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INTEGRATED APPROACH TOGETHER WITH ADMINISTRATIVE AGENCIES TO DIMINISH RESPONSE BURDEN IN ENTERPRISES

Supporting paper submitted by the Statistical Office of the Republic of Slovenia*

INTRODUCTION

1. The paradox of statistical systems of small countries – few resources and large demand for statistical information – is very hard to manage at national statistical institutes. At the same time, the situation is very similar at responding units – enterprises and farms. The average size of an enterprise in a small country is lower than in other countries, but response burden seems to be approximately at the same level. In this paper, we are attempt to present the Slovenian method of managing these extreme situations.

ESTIMATED RESPONSE BURDEN

2. As well as the Statistical Office of the Republic of Slovenia, the statistical system of Slovenia includes six other authorized institutions who produce official statistical data for the country. The system is managed through the Annual Working Programme, which includes approximately 400 tasks; 150 of which require direct data collection from responding units. The majority of these 150 tasks are surveys of enterprises which are self-administered post

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surveys and are so far not supported by web reporting. Other tasks request data from households and persons, farms and public administration.

3. The analysis of response burden in enterprises which took place in 2004, included 67 surveys of enterprises. As is the case in other counties, the majority of the response burden in enterprises is caused by Intrastat (about 60% of whole response burden of enterprises in Austria; Rainer, 2004). Since Slovenia became a member of the European Union on 1 May 2004, the country did not take Intrastat into account in this analysis. 19 out of 67 surveys are sample surveys; in all others, the interviewed population equals target population above threshold. In total, 35.388 enterprises were interviewed in 67 surveys.

4. The time spent on a given questionnaire was estimated on the basis of the length of the questionnaire (number of variables). This method results in rough estimates.

Table 1: Number of enterprises according to inclusion in surveys and time spent for filling in questionnaires in 2004

Number of surveys that enterprises are involved in	Number of enterprises		Time spent (working days)		Time spent (working hours)		
					Average	Min	Max
All	**35388**	**100%**	**68866**	**100%**	**15,6**	**0,7**	**146,2**
1 survey	**22516**	**64%**	**23452**	**34%**	**8,3**	**0,7**	**60,0**
2-5 surveys	**10275**	**29%**	**23968**	**35%**	**18,7**	**1,3**	**88,0**
2	5523	16%	9093	13%	13,2	1,3	69,0
3	2204	6%	5294	8%	19,2	2,3	75,0
4	1578	4%	5423	8%	27,5	6,5	80,0
5	970	3%	4157	6%	34,3	11,2	88,0
6-10 surveys	**2222**	**6%**	**17412**	**25%**	**62,7**	**14,3**	**117,0**
6	666	2%	4056	6%	48,7	14,3	89,5
7	549	2%	4053	6%	59,1	15,3	97,7
8	351	1%	2720	4%	62,0	16,3	103,0
9	344	1%	3300	5%	76,7	20,8	117,0
10	312	1%	3284	5%	84,2	25,3	116,0
11 and more surveys	**375**	**1%**	**4035**	**6%**	**86,1**	**26,8**	**146,2**
11	244	1%	2580	4%	84,6	26,8	124,0
12	94	0%	1005	1%	85,6	34,2	119,5
13	22	0%	234	0%	84,9	30,8	134,5
14	8	0%	106	0%	106,0	53,7	135,2
15	5	0%	77	0%	123,2	108,8	146,2
16	2	0%	33	0%	131,4	126,2	136,7

5. In summarizing the results, a total of 35.388 enterprises (among 150.000 business entities in Slovenia) spend almost 70.000 working days in one calendar year or more than 38 man-years. If the proportion of Intrastat was 60% of time (similar to Austria), it would mean that enterprises spent about 100 man-years for official statistics only. Together with surveys of ”non-business” population (schools, hospitals, etc.) we estimate the total response burden in

Slovenia to be about 250 man-years, which is quite comparable to Austria with 485 man-years (Rainer, 2004).

6. One of the most important and, according to the number of enterprises involved, largest surveys is the monthly survey on earnings. Since the majority of enterprises (64%) in our analysis are involved in one survey only, we assume that they are involved in the survey on earnings. In 2004, these enterprises spent on average 8,3 hours per year or a total of 13 man-years (35% of all response burden in the country).

7. Enterprises which are involved in 11 or more surveys receive more than 50 questionnaires per year. They comprise only 1% of all enterprises, but they spent 6% of all response burden (on average 86 hours per enterprise per year).

8. In Table 2, the response burden according to the frequency of surveys is shown. Most of the time in enterprises (86%) is spent on monthly surveys (short-term statistics).

Table 2: Time spent according to the frequency of surveys

	Time spent (working days)	Percentage of time spent
All	68866	100
Annual surveys	6807	10
Semi-annual surveys	91	0
Quarterly surveys	2943	4
Monthly surveys	59025	86

Table 3: Percentage of enterprises and percentage of time spent according to the number of surveys and activity code

%

	Percentage of number of enterprises according to activity code					Percentage of time spent according to activity code				
	All	1	2-5	6-10	11+	All	1	2-5	6-10	11+
All	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**
A	1,3	0,9	1,8	3,2	2,9	1,3	0,7	1,4	1,6	1,7
B	0,1	0,1	0,1	0,1	0,0	0,1	0,1	0,0	0,0	0,0
C	0,3	0,1	0,4	0,9	1,1	0,7	0,1	1,1	1,0	1,3
D	14,4	10,2	13,7	51,8	64,5	33,2	8,5	22,8	70,4	77,7
E	0,6	0,4	0,6	2,5	4,8	1,2	0,3	1,1	2,1	3,6
F	7,3	6,2	7,7	13,5	19,2	5,7	5,2	4,7	6,6	10,4
G	30,6	36,3	23,2	11,9	2,9	24,8	40,1	25,3	8,7	2,5
H	8,3	6,1	14,4	3,6	0,3	8,0	6,8	14,6	2,5	0,2
I	6,9	8,2	4,9	3,6	1,9	4,9	7,8	4,3	2,4	1,4
J	2,5	3,2	1,6	0,8	0,0	1,7	3,2	1,3	0,4	0,0
K	11,5	11,3	13,6	5,4	0,8	8,5	10,6	11,7	3,2	0,5
L	3,8	3,2	5,8	0,9	0,0	2,4	3,0	3,8	0,3	0,0
M	5,8	7,2	4,2	0,2	0,0	3,5	7,7	2,5	0,1	0,0
N	2,2	1,6	4,1	0,3	0,0	1,5	1,5	2,7	0,1	0,0
O	4,4	5,0	4,1	1,3	1,6	2,6	4,3	2,7	0,6	0,8

9. We can see that the highest percentage of enterprises in surveys and response burden

appears in D (manufacturing) and G (wholesale and retail trade) - 33 and 25% of all response burden. The majority of enterprises with 11 or more surveys are in D and F (manufacturing and construction) where 88% of all time is spent.

HOW TO MANAGE THE INCREASING RESPONSE BURDEN

10. In the previous section, the approximate level of response burden in enterprises was presented. Unfortunately, national statistical institutes are facing increasing demands for statistical information, which in some cases means also the introduction of new enterprise surveys. A few cases where new surveys have been introduced in Slovenia are mentioned below:

- introduction of Intrastat on 1 May 2004 when Slovenia joined European Union; the response burden in selected enterprises has risen significately but it has not yet been estimated;
- introduction of surveys in ”new” fields – for example, survey on use of information and communication technology in enterprises, banks and insurance companies; or demands for services, etc. Most of those surveys are also Eurostat's pilot project. The data is definitely needed, but the requests can only be satisfied by introducing a new survey;
- national demand for data: in some cases, there are very strong national demands for data.

11. In most of the cases, new demand for statistical data cannot be met using the administrative sources or any of the old surveys. Consequently, if we want to keep both the workload of the Statistical Office and the response burden approximately constant, other measures are required. This led to the following ideas on how to decrease response burden:

- joint data collection with one of the administrative agencies in Slovenia who may also need approximately the same data;
- introduction of new methodologies that would decrease response burden, allowing us to attach two surveys to one questionnaire;
- the use of existing administrative sources – at the Statistical Office of Slovenia, this is quite an old solution which has been widely used for several years or even decades and we will not decribe its features in details.

12. There were also some thoughts about coordinated sampling schemes. In general, these schemes do not decrease overall response burden, but they do spread the burden out more equally among enterprises. Unfortunately, we suspect that coordinated samples are not very useful for small countries (with a small business population) due to the following reasons:

- the number of enterprises within some groups of activities is very small and, because of the representativeness of the final results, such enterprises cannot be excluded from the sampling frame;
- there are only about 20 sampling surveys of enterprises at the Statistical Office of the Republic of Slovenia: all other enterprise surveys are censuses or censuses above a certain threshold. The gain of controlled sampling selection would not be very high.

13. Analysing all these possibilities led us to realize that the highest response burden and,

at the same time, the highest costs at the Statistical Office are caused by two monthly surveys – the survey on earnings (already mentioned in the previous section) and the survey on industrial production. In the following section, the first case is described in detail.

MONTHLY SURVEY ON EARNINGS – INTEGRATED APPROACH

14. As we explained before, about 40% of the whole response burden in the country was caused by the monthly survey on earnings, employed about 3% of human resources at the Statistical Office. Monthly indices on earningy are very important statistical information since many social benefits are linked to the published indices. At the same time, very similar data were collected by two administrative agencies in Slovenia: Tax Authorites and Agency for Public Administrative Records of Slovenia (APARS). The questionnaires of all three institutions were slightly different and all three institutions had many problems in collecting and processing the data. The purposes of all three collections were quite different (Tax Authorites for tax purposes, APARS for control of collective and individual contracts and the Statistical Office for monthly indices on average earnings) so the resulting information in each agency was also quite different.

15. The first step of integration was performed in 2004 – APARS and the Statistical Office joined forces. The agreement between the Directors General of both offices was signed in the summer of 2004. According to the agreement, the Statistical Office is responsible for the methodology of common survey, data editing, processing and publishing; APARS is responsible for data collection and data cleaning. The project was developed rapidly:

- summer 2004 – the agreement was signed;
- autumn 2004 – the common questionnaire was developed;
- autumn-winter 2004 – preparation of methodology at the Statistical Office;
- autumn-winter 2004 – preparation of IT tools at APARS;
- January 2005-February 2005 – the first month of common data collection (January 2005 as reference period);
- 15 March 2005 – the first results for January 2005 were published, time series was not broken;
- April 2005 – end of testing period (parallel data collection at both institutions, the Statistical Office does not collect data anymore).

16. We can see that, in less than one year, a very successful cooperation has been developed. There were many obstacles along the way, and users of statistical information were particularly sceptical about data quality. The representatives of the Chamber of Commerce were strictly against the testing period when the data was collected in parallel by both institutions. After negotiations, they agreed to a testing period of two months, which is very short by normal statistical standards.

17. The target population in the old survey at the Statistical Office consisted of approximately 20.000 enterprises. APARS needs a larger population for their use of the data, so the final population of a new survey is approximately 35.000 enterprises. APARS has gained good experience in e-reporting in some of their previous projects. They also prepared a web questionnaire for this survey and the feedback from enterprises is quite good: almost

90% of surveyed enterprises are using the web-questionnaire.

18. This project was also very challenging for the Statistical Office. This is the first monthly survey with completely automated data editing. Data editing of the old survey required about 10 man-years and, with a larger population (75% increase in population size), we would need 18 man-years. Through the introduction of the automated data editing, almost no undergraduate employee is needed.

19. The Statistical Office was also very concerned about data quality. The new IT tools allowed us to calculate many indicators of quality to control all the processes. The standard quality report was prepared for the old survey and is under preparation for the new survey because we believe that users need this information. The quality of processes and results is a very important issue in the whole process of integration.

20. The next step will be to join the new survey with that of Tax Authorities. APARS will still be the major data collector, Tax Authorities will play the same role as the Statistical Office – development of methodology and processing of data for their own needs. Some negotiations have already taken place and we believe that within one year all three institutions will be using the data from one source.

21. At the end of this success story, we would like to emphasize that the response burden caused by different administrative agencies is estimated to be much higher than that caused by statistical surveys. In the case of our integrated approach, we managed to decrease not only the statistical burden, but also the administrative burden.

OTHER SUCCESSFUL CASES

22. Besides the survey of enterprises, there is an increasing response burden in surveys of farms, households and persons. Particularly in the last two cases, national statistical institutes have strong competitors in marketing agencies. The Statistical Office of the Republic of Slovenia decided that the response burden should be decreased by cooperation with different agencies in these cases.

Surveys of farms

23. The Agency of Agricultural Markets within the Ministry of Agriculture is a very strong partner of the Statistical Office. The Statistical Office receives data from administrative registers and records; in the case of the survey of early crops, we have to interview only about one third of the selected sample. All other data is collected from administrative records. The same holds true for refreshing the register of farms, where many administrative registers from the Ministry of Agriculture are used. In the future, even more of these data will be used, not only to decrease the response burden but also to lower the survey costs.

Surveys of households and persons

24. In the analysis of response burden of households and persons in 2004, we discovered that the average Slovenian household was interviewed 1,5 times within one calendar year (for comparison: 0,9 times in 1996); only 0,1 times by the Statistical Office. High response burden has meant that response rates in all surveys have drasticly decreased over the last two years, which naturally results in a lower quality of data not only for the Statistical Office but also for marketing agencies and their customers. One can conclude that, at the very least, control of response burden would be profitable for all parties. The first step towards this control was made during spring 2005, when a meeting of the largest survey-conducting agencies was held (Statistical Office, some centres at the University of Ljubljana and the eight largest marketing companies). In spite of being competitors, they grouped together to perform better. There were also some agreements on standards of interviewers' payment and some other issues concerning household surveys.

25. This case seems to have been most educational for the surveys of enterprises as well. The methodology of household surveys is highly developed in all EU Member States (questionnaires, interviewers' performance, etc.); at the same time, the demand for different statistical data is very high. High response burden (or very frequent selection into different surveys) caused high non-response rates and now it seems that the only solution is cooperation with other organizations to at least control the burden.

CONCLUSION

26. In this paper, we have presented problems of increasing response burden of enterprises, farms and households. The first, most successful steps were made during last year through cooperation with different agencies and use of new methodologies. Of course, not all methodologies used in large countries are possible to implement in small countries. A lot of work is still in front of us – we're planning to sign several agreements with different agencies to collect data for different purposes. These actions will lower the response burden both through statistical surveys and through administrative data collection.

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