

# TWINNING CONTRACT

BA 17 IPA ST 01 20



## Further Support to the Reform of Statistics System in Bosnia and Herzegovina



## MISSION REPORT

### Activity 1.3.1 J - Index of Production in Construction X Component 1.3.1 - Index of Production in Construction

Mission carried out by  
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11– 13 December 2023

(Including online meetings on 18 October and 15 November)

Version: Final

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## List of Abbreviations

BC	Beneficiary Country (BiH)
BHAS	Agency for Statistics of Bosnia and Herzegovina
BiH	Bosnia and Herzegovina
CBBH	Central Bank of Bosnia and Herzegovina
EU	European Union
FIS	Institute for Statistics of Federation of Bosnia and Herzegovina
MS	EU Member State
RSIS	Institute for Statistics of Republika Srpska
RTA	Resident Twinning Adviser
RTAA	Resident Twinning Adviser Assistant
ToR	Terms of Reference

## 1. General comments

This mission report was prepared within the EU Twinning Project "Further Support to the Reform of the Statistics System in Bosnia and Herzegovina". It was the tenth and the final mission to be devoted to the Index of Production in Construction Component of the Project.

The purposes of the mission were:

- Final agreement on using deflators for calculation of IPC
- Agreement on weighting structure to be used for IPC calculation on the entity and state level
- Finalization of back casting of all IPC series for the period Q1 2005 onwards
- Calendar and seasonal adjustment of IPC series for BiH, Federation of BiH, Republika Srpska and Brčko District BiH
- Finalization of IPC calculation for BiH, Federation of BiH, Republika Srpska and Brčko District BiH – gross indices (nominal) and real indices for section F and divisions F41 and F42
- Finalization of Methodological Manual with included detailed description of back casting and rebasing process
- Providing final version of R script for calculated IPC series, nominal and deflated, including calendar and seasonally adjusted series

The consultants would like to express their thanks to all officials and individuals from Bosnia and Herzegovina met for the kind support and valuable information, and which highly facilitated the work of the consultant.

This views and observations stated in this report are those of the consultant and do not necessarily correspond to the views of EU, BHAS, FIS, RSIS, CBBH, Statistics Denmark, Statistics Finland, Statistics Sweden or The Italian National Institute of Statistics.

## 2. Assessment and results

The first day of the mission has been devoted to the discussion of the methodological paper prepared by the MS experts before the mission.

It was agreed that it needed to be updated focusing both on the methodological issues as well as on the transmission of the empirical application of the method (using as well excel files).

In particular, the MS experts along the mission updated the section "**5. Main characteristics of the IPC-V23 according to the Guidelines**" to introduce in more detail all the steps needed to be taken according to the Eurostat guidelines on IPC calculation. A new section "**7. Main characteristics of the IPC-V23: practical application**" has been added in which all the steps carried out using the R code (discussed and presented in the previous missions) are presented with the help of excel files. At the same time, another document has been prepared by the experts to explain in more details how in the R code (*OperationalDocument.docx*) all the steps described in Methodological Paper are implemented.

Both the files were discussed in the meetings and it was agreed that these new documents represent a good description of the decisions that have been made along the project for IPC calculation and are a tool to be used by the Officials in BiH.

It has been prepared as well an excel file (*calculation\_index.xlsx*) in which the steps for IPC final calculation in the R code are instead implemented in excel. After the description of the procedure it has been agreed that the file represents a tool that make it easier for the Officials in BiH to reproduce all the steps described in other mission along the project.

The indices for total construction, F41 and F42 have been calculated for Brcko District using a similar approach as for the other two entities even if slightly different given the small amount of firms in the sample (*panel\_Entity3.xlsx*, *panel\_Entity3\_41.xlsx*, *panel\_Entity3\_42.xlsx*).

In such way using the input file for the three entities (*indices\_Entity1\_imputed.xlsx*, *indices\_Entity1\_imputed.xlsx*, *indices\_Entity1\_imputed.xlsx*) a procedure for the calculation of deflated indices, aggregated indices (at BiH level) and seasonal adjusted data has been implemented in R (*estimation\_IPC.R*). The procedure uses the deflator (*deflator\_final.xlsx*) and the weights (*weights.xlsx*, for the years 2014-2016 have been used weights for 2017) provided by the Officials in BiH and the package RJDemetra in R to apply an automatic procedure for seasonal adjustments. The output of the code has been discussed in the last day of mission (*indices\_final.xlsx*).

### 3. Conclusions and recommendations

The IPC-V23 is now available for all the entities and division both non-seasonal adjusted and seasonal adjusted reaching the target for this component.

Nevertheless, as recommended in the methodological paper, to strengthen the promising results, it is necessary to further investigate the impact of large enterprises on the final index, also explaining the difference with value added in construction for the period 2021-2022.

With regard to the deflation proxy, the CPI performance seems to be in line with the trend development of the national accounts deflator. However, it will be important to put the index calculation for each entity and division on the agenda.

As for the seasonal adjustment, the procedure should be implemented along with a focus on the difference in working days between entities.

Finally, the agenda for the next future might focusing on the revision of the sample design for the selection of the units with an impact on the weighting scheme and on the treatment for missing values.

## Annex 1. Terms of Reference for the current mission

### Terms of Reference

#### EU Twinning Project BA 17 IPA ST 01 20

#### **Component 1.3.1- Index of Production in Construction (IPC) 11 (10:00-16:00) – 12 (9:00-16:00) 13 (9:00-16:00) December 2023:**

**Venue:** Republika Srpska Institute of Statistics, Vladike Platona bb, Banja Luka.

Including online meetings on 18 October, 15 November and potential other(s) not yet specified

#### **Activity 1.3.1 J: Index for Production in Construction**

##### **1. Mandatory results**

IPC produced according to the FRIBS (current EU regulation STS No 1165/98)

New methodology for calculation of Index of Production in Construction / IPC developed (by using value data and CPPI as deflator)

IPC produced and delivered to Eurostat (Non-Adjusted (NSA), Working-Day Adjusted (WDA) and Working-Day and Seasonally Adjusted (SA))

##### **Indicator / Relevant Milestones / Internal deadlines:**

Indicators for IPC published and delivered to Eurostat

##### **2. Purpose of the activity**

- Final agreement on using deflators for calculation of IPC
- Agreement on weighting structure to be used for IPC calculation on the entity and state level

- Finalization of back casting of all IPC series for the period Q1 2005 onwards
- Calendar and seasonal adjustment of IPC series for BiH, Federation of BiH, Republika Srpska and Brčko District BiH
- Finalization of IPC calculation for BiH, Federation of BiH, Republika Srpska and Brčko District BiH – gross indices (nominal) and real indices for section F and divisions F41 and F42
- Finalization of Methodological Manual with included detailed description of back casting and rebasing process
- Providing final version of R script for calculated IPC series, nominal and deflated, including calendar and seasonally adjusted series

### 3. Expected output of the activity

- Use of deflators for calculation of IPC agreed
- Use of weighting structure for calculation of IPC for F, F41 and F42 for the entity and state levels agreed
- IPC series for F, F41 and F42 for the entity and state levels back casted and rebased on the new base year 2021
- Models for calendar and seasonal adjustment of IPC series for the entity and state levels defined and SA and WDA series calculated
- Nominal and real/deflated IPC series calculated for BiH, FBiH, RS and BD BiH starting from Q1 2005
- Methodological Manual for calculation of IPC finalized
- Final version of R script for calculated IPC series, nominal and deflated, including calendar and seasonally adjusted series provided

## Annex 2. Persons met

### BHAS:

Fahir Kanlić, Head of Department for Industry and Construction Statistics (*Online*)  
Anita Brković, Senior Advisor for Construction Statistics

### FIS:

Nusreta Imamović, Head of Department for Industry, Construction and Energy Statistics (*Online*)  
Edina Dulić, Senior Advisor for Construction Statistics (*Online*)

### RSIS:

Želimir Radišić, Senior Officer for Construction Statistics  
Danica Babić, Senior Officer for Structural Business Statistics

### RTA Team:

Niels Madsen, RTA (partly online presence)

### Interpretation:

Biljana Strika


## Signatures

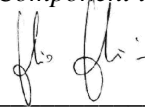
For the approval of the contents of this report, representatives from BHAS, FIS and RSIS as well as MS experts and the RTA sign here:

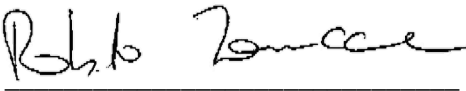
  
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Component leader, BHAS

  
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Component leader, FIS

  
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Component leader, RSIS

  
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RTA

  
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MS Expert

  
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MS Expert