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Construction Cost Index Q1 2019



Foreword

The Kosovo Agency of Statistics (KAS) has begun to publish the Construction Cost Index (CCI) for the first time on 27 March, 2014.

The Construction Cost Index initially was published on the quarterly basis by Q1 2013 = 100. But from the first quarter (Q1) 2016, with the recommendations of experts from Sweden's Statistics and the Swedish International Development Cooperation Agency (SIDA), the Construction Cost Index is calculated with the base year 2015 = 100. With this basis, all time series of CCI in the country are recalculated.

This publication includes: Table of Construction Cost Index on quarterly basis Q1 2013 – Q1 2019 with quarterly and annual changes in percentage, CCI table for multi-storey buildings by category (Q1 2013 – Q1 2019) and table with specific weight Q1 2019 with quarterly and annual changes (Q1 2019 / Q4 2018 and Q1 2019 / Q1 2018 by category of cost).

Your comments, remarks, suggestions and proposals regarding this publication are welcome and they can be sent to the electronic address: ekonomik@ks-gov.net

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List of symbols and abbreviations

KAS Kosovo Agency of Statistics

CCI Construction Cost Index

SIDA Swedish International Development Cooperation Agency

: Data not available

- Not applicable

% Percentage

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Construction Cost Index (CCI) in the first quarter 2019

The Kosovo Construction Cost Index (CCI) decreased by (-0.3%) in the first quarter Q1 2019 compared with Q4 2018. Compared to the same period of the previous year, Q1 2018, the Construction Cost Index increased by (2.0%).

First quarter 2019 – Fourth quarter 2018 -0.3%

The Kosovo Construction Cost Index (CCI) decreased by (-0.3%) in the first quarter Q1 2019 compared to Q4 2018. The largest decrease was in the category of materials (-0.5%) and energy (-3.1%). The decrease was neutralized mainly by the increase of price by categories such as transport (4.3%) and other costs (0.3%).

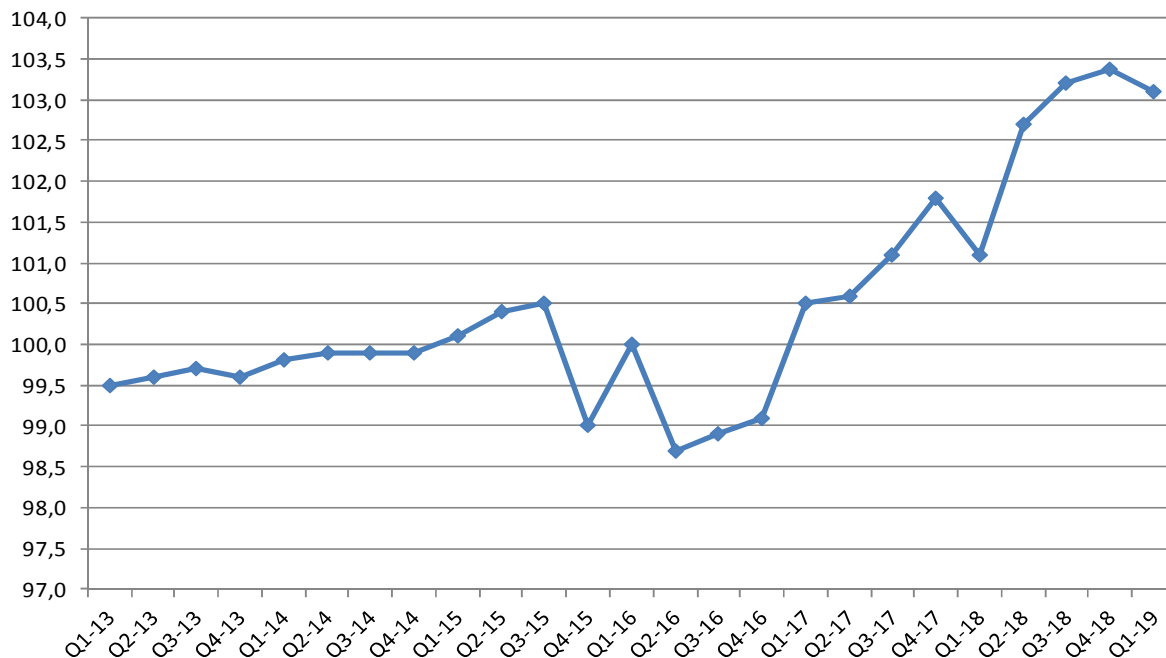
First quarter 2019 - First quarter 2018 2.0%

The total Kosovo Construction Cost Index (CCI) increased by (2.0%) in Q1 2019 compared to Q1 2018. The increase in the index was mainly observed in the category of transport (19.2%), other costs (2.0%), materials (1.9%) and energy (1.9%).

Tab.1: Construction Cost Index (CCI) Q1 2013 – Q1 2019 (2015 = 100), quarterly and annual changes in percentage

Year	Period	Index (2015=100)	Quarterly changes in %	Annual changes in %
2013	Q1	99,5	:	:
	Q2	99,6	0,1	:
	Q3	99,7	0,1	:
	Q4	99,6	-0,1	:
Annual average 2013		99,6	:	:
2014	Q1	99,8	0,2	0,3
	Q2	99,9	0,1	0,3
	Q3	99,9	0,0	0,2
	Q4	99,9	0,0	0,3
Annual average 2014		99,9	:	0,3
2015	Q1	100,1	0,2	0,3
	Q2	100,4	0,3	0,5
	Q3	100,5	0,1	0,6
	Q4	99,0	-1,5	-0,9
Annual average 2015		100,0	:	0,1
2016	Q1	100,0	1,0	-0,1
	Q2	98,7	-1,3	-1,7
	Q3	98,9	0,2	-1,6
	Q4	99,1	0,2	0,1
Annual average 2016		99,2	:	-0,8
2017	Q1	100,5	1,4	0,5
	Q2	100,6	0,1	1,9
	Q3	101,1	0,5	2,2
	Q4	101,8	0,7	2,7
Annual average 2017		101,0	:	1,8
2018	Q1	101,1	-0,7	0,6
	Q2	102,7	1,6	2,1
	Q3	103,2	0,5	2,0
	Q4	103,4	0,2	1,6
Annual average 2018		102,6	:	1,6
2019	Q1	103,1	-0,3	2,0

Graph 1: Development of CCI, Q1 2013 – Q1 2019 (2015=100) by quarters



Tab. 2 Construction Cost Index for multi-storey buildings by categories (Q1 2013 – Q1 2019)

2015=100

		Cost categories										
		1 Materials (a+b+c)	(a).Constructio n materials	(b).Electrical materials	(c).Hydro- sanitary materials	2 Wages	3 Machinery	4 Transport	5 Energy	6 Other costs	Total (1+2+3+4+5+6)	
Weight		69,8	60,4	5,1	4,3	16,4	5,9	3,8	1,4	2,7	100,0	
Period	2013	Q1	100,4	100,7	96,4	99,8	96,8	95,5	105,3	86,2	100,8	99,5
		Q2	100,6	101,0	96,7	99,5	96,8	95,5	105,3	81,8	99,8	99,6
		Q3	100,8	101,3	95,8	99,5	96,8	95,5	105,3	81,8	99,5	99,7
		Q4	100,5	101,0	95,7	99,4	96,8	95,5	105,3	88,9	100,3	99,6
	2014	Q1	100,7	101,4	95,7	97,8	96,8	96,1	105,3	89,0	101,0	99,8
		Q2	100,8	101,3	97,4	97,8	96,8	98,4	105,3	86,4	100,2	99,9
		Q3	100,7	101,2	97,7	97,8	96,8	98,4	105,3	87,2	100,5	99,9
		Q4	100,3	100,6	98,7	97,8	97,0	99,8	105,3	99,4	100,4	99,9
	2015	Q1	100,5	100,6	100,4	99,5	97,0	99,8	105,3	99,4	100,6	100,1
		Q2	100,1	100,2	99,2	99,5	101,0	99,8	105,3	100,0	99,8	100,4
		Q3	100,2	100,2	100,9	100,5	101,0	100,1	105,3	100,1	99,6	100,5
		Q4	99,2	99,0	99,5	100,5	101,0	100,2	84,2	100,4	100,0	99,0
	2016	Q1	100,4	100,6	97,4	100,5	101,0	102,9	84,2	100,4	100,6	100,0
		Q2	99,3	99,2	98,2	101,4	101,0	103,2	70,2	102,5	99,7	98,7
		Q3	99,5	99,4	98,5	102,1	101,0	103,6	70,2	102,8	99,8	98,9
		Q4	99,6	99,4	100,0	102,6	101,0	104,4	70,2	101,2	101,1	99,1
	2017	Q1	101,0	100,9	100,6	102,8	101,0	104,3	81,9	101,4	102,3	100,5
		Q2	101,1	100,9	100,1	103,8	101,0	104,3	81,9	104,7	101,6	100,6
		Q3	102,2	101,8	100,1	109,2	101,0	101,4	81,9	102,3	101,5	101,1
		Q4	103,1	102,8	100,4	109,2	101,0	101,3	81,9	105,2	101,8	101,8
2018	Q1	102,0	101,6	101,0	108,9	101,0	102,0	81,9	100,0	102,3	101,1	
	Q2	104,3	104,1	103,3	108,9	101,0	102,0	81,9	103,1	102,3	102,7	
	Q3	104,3	104,1	103,0	109,7	101,0	102,0	93,6	104,8	102,9	103,2	
	Q4	104,5	104,3	102,6	110,2	101,0	102,0	93,6	105,3	104,0	103,4	
2019	Q1	104,0	103,7	102,6	109,2	101,0	102,0	97,6	102,0	104,3	103,1	

Table 3: Weights, CCI Q1 2019 (2015=100), quarterly and annual changes by cost categories

%

Code	Cost categories	Weight	Q1-2019 2015=100	<u>Q1 - 2019</u> <u>Q4 - 2018</u>	<u>Q1- 2019</u> <u>Q1- 2018</u>
1	Materials (a+b+c)	69,8	104,0	-0,5	1,9
	a. Construction materials	60,4	103,7	-0,6	2,1
	b. Electrical materials	5,1	102,6	0,0	1,5
	c. Hydro-sanitary materials	4,3	109,2	-0,9	0,3
2	Wages	16,4	101,0	0,0	0,0
3	Machinery	5,9	102,0	0,0	0,0
4	Transport	3,8	97,6	4,3	19,2
5	Energy	1,4	102,0	-3,1	1,9
6	Other costs	2,7	104,3	0,3	2,0
Total		100,0	103,1	-0,3	2,0

Methodology of CCI

Methodological description of the Construction Cost Index for multi-storey residential buildings

Construction Cost Index measures the price development of production factors of the raw material, wages, machinery, transport, energy and other costs that are used in construction projects. The index measures the change in price for individual factors of production and weighs them according to a set measuring system. The index does not measure productivity changes such as better exploitation of materials or other factors, and neither reflects its profit margins.

Population

Construction Cost Index is limited to newly build multi-storey buildings, which is the most common type of construction project in Kosovo. The index is calculated for the whole of Kosovo.

Cost Categories

Construction Cost Index for multi-storey buildings includes six categories of costs as follows:

- Materials
- Wages
- Machinery
- Transport
- Energy
- Other costs

The model index

From the first quarter of 2016, the model for the Construction Cost Index has changed from the fixed basic index to the type of chain index with Laspeyzer's annual link and these data were published on 14.06.2016 on the website of KAS (in Construction Cost Index Q1 2016). The main reason for changing the model index from the fixed-index to the chain-index is that it enables the inclusion of new items or deletes older items that are no longer important. The second reason is the harmonization of the CCI with the other price indicators produced by KAS using the chain index as a model.

The benchmark reference period (base period) has changed from the first quarter of 2013 to the average of 2015 (base year 2015 = 100). From June 2016, and continuously, time series are published on a quarterly basis from January 2013 with the base 2015 = 100.

Laspeyres index is defined as

$$I^t = \frac{\sum_{i=1}^n P_i^t Q_i^0}{\sum_{i=1}^n P_i^0 Q_i^0} = \sum_{i=1}^n \frac{P_i^0 Q_i^0}{\sum_{i=1}^n P_i^0 Q_i^0} \times \frac{P_i^t}{P_i^0}$$

Where P^0 and P^t are the price per unit in the base period (0) and the comparison period (t), respectively, and Q^0 is the amount of the base period. Summation is across the n products. In the first element above, the index is expressed as the ratio between the value of the amounts collected during the period under comparison and, respectively, the price level of the base period. The index can also be expressed, as in the second element, as the average of the prices of products weighted with the values of the base period.

Links of the index are calculated with the current quarter q in year y as the comparison period, and the fourth quarter in year $y-1$ as price reference period. The weighting period is the first quarter of 2013. Therefore, the connection is defined as:

$$I_{y-1,q4}^{y,q} = \sum_{s=1}^k \frac{V_s}{\sum_{s=1}^k V_s} \times \frac{I_s^{y,q}}{I_s^{y-1,q4}}$$

Where the value of weight V_s is the value of transactions in Q1 2013 represented by the item's cost s . Summation is across the k cost items. Index price of the reference period for the comparison period is calculated in two steps:

$$\frac{I_s^{y,q}}{I_s^{y-1,q4}} = \frac{I_s^{y,q}}{I_s^{y,q-1}} \times \frac{I_s^{y,q-1}}{I_s^{y-1,q4}}$$

Estimation of the chained index

The chained index number is estimated for quarters and indicates the particular level of the price of the quarter compared to the average price level in the year 2015 (2015 = 100).

$$I_{2015}^{y,q} = \frac{100}{\frac{1}{4} \sum_{q=1}^4 I_{2014,q4}^{2015q}} \times \prod_{Y=2015}^{y-1} I_{Y-1,q4}^{Y,q} \times I_{y-1,q4}^{y,q}$$

Estimation of changes

The quarterly change is estimated as:

$$\left[\left(\frac{CCI_{2015}^{Y,q}}{CCI_{2015}^{Y,q-1}} \right) - 1 \right] * 100 = \text{Change of the percentage in the quarter}$$

The annual change is estimated as:

$$\left[\left(\frac{CCI_{2015}^{Y,q}}{CCI_{2015}^{Y-1,q}} \right) - 1 \right] * 100 = \text{Change of the percentage in the year}$$

$CCI_{2015}^{Y,q}$ = The chained index of construction costs for the current quarter q

$CCI_{2015}^{Y,q-1}$ = The chained index of construction cost for the previous quarter q-1

$CCI_{2015}^{Y-1,q}$ = The chained index of construction cost for the previous year y-1 and the quarter q

Data collection

For construction materials, the prices are collected from suppliers of construction materials. Suppliers deal directly with the contractor. In order to collect price information, questionnaires are sent to companies where KAS specifically indicates for what product the price information is collected. Data suppliers can see what price they delivered to KAS in the last quarter. KAS requires companies to provide their average prices for their products, every three months.

Wage costs are collected from construction companies.

For the cost of machinery, KAS collect prices for small machinery used in the construction sector.

KAS collects prices for transport services of the construction materials from some construction companies.

Calculation of **Energy** Index category is made from data of the Producer Price Index which is in accordance with the standard classification of activities NACE rev.2 and which is based on "Regulation no. 11/2013 Article 7 ", within KAS.

In the category of **other costs**, the calculation is done by the performance indices of the harmonized indices of consumer prices within KAS.

Weights

Weights for the Construction Cost Index are based on a questionnaire for construction companies. As mentioned above, the weights are from the first quarter of 2013.

Prices are collected by the staff of KAS regional offices in quarterly periods.

Weights

Weights for the Construction Cost Index are based on a questionnaire for construction companies. As mentioned above, the weights are from the first quarter of 2013.

Using the Construction Cost Index

Construction Cost Index for multi-storey buildings is an important indicator for stakeholders, as well as the construction sector analysis. Can be used as a price deflator in the national accounts for the construction of multi-storey buildings.

Kosovo Agency of Statistics

short description

Kosovo Agency of Statistics is a professional institution which deals with collection, processing and publication of official statistical data. As such acts since 1948 and has passed through several historical stages, structured according to state regulation of those times.

On 2 August 1999, the Agency has resumed his professional work (after nine years of interruption of all statistical series detrimental to the interest of Kosovo), as an independent institution under the Ministry of Public Administration. Since 12.12.2011 the Agency operates in the frames of the Prime Minister's Office. Office is funded by the Kosovo Consolidated Budget, but also by donors for specific projects and for technical professional support.

Kosovo Agency of Statistics acts according to the Law No. 04/L-036 which entered into force on 12.12.2011. Programme of Official Statistics 2013/2017 is in implementation for the development of statistical system in correlation with the European Union statistics (EUROSTAT).

Kosovo Agency of Statistics has this organizational structure: production departments; Department of Economic statistics, Department of National Accounts, Department of Agriculture and Environment statistics and Department of Social statistics. **Support Departments**; Department of Methodology and Information Technology, Department of Policy Planning, Coordination and Communication, Department of Census and survey and Department of Administration. **Within the Agency are also established Regional Offices**; Gjakove, Gjilan, Mitrovica, Peja, Prizren, Pristina and Ferizaj

In KAS are employed in total 155 workers, of whom 100 (68,0 %) at the headquarters of the Agency, while in the Regional Offices, 47 (32,0%). Agency's educational qualifying structure is as follows: 75,5% with university education, 12,3% with with non-tertiary education, and 12.3% with secondary education.

We have professional and technical cooperation with all Ministries of the Government of Kosovo, especially with the Ministry of Economy and Finance, Central Bank of Kosovo, with international institutions, EUROSTAT, International Monetary Fund, World Bank, Sweden's SIDA, DFID, UNFPA, UNDP, UNVEF, and with the statistical institutions of the countries in the region.

Kosovo Agency of Statistics almost completely covers the territory of Kosovo, based on the statistical structure of the enumeration areas as the basic unit and sole in the country from which it gets first hand information. All surveys conducted in the field use the extension of the samples in these enumeration areas but also a statistical methodology according to international recommendations. During the collection of statistical data and reports from reporting entities are involved professionals, technicians, administrators, servants of the country offices, field enumerators from regional offices, etc.

In 2011, the project of Population Census , Households and Dwellings was successfully implemented, and in 2014 was successfully carried out the Agriculture Census. The result obtained from these censuses will have an important role in the development policies.

The mission of the Agency; to meet the needs of users with qualitative statistical data, objective, in time and space so that users have reliable base to conduct regular analysis in the interest of planning and project development at the municipal and country level. To support government institutions, scientific institutes, research academies, businesses in order to provide proper information for decision-makers and other users in Kosovo.

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