Statistical Office of the Republic of Serbia

General Revision Policy

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PREFACE

The purpose of this document is to present the main principles and standards of the revisions of released statistical data, defined by the General Revision Policy of the Statistical Office of the Republic of Serbia (the SORS). The General Revision Policy of the SORS is entirely harmonised with the guiding principles from the ESS Guidelines on Revision Policy, which have been approved by the European Statistical System Committee (ESSC).

The harmonisation according to the ESS Guidelines on Revision Policy means the simultaneous adoption of the standards defined in the European Statistics Code of Practice related to the following principles: Principle 6 – „Impartiality and objectivity“, indicator 6.6 particularly underlines the significance of major revisions and changes in methodologies; Principle 8 – „Appropriate statistical procedures“, indicator 8.6 defines that revisions should follow the standards, well-established and transparent procedures, and Principle 12 – „Accuracy and reliability“, indicator 12.3 states that revisions should be regularly analysed in order to improve statistical processes.

The revision policy establishes the general rules for the revisions of released statistics, how to inform the users about possible causes for revisions, typology of revisions, and the supporting documentation covering all revision aspects. It is a global framework allowing every statistical domain to define its own revision policy in accordance with its specific characteristics.

By defining the general revision policy, the SORS follows the visions of the integrated statistical system where the releases and revisions of statistical data are coordinated and synchronized, and provides maximum transparency for the users secured through the clear presentation of revision policies and statistical practice.

1. Methodological framework

The General Revision Policy of the SORS relies on the following international documents:

- ESS Guidelines on Revision Policy;
- European Statistics Code of Practice;
- Principles for a General Revision Policy for European Statistics, Eurostat 2009;
- Revisions Policy for Official Statistics: A Matter of Governance – IMF Working Paper, 2004;
- The Data and Metadata Reporting and Presentation Handbook – OECD.

2. General revision characteristics

2.1. Definition of revisions

Revision, broadly defined, is any change in a value of released statistical data.

It is important to stress that revisions are carried out in users' interest because the primary aim of the statistics is to provide timely data that are reliable to the extent allowed by available data sources. It is a common in the statistical practice that not all the data required for timely statistics production are not available at the end of reference period; therefore, the missing values are estimated.

Revisions enable incorporation of the new and more accurate information when it becomes available, in already released statistical data, and thus improve the previous estimates, without introducing breaks in the time series.

Revisions should be accepted as regular practice leading to better data quality and reliability.

2.2. Causes for revisions

In statistical practice, the causes for revisions may be:

- changes in released data related to regular processes of statistical data production (e.g. estimated values for missing data are replaced with the data obtained from regular statistical surveys);
- the process of "benchmarking" being defined as a process of adjustment of higher frequency data to lower frequency data, which become available later;
- changes in concepts, definitions and classifications;
- changes in the methodology being applied in a given statistical domain;
- changes of the base year – implementation of a new weighting system;

- changes in data sources used in the process of statistics production;
- correction of errors in statistical reports, etc.

2.3. Main elements of revisions

Plan for routine revisions – sequence of routine revisions established in advance and consistent with the inflow of new information needed for the calculation of statistical data, due to which released values are adjusted to the new, current information.

Revision cycle – in advance defined statistics being subject of revisions, revision frequency, release date of revised data as well as the length of time series under revision. Consequently, the types of data appearing in the revision process are also defined as: estimated, preliminary, revised and final data.

Revision calendar – publication that contains the dates of release of revised data in the scope of the revision cycle. The revision calendar should be available to the public on the website of the SORS.

Strategy of communication with the users of statistics – standard that provides users with necessary information about data revisions (revision frequency, period of revisions, causes for revisions, level of details, length of revised series, list of data series undergoing revision, release, etc.).

Revision analysis – the results of revisions are analysed to provide better understanding of the causes for data revisions. Revision analysis use a set of specific indicators based information collected from several periods in which revisions were performed. The results of analysis are released and help data users to have an idea about the scope of potential future revisions of data published in the first phases of the revision cycle, and to evaluate the credibility of released data.

2.4. Types of data in revision cycle

2.4.1. Definitions of main concepts

Statistical data is a numerical value that represents the size of an observed phenomenon.

Statistical information explains statistical data and contains statistical symbols, comments, tables, charts, pictures, definitions, methodological explanations, etc., which describes the content and meaning of statistical data.

Released statistical data are data that have been disseminated and presented to the public electronically or in hard copy.

Data status refers to whether the released data are estimated, preliminary, revised or final.

2.4.2. Types of data

Estimated data are released at the end or shortly after the expiration of the period the result refers to. Estimation is the result of a combination of historical data with available partial information about the period to which the results refer. The results are presented as totals, without detailed breakdown.

Preliminary data are calculated and released before the final results. They are based on a set of available statistical and administrative data sources, which is more comprehensive than the ones used for estimations. Additionally, calculations are performed on lower level of aggregation.

Estimated and preliminary data are subject to current revisions due to the incoming of new and more complete information.

Revised data are the result of revisions**.**

Final data are based on a complete set of statistical and administrative data sources, and calculations are performed on the lowest level of aggregation. Final data are not subject to current revisions. They may be changed exclusively in case of major revisions.

3. Revision policies

3.1. General Revision Policy

General revision policy lays down the common rules for the revision of released data and the modes of informing users, defines revision types and related documentation covering all revision aspects.

The sixth indicator of Principle 8 of the European Statistics Code of Practice states „Revisions follow standard, well-established and transparent procedures”. From the perspective of official statistics, the presence of a general revision policy helps the revision process to be performed in a transparent and understandable manner and users to be informed about revision practice.

All of the above makes the revision policy to be an important element of communication with users of official statistics and develops their confidence because they are timely informed about all performed and forthcoming revisions, as well as about detected errors.

General revision policy is a global framework for revisions and is flexible, enabling thus organizational units from different statistical domains to create their own revision policy according to their specificities.

Nevertheless, it is possible to establish certain general principles that can be applied to all specific statistical domains:

- the process of data revision is carried out through transparent procedures;
- criteria for revisions are public and available to all data users. These criteria should contain:
    - the identification of different types of revisions;
    - information about the circumstances under which data revisions are performed;
    - information about the scope of revisions and their frequency;
- methodological documentation should include the criteria for data revisions;
- the analysis of revisions should be the principal instrument for improving the process of statistics production, detecting systematic errors and avoiding partiality in revision process;
- it is necessary to ensure maximum consistency in revision performance and coordination between revisions of different statistical domains.

3.2. Domain specific revision policies

Every statistical domain has its spec characteristics (interview methods of reporting units, form and type of surveys, procedures, calculation methods, laws and regulations, etc.), as well as limitations derived from valid legal acts, which is the reason for defining a specific revision policy for each domain. Domain specific revision policies should be compliant, as much as possible, with international standards, as well as with the principles of the general revision policy, taking also into account the specificities of the domains and constraints resulting from valid legal acts.

Domain specific revision policy should contain the following information:

- revision frequency;
- timing of revisions;
- reasons for revisions;
- level of details;
- length of revised series;
- list of data and series that are subject of revision;
- revision analysis.

3.3. Dissemination of revision policies

It is of outmost importance that the general revision policy and domain specific revision policies are accessible to the public. Related documentation, which describes specific domain policies, foster the transparency of practical

implementation of revision policies, promote the consistency of the SORS practice with standards being applied in international and national institutions of other countries, through the standardized format, terminology and dissemination. High quality communication with the media and the public should be ensured through appropriate information means (releases, on-line documents and publications). The General Revision Policy and domain specific policies are available on the website of the SORS.

Besides revision policies, the revision calendar should also be available on the website of the SORS. The revision calendar gives a review of statistical domains which data are subject to current revisions. It contains statistical data that are subject of revision, the date of revised data releases, length of time series being revised and the form of dissemination of revised data.

3.4. Stability of revision policies

Observing from the aspect of data production, stable revision policies are a very important element of a well-established production process, which enables better planning of activities and resources. Observing from the aspect of users, stable revision policies ensure that users have the possibility of knowing in advance what data will be revised, when and why.

Maintaining stable revision policies (general and domain specific) over time is very important because it fosters users' confidence and transparency of revision process. General revision policy should not be changed often. When general revision policy is changed, domain specific policies should be revised accordingly.

If the revision policy needs to be changed, it is recommended to adopt a new policy in the same period when the major revision is performed. Changes in revision policies should be announced, well-documented and justified.

4. Principles of General Revision Policy

Regardless the presence of differences between various statistical data and the types of revisions, it is possible to establish general criteria that the revision policy should meet in accordance to standards defined in the European Statistics Code of Practice:

- Principle 6. Impartiality and objectivity – indicator 6.6: the public is informed about major changes in methodologies or revisions before data release;
- Principle 8. Appropriate statistical procedures – indicator 8.6: Revisions follow standard, well-established and transparent procedures;

- Principle 12. Accuracy and reliability – indicator 12.3: Revisions are regularly analysed in order to improve statistical processes.

In compliance with these principles and implementing the general revision policy, the SORS commits to meet the following requirements:

- guarantees that the general criteria regulating data revisions are accessible to all users;
- revision policy defines specific principles which are implemented depending on the type of revision (current, major, non-scheduled);
- all revised results have to be disseminated and explained to the public;
- in the case of major revision, apart from revised data, information helping the users to understand and evaluate the revised results should be necessarily communicated;
- in case that a revision might be anticipated, for example a revision stemming from the changes in methodologies, it must be announced to the users with advance notice;
- error correction, whatever its nature or cause, should be documented and communicated to users as soon as possible;
- general revision policy should be aligned with the dissemination policy in terms of the principles regulating the release of revised data, as well as the implementation of the internal protocol for the error correction that appear in released data in all forms of dissemination;
- revision analysis is performed regularly in order to improve the process of producing statistical data.

5. Types of revisions

When taking into account the causes and frequency of revisions, they can be distinguished as:

- current revisions,
- major revisions,
- non-scheduled revisions.

5.1. Current revisions

Current revisions, by their nature, are integral part of the process of data production (e.g. estimated values for missing data are replaced by data collected by statistical survey). They are generally performed because there is a continuous inflow of new information and incoming new data related to the past.

Current revisions are planned, announced and performed regularly according to specified dates at monthly, quarterly and annual frequency.

These revisions are primarily oriented towards short-term statistics, which are more frequently subject to changes because of a shorter time interval between the period the data refer to and the date of their release. These revisions can also be performed in annual statistics.

Some examples of current revisions:

- revision of data that are calculated and released at a higher aggregation level – previously published data are revised using results of calculations which are more detailed and performed at a lower aggregation levels;
- revision of data because there is new and more complete incoming information (new or revised reports) collected from reporting units;
- revision of data because there are new or revised data incoming from administrative sources;
- revision of released data, which is the result of seasonal adjustment;
- revision due to changes of the base period.

5.1.1. Principles implemented in current revisions

The main principles of current revisions are:

- current revisions are conducted in accordance to the knowledge when new information necessary for the calculation of statistical data will become available, and accordingly, previously released values are to be adjusted to new information;
- current revisions should be performed and revised data released according to well-defined, synchronized and up-dated calendar of revisions;
- users should be informed about the quality of the first estimates in terms of the expected magnitude of revisions and expected differences between estimated/preliminary and final results;
- the stability of revision cycle should be ensured over time, which guarantees transparency and foster users' confidence in the revision procedure.

5.1.2. Strategy of communication with data users implemented for current revisions

Current revisions are announced, released regularly in line with the revision policies and revision cycle, and are published according to the revision calendar that is accessible to the public.

If the revision plan or revision cycle is planned to be changed, users should be informed timely about that on the website.

The types of data should be clearly marked in publications, tables or footnotes as:

- estimated,
- preliminary,
- revised.

If data are marked as estimated or preliminary, an explanation should be given in the same publication in form of a short information which indicates the preliminary nature of data, i.e. that the data are subject to revision.

Revised data should be accompanied with a short methodological explanation about the reason of the revision, in the same edition.

If the data is unmarked, it is considered final.

Every publication should have a link:

- to the methodological explanations;
- to the domain specific revision.

The same rules of marking data are to be followed in all forms of dissemination.

5.2. Major revisions

Major revisions present planned and significant changes in released published data, which are performed for one or more reasons:

- availability of new data that are collected at multi-annual frequency (5–10 years), such as censuses (population, agriculture, the economy), input-output tables, etc.;
- availability of new data sources (new statistical surveys or administrative data sources);
- changes of the base year – implementation of a new weighting system;
- changes in concepts, definitions and/or classifications (e.g. adoption of a new classification or changes in international statistical standards);
- improvements in methodological procedures;
- changes in regulations.

It is common practice that major revisions are not the consequence of one cause, but of a combination of them. This should be accepted as a good practice because in order to avoid too frequent revisons.

Major revisions affect a substantial part of time series and sometimes even the complete time series. Therefore, it is necessary to back-cast the data in order to obtain a comparable series of data. When determining the period for which data should be back-cast, costs and benefits of the recalculation are taken into account.

Major revisions are planned. Users should be informed about the forthcoming major revision and expected major changes in time series. Accordingly, the specific domain revision policy has to contain the following elements:

- announcing strategy;
- prepared information on causes and foreseen impact of major revisions before revised data publishing;
- list of data that will be subject to revision;
- defined length of revised time series, and
- defined level of detail of the revision.

After major revisions, published revised data should be accompanied by related documentation, which gives the opportunity to users to evaluate the new time series. The documentation should include the reasons for revisions, the evaluation of revision impact on aggregates, presentation of a comparative overview of old and new data and length of revised time series, as well as the level of revision detail. Additionally, prior to a major, revision it is necessary to perform experimental calculations (at least for the most important indicators) and after the revision to publish results of analysis.

5.2.1. Principles applied in major revisions

The main principles applied in major revisions are following:

- major revisions are performed at multi-annual frequency (usually 5 and 10 years);
- major revisions are planned are announced well before the release of revised data, and users are informed about the dates of the revision; those dates are to be indicated in the revision calendar;
- major revisions, resulting from new definitions, methodologies, classifications, etc. and referring to more than one statistical domain, should be synchronized;
- data should be back-casted as soon as possible in order to obtain comparable data series;
- revised time series should be published at the same time with current data;
- revised series must not be published on higher level of aggregation in relation to previously published data because it prevents users from seeing the changes;

- when determining the period for which data should be recalculated, costs and benefits of the recalculation should be taken into account;
- in case of a break in time series, its place should be clearly marked, and explanations provided;
- after major revisions, the release of revised data should be accompanied by relevant documentation;
- before major revisions it is necessary to prepare and publish simulation studies and analysis, and after having performed the revision to publish the results of the analysis of the impact on data revision.

5.2.2. Strategy of communication with data users, which is applied in major revisions

Major revisions are announced well before the date of releasing the revised data, and the users are to be informed about its implementation within defined deadlines and in the appropriate form (e.g. in statistical releases or as information on the website, three months in advance).

The defined deadlines for users information about announced major revisions depend on the frequency of publishing statistical data:

- major revisions of annual and quarterly statistical data should be announced at least three months prior to revised data publishing,
- major revisions of monthly statistics should be announced at least two months prior to revised data publishing.

The announcement should contain the reasons for the revision, date of revised data publishing, length and types of time series that are subject of the revision.

After the implementation of a major revision a specific publication subtitled “Revised data for the period ... .. – ... ..“ is prepared, in which the revised data are published along with special tables and documentation – methodological explanations describing the changes in data. This edition should also contain a table with preliminary and new (revised) data, as well as a table showing relative changes in data.

The revised data should be marked with “R“ from the starting period of revision, if they are part of longer times series, which is not completely revised. If the time series is revised completely, the mark “R” should be indicated whether in the title or in the row/column containing the revised data.

The same rules of revised data marking are applied to all forms of dissemination.

At the same information helping the users to understand and assess the revised results should be published alongside with the data subjected to major revisions. The

information should include the reasons for the revision, analysis of revision impact on the results and presence of potential breaks in time series.

5.3. Non-scheduled revisions

Non-scheduled revisions are unforeseen changes in published data, which stem from unexpected events. They are performed upon the detection of minor/serious errors in published data/information or upon the detection of a failure in the process of data production, which leads to the occurrence of errors.

Frequent non-scheduled revision may confuse the users and undermine their confidence in the statistics quality. Therefore, it is very important to avoid them whenever it is possible and limit them only to cases of serious errors.

It is worth mentioning that, depending on users' needs, an error might be seen as minor by one user and as serious by another user. This should be taken into account when determining the type of error and deciding on performing non-scheduled revisions.

5.3.1. Definitions of error-related concepts

Error is any incorrect data or information, which has occurred at a certain stage of the process of statistics/information production and has been detected after the release.

Minor error is an error that does not change the essence of published data and information, such as:

- grammatical mistake (if the mistake does not impeach correct understanding of statistics/information);
- mistake in the text, if it is obvious from the text where the error is and what should be the correct formulation (in the case when the text has been written more than once, but only once erroneously, e.g. the year in the title or reference period);
- incorrect data in tables, texts and charts which significance is diminished by a long interval from the reference period.

Serious error is an error in tables, texts and charts which significance is so huge that it changes the essence and content of information. It is also an error violating the provisions of the Rulebook on Statistics Protection in the Statistical Office of the Republic of Serbia.

5.3.2. Principles applied in non-scheduled revisions

The main principles applied in non-scheduled revisions are the following:

- if a minor error has been detected, the error has to be corrected as soon as possible in all forms of disseminations without particular notification of the users;
- serious errors detected immediately after data publishing should be corrected as soon as possible;
- users should be informed about the upcoming non-scheduled revision using the same means of information as in data release;
- the date of the non-scheduled revision should be added in the revision calendar.

5.3.3. Strategy of communication with users applied in non-scheduled revisions

If a minor error has been detected, the author has to initiate and control the correction, as soon as possible, in all forms of dissemination. Users should be notified about these corrections.

Serious errors detected immediately after data release should be corrected with no delay or as soon as possible. The users who have received the data in question should be informed about the presence of errors and upcoming revision. Incorrect data should be removed from database and the reason for that communicated to the public. If the incorrect data appear in a published text, a note about the error should be added to the beginning of the text or the text should be entirely removed from the public. Users should be informed about the upcoming revision using the same information means as for releases. Furthermore, the date of the non-scheduled revision should be added to the revision calendar.

SORS has established Procedure for the correction of errors in released data and information, which lays down all the activities relative to non-scheduled revisions, as well as the channels of informing users. This procedure defines the following:

- detection of errors;
- determining error types;
- correction of minor errors in statistics/information;
- correction of serious errors in statistics/information;
    - correction of serious errors in printed publications;
    - correction of serious errors in electronic editions (publications, statistical releases and press releases);
    - correction of serious errors in databases;
    - correction of serious errors in website content;
- exception from activities in removing serious errors;
- error correction in the calendar of publications;

- Form for serious mistakes correction - a standardized form for the reporting of detected serious errors in the published statistical data/ information.

5.4. Revision analysis

Revision analysis is an important instrument for statistics producers because it provides fundamental insight in the quality of data, methodology and data production process.

Revision analysis helps ensuring and improving data quality as it provides information about their reliability. It may draw attention to potential systematic errors in estimated results, as well as weaknesses in the process of statistics collection and processing. Trends or unusual movements of revised estimated/preliminary data may point out the presence of certain problems in the process of data production or estimation. Therefore, it is very important to analyse regularly the revisions of main aggregates and all related series in order to improve data quality.

A set of specific indicators is used in revision analysis based on information collected from several periods in which revisions have been performed. Results of analysis are published in standardized documents and help data users to have a idea about the magnitude or potential future revisions of data released during the first phases of the revision cycle and assess their credibility.