

# GENERAL REVISIONS POLICY

Principles governing revisions of published  
statistical results in all domains



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## **1. Introduction**

### **1.1. Revisions and the background to them**

As users generally ask for the latest data on the one hand but also require precise and robust statistics on the other, official statistics authorities often have to reconcile timeliness with accuracy. The staff at the statistical offices of the Federation and the Länder devote considerable time and effort to meeting these two quality requirements. In order to provide timely data as early as possible, provisional data subject to some degree of uncertainty are calculated and published for various statistical domains, drawing upon an incomplete data basis. When the data situation has improved, provisional results are replaced by higher quality results in the course of revisions.

Statistical data may also be revised when there are methodological or conceptual changes. Revisions due to changes in methodology or concept serve to assure data quality and provide relevant statistics which are in line with international conventions, modified framework conditions, and user needs. However, such revisions may limit the comparability of time series. To avoid statistics-related breaks in time series which may be the consequence of improved methods or new concepts and distort data analysis, such modifications are mostly introduced all at once („big bang“, for instance as part of a so called major revision in national accounting).

Revisions may involve much effort on the part of those who use a set of statistics. These users need to modify the analyses they have carried out on the basis of the provisional results, making adjustments for the new revised results. Therefore, revisions may be regarded as a „price“ to be paid for statistical results that are as timely, accurate and comparable as possible. Revisions have conflicting targets here. On the one hand, all new pieces of information and concepts should be reflected in the results as early as possible, thus enabling an up-to-date assessment of the respective situation. On the other, extensive and/or too frequent revisions may have a negative effect on users' confidence in official statistics and damage its credibility, all the more so if revisions are not adequately communicated to users.

### **1.2. Good governance in official statistics**

From the perspective of official statistics, a published general revisions policy helps to make revision procedures more transparent and comprehensible to those outside the system so as to maintain the trust in official statistics and further enhance the usability of statistics. This makes the revisions policy an important element of the communication with users of official statistics.

In addition to that, the general revisions policy is to serve as a frame of reference for elaborating revision policies applying to specific sets (and domains) of statistics at the Federal Statistical Office. Such individual revision policies may contain more specific provisions or go further into detail to account, in an appropriate manner, for specific framework conditions and different user needs related to individual sets or domains of statistics.

### **1.3. Scope of application**

General standard rules for revision are described in connection with the revision principles presented for all sets of statistics in this brochure. These standard rules apply to all sets of statistics including accounting systems which are subject to revision. They are flexible enough to allow for individual features of statistics which result from specific enquiry, survey and/or calculation procedures or legal provisions.

## 1.4. Bases

The time-tested revision practices of the various specialised units at the Federal Statistical Office, which are described in this document for all sets of statistics in generalised form, are the central basis of the general revisions policy.

The general revisions policy is furthermore derived from the [‘ESS guidelines on revision policy for PEEIs’](#) of the European Statistical System (ESS), which can be generalised for all sets of statistics that are subject to revision and which have been approved by the European Statistical System Committee (ESSC) in February 2012.

The general revisions policy is also in line with the European Statistics Code of Practice. There are indicators directly relating to revisions in principle 6 ,impartiality and objectivity‘, principle 8 ,appropriate statistical procedures‘, and principle 12 ,accuracy and reliability‘.

- ‘Advance notice is given on major revisions or changes in methodologies.’ (indicator 6.6)
- ‘Revisions follow standard, well-established and transparent procedures.’ (indicator 8.6)
- ‘Revisions are regularly analysed in order to improve statistical processes.’ (indicator 12.3)

## 1.5. Definition of revision, as opposed to error correction

A revision in official statistics is a modification of already published results as new data from outside the statistical offices of the Federation and the Länder become available and are incorporated into the calculation or when methodological and conceptual changes are made (also retrospectively)<sup>1</sup>. The data already published are replaced by the revised figures and are no longer valid.

A revision is not an error correction as defined in our ,Guideline on how to deal with publication errors‘<sup>2</sup>. Publication errors are incorrect data resulting from mistakes which occurred accidentally in the process of statistics production (such as data processing errors) or publication (such as typing errors or transposed digits) at the statistical offices of the Federation and the Länder. Revisions, in contrast, are due to external causes. There may be new information which had not been available when the data were first released and could not be considered for that reason (example: respondents complete or correct reports they have already submitted to the Federal Statistical Office and the statistical offices of the Länder). Other reasons for revisions may be improved methods or new concepts developed in accordance with international requirements which then have to be implemented.

## 1.6. Revision calendar

The general revisions policy is supplemented by the [revision calendar of the Federal Statistical Office](#) (available in German only). The revision calendar provides an overview of which sets of statistics are subject to revision and describes the respective revisions cycle by means of a standardised structure without giving exact dates. The outline of the revisions cycle is to answer the following questions: When are provisional, revised provisional and final results published? What is the cycle for methodological revisions? Why are revisions made and for what period are data recalculated?

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1 Different terms are used in individual statistical contexts to describe this process. There are ,corrections of results‘ in business statistics, ,retrospective corrections‘ of short-term indicators, ,major revisions‘ in national accounting and ,regular adaptations‘ in price statistics. All of these are revisions as defined above. For the sake of standardisation, only the term ,revision‘ is to be used.

2 For more detailed information on the correction of publication errors please refer to our [‘Guideline on how to deal with publication errors‘](#) on the website of the Federal Statistical Office.

## 2. Types of revisions

Taking into account the various causes of revisions and the different frequencies, the Federal Statistical Office distinguishes the following types of revisions:

### 2.1. Routine revisions

Routine revisions occur regularly at predetermined points in time and are pre-announced. They usually involve only data at the current end and are firmly embedded in the processes of statistics production. Reasons for routine revisions may be the successive completion or correction of reports by respondents that had already been received.

*Example of routine revisions:*

*Being the result of provisional calculations, the monthly production index for manufacturing is published approximately 38 days after the end of the reference month. This means that the production index is available very early, which enables a timely and up-to-date assessment of the business development. Four weeks later revised production indices are calculated on the basis of late incoming production reports etc.; these indices are released together with the provisional indices of the following month.*

Not every revision necessarily produces final results. With some sets of statistics (for instance foreign trade), a number of routine revisions are needed to obtain final results. However, depending on the situation, it may well be that provisional results are replaced by final data in one single revision.

Revisions of seasonally adjusted data are also regarded as routine revisions if they have been caused by revisions of (unadjusted) time series data or the inclusion of an additional (unadjusted) time series value into the analysis. Generally (and thus routinely), every change to an (unadjusted) time series value will result in a modification of the seasonally adjusted value.<sup>1</sup>

*Example of routine revisions of seasonally adjusted values:*

*The Federal Statistical Office calculates the production index for manufacturing on a monthly basis, compiles a time series from the resulting values and makes a seasonal adjustment. After a month's time, at least the last time series value is revised and the time series is extended by the index value for the new month. As a consequence of both, each seasonal adjustment of the series generally also entails a revision of seasonally adjusted values of earlier months for procedural reasons. This is due to the fact that the new time series values may influence, among other things, the assessment of seasonal factors in the respective months a year earlier.*

### 2.2. Methodological revisions

Methodological revisions are planned and pre-announced. They require a modification of existing results (often also retrospectively) on account of altered statistical methods or concepts. They are less frequent than routine revisions and occur, for instance, only every 5 to 10 years. If such revisions would not be carried out, a statistical break in the time series would occur. Methodological revisions are made for the following reasons: a new base year or a modified calculation procedure is introduced, a new data source

<sup>1</sup> Revisions of seasonally adjusted figures may also be the consequence of methodological changes. This is the case, for instance, with seasonal adjustments of the X-11 type procedure (such as X-12-ARIMA). It may be that revised or additional values of a series may cause modifications of internal procedural methods and models here. Such changes of method are either scheduled and occur regularly (for instance, once a year) or unscheduled under certain circumstances. For information on how to deal with such revisions please refer to the publication 'ESS Guidelines on Seasonal Adjustment' on the Eurostat website. They will not be dealt with in the following.

becomes available or an existing data source can no longer be used (for example administrative data or data which are collected only every 5 to 10 years, such as data of the census or the labour cost survey) or there are new or modified classifications or definitions (for example as a consequence of international or European requirements). Methodological revisions are to ensure the quality and relevance of the statistical data. The authorities of official statistics try to concentrate such revision points („big bang“) to keep the burden on users as small as possible.

*Example of methodological revisions:*

*The revision of national accounts (NA) in 2014 first and foremost served to introduce the new concepts of the European System of National Accounts (ESA) 2010. The ESA is a legally binding and internationally compatible set of EU accounting rules for describing a national economy in a systematic and detailed manner. The revision of 2014 was also used to integrate new data sources - for instance the results of the 2011 Census - and check the calculation procedures.*

### **2.3. Unscheduled revisions**

Unscheduled revisions are exceptional in that they take place in addition to the revisions that had been planned and not at regular intervals or according to schedule, which is why they cannot always be pre-announced well in advance. They occur, for instance, when a modification cannot wait until the next scheduled methodological revision. Unscheduled revisions are the result, for example, of unforeseeable changes in the content of administrative data sources, of revisions to the data of other data producers incorporated into official statistical calculations or of (natural) phenomena considerably altering the subject-matter of the survey.

## **3. Principles governing revisions across all sets of statistics**

The general revisions policy of the Federal Statistical Office is based on four principles, which will be described in the following.

- 1. There is a reasonable balance between the information gained and the burden placed on users.*
- 2. Revisions cycles are harmonised within statistical domains and internationally.*
- 3. Revisions are communicated to users in advance and in a transparent manner.*
- 4. Revisions analyses are made to ensure and enhance data quality, revision procedures and methods.*

### **3.1. Reasonable balance between information gained and the burden placed on users**

Revisions can involve much effort for users who, for instance, may have to adjust their own data stock and calculations to the revised results. The additional information users gain from a revision should exceed the effort it causes them. Too large or too frequent revisions (for example of time series) which provide only little additional information may have a negative impact on users' trust in statistics. It is therefore important to keep an eye on the burden on users that is caused by revisions<sup>12</sup>. Revision strategies differ according to revision type.

<sup>2</sup> A threshold or revision measure indicating that the information content or the scope of a revision is too small and causing the respective measures to be taken has to be defined for each set of statistics and revision type. In foreign trade statistics, for example, Eurostat determines quantitative criteria for methodological and routine revisions in the member states, criteria which classify revisions by scope and thus also by their information content. When a predetermined (high) value is reached, users are informed about the causes of such revisions and adequate measures may be taken in specific cases to avoid future revisions of such magnitude.



### **3.1.1. Revision strategy for routine revisions**

Revisions cycles and publication dates of routine revisions should be determined as follows: on the one hand, the data quality of the initial release should already be good enough to provide the user with useful information, while, on the other, significant differences should still have to be expected between the preliminary and final results or the first and later estimates. From the viewpoint of users, the additional information gained has to exceed the effort involved. The revisions cycle should be checked regularly by the specialised unit and modified, if necessary, with a view to user needs and legal provisions applying. However, a certain degree of cycle stability has to be ensured over time to guarantee the transparency of and trust in the revision procedure. Modifications of the revisions cycle may for instance entail the publication of provisional or estimated figures at an earlier point in time or fewer revisions in cases where preliminary results are revised several times.

### **3.1.2. Revision strategy for methodological revisions**

As revisions due to new methodology or concepts mostly cause a break in the time series, such changes should be introduced all at once so that users can at any time be provided with a time series that has no statistical breaks. The time may also be used to develop and test the implementation of the new methods and/or concepts. On the one hand, significant changes of methods and concepts should be incorporated as rapidly as possible to prevent misinterpretation of current developments. On the other, revisions due to new methods or concepts should be harmonised and synchronised at international or European level, mainly to ensure the comparability of the statistical data.

### **3.1.3. Revision strategy for unscheduled revisions**

On account of their ad-hoc nature, unscheduled revisions in particular may confuse users and thus damage user confidence in official statistics. Therefore, unscheduled revisions should always remain an exception and be avoided where possible. Careful consideration is always required when there seems to be a need for unscheduled revisions (it may be possible to integrate such modification into a forthcoming routine or methodological revision) and the additional information gained by users has to be weighed against the efforts the revision causes them.

## **3.2. Revisions cycles are harmonised within statistical domains and internationally**

Revisions cycles should be harmonised within statistical domains but also at international level. The various types of revisions require different harmonisation strategies.

### **3.2.1. Harmonisation strategy for routine revisions**

Dates and frequencies of routine revisions to sets of statistics on related subjects should be synchronised, if appropriate. Such coordination of revisions cycles for related sets of statistics improves their comparability, facilitates the interpretation of statistical data on the part of the users and enhances the trust in official statistics.

### **3.2.2. Harmonisation strategy for methodological revisions**

Revision date and extent in terms of periods back in time should be both synchronised internationally and coordinated within a statistical domain for revisions that occur on account of new or altered statistical methods, concepts and/or definitions adopted at European or international level. A common minimum extent of time series back-casting and common publication dates for revisions ensure that data are comparable, European aggregates can be calculated and consistent long time series are available for related statistics.



### 3.3. Revisions are communicated to users in advance and in a transparent manner

The results published by the statistical offices of the Federation and the Länder are used as a basis of further analyses or for decision-making. Therefore, user confidence in the data released is a major concern of the statistical offices of the Federation and the Länder. To ensure user confidence in the long term it is essential to make the revision procedure transparent and inform the users of official statistics in time and detail about the date and type of forthcoming revisions. The various types of revisions require different communication strategies.

#### 3.3.1. Communication strategy for routine revisions

Routine revisions occur regularly and at fixed dates, often together with new initial calculations. The public should be notified of revision dates in due time and adequate form. Revisions cycle, reasons for revisions and revisions analyses studying the effects of revisions on results should be documented (for instance by a quality report) and published on the website of the Federal Statistical Office. Changes to the revisions cycle should be pre-announced, documented, and reasons stated.

In accordance with the publication standards of the Federal Statistical Office<sup>3</sup>, provisional, revised and estimated figures are identified as such in tables by the following letters where this is not made clear in the table by headlines, table heading and stub, designations and other notes, footnotes and explanations:

- p = provisional,
- r = revised,
- s = estimated.

In addition, explanatory texts (for instance press releases) point to the provisional nature of the data.

#### 3.3.2. Communication strategy for methodological revisions

Methodological revisions are generally planned well in advance and should be pre-announced to the public at an adequate point in time (for example by a press release or information published on the website of the Federal Statistical Office). The following deadlines should be adhered to: methodological revisions of annual and monthly statistics should be announced at least three months beforehand, and methodological revisions of monthly statistics at least one month in advance. The announcement should briefly sum up the major reasons for the revision, the prospective publication date of the revised results, the set(s) of statistics concerned by the revision, and the periods back in time that are revised.

Together with or following the release of data that are subject to a methodological revision, a background note should be published which helps users to understand and assess the revised results. This background note should detail the reasons for the revision, analyse its impact on the results, and present and explain breaks in the time series, if any, and inconsistencies with comparable sets of statistics. If the methodological revision concerns several statistical domains and takes some time (as is the case, for example, with the 2011 Census), a schedule should also be provided for the outstanding revision work.

The background note on the effected revision should be disseminated via the website of the Federal Statistical Office. Print and online publications such as articles in the journal ‚Wirtschaft und Statistik‘, subject-matter series, quality reports, etc. also serve as dissemination and communication channels.

3 For further information see ‘Leitfaden für die Gestaltung statistischer Tabellen in Gemeinschaftsveröffentlichungen’ (How to design statistical tables for joint publications) of the statistical offices of the Federation and the Länder (internal document).

### 3.3.3. Communication strategy for unscheduled revisions

Once it is clear that an unscheduled revision will be required, the publication date should duly be announced on the website of the Federal Statistical Office.

A background note should be issued when data subject to an unscheduled revision are published. First and foremost, the background note is to explain the reasons for the revision and the measures taken in its course. The impact of the revision on the results should also be analysed.

### 3.4. Revisions analyses are made to ensure and enhance data quality, revision procedures and methods

This principle of revisions analysis applies to all the different types of revisions.

Revisions analyses are to check revision procedures and results in a statistical domain and optimise the revisions cycle and/or publication date of the statistical results. On the one hand, revisions should not be too large, and on the other, they ought to have some significance to justify their implementation. Revisions with too small information gain should be avoided. Revisions analyses may also contribute to ensuring and enhancing data quality as they provide information on the reliability of the original statistical data and may indicate possible systematic errors in provisional results and/or weak points in statistical data collection and processing.

Revisions analyses study the impact of revisions on results by comparing provisional and final results (or preliminary and later estimates). The difference between provisional and final result (or preliminary and later estimate) indicates the scope of the revision, which means the degree of modification. Revisions analyses may also supply information on possible systematic trends, that is, whether the values published earlier are usually revised upwards or downwards. In case there are significant systematic trends, the data should in future be adjusted by the average bias established and unbiased data be released. The results of revisions analyses should not only be described in the background note on the revision but also included in the quality reports.

Where possible, revisions analyses should be made regularly and consider several revisions cycles. To this end it is necessary to archive the various data as at different points in time<sup>4</sup>. Different measures may be calculated as part of revisions analysis (such as mean absolute revision, relative mean absolute revision, and mean revision)<sup>5</sup>.

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4 Revisions analyses can for instance be made using the [time series database for real time data of the Deutsche Bundesbank](#), which stores real-time datasets for roughly 280 economic indicators from national accounts, monthly reports on the economic situation and the labour market, and price statistics in a chronological order.

5 For further information on the revision measures please refer to [ESS Quality and Performance Indicators 2014](#) (profiles of quality indicators).