



REPUBLIC OF CROATIA  
CROATIAN BUREAU OF STATISTICS



**QUALITY REPORT FOR STATISTICAL SURVEY**  
**Quarterly Report on Prices of Sold New Dwellings (GRAD-41)**  
**For 2020**

Organisational unit: Construction Statistics Department

Prepared by: Srećko Palej

May 2024

## 0. Basic information

- Purpose, goal, and subject of the survey

The goal of the survey is to collect data on the movement of market prices of new dwellings sold per 1 m<sup>2</sup> of useful floor area and the structure of those prices (construction land costs, construction costs and contractor's profit, and other costs).

The subject of the survey is the price of 1 m<sup>2</sup> of useful floor area of a new dwelling sold.

Observation units are business entities that are also responsible for the entire construction of residential buildings (from the acquisition of land, its utility equipment to the completion of all works), regardless of whether they carry out construction works with own facilities or through specialised business entities. This means that this report is filled out by construction companies (classes 41.10 and 41.20), architectural companies (class 71.11) and other business entities that sell new apartments.

- Reference period

Quarter

- Legal acts and other agreements

Legal framework for the Quarterly Report on Prices of Sold New Dwellings (GRAD-41 form):

- Official Statistics Act (NN, No 25/20)
- Programme of Statistical Activities of the Republic of Croatia
- Annual Implementation Plan of Statistical Activities of the Republic of Croatia
- Council Regulation (EC) No 1165/98 of 19 May 1998 concerning short-term statistics
- Regulation (EC) No 1158/2005 of the European Parliament and of the Council of 6 July 2005 amending Council Regulation (EC) No 1165/98 concerning short-term statistics
- Commission Regulation (EC) No 1503/2006 of 28 September 2006 implementing and amending Council Regulation (EC) No 1165/98 concerning short-term statistics as regards definitions of variables, list of variables and frequency of data compilation
- 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

The obligation of reporting units to submit data is based on Article 45 of the Official Statistics Act (NN, No 25/20).

Refusing to provide data, providing incomplete and inaccurate data, or failing to provide data within the prescribed deadline will be subject to the penalty provisions laid down in Article 76 of the aforementioned Act.

- Classification system

National Classification of Activities, 2007 version

National Classification of Types of Constructions

- **Statistical concepts and definitions**

The observed variable is the price of new dwellings sold and the structure of those prices (construction land costs, construction costs and contractor's profit, and other costs).

The price of a dwelling is a monetary value of the dwelling stated in the contract at which the dwelling was sold in the reference period. The price is usually determined on the basis of appropriate documents used in designing of the price structure according to individual groups of costs. Individual costs are usually determined by contracts on land development, contracts on construction, designing etc. However, in market conditions of construction and sale, the total amount of the price of a dwelling, including some parts of its structure, is additionally influenced by elements that are not covered by documents on costs but are defined by demand for and supply of dwellings on the market, attractiveness of a particular location, etc.

The price of 1 m<sup>2</sup> of a dwelling sold includes the following groups of costs:

- costs of building-sites (price of land and costs of displacing of residents or owners of the existing facilities if the land is not empty)
- construction costs (demolition of the existing facilities, cleaning of the construction-site, excavation works, erection of a building, erection of a roof covering and frames, installation and final works) as well as constructor's profit margins
- other costs (fees on acquiring building permits, building design and drafting, land surveying activities, supervision of construction, different taxes, insurance costs, interests on loans, VAT, expenses and profit of the business entity which ordered the construction for further sale on the market).

Excluded are the prices of new dwellings on which only rough construction works were done (the so called "Rohbau") as well as the prices of dwellings constructed/sold by a reporting unit, if it did not provide for a building site, that is, if the building site was provided by the client.

The average price for a particular territory is calculated by dividing the sum total of multiplication results of individual prices of dwellings with appropriate floor area to which these prices refer by the sum total of floor areas of sold dwellings located on a particular territory.

- **Statistical units**

Observation units are business entities that are also responsible for the entire construction of residential buildings (from the acquisition of land, its utility equipment to the completion of all works), regardless of whether they carry out construction works with own facilities or through specialised business entities. This means that this report is filled out by construction companies (classes 41.10 and 41.20), architectural companies (class 71.11) and other business entities that sell new apartments.

- **Statistical population**

Due to the unavailability of up-to-date information on all business entities engaged in selling dwellings in a particular period, this statistical survey covers a limited number of business entities. Their selection is based on their activity as recorded in the Statistical Business Register, number of persons in employment and/or net turnover, that is,

NKD class 4110 – net turnover > 2 000 000 kuna

NKD class 4120 – number of persons employed > 20 or net turnover > 2 000 000 kuna

NKD class 7111 – net turnover > 2 000 000 kuna.

The survey is based on the Address Book of Reporting Units managed by the Construction Statistics Department, which is derived from the Statistical Business Register and regularly updated from other available sources (e.g. business entities listed as investors in the Monthly Report on Building Permits Issued).

## **1. Relevance**

### **1.1. Data users**

The main users of the data from the Quarterly Report on the Prices of New Dwellings Sold are participants who create housing and financial policy, build and sell dwellings, evaluate real estate, the media, state administration and local self-government bodies, and individual citizens.

#### 1.1.1. User needs

The main data users are participants who create housing and financial policy, build and sell dwellings, evaluate real estate, the media, state administration and local self-government bodies, and individual citizens who use data series on average prices of new dwellings sold.

#### 1.1.2. User satisfaction

Not available.

### **1.2. Completeness**

The data refer only to sold new dwellings, which is in accordance with the concepts and definitions based on the methodology of Council Regulation (EC) No 1165/98 (Annex B) concerning short-term statistics and its amendments. Eurostat's requirements regarding the length of the time series have been met.

#### 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 because the sample is not based on random sampling.

Given that there is no secondary source of data for the entire population, it is not possible to estimate the accuracy of the change in the occurrence of the selected model. It is only possible to estimate the accuracy of the change in the occurrence on a quarterly, semi-annual and annual level.

The representativeness of "intentional" sampling is ensured by permanent updating of the address book of reporting units with business entities that appear as investors in the Monthly Report on Building Permits Issued.

#### 2.1.1. Sampling error indicators

The indicator is not applicable.

### **2.2. Non-sampling error**

Non-sampling errors are related to all other errors that are not connected with the sample selection – coverage, measurement, processing, non-response. They are regularly calculated and controlled.

### 2.2.1. Coverage error

#### Under-coverage/over-coverage

Due to the unavailability of updated information on all business entities that sell new dwellings in a certain period, this statistical survey covers a limited number of business entities. Their selection is based on their activity recorded in the Statistical Business Register (SBR), the number of employed persons and/or net turnover.

All units that meet the mentioned criteria are included.

The main cause of the coverage error is the fact that only a subset of the population is covered, and since the population is unknown (all new dwellings sold in a certain period), it is very difficult to comment on the coverage error.

In order to reduce this error, the address book of reporting units is regularly updated with business entities that are listed as investors in the Monthly Report on Building Permits Issued and from other sources.

#### Duplication

The risk/probability for this error is zero, because coverage is formed from the SBR. So far, multiple coverage of reporting units has not been recorded.

### 2.2.2. Over-coverage rate

The indicator is not applicable.

### 2.2.3. Measurement error

Errors in measurements while collecting data occur due to lack of knowledge, negligence, lack of appreciation of importance of statistics, not knowing how to respond and conscious/unconscious presenting of inaccurate data by respondents. Problems arising from unclear questions in the questionnaire, measurement units or ambiguous instructions for filling in the forms are minor due to the fact that the availability of data was taken into consideration while defining their content. In addition, the reporting units are welcome to contact Croatian Bureau of Statistics, which provide assistance to the reporting units in filling in reports and controls the completeness and accuracy of data. These measurement errors do not represent a major issue, since they are revealed during the visual and calculation control of data before they are entered in the computer as well as by the default computerised data editing during data processing. When such illogicalities or errors are detected, the reporting units are contacted for the check-up of inaccurate and incomplete data and for the correction of inaccurate data.

The design (content) of the form is checked and any changes that contribute to the improvement of the form are incorporated into the form.

### 2.2.4. Non-response errors

Non-response errors:

- Unit non-response

The survey is mandatory. Data for the reporting units in the sample are available within the deadline. For late or missing data, reporting units are contacted by phone or via urging letters and asked to provide the missing data.

- Item non-response-rate

There were no non-responses for variables. 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. Every quarter, the item response rate is 100%.

#### 2.2.5. Unit non-response rate

Unweighted non-response rate:

%

Domain	Domain value	Comment	First half-year	Second half-year	Average
Croatia	Croatia		0	0	0

#### 2.2.6. Item non-response rate

Unweighted non-response rate for certain variables:

%

Variable	Domain	Domain value	Comment	First half-year	Second half-year	Average
Non-response rate for all variables	Croatia	Croatia		0	0	0

#### 2.2.7. Processing errors

The Croatian Bureau of Statistics controls whether data are accurate, fully covered and logical, codes identification and other data, enters data and performs computer processing. Source data validation is performed before and after they are entered into the data processing system. The incorrect, incomplete and missing data are corrected.

Statisticians enter and code the data manually. Data validation is performed according to the specified conditions.

Respondents' errors, coding errors and data entry errors are corrected manually and electronically as follows:

- Source data validation is performed before and after they are entered into the data processing system. The reporting units that have not fully completed the questionnaire (incorrect, incomplete or missing data) are contacted by telephone and asked to provide corrected and complete data.
- Electronic data validation is performed after entering data into the computer. Reports that fail to meet the quality standards are subject to verification and corrections as required. The correction procedures are implemented by priority: severe errors are generally corrected manually and more effort is spent on these, while less attention is paid to minor errors that are mostly corrected automatically through computerised input.

#### 2.2.8. Imputation rate

The indicator is not applicable.

#### 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 revisions (provisional data, final data) on the website of the Croatian Bureau of Statistics.

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 First Releases at the time the change has been introduced.

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

- 1) updating of the Calendar of Statistical Data Issues
- 2) publishing corrections of the released data.
- 1) Updating of the Calendar of Statistical Data Issues

The data publishing revision policy of the Croatian Bureau of Statistics, which is carried out according to the defined deadlines, is carried out by updating the Calendar of Statistical Data Issues. According to the Official Statistics Act, changes in publishing deadlines for publications/data are announced in advance. The Croatian Bureau of Statistics is obliged to announce each change in publishing deadlines (updating of the Calendar of Statistical Data Issues) at least three days prior to the date originally announced in the Calendar of Statistical Data Issues on their website.

The update of publishing deadlines for data or publications (update of the Calendar of Statistical Data Issues) is announced without delay on the website of the Croatian Bureau of Statistics by changing the date in the Calendar of Statistical Data Issues to the new one and putting a notice next to the Calendar of Statistical Data Issues, which says: “updated”, and specifying the accurate new date.

Therefore, the Calendar of Statistical Data Issues that contains the original publishing deadline for a particular publication/statistical data is replaced with the new Calendar of Statistical Data Issues, which includes the updated publishing deadline. The original Calendar of Statistical Data Issues is kept in the Publishing Department, which registers every change in publishing deadlines for publications in the Calendar of Statistical Data Issues update base.

- 2) Publishing corrections of the released data

In cases when an error is observed in the published data, the Croatian Bureau of Statistics publishes 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 carried out by marking the incorrect data with an asterisk and creating the correction.

### 2.3.2. Data revision – practice

Data are disseminated as final and as such they are not subject to any revision. For this reason, numeric information on the size of typical revision and regular sources of revisions are not applicable.

However, if an error occurs, corrected data are published in the next issue of the First Release. Data changed in relation to the previously released ones are disseminated with a comment.

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

The seasonal and working-day adjustment is not carried out.

## 3. Timeliness and punctuality

### 3.1. Timeliness

For national purposes, the indicators are regularly published semi-annually, as final data, in First Releases "Prices of New Dwellings Sold", as follows:

- for the first half-year, in September of the reporting year
- for the second half-year, in March of the following year.

Quarterly indicators are sent to Eurostat in a given form, as final data. The legal deadline is T + 90 days from the end of the reporting period.

The forms for all four quarters are sent to the reporting units (which did not choose filling in electronic questionnaires) at the beginning of each year. The deadline for filling out the forms is two weeks after the end of the reference quarter.

#### 3.1.1. Timeliness – first results

The indicator is not applicable.

#### 3.1.2. Timeliness – final results

Time lag – final results is T + 69 days.

### 3.2. Punctuality

All new reports are published within the planned deadlines in accordance with the Calendar of Statistical Data Issues: <https://podaci.dzs.hr/hr/podaci/gradevinarstvo/>. There is no deviation from the announced publishing date, i.e. the announced publishing date is the same as the actual publishing date.

#### 3.2.1. Punctuality – delivery and publication

Punctuality is 1.

## 4. Accessibility and clarity

The average price of new dwellings sold and the structure of that price (construction land costs, construction costs and contractor's profit, and other costs) are published in the following statistical publications: semi-annual First Releases, Statistical Reports, Statistical Information and in Excel tables on the website of the Croatian Bureau of Statistics under the link "Statistics in Line" (in Croatian and English). These publications also contain short methodological explanations.



Publications are available to users in printed and electronic form on the website of the Croatian Bureau of Statistics <https://podaci.dzs.hr/hr/podaci/gradevinarstvo/>.

All publications are released simultaneously to all users at 11 a.m.

No one has advantage in accessing data.

#### **4.1. News releases**

The average price of new dwellings sold and the structure of that price (construction land costs, construction costs and contractor's profit, and other costs) are published regularly in semi-annual First Releases "Prices of New Dwellings Sold", as follows:

- for the first half-year, in September of the reporting year
- for the second half-year, in March of the following year.

The released data are available on the website of the Croatian Bureau of Statistics at <https://podaci.dzs.hr/hr/podaci/gradevinarstvo/>.

#### **4.2. Online database**

Not available.

#### **4.3. Micro-data access**

The conditions under which certain users can access microdata are regulated by the Ordinance on the Conditions and Manner of Using Confidential Statistical Data for Scientific Purposes.

#### **4.4. Documentation on methodology**

The average price of new dwellings sold and the structure of that price (construction land costs, construction costs and contractor's profit, and other costs) are published in the following statistical publications: semi-annual First Releases, Statistical Reports, Statistical Information and in Excel tables on the website of the Croatian Bureau of Statistics under the link "Statistics in Line" (in Croatian and English). These publications also contain short methodological explanations.

Publications are available to users in printed and electronic form on the website of the Croatian Bureau of Statistics <https://podaci.dzs.hr/hr/podaci/gradevinarstvo/>.

The Croatian Bureau of Statistics has so far released two special editions of reviews and analyses, and a special publication Statistical Report, which contain a review of data on prices of dwellings by years, as follows:

- Prices of Public Sector Dwellings in SR Croatia, 1966 – 1983, Croatian Bureau of Statistics, 1985, author: Vladimir Hudin
- Prices of Public Sector Dwellings from 1984 to 1989 in SR Croatia and Other Socialist Republics and Socialist Autonomous Provinces, Croatian Bureau of Statistics, 1990, author: Nevenka Pribić, BSc in Economics
- Statistical Report "Prices of New Dwellings Sold from 1990 to 2010", Croatian Bureau of Statistics, 2012

International documents and manuals:

- a) Methodology of Short-Term Business Statistics, Interpretation and Guidelines, 2006, contains a comprehensive set of recommendations on the compilation of the STS statistics
- b) Detailed definitions of variables are available in Commission Regulation (EC) No 1503/2006 of 28 September 2006 implementing and amending Council Regulation (EC) No 1165/98 concerning

short-term statistics as regards definitions of variables, list of variables and frequency of data compilation.

National documents:

- a) Brief notes on methodology are available in semi-annual and annual publications
- b) Detailed notes on methodology have been published in the Methodological Guidelines No 5 entitled "Prices of Sold Dwellings", Croatian Bureau of Statistics, Zagreb, 1995.

## 5. Coherence and comparability

### 5.1. Asymmetry for mirror flows statistics

Not available.

### 5.2. Comparability over time

The survey on the prices of dwellings was conducted for the first time in 1966. Since then, there have been several changes in the methodology of data collection due to the changes on the market and the housing policy reform.

Since 1994, data have been collected using the new methodology.

Since 2004, the calculation of the total average price has included the data on the prices of new dwellings sold according to POS (based on the Programme of Subsidized Residential Construction). Therefore, average prices for 2003 and previous years are comparable only to the prices of for 2004 and later years for dwellings sold by "trade companies and other legal entities, excluding POS".

Data for Eurostat have been available since 2000, they are comparable and there are no breaks in data series.

#### 5.2.1. Length of comparable time series

Length of comparable time series is:

Domain	Domain value	Comment	First half-year	Second half-year	Average
Croatia	Croatia		53	54	

#### 5.2.2. Reasons for break in time series

Change in the methodology of data collection due to the changes on the market and the housing policy reform.

### 5.3. Coherence – sub-annual and annual statistics

The indicator is not applicable.

### 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 2 500 hours per year.

#### **6.2. Burden**

Not available.