

TWINNING CONTRACT

BA 15 IPA SR 01 17

Support to the reform of the statistics system in Bosnia and Herzegovina



STUDY VISIT REPORT

on

**Balance of Payment and IIPs
Activity no. 3.9**

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List of Abbreviations

BHAS	Agency for Statistics of Bosnia and Herzegovina
BiH	Bosnia and Herzegovina
CBBH	Central Bank of Bosnia and Herzegovina
EC	European Commission
EU	European Union
FBiH	Federation of Bosnia and Herzegovina
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
ToR	Terms of Reference

1. General comments

This study visit report was prepared within the EU Twinning Project "Support to the reform of the statistics system in Bosnia and Herzegovina". and organised under component no.3, activity no.3.9

The purpose of the study visit was to:

- Review of Quality management system in Statistics Denmark and overview and discussion on drafted BOP Quality Report produced by CBBH
- Review of compilation of BOP Current Account in Statistics Denmark
- Review of processes and data sources used for compilation and dissemination of Quarterly IIP with focus on Other Economic Changes in Denmark's National Bank and overview on drafted Quarterly IIP report compiled by CBBH
- Exercises on R programming with real CBBH data focusing on transmission of data to Eurostat

The staff of CBBH would like to express their thanks to all officials and individuals met for the kind support and valuable information which they received during the stay in Denmark and which highly facilitated the work.

2. Lessons Learned

Review of Quality management system in Statistics Denmark and overview and discussion on drafted BOP Quality Report produced by CBBH - Through an excellent presentation provided by Ms Karin Blix we have learned about real reasons and use of Quality reporting on all but also BOP statistics. The background of Quality reporting lies in need for an accurate, efficient and in timely manners provided statistics which is based on user needs. Based on presentation and discussion provided by the CBBH staff all attendees of the meeting agreed that CBBH drafted Quality report is close to the Final version.

Review of compilation of BOP Current Account in Statistics Denmark - Statistics Denmark experts presented entire process of compilation and dissemination of BOP current account applied in Denmark. Mostly data are collected through online reporting. Among many other issues, colleagues from Statistics Denmark provided very useful explanation about BoP adjustments in merchandise trade, merchanting etc., and methods and data sources they use for that purpose. In addition, impact of these adjustments were discussed. Transport services were also covered with additional details and concepts and we discussed what would be likely impact for BiH BoP. However, through discussion conducted about compilation and dissemination of BOP Current account we have nominated two issues that we have faced in CBBH practice. These issues are treatment of cargo handling and sources of data for overflights concerning geographical distribution.

Review of processes and data sources used for compilation and dissemination of Quarterly IIP with focus on Other Economic Changes in Denmark's National Bank and overview on drafted Quarterly IIP report compiled by CBBH - The CBBH presented the latest version of methodology document that had been updated after the previous mission with recommended changes. Estimation methods and revision practice as well as clarification on certain sources had been made. Questions on maturity and counterpart sector information, financial derivatives as well as changes of operating statement on FDI investment income had been added to the quarterly FDI survey form and the first collected results were presented. Additionally, CPIS data as possible source for compilation of security statistics was presented and discussed. Presentation provided by the National Bank of Denmark (NBD) confirmed that the following engagement of the CBBH should be implementation of activities on compilation of other economic

changes in BOP reporting. NBD made very comprehensive presentations about IIP compilation and related issues. These presentations covered:

- Description of data sources and periodicity
- Structure of individual data (dimensions and attributes used) and its treatment in IT environment
- Production process, necessary imputations, consistency checks between BoP and IIP
- Data flows and data sharing within the NBD
- Detailed description of calculation of income for FDIs and IIP
- Dissemination options and transmission process to international organizations
- IT architecture for external statistics
- Use of R tools for advanced data analysis

Through separate presentation we were introduced with practical use of R programming that is for the time being applied internally in the Denmark National Bank. Through the presentation we perceived how treatment of compiled statistics can be easy, simple and user friendly even though preparation activities require huge expertise in R programming. Throughout the visit, we had very intensive and substantive discussion on practical implementation of Danish experiences, and colleagues from DNB were willing to offer us concrete examples and suggestions.

Exercises on R programming with real CBBH data focusing on transmission of data to Eurostat

Based on experts presentation on setting up the R project, which almost produces the desired SDMX files based on the input files (in excel) prepared by the CBBH, CBBH staff acknowledged the main point of the process of setting up the R project.

We have learned that the following modules are recognised and accepted as feasible:

- 1) Read data by period/country/type/transaction from Excel and store the data in 'tall' (and tidy) format.
- 2) Modify/transform the data as needed:
 - a) Validate the individual data
 - b) Form aggregates as needed (for country groups, integrity rules, GEO 5 and GEO 6 – integrity rules)
 - c) Apply disclosure control
- 3) Write files for submission, either SDMX (i.e. XML) directly or flat file suitable for converter

3. Conclusions and recommendations

Review of Quality management system in Statistics Denmark and overview and discussion on drafted BOP Quality Report produced by CBBH - Generally, CBBH quality report was marked as very reliable document since there were already useful conclusions drawn out of it. The main one would be further moves aiming to decrease of asymmetries but also the observation showing that the CBBH is capable to follow EU requirement related to deadlines set up for reporting. The main recommendations were to test and apply in the practice respect of reporting deadlines even though we are not obliged to do so until we become an official EU candidate country. Additionally, the CBBH staff has learned on Denmark's experience how important it is to initiate official cooperation with some countries on decrease of existing asymmetries. In the CBBH practice the experts has realized and already defined number of possible areas where certain improvements in compilation and dissemination of BOP statistics could be implemented. Improvements are possible through direct cooperation on bilateral level aiming to decrease existing discrepancies in ITSS statistics as well as asymmetries in FDI.

Review of compilation of BOP Current Account in Statistics Denmark – The CBBH should consider seriously the possibility of step by step moving to collection of data through online reporting. Furthermore, the CBBH should also initiate creation of more reliable data bases for storing source data as different vintages.

Review of processes and data sources used for compilation and dissemination of Quarterly IIP with focus on Other Economic Changes in Denmark's National Bank and overview on drafted Quarterly IIP report compiled by CBBH - Questions on maturity and counterpart sector information, financial derivatives as well as changes of operating statement on FDI investment income had been added to the quarterly FDI survey form and the first collected results were presented. This activity will be continued while financial derivatives will be collected by separate form within FDI survey. CPIS data as possible source for compilation of security statistics is to be deeper investigated before the final decision on use is made. Through experience of the Denmark Bank we have learned how to conduct projection of reinvested earning on company level. This model, forecast of reinvestment based on activity group and applied on all companies within the group, will be accommodated in CBBH environment and applied accordingly. Also, based on the Denmark Bank experience we will rely on Commercial Banks information related to UCP.

New ideas for organization of source data and IT infrastructure needed for IIP and Financial Account have emerged in discussion with colleagues from NBD, so we can use them in our current designing of comprehensive IT solution for statistics in CBBH.

Exercises on R programming with real CBBH data focusing on transmission of data to Eurostat - Within the previous missions but also this time it was advised to keep data, calculations, and presentation (dissemination product) well separated. The general advice by the Denmark Statistics experts was to build a modular workflow in R on top of the existing structure of the BoP data. A bit of refinement, with additional needs presented by the CBBH staff, and documentation of the prepared setup is needed. It became clear how important the use of R programming (or any other programming language) is for the CBBH further work on compilation and dissemination of BOP statistics (but also for the other statistics compiled in CBBH) aiming at the end on fulfilment of the EU requirements concerning the way of reporting as well as the deadlines. For moving forward continuation of learning R programming (which we considered as an excellent tool) would be necessary.

Actions needed for moving forward

Action	Deadline	Responsible institution / person
Finalize the methodological note on quarterly IIP with MS input.		CBBH
Finalize the report on quarterly IIP		CBBH
Production of a XML output		Statistics Denmark and CBBH
Creation of Final version of the document describing the production process of quarterly IIP		CBBH

Annex 1. Programme

Study visit from Bosnia and Herzegovina on Balance of Payments and IIP

Tuesday 2 April 2019

Venue: Statistics Denmark, Fleksrum 3426

09.30 - 10.30	Welcome and introduction to Statistics Denmark	Charlotte Juul Hansen, Statistics Denmark (jointly with other study visit)
10.30 - 10.40	<i>Coffee break</i>	
10.40 - 12.00	Quality management system in Statistics Denmark	Karin Blix or Rasmus Anker Kristensen
12.00 - 13.00	<i>Lunch</i>	
13.00 - 14.00	BoP Quality Reporting in CBBH, lessons learned, challenges and the way ahead	CBBH and Søren Burman
14.00 - 14.10	<i>Coffee break</i>	
14.10 - 15.20	BoP compilation in Denmark	Søren Burman
15.20 - 15.30	Evaluation of BoP part of study visit	Søren Burman

Wednesday 3 April 2019

Venue: Nationalbanken

09.30 - 10.45	Welcome and introduction to Nationalbanken	Robert Wederkinck and Lasse Nørgård Vogelius
10.45 - 11.00	<i>Coffee break</i>	
11:00 - 12:00	Compilation of IIP in BH, historical overview	CBBH
12.00 - 13.00	<i>Lunch</i>	
13.00 - 15.30	Compilation of quarterly IIP - data sources and challenges, applied methodology	Robert Wederkinck and Lasse Nørgård Vogelius

Thursday 4 April 2019 (four persons from BH)

Venue: Nationalbanken

09.30 - 10.45	Compilation of quarterly IIP - discussion on other economic changes, compilation and reporting	Robert Wederkinck and Lasse Nørgård Vogelius
10.45 - 11.00	<i>Coffee break</i>	
11.00 - 12.00	Continued	Robert Wederkinck and Lasse Nørgård Vogelius
12.00 - 13.00	<i>Lunch</i>	
13.00 - 14.15	Discussion on quarterly IIP and further steps in data compilation and dissemination	Robert Wederkinck and Lasse Nørgård Vogelius
14.15 - 14.30	<i>Coffee break</i>	
14.30 - 15.15	Continuing discussion on same issue and wrapping up	Robert Wederkinck and Lasse Nørgård Vogelius
15.15 - 15.30	Conclusion and evaluation of the study visit	Robert Wederkinck and Lasse Nørgård Vogelius

	<u>Thursday 4 April 2019</u> <i>(two persons from BH)</i>	<u>Venue: Statistics Denmark, Fleksrum 3426</u>
09.30 - 10.45	Detailed presentation on R programming with real data already provide by CBBH	Peter Stolze and Laust Hvas Mortensen
10.45 - 11.00	<i>Coffee break</i>	
11.00 - 12.00	Interactive session on R programming	Peter Stolze and Laust Hvas Mortensen
12.00 - 13.00	<i>Lunch</i>	
13.00 - 14.15	Interactive session on R programming	Peter Stolze and Laust Hvas Mortensen
14.15 - 14.30	<i>Coffee break</i>	
14.30 - 15.30	Interactive session on R programming and wrapping up	Peter Stolze and Laust Hvas Mortensen

List of participants

Central Bank of Bosnia and Herzegovina

- Amir Hadžiomerađić (Head of Statistics department)
- Vedran Milisav (Head of Section of Balance of payments statistics)
- Suzana Kozinović-Ličanin (Expert for BoP statistics)
- Jelena Obradović (Senior Specialist for BoP statistics)
- Masa Kamenica-Jordamović (Senior Specialist for BoP statistics)
- Aida Kalčo (Specialist for BoP statistics)

Statistics Denmark

- Charlotte Juul Hansen, Senior Adviser, International Consulting
- Karin Blix, Chief Adviser, Quality Unit (Method and Analysis)
- Rasmus Anker Kristiansen, Head of Section, Quality Unit (Method and Analysis)
- Søren Burman, Chief Adviser, External Economy
- Peter Stolze, Head of Division, Method and Analysis
- Laust Hvas Mortensen, Chief Adviser, Data Science Lab (Method and Analysis)

Nationalbanken

- Robert Wederkinck
- Lasse Nørgård Vogelius