

Twinning Project

Contract: GE 16 ENI ST 06 18

Strengthening the Capacity of the Georgian Statistical System

Component 3: “Development of Business Statistics”

Sub-component 3.1: “Short Term Business Statistics Indicators”

MISSION REPORT

Activity: 3.1.E (RS) “Preparation of indicators on hours worked”

Mission carried out by

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June 18th – July 2nd 2021

Version: Final

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Table of contents

1. General comments	4
2. Assessment and results	5
3. Conclusions and recommendations	5
Annex 1. Terms of Reference	5
Annex 2. Persons met	9
Annex 3	
Annex 4	
Annex 5	

1. General comments

This mission report was prepared within the EU Twinning Project "Strengthening the Capacity of Georgian Statistical System". This was the first mission (of two planned missions) within the sub-component 3.1.E specifically concerning the development of indicators on hours worked.

Due to COVID-19 the mission was carried out as a Remote Session as two separate meetings on June 18th and 2 July 2021. These two meetings were prepared through a planning meeting and a following correspondence, cf. Annex 4 and Annex 5.

The purpose of the mission is to present, discuss and follow up on the below mentioned subjects concerning hours worked:

- Review of data sources
- Data validation, data editing rules and thresholds and data analysis.
- Sector coverage and shortcomings
- Alignment between yearly and quarterly data

The expected output of the mission is:

- Data sources have been reviewed
- Data validation, data editing rules and thresholds and data analysis, have been discussed.
- Sector coverage and shortcomings have been assessed
- Alignment between monthly and quarterly data have been discussed
- Mission reports written

This first mission was mainly devoted to discuss the current starting point regarding Geostat's forthcoming index on hours worked. The statistics' coverage and the connection between the yearly and the quarterly statistics was investigated, and, in particular, the methodological issues related to sampling and design weights was discussed.

The consultants would like to express their gratitude to the Geostat staff who participated in the mission, for the kind support and valuable information received during the mission.

The views and observations stated in this report are those of the consultants and do not necessarily correspond to the views of the European Union, Geostat, Statistics Denmark, or other statistical institutions involved in the implementation of the project.

2. Assessment and results

The questionnaire

In theory, the questionnaire (cf. Annex 3) seems to be quite perfectly suited to produce statistics on hours worked. However, in practice it is questionable whether the enterprises will be able to follow the rather complicated instructions (cf. the footnote to the questionnaire) and report reliable data to Geostat.

Preliminary recommendation: Some enterprises who apparently report inconsistently or incoherently should be recontacted regarding their data and their calculations. Inconsistency could be (number of employees vs. hours worked); incoherent information could be (large variation over time; or differences between the reporting of quarterly and yearly information).

Industry-specific characteristics and intra-industry differences could be respected and considered when selecting a small number of enterprises for such consultation.

The instructions (cf. the footnote to the questionnaire) should be reviewed in the light of the findings, and it should be evaluated whether the level of ambition (as well as the response burden) is too high, and whether a simpler calculation would give a better result, all in all. The instructions are very compact, and clearer step-by-step instructions should be considered.

The micro data reported

There are several ways to identify erroneous data. One suggested method would be analyses of turnover vs. hours worked at the level of industry and sizegroups. Furthermore, when it comes to checking the reported data and correcting possible errors it will always be a matter of prioritizing the time available among the enterprises for whom possible errors have been identified. These two topics (identification of errors; prioritizing among enterprises), will be discussed during the next mission.

Coverage

Currently, the statistics on hours worked only includes the business sector for which the quarterly and yearly survey is implemented.

Preliminary recommendation: In the longer run it should be considered to expand the coverage of the statistics on hours worked to all industries of the economy, in order to be in line with the STS regulation. This might involve either an expansion of the survey, or the use of supplementary data sources as for example the Labor Force Survey. This preliminary recommendation will be discussed during the next mission.

Consistency between yearly and quarterly data

Leaving the pure methodological issues related to sampling (cf. below) and quality of the data reported (cf. above) aside, the statistics on hours worked could be produced not only on a yearly basis, but also quarterly – i.e. as an index and possibly at a lower level of aggregation, with respect to industries, than the yearly statistics. This is possible, since the yearly and the quarterly statistics are based on the same questionnaire; just, the yearly questionnaire involves a larger sample.

Preliminary recommendation: A methodology should be set up in order to calibrate/adjust the quarterly indices when the more solid yearly statistics on hours worked is available. The logic should be that by industry the sum of the four quarters should equal the level of the yearly statistics. As a spin-off, the quality of the micro-data might be increased if the bigger enterprises are confronted with inconsistencies between their yearly and quarterly reportings.

The sample

The consultants understand that all enterprises above a certain size are sampled, while enterprises below this size are selected according to probabilities and decisions regarding the necessary sample size.

The sample design could be the following (for simplicity ignoring the stratification by industry):

No. of employees	No. of enterprises	Sample probability	Sample size	Responses	Adjusted weights
>250	50	1.00	50	50	1.00
100-250	2,000	0.50	1,000	900	2.22
50-99	50,000	0.05	2,500	2,300	21.74
20-49	100,000	0.02	2,000	1,800	55.56
1-19	200,000	0.01	2,000	1,500	133.33
Total			7,550		

In the example, the number of employees is the only sampling variable. Turnover is sometimes used instead of (or in some combination with) the number of employees as the sampling criteria. Besides, the total sample size (7,550 in the example) is allocated between industries (industries are not included in the example) according to homogeneity considerations, so that inhomogenous industries can be allocated larger relative shares of the total sample size, as compared to more homogenous industries.

In order to ensure progress, it is important for the consultants to have an overview as the above example available, in sufficient time before the next mission. The overview should of course include the industry level. On this basis, discussions about empty (or almost-empty) strata, changes between strata, and how to handle these issues can be held during the next mission.

Metadata

The metadata related to the statistics on hours worked are, basically, just as important as the statistics itself. Or rather, the metadata should be seen as part of the statistics. The next mission should therefore also have a dedicated focus on the metadata.

3. Conclusions and follow up

Actions needed for moving forward.

Before the next mission a joint planning meeting will be organized in order to go through the below listed material that is deemed necessary in order to be able to conclude or give further recommendations:

Action	Deadline	Responsible person
Geostat will, in a table, describe the sampling design: 1) <i>the stratification; i.e. the number of enterprises in each strata (both population and sample)</i> 2) <i>the weights applied; i.e. the strata weights so that each sampled enterprise statistically represents a (larger) number of enterprises.</i> 3) <i>the adjusted weights; i.e. the strata weights adjusted for non-response, updated business-register etc.</i>	3 weeks before the next mission	Geostat
The reasons to the difference between the sampling weights and the adjusted weights will be described in a short note, produced by Geostat	3 weeks before the next mission	Geostat
The methods applied by Geostat to: 1) <i>identify possible errors in the reported data</i> 2) <i>select among the enterprises with suspicious data in order for the enterprise to be recontacted or other error correction being performed</i> should be described in a note or be prepared as a presentation for the joint planning meeting to be held before the next mission	3 weeks before the next mission	Geostat
The existing metadata on hours worked will be provided to the consultants by Geostat together with metadata on other, related surveys (e.g. turnover)	1 week before the next mission	Geostat

Annex 1. Terms of Reference

EU Twinning Project GE 16 ENI ST 06 18

June 18th – 2nd July 2021

Component 3: Development of Business Statistics

Sub-component 3.1: Short Term Business Statistics Indicators

Mandatory results and benchmarks for sub-component 3.1

- Short-term business statistics indicators developed

Indicators of Achievement (baseline and targets):

- Availability of STS – indices as test calculations
 - **Baseline:** 2019 – 8 STS indices are available
 - **Target:** November 2021 – Indices on turnover, volume and hours worked calculated
- Number of staff trained in STS indices on turnover, volume and hours worked
 - **Baseline:** 2019 – 0
 - **Target:** November 2021 – At least 3 staff members trained

Activity 3.1.E (RS): Preparation of indicators on hours worked

1. Purpose of the activity

To present, discuss and follow up on the below mentioned subjects concerning hours worked:

- Review of data sources
- Data validation, data editing rules and thresholds and data analysis.
- Sector coverage and shortcomings
- Alignment between monthly and quarterly data

2. Expected output of the activity

- Data sources have been reviewed
- Data validation, data editing rules and thresholds and data analysis, have been discussed.
- Sector coverage and shortcomings have been assessed
- Alignment between monthly and quarterly data have been discussed
- ToR for next mission is outlined
- Mission report written



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საქართველოსთვის
The European Union for Georgia



Annex 2. Persons met

Geostat

Ms. Tinatin Ksovreli, Head of Short Term Statistics Division of Business Statistics Department,
Mr. Mamuka Benashvili, Chief Specialist of Short Term Statistics Division of Business Statistics Department,
Ms. Liana Zaridze, Chief Specialist of Short Term Statistics Division of Business Statistics Department,
Ms. Mariam Gogenia, Senior Specialist of Short Term Statistics Division of Business Statistics Department,
Ms. Nino Beridze, Specialist on a contract basis of Business Statistics Department.

RTA Twinning Team

Mr. Steen Bielefeldt Pedersen, Resident Twinning Advisor
Ms. Nino Grdzlishvili, Resident Twinning Adviser Assistant, Translator

Annex 3. Questionnaire on hours worked

III. Employment and investment

Indicator	code	total (indicate in integers)	code	of which: women (indicate in integers)	comment
Average annual number of persons employed*	400		410		Average number of persons employed (employees, employed shareholders and employed family members in case of family owned enterprise) in enterprise during the year.
of which: Average annual number of employees*	420		430		Number of persons employed in enterprise whose labor relations with the enterprise are regulated under the Employment Agreement or Contract concluded with such company, to whom salaries were accrued and / or paid
Number of employees at the beginning of year	440		450		Number of employees as of the first day of the first month of the year
Number of employees at the end of year	460		470		Number of employees as of the last day of the last month of the year.
The number of hours worked by employees (a thousand man-hour, accuracy of one tenth).	480		490		The number of hours actually worked during the normal working day as well as overtime hours. If it is not impossible to determine exactly worked hours please use evaluated approach.

* - Let us assume that from the 1st to 12th (i.e. during 12 days) of the first month (31 days) 30 employees worked in the enterprise and from 13th through 31st (i.e. during the following 19 days) - 50 employees. In this case average number of employees during the first month will be: $(12 \times 30 + 19 \times 50) / 31 = 42.3$; Average number of employees for remaining months will be calculated similarly. Average number of employees during 12 months will equal arithmetic mean of figures for 12 months, i.e. Sum of average number of employees for each month shall be divided by 12. Those employed for incomplete work day or incomplete work week, if not provided otherwise in the legislation, will be included in the number of employees in proportion to actually worked out time (first of all worked man hours are divided by normal duration of working day and then by number of work days. For instance, if in a company where the standard working day duration is 8 hours and working days per month equal 23 (in case of five day work week), if person worked 92 man hours, he/she will be counted as 0.5 man in the average monthly number of employees $(92 / 8 / 23 = 0.5)$. Number of employees on holidays and weekends shall be the number of employees on the previous working day. For example, if duration of the work week of an enterprise is 5 days and on Friday 40 people worked in the company, then number of employees on Saturday and Sunday will be 40. If a company was not been functioning during the entire reporting period (seasonal company and etc.) then for calculation of average annual number of employees it is required to summarize average monthly numbers of employees during the worked months and divide the total by 12. If an employee has some other work (including own business or work in his/her estate) major activity will be the one on which he / she spends more time (regardless size of income)

Investments in financial and non-financial (in fixed assets and working capital) assets, Total	500				Non-financial and financial (invested for the purpose of increasing financial assets or / and repayment of liabilities) investments made in the form of own funds or funds attracted from other entities or transferring the property directly to the company; net growth of unfinished goods production, finished products, raw and other materials shall also belong to investments made in working capital; financial resources derived from sale of shares issued by the company or other securities shall be included here.
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Notes and comments

The present questionnaire is available at the webpage of the National Statistics Office of Georgia at:

<http://www.geostat.ge>
Thank you for cooperation!

Annex 4. First round of questions and answers before the mission

Information from Geostat to first round of questions:

Concerning the surveys discussed:

- About data of the hours worked are collected on the level of the company and not on the level of each individual employee.
- The population of quarterly and annual surveys is about 130 thousand active enterprises. The population is selected based on the business register.
- We select approximately 11,500 enterprises in the quarterly survey and 15,600 in the annual survey (all large enterprises, small and medium enterprises selectively). Quarterly data are preliminary and annual data are adjusted;
- Collected data on hours worked: It is number of actual worked hours.
- The Questionnaire of the quarterly and annual survey covers only business sector enterprises and characterizes only indicators of business sector. In addition, the Department of Social Statistics collects data on the number of employees and hours worked in other sectors (financial, government, non-profit and households sectors). They also conduct labour force survey.

The business sector does not include:

1. Following activities: K (Financial and insurance activities), O (Public administration and defence; compulsory social security), T (Activities of households as employers; Undifferentiated goods and services producing activities of households for own use), U (Activities of extra-territorial organisations and bodies); 47.8 (Retail sale via stalls and markets));
2. Non-profit (non-commercial) and legal entities under public law.

Other surveys:

- The Department of Social Statistics collects data on the number of employees and hours worked in other sectors (financial, government, non-profit and households sectors). They also conduct labor force survey.
- In the labor force survey is data about the number of hours worked on each respondent.

The Business Register:

- The business register includes more than 800,000 entities of all legal forms, except individuals. In this number about 190,000 are active;
- The register is updated monthly, based on information received from the Public Registry and the Revenue Service; The business register is a major source of business activity, although activity is also determined by quarterly and annual surveys.

Annex 5. Second round of questions and answers before the mission

General questions (Q: questions from consultants; A: answers from Geostat)

Q: Is the statistics on hours worked supposed or planned to be an annual or quarterly statistics?

- A: Since 2006, we have quarterly and annual survey of enterprises of the business sector, which includes information on the hours worked. The quarterly survey is preliminary, but annual is updated final information.

Q: What information or details is, in your own view, lacking in order to produce the statistics on hours worked? We ask this question, because as outsiders we think that you, more or less, basically have all the information needed. Are there, for instance, specific industries where the data coverage is too low or non-existent?

- Yes, we basically have the information we need. All industries of the business sector are covered. Specific industries, where the data coverage is too low or non-existent, maybe, but they are insignificant.

The Business Surveys

Q: So, your data sources for most industries are the quarterly (11,500 enterprises) and yearly (15,600 enterprises) business surveys with direct reporting of the hours worked with a breakdown of the total on men and women. We would like to be sure that we understand correctly that the yearly survey of 15,600 enterprises is supplementary to the quarterly survey meaning that, all in all, data from approximately 27,100 enterprises is collected – is this so?

- A: No, quarterly and annual survey are two independent surveys. The results of the quarterly survey are preliminary, and the annual is final, adjusted results. Also, part of the enterprises (large and medium) are interviewed in both surveys.

Q: Does the business survey enable you to obtain the needed data on hours worked for (all) the industries covered by the survey?

- A: Yes, it enables you to get the needed data on hours worked for the (all) industries covered by the survey.

Q: Is the concept of hours worked well understood by the enterprises, and how is the quality of the reporting – and how is the quality of the questionnaire?

A: The concept of hours worked is properly understood by most enterprises. The questionnaire is accompanied by an explanation of how to count the worked hours. Also, an online questionnaire shows an error if you enter incorrect data. The quality is satisfactory. All suspicious data is checked with the respondent and the data will be adjusted.

Q: We believe that the business survey is a rather general survey, so are there any concerns that the broad scope of the business survey and the associated weights and grossing-up procedures should not be adequate, or 'good', with respect to the hours worked?

- Yes, we agree that there can be some inaccuracy. But at this point we have no other sources.

Social statistics/Other industries

Q: A number of industries are not covered by the business surveys. We assume that the reason is that the enterprises in these industries are also not included in the business register – is that right?

- A: No, business register covers all enterprises and organizations.

Q: If some of the industries presently covered by 'other surveys' actually are registered in the business register, it would of course be worthwhile to consider these industries to be included in the business surveys. You specifically mention both some NACE categories that are not covered by the business survey, and some NACE categories that are covered by 'other surveys'. Are these two sets of NACE categories identical, or, asked differently, do the business surveys and the 'other surveys' together cover the whole economy?

- A: "Statistical Survey of Enterprises" is non-financial corporations survey and other establishment survey which covers governmental institutions, NGO and financial establishments is statistical survey "Data on Labour". The survey is conducted regularly (quarterly and annually). The labour module for both survey is same: number of employed/ employees, earnings, other expenditures. labour cost, hours actually worked.

Q: Regarding the 'other surveys' concerning the industries not covered by the business surveys, we want to be sure that our understanding of these surveys is correct. Except for the LFS, are the surveys in question implemented as household interviews, and therefore, exclusively, not at organizational or enterprise level?

- A: No, there is no other source on hours worked from the HH surveys.

Q: For the surveys based on household interviews: is it true that the information on (1) industry (economic activity) and (2) hours worked is based on the individual's (the household's) self-reporting?

- A: Yes, it's self-reporting.

Q: How large are the survey samples?

- A: Sample size of LFS is 6,336 households per quarter

Q: How frequent are the surveys implemented?

- A: Quarterly

Q: When drawing the samples for the household surveys, do you have any way to make sure that all the relevant industries are covered sufficiently?

- A: Industry is not be used as a stratification variable (there is no information) for the sample design of the LFS. Current sample size is sufficient to produce statistically reliable data at the section level of NACE (annual bases).

Q: (continuation of previous questions) ...or are the sample sizes so large that this will just always be the case?

- A: Current sample size will be sufficient also in the future to produce statistically reliable data at the section level of NACE (annual bases) (if no significant changes in the structure of the country economy).

Q: How do you handle the problem of overlapping information between the household surveys and the business surveys?

- A: Data obtained from LFS differs from the data obtained from Establishment Survey (enterprises and organizations surveys) for the following main reasons:
 - **Reference period:** according to the LFS reference period refers to one week (7 days preceding the interview date) and reference period for Establishment Survey is quarter/year; 7 Concept Name Representation
 - **Methodological difference:** Establishment surveys collect the number of persons employed in each observation unit. They are in effect measuring the number of jobs rather than employed persons. Conversely, the Labour Force Survey is a survey of individuals. It counts people and therefore provides a measure of the number of people employed. However, it also collects information on second jobs and is therefore able to provide a jobs measure; In addition, according to the LFS employment is defined as work for at least one hours during the reference period; as for Establishment Survey, average number of employed is calculated based on number of jobs and hours of worked in the reference period; Part-time jobs are recalculated in full time equivalent.
 - **Coverage:** Establishment Survey covers formal sector employment, while LFS covers formal sector employment as well as whole informal employment; moreover, LFS covers all kind of economic activities, while Establishment survey doesn't include the following sections economic activities of NACE Rev2: Section T – Activities of households as employers; undifferentiated goods and services producing activities of households for own use; Section U – Activities of extra-territorial organisations and bodies.