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2022 UNECE EXPERT MEETING ON
STATISTICAL DATA COLLECTION

TOWARDS THE ADOPTION OF ADAPTIVE CONTACT STRATEGIES OF UNITS INVOLVED IN BUSINESS SURVEYS

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Summary

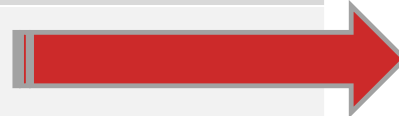
- Moving from standard to responsive solicitation strategies in structural business survey
- A case study: Business situation and prospects during and after the Covid-19 health emergency
- Massive vs targeted reminders and procedures
- Targeted reminders: Criteria for detecting groups for targeted reminders, Selection of units within the group, Calendar, Effects on response rate
- Lessons learned and future activity

Solicitation strategies: moving from standard to adaptive/responsive

- Data collection directorate in Istat just set up in 2016. First effort was oriented to apply standard and armonised procedures to all surveys. Initially, standard applied in contacting survey units were the same for all units involved despite the fact that each unit would have a different propensity to survey participation
- In fact there are several factors affecting propensity of survey units in participation in statistical survey (such as dimension, economic activity, availability of contacting information, location, presence of penalties)
- Dealing with sample survey a bias on final estimates is introduced as the non answering units have peculiar characteristics. Thus an attempt of sending more targeted kind of communication has been adopted in “Business situation and prospects during and after the Covid-19 health emergency” (called Covid survey in the following).
- This kind of approach is considered one of the possible application of adaptive and specifically responsive survey. Accordingly, the solicitation activity can be run on specific target group whenever specific parameters reach pre-defined thresholds. As reminders are sent to solicit specific non respondent units to compile the questionnaire, at the end this approach can lead to the reduction of the bias on the estimates due to the total missing answer.

Main characteristics of Covid economic survey (3 waves)

	COVID-19 SURVEY	OTHER BUSINESS SURVEYS
LENGHT <i>(working days)</i>	17-24	60 on average
SAMPLE UNITS (n)	90,500	From 2000 till 80000 Only CENSUS has a larger sample units
BURDEN CONSTRAINT <i>(minutes to fill in the questionnaire)</i>	14	More than 60
RESPONSE RATE (%)	44-46	
LEGAL OBLIGATION AND PENALTIES	None	Obligation for all Penalties only for units with at least 250 persons employed



SURVEY	SAMPLE UNITS			
	< 250		≥ 250	
	N	% RR	N	% RR
EAS - SME	77,611	43.6	3,997	85.9
COVID-19 - w3	86,962	45.3	3,506	61.6

Response rate
for units with **less than 250 persons employed** was similar to EAS - SME, whereas
for **larger units** the difference registered was more than 20 percentage points

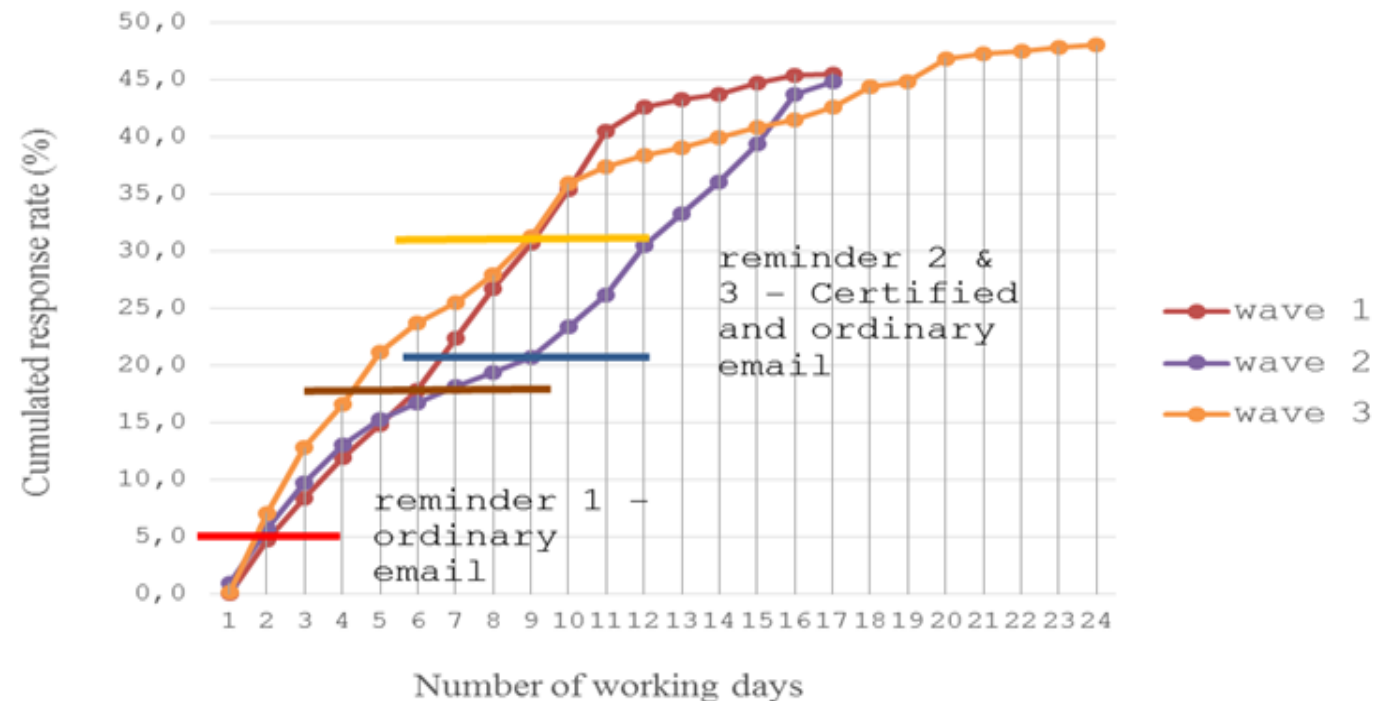
Massive reminders and response rate trends per Covid survey wave

Communication sent

- **Informative letter**
- **One certified email**

Each certified email is followed by a **massive ordinary email**, that is sent to the emails addresses registered for each specific enterprises that already had access to the Businesses statistical Portal.

CUMULATIVE RESPONSE RATE (%) PER WAVE AND WORKING DAY



Massive vs Targeted reminders procedures

Standard procedure

- ✓ Informative letter + ordinary email
- ✓ 1 or 2 Certified emails + 1 to 3 ordinary emails
- ✓ **Specific target group communication** - Recall made from the outbound service on a priority list of units identified EX-ANTE including relevant units
- ✓ **Specific target group communication** - Ordinary emails sent to the NR units with uncomplete questionnaire sent right before the deadline

Covid survey procedure (wave3)

- ✓ Informative letter + ordinary email
- ✓ 1 Certified email + 1 ordinary email
- ✓ **Specific target group communication** - 2 ordinary emails sent to NR units belonging to specifically identified groups with a low response rate and/or with a high sampling error
- ✓ **Specific target group communication** - Recall made from the outbound service on priority list of units identified as mentioned before

Effectiveness and technological constraint – the dimension of the group to be re-contacted had to be around 20,000 units

Targeted reminders – first criterion adopted

- The first criterion was based on
 - the **characteristics of enterprises**, affecting the survey participation
 - the **response rates** obtained up to that day of data collection at estimation domain and stratum level.

In **wave 2**, stratification variables considered were

- ✓ size class (4 sizes)
- ✓ territorial areas (21 regions).

The priority units to be solicited were the ones included in strata in which the response rate - up to that point - was lower than prefixed values.

In **wave 3**, stratification variables considered were

- ✓ Nace Rev.2 division,
- ✓ size class (4 sizes),
- ✓ territorial areas (21 regions).

In this case, two degrees of priority were assigned to each economic unit to be solicited: high priority of re-contact was assigned to non-respondent units with at least 99.5 persons employed and to units belonging to strata with no respondents units, low priority of re-contact was assigned to non-respondent units belonging to: small size strata (number of respondent units ≤ 5 sampled units in the stratum); medium size strata (number of respondent units $< 1/3$ of sampled units in the stratum); large size strata (number of respondent units $< 1/8$ of sampled units in the stratum).

Targeted reminders – second criterion adopted

- The second criterion was based on more purely statistical information. Analysis of the distribution of **response rates** by stratum provided indications on which strata had to be paid more attention in order to plan reminders. At the same time, the study of the **coefficients of variation** helped to identify the strata for which it was necessary to concentrate data collection. – adopted only in wave 3 –

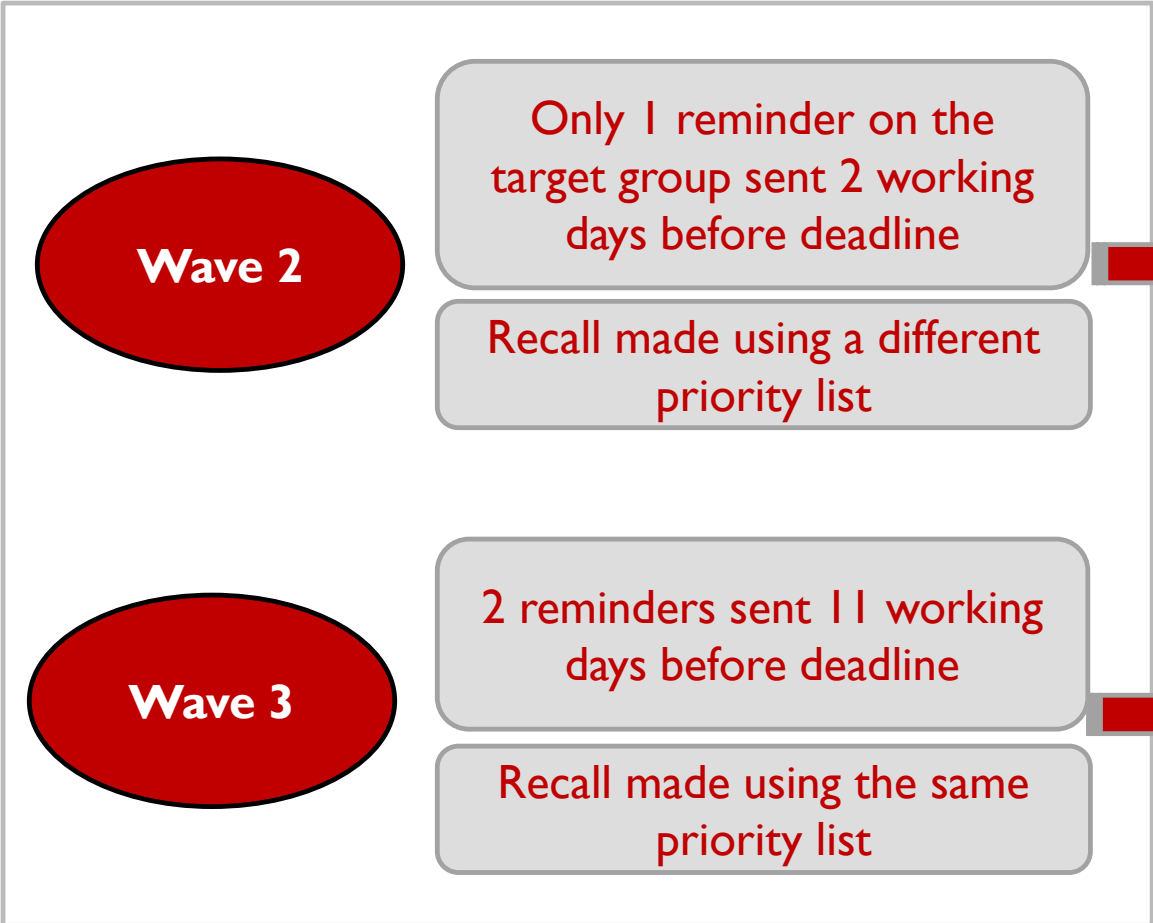
So, also in this case, it was assigned a flag to each unit with respect to the priority of being contacted again. High priority to be re-contacted was assigned to:

- ✓ units belonging to strata with quite low response rate and sample rate percentiles over predefined thresholds;
- ✓ units belonging to strata or estimation domains with relatively high coefficient of variation.

= > Within the same selection group with the same level of priority, the companies to be re-contacted were selected at random.

Targeted reminders - Strategies and effects

STRATEGIES ADOPTED FOR SOLICITING



EFFECTS ON RESPONSE RATE

RESPONSE RATE FOR SOLICITED AND UNSOLICITED GROUP – WAVE 2

UNITS	solicited group		unsolicited group	
	N	% RR	N	% RR
BY group	17,500	10.5	38,000	8.1
TOTAL	-	+2.0	-	+3.4

RESPONSE RATE FOR SOLICITED AND UNSOLICITED GROUP – WAVE 3

UNITS	solicited group		unsolicited group	
	N	% RR	N	% RR
BY group	21,500	20.2	33,500	9.8
TOTAL	-	+4.8	-	+4.1

Lessons learned and future activity

- the reminders on a specific unit group has **positive effects on their response rate**, depending also on the days remaining to the end of data collection phase. In covid survey, due also to shortness of data collection interval, the effectiveness of solicitation has to be maximum, thus the correct selection of the units to be solicited is of capital relevance
- the adaptive responsive approach needs to be further investigated, in order to **asses** if **data quality** and error determined by unit non-response have been positively affected as well
- **define a procedure** to be adopted in a standard structural business survey: criteria to be adopted, appropriate calendar for sending solicitation, total number of units to re-contact, ect.
- Generally speaking, the adaptive responsive survey is a **challenging approach** but it requires a standardized model to analyze interactively the non-respondent units and their parameters, as an efficient system of communication and data exchange between three different sectors: the data collection, the economic and methodological one

Thank you!

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