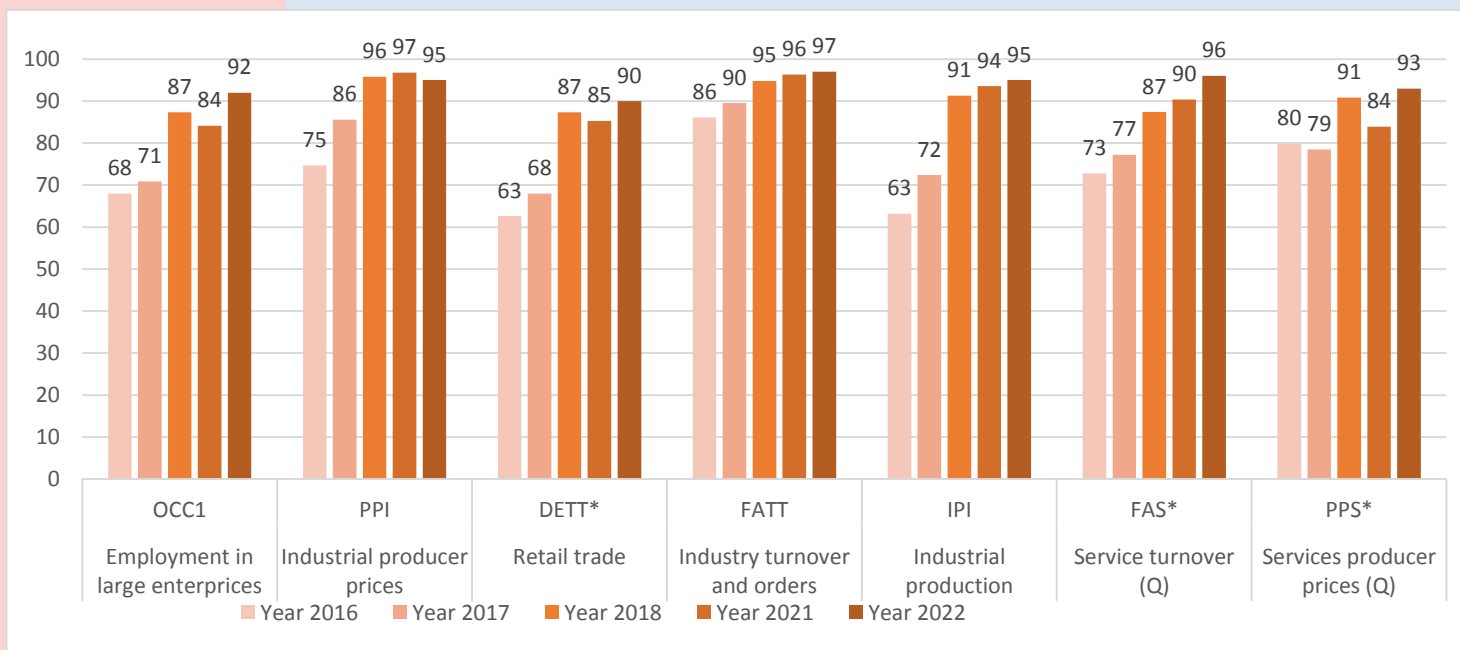


*Period Jan-Aug 2022/I-II trim 2022

Effects on response rates of STS (only enterprises virtually subject to penalties)

Average raise in year 2018 for enterprises virtually subject to penalties of about **13pp** starting from 78 percent in 2017. The increase is consolidated over the following years, notably in 2022 (**94% rr +4pp compared to 2021**)

Short-term business surveys - Average response rates (%) of enterprises virtually subject to penalties -- Years 2016, 2017, 2018, 2021, 2022*



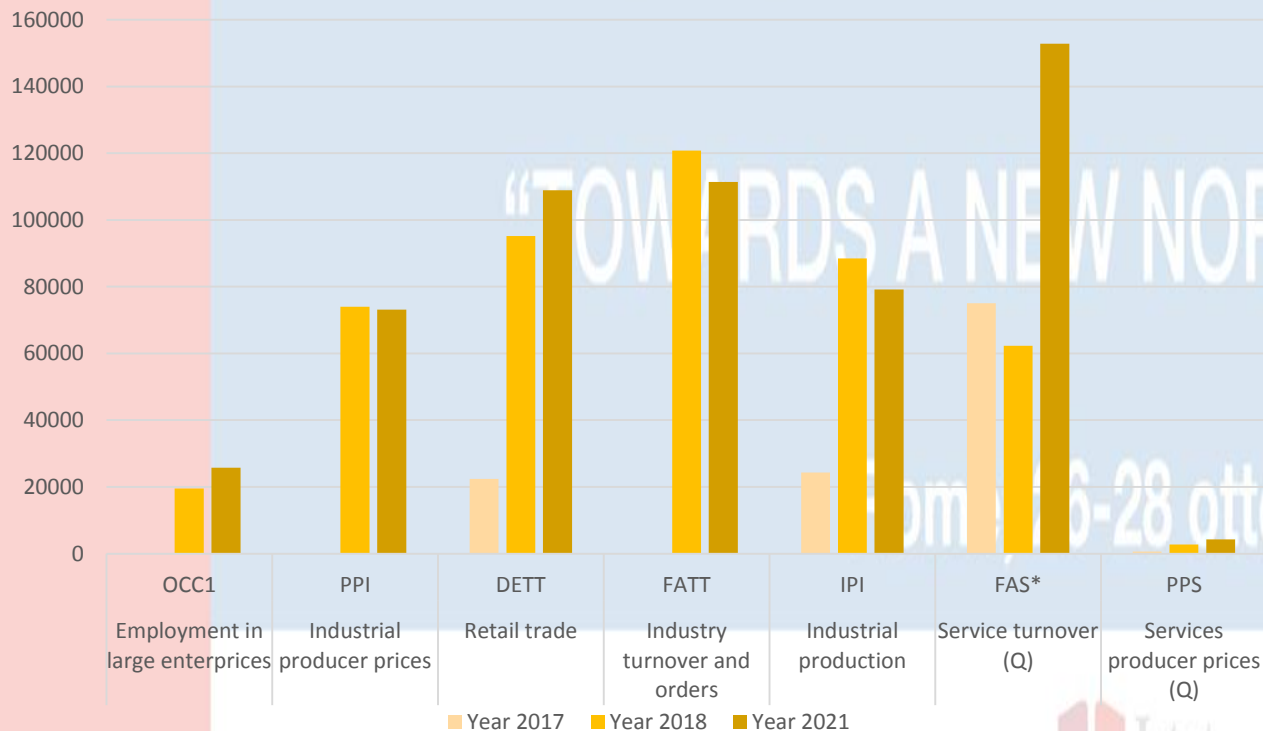
*Period Jan-Aug 2022/I-II trim 2022

The role of formal and informal communications

The new procedure enhances the role of communications. In 2017, in STS were processed approximately 122,300 communications. This number almost quadruples in 2018, with about 463,000 mailings, reaching approximately 555,300 communications in 2021 (+ 454%).

For Structural surveys communications for each survey are less frequent but they have higher volumes

Short-term business surveys, number of communications sent to sample units – Years 2017, 2018, 2021



Penalty operational application procedure for Structural surveys

2022 UNECE EXPERT MEETING ON STATISTICAL DATA COLLECTION

The structural economic surveys have an annual or multi-year periodicity and provide for a **single supply** of the requested data within a defined collection period.

Once the deadline for data transmission has expired, the units are considered **non-compliant** and subject to penalty, if in possession of the threshold values provided for by the legislation in force.

Rome, 26-28 October 2022

Structural surveys: average response and units subject to penalties rates

2022 UNECE EXPERT MEETING

| Survey | Year 2017/2018 | | | Year 2021 | | | Year 2022 | | |
|----------|------------------|----------------------------|------------------------------|------------------|----------------------------|---------------------|------------------|----------------------------|------------------------------|
| | N. Units sampled | Average response rates (%) | Units subject to penalty (%) | N. Units sampled | Average response rates (%) | Units penalized (%) | N. Units sampled | Average response rates (%) | Units subject to penalty (%) |
| CIS | 32.018 | 68,1 | 0,7 | - | - | - | 39.534 | 62,3 | 0,6 |
| SBS-SCI | 10.558 | 76,4 | 1,3 | 3.811 | 86,7 | 8,9 | 3.997 | 85,7 | 9,6 |
| SBS- PMI | 74.207 | 43,5 | - | 82.022 | 48,8 | - | 77.611 | 43,3 | - |
| RFI | - | - | - | 83 | 84,7 | - | 87 | 89,7 | 5,7 |
| OUTWARD | 6.326 | 69,8 | 0,2 | 5.899 | 68,2 | 1,1 | 5.982 | 67,3 | 0,8 |
| INWARD | 7.791 | 74,4 | 0,2 | 8.937 | 68,4 | 1,7 | - | - | - |
| RS1 | 17.977 | 76,5 | 0,4 | 39.115 | 66,8 | 0,6 | 30.826 | 72,8 | 1,0 |
| IULGI | 10.536 | 80,4 | 0,8 | 8.473 | 83,0 | 2,3 | 8.222 | 82,2 | 2,2 |
| ICT | 32.255 | 67,0 | 0,2 | 32.929 | 63,5 | 0,6 | 33.992 | 63,0 | 0,6 |
| GVC | - | - | - | 35.969 | 64,7 | - | - | - | - |
| COVID | - | - | - | 90.470 | 46,0 | - | - | - | - |

The variation over time of the penalty rate mainly depends on changes of the threshold value passed from 500 to 250 employees

Rome, 26-28 ottobre 2022

The penalty rate is normally quite low.

Structural surveys: remarks

2022 UNECE EXPERT MEETING

The surveys with the **lowest response rates** SBS-PMI (medium and small companies) and COVID, are both not subject to penalties.

Comparing the **units in common** between the SBS-PMI and Permanent Census surveys comparable by type of eligible companies and survey technique, it emerges that the presence of the **penalties allows for higher response rates**

A similar result emerges from comparison between COVID and SBS-SCI (large companies) surveys

Possible “side” effects on other dimensions and TSE

Considering the components of TSE (Total Survey Error) Groves, Lyberg L. (2010), Biemer (2010): the improvements on the “Non-response error dimension” can be partly offset by the increase of the “**measurement error**” component and **bias**

ISTAT receives frequently communication of **complains** and several companies open legal disputes

Some companies declare that they, in order to meet deadlines provide **provisional data that are not validated**

Other companies deliberately decide to **pay the penalties** without delivering data

Conclusions

In a framework of CDC the **obligation is a necessary component of the DC strategy** for business surveys as it ensures the completeness and timeliness of the information collected

A DC based only on awareness and **free collaboration** is not enough, as companies increasingly experience statistical obligations as a direct cost and this issue can prevail

Effective DC approach requires **a balance between obligation and awareness**. The only obligation can involve negative side effects that can impact on the quality of the survey results

Building a two-way communication flow between NSI and the enterprises involved in business surveys by designing a return of customised statistical information is useful for balancing

Penalties application continue to make sense only if it is accompanied by **strategies of innovation and efficiency of the DC procedures**. That involves a reduced role of direct surveys that must be perceived as complementary to the use of other sources and techniques

The penalty procedure currently applied by ISTAT resulted very effective in the short period as increased substantially response rates and timeliness of the direct survey but it presents some **sustainability risks** in the medium term, as it is perceived as too rigid and oppressive by companies

For STS, a possible compromise could concern the introduction of **further flexibility in the form of a "bonus"** for a single period but both the effects on the completeness of the data collected and legal feasibility must be evaluated

References

- [1] Groves R.M. and Lyberg L. (2010), Total Survey Error: Past, Present, and Future Public Opinion Quarterly, Volume 74, Issue 5, 2010, Pages 849–879, <https://doi.org/10.1093/poq/nfq065>.
- [2] Biemer P. Total survey error design, implementation, and evaluation Public Opinion Quarterly, Volume 74, Issue 5, 2010, Pages 849–879
- [3] L. Rivaïs, M St-Denis, S. Lensen (2013), Centralising data collection at Statistics Canada. Seminar on Statistical data collection. Unece - Conference of european statisticians.
- [4] P. Saraiva dos Santos, A. Moreira (2013), Creating a data collection department: statistics portugal's experience. Seminar on Statistical data collection, Unece - Conference of European statisticians.
- [5] Snijkers, G., Haraldsen, G., Jones, J., & Willimack, D. (2013). *Designing and conducting business surveys*. John Wiley & Sons.
- [6] Istat (2016), Istat's modernisation programme, https://www.istat.it/it/files//2011/04/IstatsModernisationProgramme_EN.pdf
- [7] Binci S., Monetti F., Papa P., (2019) Centralised data collection: effects of a new administrative penalties provision procedure in business short-term surveys EESW19, 6th European Establishment Statistics Workshop, 24-27 Settembre 2019, Bilbao,
- [8] Bavdaž, M., Snijkers, G., Sakshaug, J. W., Brand, T., Haraldsen, G., Kurban, B., ... & Willimack, D. K. (2020). Business data collection methodology: Current state and future outlook. *Statistical Journal of the IAOS*, 36(3), 741-756.
- [9] Binci S., Monetti F., Papa P., (2022) Data collection strategies in business short-term official surveys: a balance between legal obligation and awareness Workshop BDCM 2022 – Sixth International Workshop on Business Data Collection Methodology 13-15 June 2022, Oslo, Norway) Giugno 2022

Penalties management strategy and quality of economic official surveys

2022 UNECE EXPERT MEETING
ON STATISTICAL DATA COLLECTION

“TOWARDS A NEW NORMAL?”
THANKS



Rome, 26-28 ottobre 2022

Silvia Binci – Istat - Directorate for Data Collection (binci@istat.it)

Silvana Curatolo – Istat - Directorate for Data Collection (curatolo@istat.it)

Francesca Monetti – Istat - Directorate for Data Collection (fmonetti@istat.it)

Pasquale Papa – Istat - Directorate for Data Collection (papa@istat.it) - Speaker



UNECE Expert Meeting on Statistical Data Collection 2022

26-28 October 2022, Istat, Rome

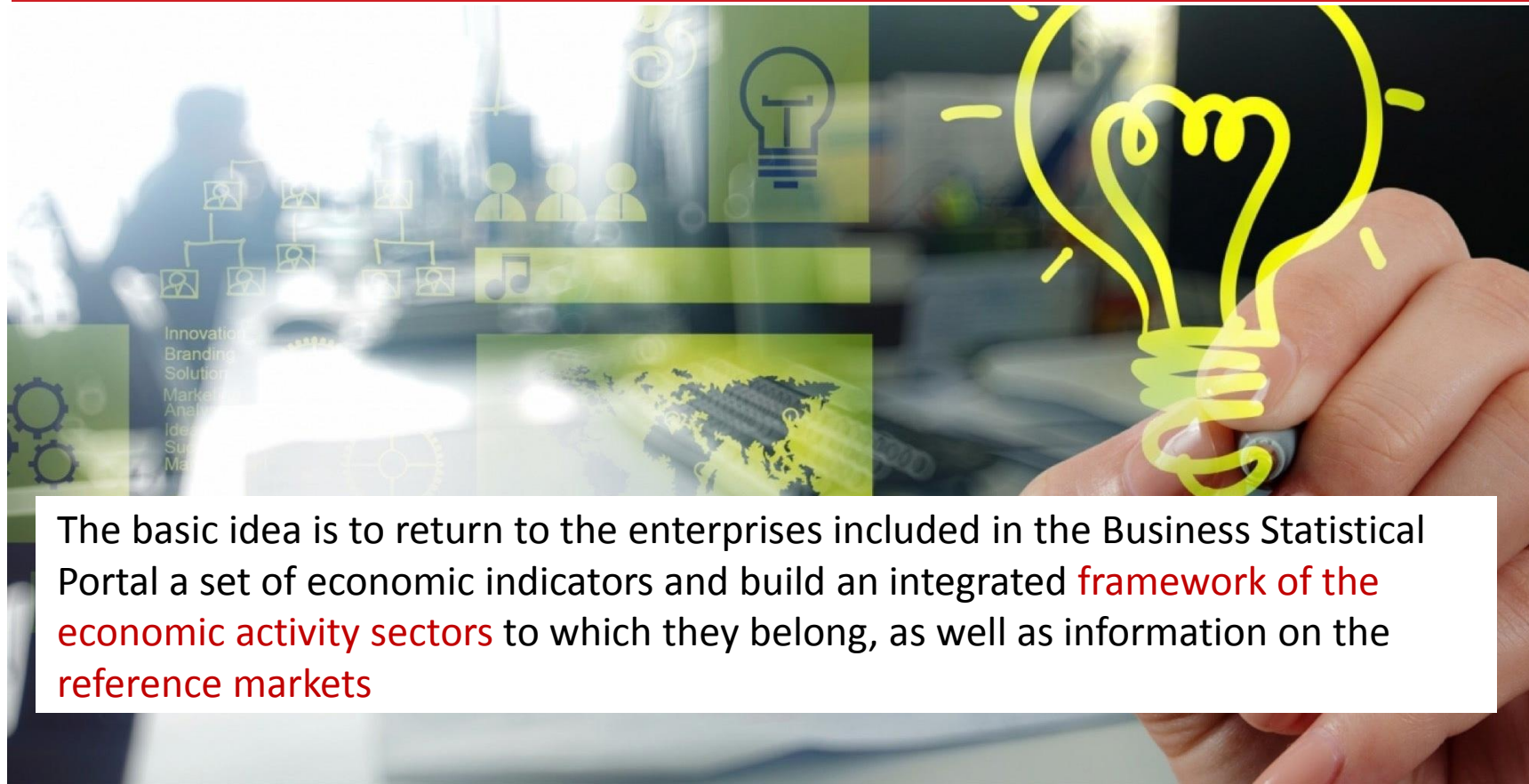
Customised return of statistical information to enterprises involved in economic surveys



Paola Bosso – Istat - Directorate for Data Collection (paola.bosso@istat.it) - Speaker

Pasquale Papa – Istat - Directorate for Data Collection (papa@istat.it)

The idea



The basic idea is to return to the enterprises included in the Business Statistical Portal a set of economic indicators and build an integrated **framework of the economic activity sectors** to which they belong, as well as information on the **reference markets**

The aims

- Build a **two-way communication** flow between ISTAT and the enterprises as a compensation for the statistical burden
- Encourage the enterprises to **collaborate** to ISTAT surveys and improve the quality of data provided
- Provide statistical **information more suitable** to the needs of enterprises



Background and work in progress

1st stage - From 2015 to 2018 - Completed



2nd stage - Started in 2020 (suspended due to COVID19 emergency) - In progress



- Design and implementation of a prototypal release of a return customised flow from ISTAT to enterprises, by means of a specific section of the Business Statistical Web Portal

- Redesign resumed in 2022
- Start of the redesign of the service according to new **Centralises Data Collection** organisational asset and full compliance with confidentiality constrains

1st stage - The information to the enterprises

The return of statistical information

... to the Country

The information covers all relevant topics, but is:

- not provided to a **business-oriented approach**
- **time-consuming** for data selection and analysis

... to the enterprises

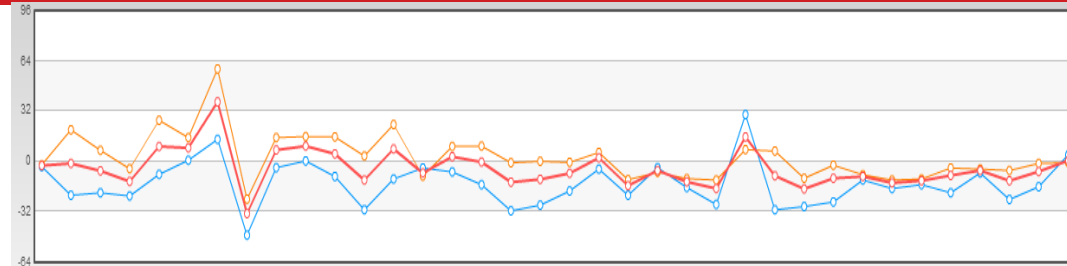
The Portal will offer the following information services:

- **Selection:** the most relevant short-term and structural indicators
- **Customisation:** information broken down by economic sector, size, location of the enterprises
- **Analysis and data visualisation:** indicators and graphs available for an immediate understanding of economic trends
- **Benchmarking:** microdata-based indicators provide the competitive positioning in the foreign markets of reference

1st stage - Customised return of short-term indicators

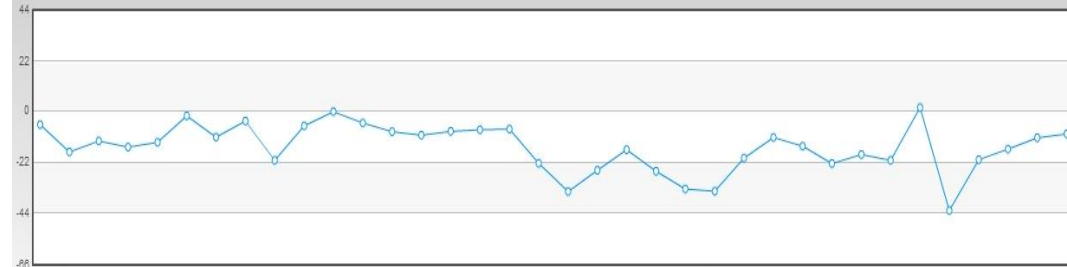
Nace 30.9 - Manufacture of transport equipment n.e.c.

Turnover index
Monthly data



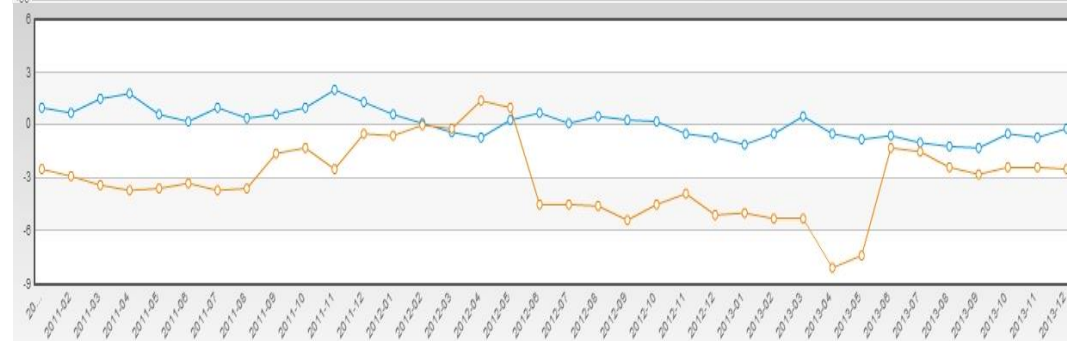
Nace 30.91 - Manufacture of motorcycles

Index of industrial production
Monthly data



Nace 30.91 - Manufacture of motorcycles

Producer price index
Monthly data



1st stage -The return of Foreign Trade data

General features:

High information potential of data (detail at single product and country level) which are available with considerable timeliness. Need to accurately balance information potential with strict compliance with the protection of statistical and corporate confidentiality.

Customisation: Market segment (combination of product and market) of interest to the company as it already operates in this niche or is interested in repositioning itself in a niche with better growth performance in foreign sales

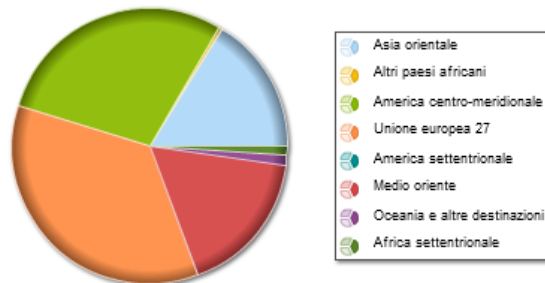
Indicators proposed for the benchmark and updating rate:

Monitoring of the company's export performance with respect to significant groupings of companies operating in the same segment: top performing companies, better performing companies than the "average", less performing companies than the average, companies "in difficulty in growth"

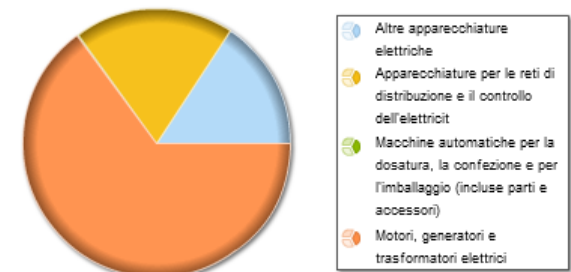
Stage1 The return of Foreign Trade data

Markets and reference products for the company export

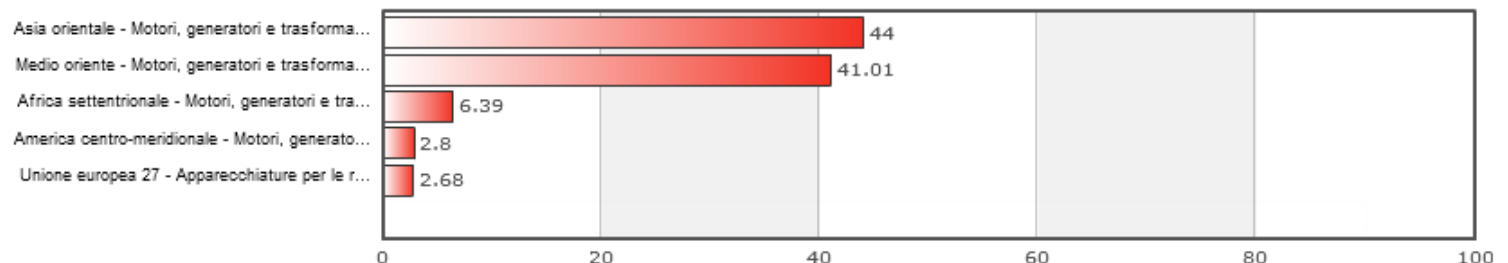
Outlet markets for the products sold by the company



Main types of products sold by the company



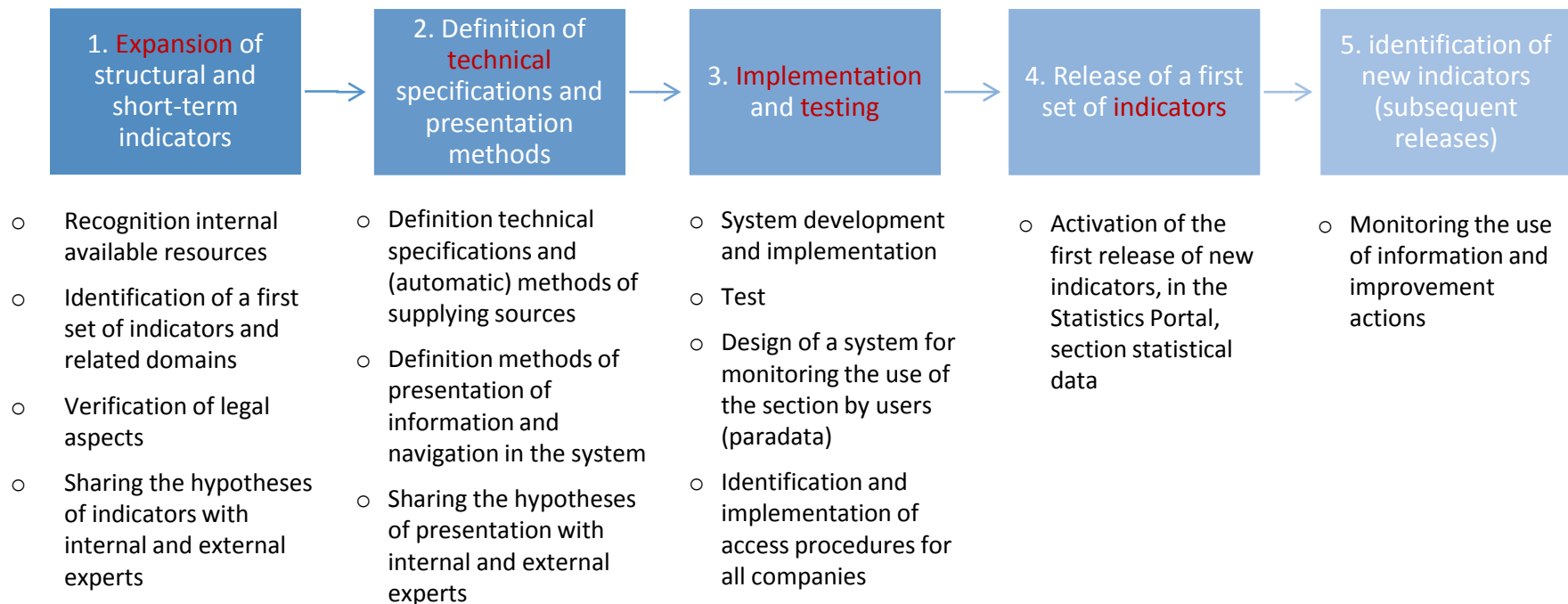
The performance of the company in the relevant foreign market segments



Cliccare su ogni barra per visualizzare la posizione rispetto ai concorrenti in ciascun segmento di mercato

2nd stage -The steps and activities

The project will be developed in several **steps that involve the progressive integration** of information over time. A first release of indicators will be produced and then, subsequently, the system can be fed with further information that will emerge from internal analyses and from the feedback coming from the users.



2nd stage. How to return information

- in aggregate form in compliance with **current legislation on the protection** of the confidentiality of respondents and any industrial secret
- with **standard procedures**, in line with the dissemination methods adopted by ISTAT
- ensuring **equal treatment of users**. All companies will be given the opportunity to access the "Statistical data" section (even companies not involved in Istat surveys, will be access the same information on demand)

2nd stage. Hypothesis of new indicators

Traditional information on the production structure

- Number of enterprises and local units and employees by sector and territory

Level of detail of "traditional" information

- Economic activity (detail of Ateco groups) and territory (region level)
- Economic activity (Ateco Division detail) and company size (by employee class)
- Economic activity (class detail)
- Economic activity (Section detail) and territory (municipal)

New indicators built from Permanent Census of enterprises

Hypothesis of new indicators: the economic indicators

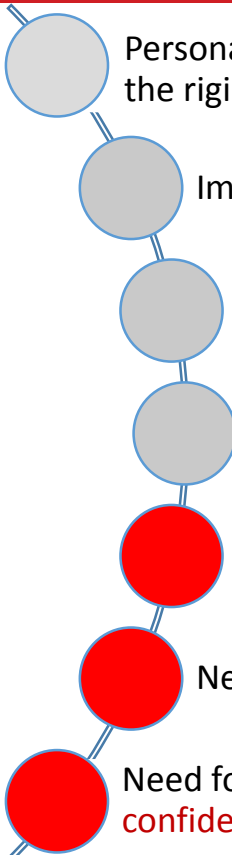
- Labor productivity
- Labor cost
- ULC - cost competitiveness (Corrected labor cost for productivity)
- Intensity of investments

Identification of some structural indicators for analysing the structure of sectors / markets and the "average" performance of companies

- Degree of plant utilisation
- Order judgments (total, internal, external)
- Production level reviews
- Stock reviews of finished products
- Credit access

Sentiment indicators: qualitative data for the planning of manufacturing companies strategies (extendable with other indicators on construction, trade and other services)

Conclusions

- 
- Personalised return is a **necessary opportunity** to balance the required statistical burden and the rigidity of the penalty system applied in Italy
 - Important tool in designing a balanced and sustainable **data collection strategy**
 - Fully consistent with the centralized **data collection model** adopted by Istat
 - Focuses on a set of statistical information really **suitable to the needs of enterprises**
 - Need for greater consistency between the internal **classification systems** adopted by companies and official ones adopted by Istat
 - Need for more **timeliness** in particular with reference to structural data
 - Need for further information on how to disseminate information in compliance of the **confidentiality constraints** and **equal access conditions** to the information produced by Istat

References

[1] Groves R.M. and Lyberg L. (2010), Total Survey Error: Past, Present, and Future Public Opinion Quarterly, Volume 74, Issue 5, 2010, Pages 849–879, <https://doi.org/10.1093/poq/nfq065>.

[2] Snijkers, G., Haraldsen, G., Jones, J., & Willimack, D. (2013). *Designing and conducting business surveys*. John Wiley & Sons.

[3] Istat (2016), Istat's modernisation programme, https://www.istat.it/it/files//2011/04/IstatsModernisationProgramme_EN.pdf

[4] Bavdaž, M., Snijkers, G., Sakshaug, J. W., Brand, T., Haraldsen, G., Kurban, B., ... & Willimack, D. K. (2020). Business data collection methodology: Current state and future outlook. *Statistical Journal of the IAOS*, 36(3), 741-756.

[5] Consolini M., Eiffe F.F.(2022) Experimental design of the European Company Survey online-follow up 2020: Customised reports as incentive to participate BDCM 2022 – Sixth International Workshop on Business Data Collection Methodology 13-15 June 2022, Oslo, Norway) Giugno 2022



Thanks!

paola.bosso@istat.it
papa@istat.it