



REPUBLIC OF CROATIA
CROATIAN BUREAU OF STATISTICS



QUALITY REPORT FOR STATISTICAL SURVEY
Annual Report on Construction Works (GRAD-12)
for 2017

Organisational unit: Construction Statistics Department

Prepared by: Srećko Palej

September 2024

0. Basic information

- Purpose, goal, and subject of the survey

The Annual Report on Construction Works is aimed at providing data on the works done on constructions in the Republic of Croatia by types of constructions, types of works and the location of the construction. These data are the basis to determine the dynamics and structural changes in construction works over time rather than their levels. Data on electricity and propulsion material consumed in the construction activity are needed for the compilation of the Statistical Energy Balance of the Republic of Croatia. Statistical units are legal entities classified in the Statistical Business Register into section F – Construction (divisions 41, 42 and 43) and legal entities that are not classified into the construction activity according to NKD 2007, but that have certain parts (working units, plants and parts of legal entity) engaged in the construction activities (such as HEP, community companies, etc.).

- Reference period

Calendar year

- Legal acts and other agreements

Legal basis:

- Official Statistics Act (OG, Nos 103/03, 75/09, 59/12 and 12/13 – consolidated text)
- Programme of Statistical Activities of the Republic of Croatia
- Annual Implementation Plan of Statistical Activities of the Republic of Croatia
- Regulation (EC) No 1893/2006 of the European Parliament and of the Council of 20 December 2006 establishing the statistical classification of economic activities NACE Revision 2 and amending Council Regulation (EEC) No 3037/90 as well as certain EC Regulations on specific statistical domains
- Programme of Current Housing and Building Statistics for Countries in the UN/ECE Region
- Conference of European Statisticians Recommendations for the 2010 Censuses of Population and Housing, UNECE/Eurostat, New York and Geneva, 2006

The obligation of reporting units to submit data is based on Article 38 of the Official Statistics Act (OG, Nos 103/03, 75/09, 59/12 and 12/13 – consolidated text). In case of the refusal to provide data, the provision of incomplete or incorrect data or the provision of data out of the time schedule, penalty provisions defined in Articles 69 and 70 of the Act shall apply.

- Classification system

National Classification of Activities 2007

National Classification of Types of Constructions

- Concepts and definitions

The observed variables are the following:

- 1) Average number of employees on site in a reference year; including persons employed based on working contract, working agreement and other written or oral agreement, including workers rented from other business entities. Excluded are workers temporarily not at work, on annual leave, sick leave, etc.
- 2) Working hours done by workers on sites in the reference year; included are working hours actually done by workers who actually performed works on sites, as follows: working hours done according to collective and other contracts or according to written or oral agreements; hours worked in overtime work, night work, work on Sundays and holidays; working hours done by

workers rented from agencies or borrowed from other working units or business entities; working hours of owners of (small) legal entities and their family members if they directly participated in site works, working hours done by students on work practice. Working hours done include short breaks during worktime, but major standstills, such as those caused by lack of building material, power cut, failure of construction machinery, etc. The listed actually worked hours are included irrespective of whether they are paid, not paid for any reason, or are not meant to be paid. Excluded are paid hours for non-working periods (e.g., hours of workers temporarily not at work, on annual leave, sick leave, strikes, etc.) as well as hours of employees at managerial positions or those involved in general affairs linked to construction activity.

3) Value of construction works done is presented in current prices and includes work actually done during the reporting year, irrespective of whether they are paid or not. Data are based on calculations of works done on particular constructions in a reporting year. In order to avoid the double presentation of the value of works, reporting units (legal entities) report only works done with own workers (according to a direct contract with investor, or as subcontractors of other construction business entities), that is, without works of own subcontractors. Value of construction works done includes the value of work, building material, complete units and structures, propulsion material and electricity, expenses of using construction machinery and equipment and other expenses relating to performing construction works. The value of construction works done excludes the value of works done by own subcontractors (to avoid double presentation of the value of works), value added tax, purchase of land, surveying of land and supervising of services.

4) Electricity and propulsion material used.

- **Statistical units**

Statistical units are legal entities classified in the Statistical Business Register into section F – Construction (divisions 41, 42 and 43) and legal entities that are not classified into the construction activity according to NKD 2007, but that have certain parts (working units, plants and parts of legal entity) engaged in the construction activities (such as HEP, community companies, etc.).

- **Statistical population**

Section F – Construction according to NKD 2007; the survey is based on a cut-off sample, meaning that legal entities employing five and more persons are surveyed in detail. Data on legal entities employing five or less persons are not collected and sampling is not applied. Such a selective approach is aimed, in the coverage of reporting units, at obtaining indicators of volume and structure of construction works from the majority or construction legal entities, whose activity should reflect the total construction activity. Target population includes all active legal entities classified in the Register of Business Entities into divisions 41, 42 and 43 and employing five and more persons.

1. Relevance

1.1. Data users

1) Data on the value of works done are needed by:

- Croatian Bureau of Statistics, as an input in the Macroeconomic Statistics Directorate for calculation of a quarterly GDP by construction activities in the counties
- national and non-national users in determining the dynamics and structural changes in the construction activity. Users of statistical data in the Annual Report on Construction Works can be found in all areas of economic and social life, starting from business entities, media, economic analysts, researchers and students, to state administration bodies, professional business organisations (the Croatian Chamber of Economy), non-profit organisations (the Croatian Chamber of Trades and Crafts, the Croatian Employers' Association), financial institutions (the Croatian National Bank).

2) Data on electricity and propulsion material consumed in the construction activity are needed:

- as an input for the compilation of the Statistical Energy Balance of the Republic of Croatia.

1.1.1. User needs

1) Data on the value of works done are needed by:

- Croatian Bureau of Statistics, as an input in the Macroeconomic Statistics Directorate for calculation of a quarterly GDP by construction activities in the counties
- national and non-national users for determining of dynamics and structural changes in construction activity; users of statistical data in the Annual Report on Construction Works can be found in all areas of economic and social life, starting from business entities, media, economic analysts, researchers and students, to state administration bodies, professional business organisations (the Croatian Chamber of Economy), non-profit organisations (the Croatian Chamber of Trades and Crafts, the Croatian Employers' Association), financial institutions (the Croatian National Bank).

Data on electricity and propulsion material consumed in the construction activity are needed:

- as an input for the compilation of the Statistical Energy Balance of the Republic of Croatia.

1.1.2. User satisfaction

The first user satisfaction survey of the Croatian Bureau of Statistics was conducted in 2013, the second one in 2015, and the last one at the end of 2022. The results of the survey are available on the website of the Croatian Bureau of Statistics – [User satisfaction surveys](#).

1.2. Completeness

The data are complete and in line with the Programme of Current Housing and Building Statistics for Countries in the UN/ECE Region (No. 43, ISBN 92-1-116584-9)

1.2.1. Data completeness rate

Data completeness rate is: 100%

2. Accuracy and reliability

2.1. Sampling error

It is not possible to determine sampling errors since the survey is not based on random sampling. The survey is based on a cut-off sample, meaning that legal entities employing five and more persons are surveyed in detail. Data on legal entities employing five or less persons are not collected and sampling is not applied. Therefore, the data do not include total value of construction works done on the territory of the Republic of Croatia since legal entities employing less than five persons and trades are not covered and neither are covered particular citizens who perform certain construction works themselves for their own purposes, without engaging business entities. Due to the fact that there is no a secondary data source for the whole population, it is not possible to assess the accuracy of changes in the phenomenon within the selected model. It is only possible to assess the accuracy of changes in the phenomenon at the annual level.

2.1.1. Sampling error indicators

The indicator is not applicable.

2.2. Non-sampling error

Non-sampling errors are linked to all other errors that are not connected with the sample selection – coverage, measurement, processing, non-response. They are calculated and checked on regular basis.

2.2.1. Coverage error

Non-coverage

It occurs mainly because of incorrectly stated activity of the enterprise in the Statistical Business Register (the enterprise is classified in the activity other than construction, while in fact it performs construction works). There are no records on the number of non-covered reporting units due to incorrectly stated activity. Having in mind that, at the moment of forming a contingent of reporting units, it is not possible to compare the data from the Statistical Business Register with another data source, estimates for these units are not done either as their significance is not known. Therefore, the target population in this survey is limited to the one that is framed, while the influence of non-covered units is neglected. It must be pointed out that the Croatian Bureau of Statistics make great efforts to reduce this error. Thus, expert departments/units send all gathered information (about incorrect data on reporting units, e.g., incorrect address, engagement in a different activity) into the Statistical Business Register Department on a regular basis, which then promptly update the database. It can be expected, therefore, that such errors will continue to be reduced even more in the future.

Over-coverage

As it is the case with non-coverage, it occurs mainly because of incorrectly stated activity of the enterprise in the Statistical Business Register (the enterprise is classified in the construction activity, while in fact it performs activity other than construction). This error is detected during the collection and verification of data, or when contacting reporting units. In 2017, the coverage included 45 enterprises, while in fact they performed an activity other than construction, which accounts for 1.8% of all units included in the coverage. The majority of those units were engaged in industrial activity or trade. Obtained information was sent to the Statistical Business Register Department for updating.

Double recording

The risk/probability for this error equals zero due to the fact that the coverage is formed from the Statistical Business Register. The multiple coverage of reporting units has not been recorded so far.

2.2.2. Over-coverage rate

Over-coverage rate is: 5.2%

2.2.3. Measurement errors

Causes of errors in measurements when collecting data that occur due to ignorance, negligence, lack of appreciation of the importance of the statistics, not knowing how to respond, conscious/unconscious presentation of inaccurate data by respondents. Problems on presentation of inaccurate data by respondents due to unclear questions in the questionnaire, measurement units or instructions for filling in the forms are minor due to the fact that the availability of data was taken into consideration while defining their contents. In addition, reporting units are welcome to contact Branch Units of the Croatian Bureau of Statistics, the administrative body of the City of Zagreb competent for official statistics issues (who helps reporting units in filling in reports and controls the completeness and accuracy of data before they are submitted to the Croatian Bureau of Statistics) or directly the Croatian Bureau of Statistics in case they need information or help in resolving ambiguities. These measurement errors do not represent a major issue, since they are revealed during the visual and calculation checks of data before they are entered in the computer as well as by the default computerised data verification during data processing. When such an illogicality or errors are spotted, reporting units are contacted for the check-up of inaccurate and incomplete data and for the correction of inaccurate data.

2.2.4. Non-response errors

Unit non-response

Non-response rate is 8.6%. All data for other reporting units are available according to deadlines. As for delayed or missing data, units are contacted by phone and asked to provide the missing data. Data are imputed only for reporting units that filled in the Monthly and Quarterly Report on Construction (but seized their business during the year) by taking over values from Monthly and Quarterly Report on Construction. Estimated data are not marked.

Item non-response

No incidents of item non-response are recorded. Namely, in the data processing phase, the reporting units that have not fully completed the questionnaire are contacted by phone and asked to provide corrected or missing data. Response rate is 100%.

2.2.5. Unit non-response rate

Unweighted non-response rate is: 8.6%

Weighted non-response rate is: -.

2.2.6. Item non-response rate

%

Unweighted item non-response rate	Domain	Domain value	Notice	Value
Non-response rate for all variables	Croatia	Croatia	Response rate is 100%. All data are available according to deadlines. As for delayed or missing data or particular variables, units are contacted by phone or via urging letters and asked to provide the missing data.	0

2.2.7. Processing errors

The most frequent processing errors occur due to incorrectly stated activity of reporting units. This happens because the Statistical Business Register, which is the basis for the selection of population, is not regularly updated. In order to update the Statistical Business Register, all information gathered during the survey related to any organisational changes is delivered to the Statistical Business Register Department.

2.2.8. Imputation rate

The indicator is not computed.

2.2.9. Model assumption error

Not available.

2.3. Data revision

2.3.1. Data revision – policy

The users of statistical data are informed about revision (preliminary, final data) on the website of the Croatian Bureau of Statistics [Microsoft Word - General Revision Policy of the CBS.doc \(gov.hr\)](#). Revisions are done for correcting errors or major changes in classifications or methodology. Routine revisions are not carried out since all data are available according to deadlines. Notices about minor changes are announced in the First Release at the time the change has been introduced.

The data publishing revision policy of the Croatian Bureau of Statistics includes the following:

1) Update of the Calendar of Statistical Data Issues

The data publishing revision policy of the Croatian Bureau of Statistics is conducted according to the deadlines announced in advance, by updating the Calendar of Statistical Data Issues. According to the Official Statistics Act, changes in the release deadlines for publications/data are announced in advance. The Croatian Bureau of Statistics is obliged to announce each change in the release deadlines (the Calendar update) at least three days prior to the date originally announced in the Calendar on the web site of the Croatian Bureau of Statistics. The update of the release deadlines for data or publications (the update of the Calendar) is announced without delay on the Croatian Bureau of Statistics' website by updating the date in the Calendar and putting the notice "updated" beside the Calendar, with the accurate new date. Therefore, the Calendar that contains the original release deadline for a particular publication/statistical information is replaced with the new Calendar, which includes the updated release deadline. The original Calendar is kept in the Publishing Department which registers every change in release deadlines for publications in the Calendar Update Base.

2) Release of corrections of issued data

In cases when an error is observed in the published data, the Croatian Bureau of Statistics issues a correction as soon as possible and as simple as possible in order to help users to clearly see what has been changed in comparison to the originally published data. The correction is done by marking the incorrect data with an asterisk and creating the correction.

2.3.2. Data revision – practice

Data are disseminated as final and are not subject to any revision. For this reason, numeric information on the size of typical revision and regular sources of revisions is not applicable. If errors occur anyway, corrected data are released in the next issue of the First Release. Data changed in relation to the previously released ones are disseminated with a commentary. Major changes in the methodology are published in the First Release at the time the change has been introduced. The general practice is to explain all changes in the methodology when the data based on the new methodology are published for the first time. Information on methodological changes are provided in the Notes on Methodology that are a part of all related paper or electronic publications.

2.3.3. Data revision – average size

The indicator is not applicable.

2.4. Seasonal adjustment

Not applicable.

3. Timeliness and punctuality

3.1. Timeliness

The final data are published with 10 months delay from the end of the reference period.

3.1.1. Timeliness – first results

The indicator is not applicable.

3.1.2. Timeliness – final results

Time lag of final results is: T + 10 months.

3.2. Punctuality

First Release was published according to deadlines in line with the Calendar of Statistical Data Issues. There was no time lag between the actual release date and the date announced in the Calendar.

3.2.1. Punctuality – delivery and publication

Delivery and publication is: 1

4. Accessibility and clarity

The data are published in the following statistical publications: First Releases (annual), the Statistical Report "Construction" and in the Statistical Yearbook (in Croatian and English). These publications also contain brief Notes on Methodology. All publications are available to users in printed and electronic format, on the website of the Croatian Bureau of Statistics in the section [Construction | Državni zavod za statistiku \(dzs.hr\)](#). All statistical publications are released simultaneously to all users at 11:00 am. No one has advantage in accessing the data.

4.1. News release

Annual data for a particular reference year are regularly published in the First Release entitled "Construction Works, Annual Report on Construction Works in Republic of Croatia, Legal Entities Employing Five or More Persons" in October of the following year. The released data are available on the website of the Croatian Bureau of Statistics:

[Construction | Državni zavod za statistiku \(dzs.hr\)](#).

4.2. Online database

Not available.

4.3. Microdata access

The conditions under which certain users can have access to microdata are regulated by The Ordinance on the conditions and manner of access and use of confidential statistical data of the Croatian Bureau of Statistics for scientific purposes (OG, No. 5/23).

[The Ordinance on conditions and terms of access and use of confidential statistical data of the Croatian Bureau of Statistics for scientific purposes](#)

4.4. Documentation on methodology

Data are released regularly in the following publications: First Release, the Statistical Report "Construction" and the Statistical Yearbook (in Croatian and English). These publications also contain brief Notes on Methodology. Publications are available to users in printed and electronic format on the website of the Croatian Bureau of Statistics:

[Construction | Državni zavod za statistiku \(dzs.hr\)](#).

National documents:

- a) Brief notes on methodology are available in annual publications,
- b) Detailed notes on methodology are published in the Guidelines for Filling out the Annual Report on Construction Works, Croatian Bureau of Statistics, Zagreb, 2017.

5. Coherence and comparability

5.1. Asymmetry for mirror flows statistics

Not applicable.

5.2. Comparability over time

The survey was carried out for the first time in 1952. The methodologies for data collection and classification of constructions have been changed several times since then. Since 1999, data have been collected using the same methodology.

5.2.1. Length of comparable time series

Length of comparable time series is: 19.

5.2.2. Reasons for break in time series

Changes in the methodology of data collection and methodology of breaking down of constructions.

5.3. Coherence – short-term and structural data

Coherence – short-term and structural data	Domain	Domain value	Notice	Value
Correlation coefficient 2008 – 2016	Croatia	Croatia	Correlation coefficient (Multiple R) between the value of works done (GRAD-12) and turnover from structural business statistics	0.94

5.4. Coherence – national accounts

The indicator is not applicable.

5.5. Coherence – administrative sources

The indicator is not applicable.

6. Cost and burden

6.1. Cost

Total costs of the Croatian Bureau of Statistics amount to 8 108 hours a year.

6.2. Burden

Not available.