

TWINNING CONTRACT

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



MISSION REPORT

Activity 1.3.2C Index of Service Production Component 1.3.2 Index of Service Production/Service Producer Price Index

Mission carried out by
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Table of Contents

1. General comments	4
2. Assessment and results	5
3. Conclusions and recommendations	10
4. What to do before the next mission for the BC Counterpart.....	11
Annex 1. Terms of Reference for the current mission.....	12
Annex 2. Revised Schedule	14
Annex 3. Forward Plan (indicative).....	15
Annex 4. Example SPPI index development pathway.....	16
Annex 5. Persons met	17

List of Abbreviations

BHAS	Agency for Statistics of Bosnia and Herzegovina
BiH	Bosnia and Herzegovina
CBBH	Central Bank of Bosnia and Herzegovina
CPA	Classification of Products by Activity
GSBPM	Generic Statistical Business Process Model
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
NSI	National Statistics Institute
RSIS	Institute for Statistics of Republika Srpska
RTA	Resident Twinning Adviser
SPPI	Service Producer Price Index
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 third mission to be devoted to the Index of Service Production Component/Service Producer Price Index of the Project.

The purposes of the mission were:

- To get an overview of the current progress in producing SPPI's and ensuring the fundamentals of PPI development are applied
- Mapping of current structures, both weight and aggregation, and index systems
- Taking the first steps in enabling later Metadata reporting to Eurostat
- To support further SPPI development and introduce an implementation pathway
- Discuss Pricing Methods and Data Collection in general and applied to specific industries
- Preliminary road map / forward plan (including ToR for the next activity and time slots for the rest of the project planned SPPI missions)

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

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

2. Assessment and results

This section outlines the main assessments and results from the mission including some discourse and recommendations. All activities as per the ToR have been covered. Some small schedule changes were made and a revised schedule is provided in the annex 2.

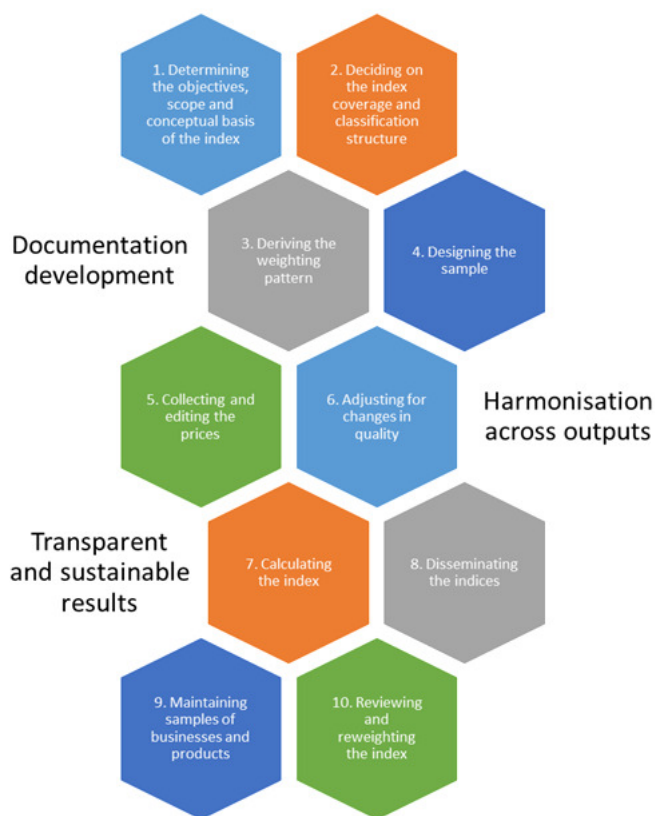
Price statistics development fundamentals

Over the course of the mission the ten fundamental aspects of price development¹ were discussed and used as a baseline to understand current progress and future needs.

The fundamental aspects break up price statistics activities into the following aspects:

1. Determining the objectives, scope and conceptual basis of the index;
2. Deciding on index coverage and classification structure;
3. Deriving the weighting pattern;
4. Designing the sample;
5. Collecting and editing the prices;
6. Adjusting for changes in quality;
7. Calculating the index;
8. Disseminating the indices;
9. Maintaining samples of businesses and products;
10. Reviewing and reweighting the index

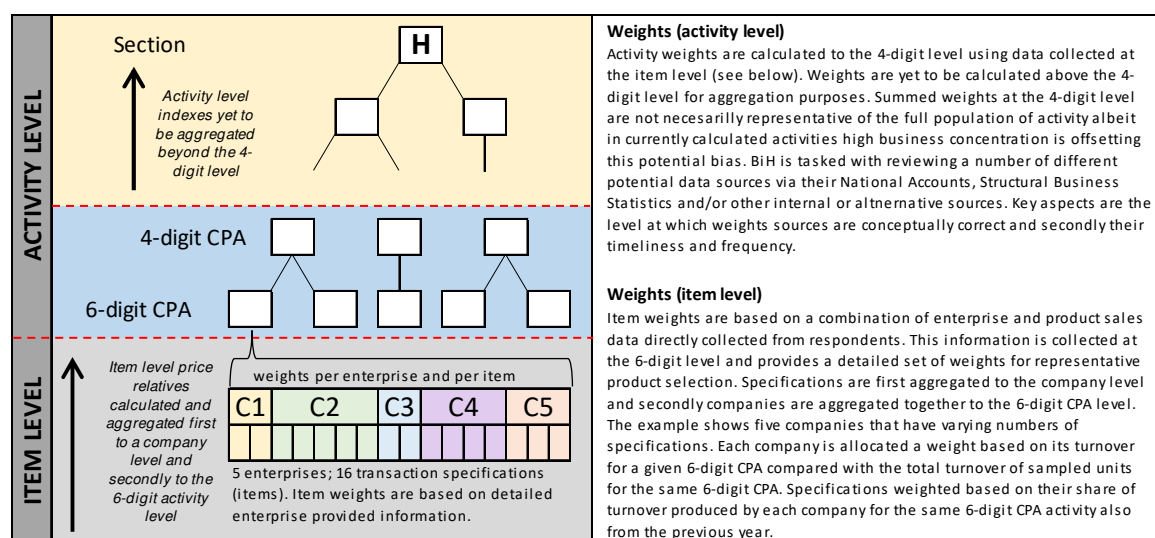
These price statistics building blocks were delivered in combination with GSBPM fundamentals with the end-to-end production and future development of SPPIs at BiH a focal point for discussions. Findings led to high quality technical discussions and the subsequent mapping of an indicative roadmap for SPPI development.



¹ The ten steps for price statistics development can be found in three official price statistics manuals including: An Overview of the Steps Necessary for Developing PPIs (PPI Manual; 2004; p50-60); An Overview of the Steps Necessary for Developing XMPPIs p59-70; Chapter 1 (CPI Manual; 2020; p1-27)

Weighting Pattern, Index Aggregation and Calculating the Index

BiH current weighting scheme currently aggregates indices together to the 4-digit classification level using the Classification of Products by Activity (CPA) as the classification structure. They do not yet produce indices of a higher level, as they do not cover enough of the economy with their collected sample. They collect turnover information on the collected product codes directly from the price reports. For the collected industries, they have a minimum of 80% of the turnover reported and therefore have weights from 80% of the product codes turnover. It is our assessment that the weighting information is feasible for their current usage, of weighing together 6-digit products up to the 4-digit level, but another set of weights is needed for further aggregation. Other in-house sources such as SBS and national accounts should be evaluated for feasibility on factors such as availability, detail level, timing etc. This is important when further aggregation is being considered and must be part of the consideration at that time. BiH intend to investigate further into the available sources and will be looking to present the options at the next mission, and in-between mission support has been agreed upon from DK.



Prices Collection – CPI as an alternative data source

BiH are looking into utilizing the CPI in the SPPI due to the new EBS regulation requirement of Business-to-All indices. For activities that are predominantly sold to households the CPI can be used as a proxy for direct collection. This is also applicable where price development experienced by households is representative of price development experienced by businesses. For activities where the CPI is considered a representative proxy BiH can therefore focus their resources elsewhere where direct collection is required.

When the CPI is used to indicate changes in producer prices there are a number of factors that need to be considered to ensure that the CPI is fit-for-purpose. For example, CPI classification categories must be converted to relevant CPA codes and adjustments need to be made when tax rates change to where the valuation basis for PPI is basic prices in contrast to the CPI valuation basis of purchaser prices. Further advice on these important factors can be found via the Voorburg Group on Service Statistics².

One of the essential tools to determining the feasibility of a CPI are the Supply-and-Use tables (SUTS) from the National Accounts. BiH have limited knowledge of the detail level of the SUTS currently and further investigation and presentation at the next mission was agreed upon.

² Alignment of Methodology and Scope between Services Producer Price Indices (SPPIs) and Consumer Price Indices (CPIs): Developing a framework for using CPIs in SPPI calculation.

<https://www.voorburgroup.org/Documents/2021%20Washington/Papers/3008.pdf>

Sampling

BiH is focusing on the implementation of further industries in their SPPI-program and researching for the optimal sampling design. Cut-off, PPS and judgemental sampling were presented by the visiting experts for consideration by BiH. BiH especially sought advice on how to best draw samples and represent activity to deal with both high concentration and low concentration industries. Currently the BiH are utilizing cut-off sampling for industries sampled with a high concentration, but were having concerns utilizing this sampling method in industries where the concentration was lower due to resource limitations. PPS sampling was raised as an option for industries with lower concentration to ensure proper representativeness whilst being cost-effective. BiH intend to investigate this further and would like support from DK upon actioning their respective solutions.

Data collection

The participants shared their general data collection method and structure together with their current questionnaire for price reporting. They request average prices during the period, which is to be recommended, and the quality of the forms in general can be deemed high. In total their data collection was perfectly adequate, though not schedule ready for an established production cycle as yet. Together we went through some examples of questionnaires and a suite of reminder mails from other NSI's were provided and of note was how language escalated from reminder to reminder to attempt to encourage response.

Data collection for new activities is recommended to commence with outreach to trade associations, government departments and/or large companies to learn primarily about record keeping and options for price collection. Topics to be discussed may include:

- Types of price data used in company internal analysis
- Existing data collection conducted by trade associations
- Market structure, major products, and pricing strategies
- Key drivers and trends (past and expected)
- Cost structure and demand factors
- Frequency of price changes and factors affecting prices
- Specifications that can be used to follow price changes

Data collection may be conducted utilizing a number of mediums and fall into three basic types: personal interview, self-enumeration, and telephone interview. The choice of medium is dependent on a number of factors including but not limited to: topic complexity, non-response, data availability, and market concentration. In the case of BiH and in the context of PPIs it is recommended to conduct initiation via personal interview (either in-person or via video calls). This recommendation aligns to the complexity of the collection and the need to build rapport and mitigate anticipated response rate challenges. This method can however be considered resource intensive and would likely require additional staff resources.

Initial research phase – Testing the production cycle

The PPI is due to become a part of the official suite of price indicators that BiH publishes and that are utilised by key stakeholders such as National Accounts, Central Bank of Bosnia and Herzegovina, and eventually an important contributor to the European Statistical System (ESS).

Upon the inaugural official publication there will be an expectation from users that the new indicator will continue to be published on time and to a particular quality. To secure the certainty of this output, BiH will need to consider their strategic stance regarding core staff levels to secure a sustainable knowledge base of PPI and to ensure consistent production and publication activities.

Prior to the inaugural publication it is recommended that BiH conduct a series of test publications, for internal use only, giving staff an opportunity to test procedures and documentation. This will further allow for stress testing if staff resources are adequate or if additional staff are required. The time constraints of a fixed production schedule (collection, processing, analysis, dissemination) are significantly more rigid outside of the research phase.

Secondly, testing the production cycle is also an opportunity to champion the new statistics to other internal stakeholders to further internal use and communication and ensuring harmonization across economic statistics in BiH. Testing of the production cycle is recommended to start during 2023.

Maintaining and reviewing weights and samples

BiH is recommended to investigate to what extent annual reviewing of weights and samples in the production cycle can be actioned over the course of the year taking some of the pressure off the bottleneck months of December and January. Annual activities should be mapped out into actionable items and described with how-to documentation. Dependencies should be thoroughly understood and strategies in place to avoid potential delays, for example, periodic meetings with key internal data providers.

Publication - Delivery +45 days

Current regulation states that SPPIs are to be delivered T+90, but recently Eurostat has expressed a wish for this to be reduced to T+45. As BiH has yet to implement a consistent and systematic production cycle for quarterly data deliveries to Eurostat - this investigation point is recommended to be included in their initial research phase.

Industry specific support - Telecommunications

BiH expressed having challenges with their collected prices for the telecommunications industry and the calculated price indices. Telecommunications is notorious in SPPIs for being one of the tougher industries to tackle. It was agreed to have a session on this activity at the next mission where BiH will present an overview of their current data and price methods utilized.

Concepts, sources and methods (CSM)

BiH have made some progress in producing documentation containing methods and metadata information. Also the current progress of the SPPI development have been well mapped in an easy to read excel-file, wherein the current SPPI's are mapped along with industries in development and the requirements for the European EBS regulation. The Danish metadata report has been provided as an example of the formatting needs and a demonstration was held showing the ESS Metadata Handler where such reports are submitted. It is recommended to expand the documentation further to include more information needed for internal consistency in the production and eventual publication purposes. This is an excellent step towards fulfilling Eurostat metadata demands and ensuring internal harmonisation, knowledge retention and succession planning within BiH

Concepts, sources, and methods (CSM) documentation should also be prepared for publication either as part of the pre-release notice or together with the inaugural publication. Chapter 13 of the Producer Price Index Manual provides helpful information about the types of material to include in these documents. The following links provide real world examples of such documentation:

Australian Bureau of Statistics (ABS)

Data quality assessment framework: <https://dsbb.imf.org/sdds/dqaf-base/country/AUS/category/PPI00>
Concepts, sources, and methods: <https://www.abs.gov.au/ausstats/abs@.nsf/mf/6429.0>

Statistics Denmark (DST)

Producer and Import Price Index for Commodities – Documentation of statistics

<https://www.dst.dk/en/Statistik/dokumentation/documentationofstatistics/producer-and-import-price-index-for-commodities>

UK Office of National Statistics (ONS)

Services Producer Price Indices (SPPI) user guidance and methodology: <https://www.ons.gov.uk/economy/inflationandpriceindices/methodologies/servicesproducerpriceindex/sppiuserguidanceandmethodology>

US Bureau of Labor Statistics (BLS)

Handbook of Methods – CH14, Producer Prices: <https://www.bls.gov/opub/hom/pdf/ppi-20111028.pdf>

An integrated system of price statistics

An integrated approach to the system of price statistics translates to a harmonized suite of price statistics with data based on standardised concepts, definitions, and classifications. Furthermore, this ensures that as a national statistics institute (NSI) we are maximising opportunities that our price statistics are able to be used and correlated between statistical products and across statistical domains – a win for both the NSI and statistical users.

What do we have to gain?

- Scalable and sustainable connections to organisational ideals
- Rapid “point-in-time” checking of harmonised concepts and methods
- Integrated and automated monitoring opportunities
- Institutionalised knowledge
- Adaptive organisation that is more agile to contemporary needs

What do we risk?

- Disconnection from organisational ideals
- Erosion of harmonised concepts and method
- Continuity and succession planning challenges
- Slow moving organisation with multiplying bespoke solutions

The development of SPPIs and therefore the fulfilment of the EBS requirements is as ambitious as it is necessary. BiH is recommended to consider their SPPI development both as part of a system of price statistics and an integrated stakeholder within economic statistics. This can be seen as an investment in development but also an investment in future savings and sustainable outputs.

3. Conclusions and recommendations

It is apparent that the BiH have a good foundation to continue the development of the SPPI to meet the new EBS requirements in the near future. They have a sound understanding of sampling, data collection, price methods, index calculation and the experts are confident with their ability to continue their excellent development of SPPI. In consultation with BiH an ambitious (indicative) forward plan has been developed, see annex 3, providing a structured approach and integrating the price statistics development fundamentals. An example SPPI index development pathway is also provided for reference in annex 4.

With this in mind, the recommendations and expectations for further development and a future mission are as follows.

Recommendations:

- Price statistics development fundamentals and the European Business Statistics manual should be used to enable and inform best practice and requirements for SPPI develop
- BiH to investigate weight sources for the various levels within the aggregation structure and present findings at next mission. Denmark to review and provide support as required.
- BiH to investigate if supply/use tables can enable the usage of CPI as an alternative data source for price coverage.
- BiH to conduct a review of sampling methods to be able to appropriately account for both high and low market concentration scenarios. Denmark to review and provide support as required.
- Initiation activities to commence and personal interviews to be utilized. Existing materials to be adapted where possible (questionnaires; collection aids) but also tailored as required.
- It is advised that during 2023 BiH tests production and publication capabilities for eventual official publication and also to champion their statistics to internal stakeholders ensuring high quality and harmonization across economic statistics. This testing includes:
 - Data Publication / Delivery +45 days.
 - Understanding what aspects of annual updates can be spreadout across the year
- BiH to prepare an overview of telecommunications for review and discussion at the next mission.
- BiH to utilize already developed materials as much as possible to prepare documentation for metadata purposes, CSM development, eventual publication purposes and for internal use.
- SPPI development activities should be considered as a part of an integrated system of price statistics.

4. What to do before the next mission for the BC Counterpart

Actions needed for moving forward as well as for preparing the next mission –add rows as needed.

Action	Deadline	Responsible person
Investigate weight sources for the various levels within the aggregation structure.	Next mission.	BiH
Select a sample of companies for the new SPPI.	Next mission.	BiH
BiH to investigate if supply/use tables can enable the usage of CPI as an alternative data source for price coverage.	Next mission.	BiH
BiH to conduct a review of sampling methods to be able to appropriately account for both high and low market concentration scenarios.	Next mission.	BiH
Initiation questionnaires and collection aids for development of new activities finalised.	Next mission.	BiH
Prepare an overview of telecommunications for review and discussion at the next mission.	Next mission.	BiH and DST
BiH to present progress on documentation development for metadata purposes, CSM development, eventual publication purposes and for internal use.	Next missions.	BiH

Annex 1. Terms of Reference for the current mission

Terms of Reference

EU Twinning Project BA 17 IPA ST 01 20

Component 1.3.2 - Index of Service Production/Service Producer Price Index

12th – 15th December 2022

Venue: Sarajevo, Institute for Statistics of FBiH, Zelenih beretki 26

Room: 1st Floor

Activity 1.3.2C: Index of Service Production III

1. Mandatory result

New STS indicators for SPPI and ISP (Services Producer Price Index, and Index of Services Production new proposed FRIBS Regulation) produced according to the FRIBS (current EU regulation STS No 1165/98)

New methodology for calculation of SPPI (for selected service industries) developed.

SPPI produced based on new methodology and delivered to Eurostat (N, SA, WDA and T)

New methodology for calculation of ISP (production of volume index) developed according to the FRIBS

ISP produced based on new methodology and delivered to Eurostat

Index of Service Production (ISP) is currently not calculated in BiH. It is therefore a major priority in the project to be able to publish and deliver Index of Service Production to Eurostat at the of the project period. The statistics are compiled based on turnover index from the statistic Purchases and Sales by Enterprises and on price index from Producer Price Index for Services (SPPI) and the Consumer Price Index (CPI). In this way the subcomponent relates to the work on SPPI carried out by the previous Twinning project and continued in this project.

Indicator / Relevant Milestones / Internal deadlines:

- Indicators for SPPI and ISP published and delivered to Eurostat

2. Purpose of the activity

- Introductions, overview and fundamentals
- Mapping of current structures and index systems
- Metadata reporting for Eurostat
- SPPI development and implementation pathway
- Pricing Methods and Data Collection
- Industry specific discussions
- Preliminary road map / forward plan (including ToR for the next activity and time slots for the rest of the in the Project planned SPPI missions)

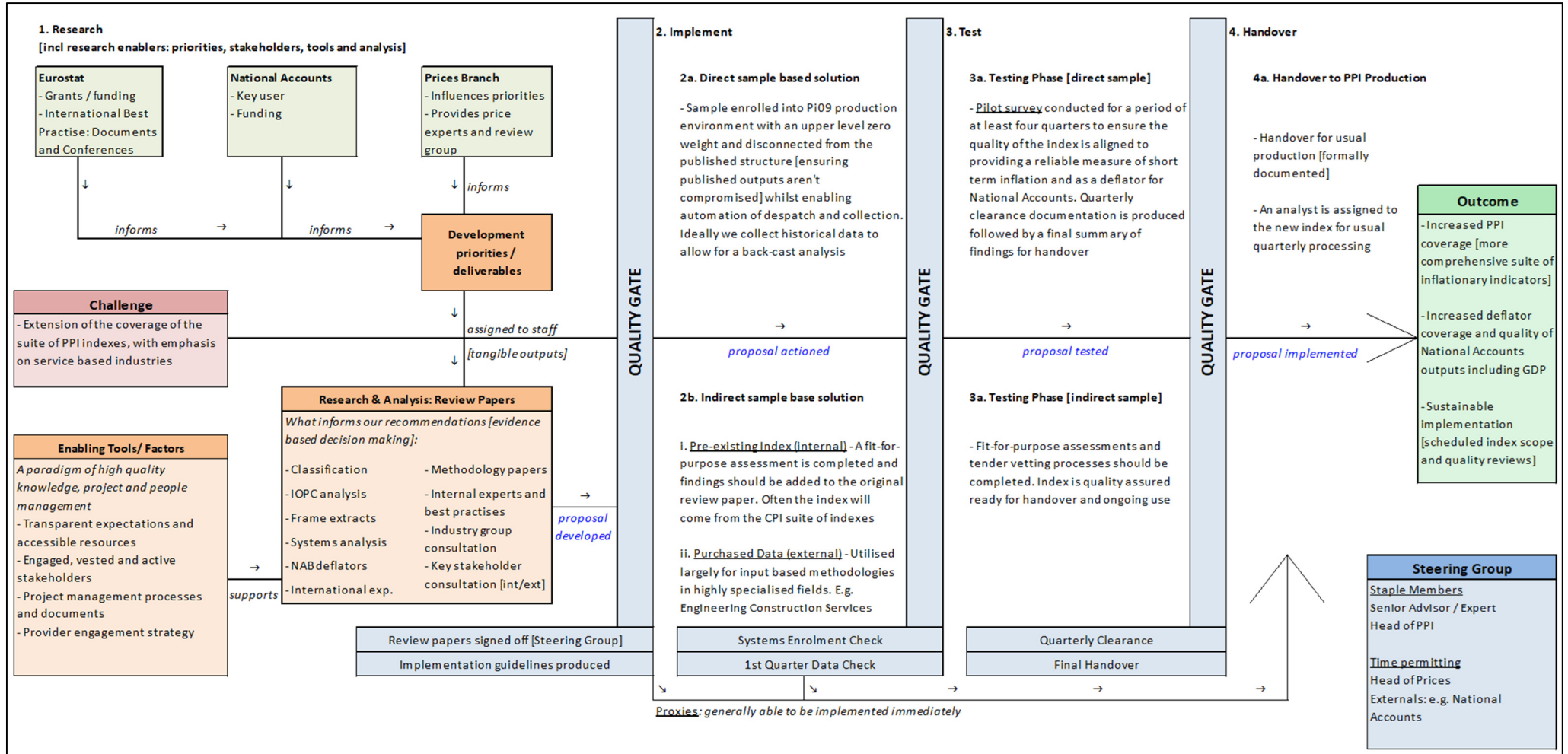
3. Expected output of the activity

- The items described under *Purpose of the activity* started
- Mission report prepared
- Road map/work plan for the component made
- ToR for the next mission and time slots for the rest of the in the Project planned SPPI missions made

Annex 2. Revised Schedule

TIME	Monday 12-Dec	Tuesday 13-Dec	Wednesday 14-Dec	Thursday 15-Dec	Friday 16-Dec
0845-0900	TECHNICAL	TECHNICAL	TECHNICAL	TECHNICAL	
0900 - 0930		Data and Metadata requirements reporting for Eurostat (NEL) + CPI in PPI (NEL)	Roadmap development + Systems Demo	Results, road map, forward plan and next mission (ALL)	
0930 - 1000					
1000 - 1030					
1030 - 1045	Introductions, overview and fundamentals (ALL)	TEA BREAK	TEA BREAK	TEA BREAK	
1045 - 1115		Data and Metadata requirements reporting for Eurostat (NEL) + CPI in PPI (NEL)	Weights and Sampling + Kind of Activity Units + Pricing Methods and Data Collection	Results, road map, forward plan and next mission (ALL)	
1115 - 1145					
1145-1215					
1215-1245	LUNCH	LUNCH	LUNCH		
1245-1315	Mapping of current structures and index systems (B&H)	SPPI development and implementation pathway (RJD) + Practical roadmap development (B&H)	Pricing Methods and Data Collection	Return Flight 1440	
1315-1345					
1345-1415					
1415-1445					
1445-1500	TEA BREAK	TEA BREAK	TEA BREAK		
1500-1530	Mapping of current structures and index systems (B&H)	Practical roadmap develop	Pricing Methods and Data Collection		
1530-1600					

Annex 4. Example SPPI index development pathway



Annex 5. Persons met

BHAS:

Maja Hadži-Stojanov, Senior Officer for Producer Prices in Services
Alen Bajramović, Head of Department for Services Statistics

FIS:

Merima Beganović, Senior Advisor for Business Services

RSIS:

Aleksandra Đonlaga, Senior Officer for Producer Prices in Services
Jelena Glamočika, Head of Department for Services Statistics

RTA TEAM:

Larisa Muslimović, RTAA

Interpreter:

Haris Imamović


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:

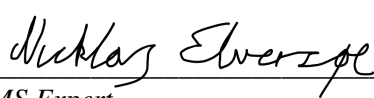
Date:



Component leader, BHAS




Component leader, RSIS




MS Expert



Component leader, FIS



RTA



MS Expert