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ANNUAL QUALITY REPORT

FOR THE SURVEY

BUSINESS TENDENCY IN CONSTRUCTION

FOR

2015

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0 Methodological Explanations

Brief Description of the Survey

The purpose of the qualitative Survey on Business Tendency in Construction (PT-GRAD) is to obtain monthly information about the current situations of major economic indicators in construction and to evaluate their movement in the ensuing months. The results of the survey are the basis for evaluating the confidence indicator in construction and for the sentiment indicator.

The Survey on Business Tendency in Construction in Slovenia has been carried out since March 2002 with a harmonised questionnaire, and methodology and periodicity used in EU Member States for several decades. Therefore, all data are directly comparable.

Legal Basis for the Survey

The survey is implemented on the basis of the National Statistics Act (OJ RS, No. 45/95 and 9/01) and the current Annual Programme of Statistical Surveys. The legal basis for the Survey "Joint Harmonised EU Programme of Business and Consumer Surveys":
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52006XC1012(01):EN:NOT

Observation Units

The observation units are enterprises whose main activity is classified according to the Standard Classification of Activities 2008 - SKD (NACE Rev. 2) in construction, in Division 41, 42, 43 and having 11 or more persons in paid employment. They were selected by the following two criteria:

- the size (the number of employees in accordance with the Companies Act), and
- the classification of the enterprise according to the SKD.

Coverage

The monthly survey is carried out on the basis of a sample. In 2015, the survey included all large and medium-sized enterprises and 86% of small enterprises (or 87% of the persons in paid employment). The sample covers 88% of enterprises of the studied population or 94% of the persons in paid employment in construction.

Key Variables

The survey includes questions on the situation and/or expectations of the following economic indicators:

- assessment of building activity,
- limiting indicators for construction activity,
- order-books (current and expected),
- employment (current and expected),
- prices (current and expected),
- technical capacity,
- the number of months of assured work in hand by means of contracts, and
- business situation.

Key Statistics
As the key statistics, the confidence indicator in construction and the sentiment indicator, the calculation of which also includes the confidence indicator in construction, are determined.

Questionnaire
The questionnaire (only in Slovene) is available on the website:
http://www.stat.si/StatWeb/Common/PrikaziDokument.ashx?IdDatoteke=7811

Methodological Explanations
Methodological Explanations are available on the website:
http://www.stat.si/StatWeb/Common/PrikaziDokument.ashx?IdDatoteke=8063

1 Relevance

1.1 Rate of Unavailable Statistics

The share of missing statistics is 0.

2 Accuracy

2.1 Sampling Errors

2.1.1 Sampling Error

Table 2.1: Standard error (in percent) and confidence interval for the confidence indicator, 2015

month	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Average value
Confidence indicator	-18	-16	-11	-13	-8	-7	-8	-10	-16	-15	-19	-24	-14
Standard error	1.1	1.9	1.2	1.2	1.5	1.8	1.3	1.9	1.5	1.0	1.8	1.7	1.5
Confidence interval	(-20, -16)	(-20, -12)	(-13, -9)	(-15, -11)	(-11, -5)	(-11,-3)	(-11,-5)	(-14,-6)	(-19, -13)	(-17, -13)	(-22, -16)	(-27, -21)	(-17, -11)

Notes: The table shows standard error and 95% confidence for confidence indicator in construction by individual months.

2.2 Coverage Bias

2.2.1 Coverage Bias

We do not calculate coverage bias.

2.3 Non-Sampling Errors

2.3.1 Non-Response Errors

2.3.1.1 Unit Non-Response Rate

The variable for calculating weighted rate: the number of persons in paid employment

Table 2.3.1: Weighted and non-weighted non-response rates, 2015

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Average value
	%												
Non-response rate (non-weighted)	23.1	25.2	21.1	22.4	17.8	14.0	22.3	20.0	12.3	14.5	18.7	18.3	19.1
Non-response rate (weighted)	18.9	23.4	17.6	19.3	17.8	11.9	18.0	18.5	11.4	13.3	17.1	17.7	17.1

Notes: Non response-rates are weighted with the number of persons in paid employment, which is available to us at the determination of the unit of observation.

2.3.1.2 Item Non-Response Rates

No case of item non-response is involved in the survey, since completeness of the questionnaires is automatically checked already during the compliance phase. Thus, only fully completed questionnaires may be included in the entry and processing phase.

2.3.1.3 Imputation Rate

In the business tendency survey in construction we only have unit non-response, which we do not impute but weigh due to non-response. The non-response weight is calculated as the ratio between the number of units in the sample and the sum of responses and ineligible units. The final unit weight is thus the product of the sample weight and the non-response weight. Weights are calculated separately for each stratum.

2.3.2 Coverage Errors

2.3.2.1 Overcoverage Rate

Table 2.3.2: Ineligibility rate of the sample and frame, 2015

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Frame (number)	391	391	391	389	389	389	389	389	389	389	389	389
Sample (number)	350	350	350	344	344	344	344	344	344	344	344	344
Ineligible units, non-weighted (number)	16	17	19	5	6	9	7	9	11	12	13	16
Ineligibility rate, sample (%)	4.6	4.9	5.4	1.5	1.7	2.6	2.0	2.6	3.2	3.5	3.8	4.7
Ineligibility rate, frame (%)	4.5	4.8	5.3	1.3	1.7	2.5	2.0	2.5	3.0	3.3	3.6	4.4

Notes: The table indicates data on the number and level of ineligible units in the sample and frame. The number of units which represent over-coverage can be divided into the units which are ineligible (since they were included in the frame due to lack of information and do not belong in the frame), and units which were eligible at the time of inclusion in the frame and became ineligible during the year (ceased to operate, changed activity).

2.3.3 Measurement Errors

2.3.3.1 Editing Rate

Systematic monitoring of the number and share of data editing has not been introduced due to the small number of such errors. Data are collected through the eSTAT web application and over the telephone at the CATI studio. According to our estimates, the number of units send a paper questionnaires for the wrong month is below 1% of the enterprises per month.

2.3.4 Rate of the Coherence of Data Sources

3 Timeliness and Punctuality

3.1 Timeliness

3.1.1 Timeliness of the First Release

Table 3.1: Timeliness of the first release, 2015

Ref. period	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Average value
Date of publication	26.01.	23.02.	25.03.	24.04.	22.05.	24.06.	27.07.	25.08.	24.09.	26.10.	24.11.	24.12	
Time lag	T-5	T-5	T-6	T-6	T-9	T-6	T-4	T-6	T-6	T-5	T-6	T-7	T-6

Notes: The timeliness of first publication is determined as the difference between the date of first publication and the end of the reference period. In the table, timeliness of first publications for all months of 2015 is shown, and the average annual value. The timeliness of first publications is given in the form T-x, where T is the end of reference period, and x is the number of days.

3.1.2 Timeliness of Final Results

The results published in the first publication are final.

3.2 Punctuality

3.2.1 Punctuality of the First Release

Table 3.2: Punctuality of the first release, 2015

Ref. period	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Average value
Announced data	26.01.	23.02.	25.03.	24.04.	22.05.	24.06.	27.07.	25.08.	24.09.	26.10.	24.11.	24.12	
Publishing data	26.01.	23.02.	25.03.	24.04.	22.05.	24.06.	27.07.	25.08.	24.09.	26.10.	24.11.	24.12	
Difference	0	0	0	0	0	0	0	0	0	0	0	0	0

4 Accessibility and Clarity

4.1 Accessibility

4.1.1 Means Used for the Dissemination

Table 4.1: Means Used for Dissemination, 2015

No.:	Mean	Used
1	Website (e.g. First Release, E-release)	YES
2	Publication in the SI-STAT Data Portal	YES
3	Publication in the interactive web tools (e.g. Interactive Statistical Atlas of Slovenia, Thematic Cartography)	NO
4	Ad hoc prepared data for users according to their specification	NO
5	Data available through telephone answering machine	NO
6	General printed publications (e.g. Statobook, Slovenia in Figures)	NO
7	Thematic printed publications (e.g. Rapid Reports, Brochures)	NO
8	External databases (e.g. Social Science Data Archives, Eurostat, OECD databases)	YES
9	Statistically protected micro data	NO
10	Preliminary access to data according to standard protocol	NO

The share of means used for dissemination was 30%.

4.2 Clarity

4.2.1 Results Presented

The First Release provides short comment of indicators. In addition to the First Release is an attachment where the results are shown in the form of charts:

- Confidence indicator in construction in Slovenia and the EU
- Movement of economic indicators in construction in Slovenia and the EU
- Limiting factors in construction in Slovenia

The results are shown in the form of charts, mostly seasonally adjusted time series are shown. All results are shown as balances, i.e. the difference between the share of positive and negative answers. At the end a link is given to the SI-STAT data portal where non-adjusted and adjusted data are available for all observed indicators.

Concurrent with the First Release detailed data for all observed indicators are published in the SI-STAT data portal.

4.2.2 Level (Detail) of Presentation

In the First Release results are shown for construction total, while at the SI-STAT Data Portal they are shown according to the Standard Classification of Activities 2008 (SKD 2008 41, 42, 43).

5 Comparability

5.1 Comparability over Time

5.1.1 Length of Comparable Time Series

The results of the Survey on Business Tendency in Construction are available from March 2002 on. Up to the end of 2015, the length of the time series is 166 months or 13 years, 10 months.

5.1.2 Breaks in Time Series

Statistical data for business tendency according to SKD 2008 (NACE Rev. 2) started to be published in May 2010. Due to the change in the classification of activities, it was necessary to recalculate the time series (backcasting) of statistical data by the new classification (from the beginning of the series to April 2010 inclusive). Backcasting was implemented at micro level, which means assigning a new activity code (in terms of the new classification) to each unit and for every period and recalculating in order to have the series expressed in terms of the new classification.

However, a breaks in the trend in the time series' seasonal adjustment process for the price indicator, price expectation indicator, technical capacity indicator, business situation indicator, confidence indicator and assured work in hand were noted. Breaks in the time series' were detected in the time of biggest economics recession in costruction (the last quarter of the year 2008), when most indicators reached the lowest values in the whole observed period.

5.2 Geographical Comparability

5.2.1 Comparability with Other Members of the European Statistical System

The comparability of the methodology for EU Member States is provided within the framework of the Harmonised EU Programme of Business and Consumer Surveys of the European Commission–DG ECFIN, and is based on the agreement by the partners (partners' agreement).
Observation fields, questionnaires, periodical publications and time limits of publications are specified within the programme's framework. All those participating in the programme are obliged to respect its recommendations.
More information about the methodology is available on:
http://ec.europa.eu/economy_finance/db_indicators/surveys/documents/bcs_user_guide_en.pdf

5.3 Seasonal Adjustment

Data are seasonally adjusted. Seasonally adjusted data are original data from which the seasonal and calendar effects are eliminated; they include the trend-cycle component and the irregular component. Data are seasonally adjusted for comparability in different time periods, which contain a variety of seasonal influences. In November 2013, for the seasonal adjustment, we began to use program Demetra+, namely the TRAMO/SEATS method. Due to the replacement of the program and the change of the model for the results of seasonal adjustment, there were no major revisions.

In 2015, the following monthly time series were subject to seasonal adjustment: Assessment of building activity, Overall order books, Order books expectations, Employment, Employment expectations, Prices, Price expectations, Technical capacity, Assured work in hand, Business situation and Confidence indicator.

In forming models, the period from January 2005 until December 2014 was considered. The seasonal adjustment of time series was direct, except for the Confidence indicator, which is seasonal adjustment indirect. The influences of working days, Easter and Slovene holidays for these time series are not statistically significant, so they were not considered in the seasonal adjustment.

The formed models are checked once a year. They are changed during the year, when the quality of seasonal adjustment is no longer appropriate, which is indicated by statistics measuring the quality of seasonal adjustment.

6 Coherence

6.1 Coherence between Provisional and Final Data

6.1.1 Coherence between Provisional and Final Data

All published data are final.

6.2 Coherence with the Results of the Reference Survey

6.2.1 Reference Survey

Source of comparison: Monthly survey of construction (GRAD/M)
The results of the Survey on Business Tendency in Construction (PT-GRAD) are qualitative and shown as the balance by individual questions. Comparison was made with the monthly GRAD/M construction survey. The results of the qualitative survey were compared to the index of the value of construction works put in place (ICpp) from the GRAD/M survey. The nominal as well as real (unadjusted data, seasonally adjusted data, working day adjusted data and trend-cycle component) time series and different types of indices (the current compared to the past month, the current month compared to the same month last year, the current month compared to the average of the year 2010 and the average of the months of the current year compared to the average of the same months of the previous year) were analysed.
Due to the different nature of the data, differences between the results of one or the other survey are not indicated, but the results are shown only in graphic form and as correlation (Tabel 6.2).

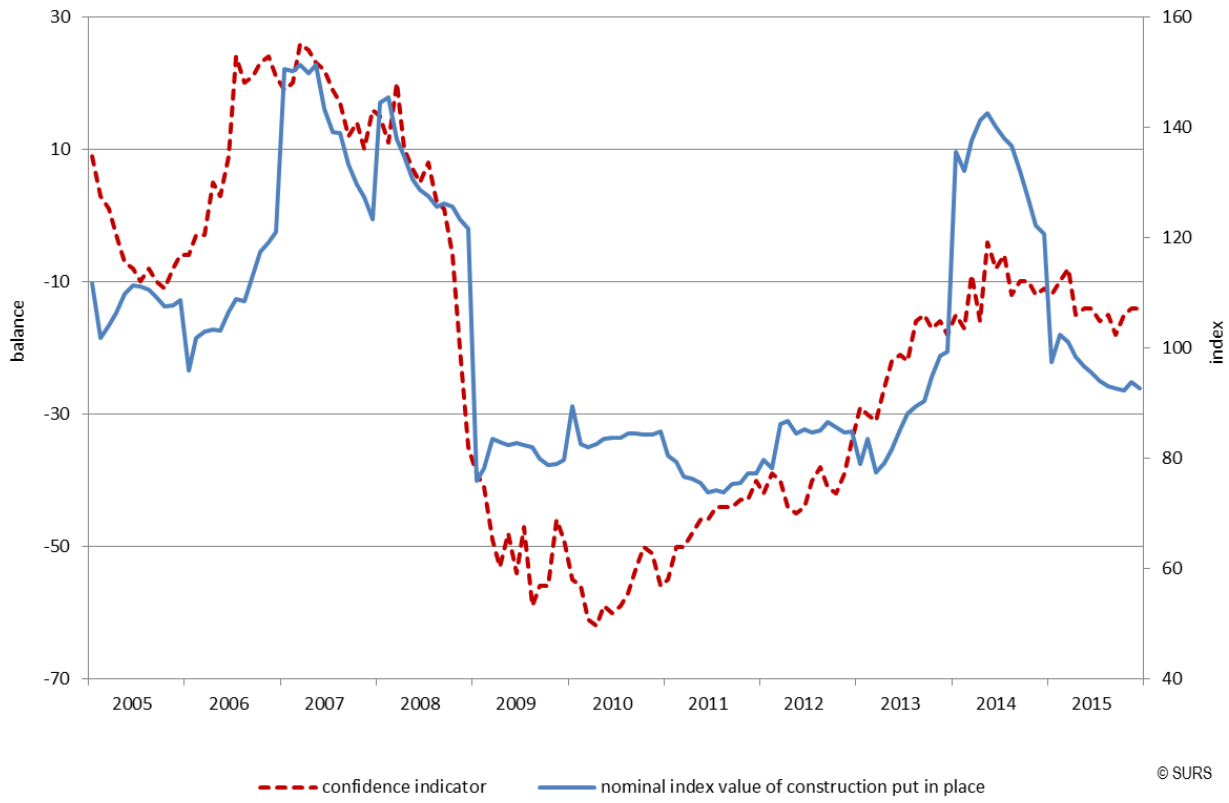
Compared variable: the confidence indicator

6.2.2 Coherence with Reference Data

We analysed the period from January 2005 to December 2015. The analysis included all indicators of the Survey on Business Tendency in Construction (PT-GRAD) and comparison with the the nominal and real index of the value of construction put in place of the monthly construction survey (GRAD/M). We got the quite good correlation (0.82) between the seasonally adjusted the confidence indicator and the

nominal index of the value of construction put in place (the average of the months of the current year compared to the average of the same months of the previous year).

Chart 1: The seasonally adjusted confidence indicator in construction and nominal index of the value of construction works put in place, Slovenia



Source: SURS

Strong correlation was also detected when comparing seasonally adjusted indicators – assessment of building activity indicator, the overall order books indicator, the business situation indicator, the assured work in hand indicator – of the surveys on business tendency in construction (PT-GRAD) and the nominal index of the value of construction put in place of the monthly construction survey (GRAD/M). The correlation coefficients achieved the values above 0.80 and are shown in the table below.

Table 6.2: Correlation coefficients between selected seasonally adjusted indicators, Slovenia, January 2005–December 2015

		PT-GRAD			
		Assessment of building activity	Overall order books	Business situation	Assured work in hand
GRAD/M	Nominal index of the value of construction put in place[1)]	**0.83**	**0.83**	**0.82**	**0.81**

1) Average of the months of the current year compared to average of the same months of the previous year.
Source: SURS

Notes: The surveys differ in methodologies, since PT-GRAD is a qualitative survey aimed at monitoring the opinions of directors on certain economic indicators within enterprises, while the GRAD/M survey is quantitative, and aimed at monitoring value variables.

7 Costs and Burdens

7.1 Survey Costs of the Office

Table 7.1: Survey costs at the Statistical Office

Reference period	2015
Number of working hours spent	1,643
Number of reporting units that had to fill in questionnaires	344
Survey period	M
Number of questionnaires per year (total)	4,128

Notes: The costs of the survey refer to the period May 2015–April 2016 which is determined by the European Commission-DG ECFIN, which contributes 50% of the survey costs. In this respect, all planned costs for the survey should be stated each year within the documentation. At the end of the financing period, the financial service of the Office should produce a final financial report which must not exceed the planned costs. The report should indicate the costs of materials and equipment, administrative and labour costs. Out of 1643 working hours, 267 hours were spent on interviewing and 1376 hours for work pertaining to the survey (implementation of the survey, elaboration of a sample, analysis and data processing, data control, work of supplementary offices, management of the survey, etc.).

7.2 Burden of Reporting Units

Table 7.2: Burden of Reporting Units

Reference period	2015
Number of reporting units that submitted the data	3,239
Annual number of questionnaires per unit	12
Time spent to fill in a questionnaire (hours)	0,05
Total time spent (hours)	161.95

Notes: The burdening of reporting units is minimal, since the questionnaire is to provide opinions with answers given in advance. The questionnaire is to be completed on average within 3 minutes, which is estimated on the basis of a telephone survey of the enterprises which did not respond until the specified date.