

EVALUATION LABOUR INPUT OF FILLING IN STATISTICAL FORMS: SAMPLING METHODS

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Outline

- Evaluation labour input of filling in statistical forms: sampling method
 - forming the general population of the respondents
 - evaluation recommended sample size
 - Sample design
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Why is it important to know labour input of filling in statistical forms?

- ❑ to minimize labour input associated with filling the forms of statistical reporting
 - ❑ updating and improvement of existing forms of State statistical surveys
 - ❑ approving of new forms and relevant indicators and cancel obsolete ones
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First problem

forming the general population of the respondents

In order to form the general population of the respondents they were proposed to fill in such a questionnaire (table 1).

Table 1: Questionnaire study of the labour input associated with filling in statistical forms

The operative time costs, hours					
up to 1	1-2	2-4	4-8	8-40	more than 40

Categories of working time of the responders

- ❑ **Operative time** - includes the time required for registration and reporting forms of state statistical reporting; primary input records to the PC, the union of sets of information received from affiliates or divisions, the checks on the statistical reporting forms: arithmetic, logical, comparison with the previous period and so on, forming the output tables, etc.;
 - ❑ **Set-closing time** - includes time to prepare for the implementation of a given work and time to perform the operations associated with its ending;
 - ❑ **Time monitoring of equipment operation**
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Operative time

- ❑ Directly aimed at the task & connected with:
 - Collection statistical data (checking the statistical reporting forms);
 - Processing (arithmetic, logical control & comparison with the previous period);
 - Systematization (output tables).
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The main reasons for using sampling

- to minimize labour input of the responders associated with filling the forms of statistical reporting;
 - Cheaper.
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Sample basis

- The sampling frame is formed by legal entities and their separate units, which should be grouped on a territorial basis and on the basis of economic activity.

Table 2: Distribution of legal entities by regions and in Minsk on June 1, 2012

Belarus	Total	Percentage
	126 771	100,0
Including regions:		
Brest	13 762	10,9
Vitebsk	13 085	10,3
Gomel	13 324	10,5
Grodno	11 042	8,7
Minsk city	43 844	34,6
Minsk	20 361	16,1
Mogilev	11 353	9,0

Limiting errors in dependence on sampling size

- On the basis of the limiting errors calculation, depending on the sample size and values of characteristics (with 95% probability level), the recommended sample size is 22500 entities that makes up 25% of the general population.

Table 3: Limiting errors in dependence on sampling size

Sample size	Limiting error, %	Limiting error, units
5%	1,13	1 688
10%	0,77	1 162
15%	0,61	922
25%	0,45	671
30%	0,39	592

Sample design

To receive representative estimates at the regional and national levels the general population of Belarus legal entities should be stratified by:

1. territorial characteristics of the responders.
 2. the identity of the respondent to the form of economic activity.
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Future research

On the basis of survey we propose the following system of correction factors developed by labor input of filling in statistical forms:

1. comlexity;
2. occupancy.

The average occupancy rate for each form of statistical reporting is a known quantity.

Thus, as a result of the research we can get the complexity rate and regression equation for the operative time of statisticians in dependence of this two factors.