



INSTITUTO NACIONAL DE ESTATÍSTICA
STATISTICS PORTUGAL

Information. Knowledge. Decision.

REVISIONS POLICY

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A close-up photograph of several sharpened wooden pencils. The pencils are arranged in a cluster, with their tips pointing towards the bottom left. The lighting is warm and focused, highlighting the texture of the wood and the sharp edges of the lead. The background is blurred, creating a shallow depth of field.

Revisions Policy

STATISTICS PORTUGAL



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I. OVERVIEW

By setting up a revisions policy, Statistics Portugal aims at defining the guidelines and principles that should be taken into account in the revision of statistical results already released.



Quality of statistical information comprises several criteria of which two are worth noting: accuracy and timeliness. Both are of particular importance to ensure that statistical information is relevant, or in other words, statistical information meets needs of the users.

The initiative to revise the results of specific statistical operations, the methodologies and techniques to be used for that purpose, the timing, and the schedules to release revised results should take as reference the basic principles of the National Statistical System, in particular technical independence, quality and accessibility of the production and dissemination of official statistics, as well as the principles of the European Statistics Code of Practice.

Hence, the revisions policy must be duly in line with the dissemination policy, as regards the principles guiding the release of revised results.

The quality of statistical data encompasses different dimensions, of which are to be stressed accuracy and timeliness. Both dimensions are instrumental to render statistical data relevant for users. The need to carry out revisions often reflects the commitment on the one hand, between producing statistical data that are as up-to-date as possible and, on the other, ensuring high standards of accuracy and rigor.

In addition, the introduction of methodological improvements and the updating of statistical standards imply often significant changes that eventually have an impact on previously released data, also giving rise to revisions.

Furthermore the detection of fortuitous errors, associated with incorrections in the use of information sources or in data processing, may give rise to the revision of already released results.

Revisions are thus a procedure inherent to the production and release of official statistics.

These characteristics are without prejudice to attempts at improving statistical compilation procedures, so as to prevent revisions from leading to results that are qualitatively quite different from those initially released. The analysis of revisions may in fact be particularly useful to improve such procedures.

The setting out of a revisions policy is part of a pursuit for greater rationality and quality in the production and dissemination of official statistics. This document presents the outline of this policy, while taking into account the best international practices.


2. KEY FACTORS UNDERLYING A REVISION

Statistics are generally subject to revisions. Revisions result from a reassessment of the past values of statistical variables. In general terms, revisions are mainly due to new data on the past that could not be incorporated in time of their previous release.

These new data may stem from either the inclusion of genuinely new information (due for example to delays in survey responses) or the correction of information initially transmitted by the statistical source.

However, in addition to this main factor — new data about the past — revisions may also be determined by other factors such as:

- **Conceptual changes** (e.g. changes in nomenclatures and definitions);
- **Improvement of algorithms** relating to methodological procedures (e.g. changes in detailed and stratification of sample survey data);
- **Change in statistical data sources** (e.g. replacement of survey data with data from administrative sources);
- **Inclusion of additional observations**, which, in the case of statistics obtained with recourse to econometric time series methods, determines the revision of estimated coefficients and possibly of the specification of the model used (e.g. seasonally and/or calendar adjusted variables);
- **Errors in the computation** of the given statistics.



Some revisions may be determined not by one single factor out of all these factors, but by the joint effect of several of them.

The difficulty in incorporating all the relevant information to reduce the probability of revision tends to be greater when statistics are computed shortly after the reference period. This is particularly important in the case of infra-annual statistics.

It should also be noted that some of the revision factors may arise from activities coordinated by international statistical organisations, namely Eurostat, to which Statistics Portugal has institutional links.

3. TIPOLOGY OF REVISIONS

Taking into account the diversity of revision factors and the different frequencies of computation of statistical variables, as well as international experience in this field, revisions can be classified as follows:

Regular revisions

Current
General

Extraordinary revisions

(a) **Current regular revisions** mainly arise from the **incorporation of new data**.

In general, revisions should be carried out up to the moment there is sufficient information as deemed necessary for a rigorous and stable value of the statistical variable.

These revisions may occur for both annual and infra-annual statistics, though infra-annual statistics are more frequently subject to revisions given the time span between the period to which data refer and their release.

A particular case of current revisions is that of seasonal and calendar adjusted variables. These revisions reflect the change – ideally of a small magnitude – in probability model coefficients used as a result of the inclusion of one more observation period at least. The high statistical quality of these models leads, exclusively for this reason, to negligible and virtually nil revisions for the early periods of these variables' time series.


(b) **General regular revisions** reflect the **impact of the results of structural statistical operations**, such as Population Censuses or the Household Budget Survey. These operations, in addition to producing direct effects on relevant statistical variables, may also have indirect effects on the processes and methodologies used in statistical compilation, namely through sample reformulation.

These revisions thus occur with a relatively regular periodicity, as a reflection of the frequency of these structural operations.

In certain cases, revisions may be extensive, aimed at building back series that ensure inter-temporal comparability.

These general regular revisions should be used to the greatest extent possible as a way to introduce new statistical sources, changes to the conceptual framework and improvements in methodological algorithms.

These revisions will tend to occur on a more frequent basis in the case of annual or supra-annual statistics. With regard to infra-annual statistics, general regular revisions can be classified as those that are carried out on an annual basis, namely with a view to integrating more complete data meanwhile made available for a whole year.



Given the importance they assume, general regular revisions, particularly when associated with changes in the base year and with structural operations on which other statistics are based upon, will be accompanied, where appropriate, by consultations with the main users.


The revision of a statistic may have implications on other derived statistics. This notwithstanding, producers of revised statistics are not always fully acquainted with downstream uses.

Given those implications, which are not fully controlled by statistics producers, the revision of statistics used in the compilation of other statistics must be weighed against and be taken into account the opportunity and effectiveness of their effects.

- (c) **Extraordinary revisions**, as suggested by the name, arise from **unexpected events** or, to a large extent, from events that are **exogenous** to the production process, thereby affecting statistical compilation significantly. These revisions may still be determined by the need to correct serious errors, which could not have been carried out immediately and appropriately within the framework of the two types of revision already mentioned.

4. DIMENSIONS OF REVISIONS ANALYSIS

Revisions analysis, particularly of the current regular revisions, is crucial to enhance the quality of statistics.



Such analysis should be conducted on a regular and systematic basis. In this vein, it is of the essence to preserve the different versions compiled (and released) of statistical variables (“vintages”).

Revisions analysis resorts to more or less sophisticated benchmark indicators set out and developed while taking into account the best international practices in this field.


This analysis should cover several **dimensions**, of which the following:

- ▶ **magnitude;**
- ▶ **bias;**
- ▶ **relationship** between successive revisions;
- ▶ **volatility;**
- ▶ **Efficiency.**

(a) Ideally, the **magnitude** of revisions should be reduced with regard to the values originally computed for the variable, at the risk of giving rise to a loss of confidence in those values, thereby affecting the credibility of statistics.

(b) Revisions **should not be biased**, assuming a positive or negative trend, given that, revisions will tend to be anticipatable should there be an identifiable statistical behaviour of an upward or downward revision of original values.

(c) Similarly, successive revisions of the values of a statistical variable for a given moment in time should not exhibit any type of statistically significant **correlation**. A positive correlation would be symptomatic of a “gradual approach” to revisions. A negative correlation may signal the uselessness of revisions.



(d) The **volatility** of revisions, if of high magnitude or indicating a growing trend, calls the relevance of the first versions into question.

(e) Finally, the extent to which revisions originate from new data about the past should be assessed. In the context of current revisions, the key purpose is the incorporation of new data. Should this not be the case, revisions will not be efficient.

5. GENERAL AND OPERATIONAL PRINCIPLES OF THE REVISIONS POLICY

The revisions policy of Statistics Portugal complies with the following **General Principles**:

- (a) Criteria governing revisions should be **clear** and made **public**
- (b) **Revised results** should be **released to the public** and accompanied by the **explanatory information**
- (c) **Studies and analyses of revisions** should be carried out on a regular basis, with the purpose of improving statistical compilation processes
- (d) **Users should be heard** on revisions on a regular basis, as an integral part of the assessment of statistical quality.


These General Principles materialise through the following **Operational Principles**:

5.1. Criteria governing revisions should be clear and made public.

- (a) Statistics Portugal makes the general criteria governing revisions available to users in an accessible manner;
- (b) The criteria associated with the revision of data for each statistical operation should be part of the respective methodological document; in those cases where revisions are not foreseen, reference should be made to that fact;
- (c) Every statistical operation has specific defined criteria adopted in data revision. These include:
 - ▶ identification of the different types of revision adopted;
 - ▶ indication of the circumstances under which revisions are carried out;
 - ▶ extent of revisions (number of periods to be revised) and
 - ▶ frequency of revisions;

- (d) The frequency and extent of **current regular revisions** of the results of each statistical operation should be defined in order to prevent an excessive number of versions for the same moment in time. These revisions should cease to be carried out if they do not have a significant impact on results. The frequency and extent of these revisions should rely on the study of released and revised data, except if there are previously forecast criteria;
- (e) **General regular revisions** should be preceded by studies that provide them with a context and basis.
- (f) Statistical models of seasonal and calendar adjustment of the original series tend to give rise to revisions in adjusted series. In order for these revisions to have little bearing on the whole series it is essential that models of high statistical quality be selected, namely in terms of the stability of estimated parameters.

Taking into account the probabilistic nature of the models used, the best practice is to place no restriction on the number of revised periods of the adjusted series each time a new observation of the original series is made available. However, for operational reasons, estimated adjustment coefficients can admittedly be maintained, ideally for periods of no longer than one year;

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- (g) When the revision of a statistic determines the results of another that fact should be noted, and the coordination between the revisions of both statistics should be ensured.
 - (h) Where necessary, **extraordinary revisions** should occur as swiftly as possible following the identification of the underlying factors.

5.2. Revised results should be released to the public and accompanied by explanatory information.

- (a) The different statistical products (publications, press releases, metadata associated to each indicator, etc.) should include a brief description of data revision criteria for each statistical operation;
- (b) **Current regular revisions** of a statistical operation are released in conjunction with the data referenced for the following period on which data were revised. In addition they should comply with the same principles envisaged in the dissemination policy and the Code of Practice. If the revision is significant, information on underlying factors should be included, namely the correction of initial data or the introduction of new data.

- (c) “Errors” giving rise to **extraordinary revisions**, regardless of their nature, should be documented and communicated to users as soon as possible.
- d) In those cases where it is possible to anticipate the need for a revision, namely a **general regular revision** as a result of methodological changes, it should be announced to users in advance.
- (e) The publication of results associated with a **general regular revision** is accompanied by the explanation of that revision's main factors and, to the greatest extent possible, of the relative influence of each factor on the results.
- (f) In the release of the results of **current regular revisions**, a note should be regularly included on the magnitude of the revisions meanwhile carried out.

5.3. Studies and analyses of revisions should be carried out on a regular basis, with the purpose of improving statistical compilation processes.

- (a) Studies should be regularly conducted, namely with a view to ascertaining the impact of **current regular revisions** on results accuracy. Such studies aim at allowing for the adoption of measures to reduce the magnitude of revisions, eliminate bias (if it exists), do away with any significant time correlation between revisions (if it exists), reduce their volatility and raise their efficiency.
- (b) The studies of revisions should seek to distinguish regular from extraordinary revisions.
- (c) The result of revisions analysis should be incorporated in quality reports of statistical operations.

5.4. Users should be heard on revisions on a regular basis, as an integral part of the assessment of statistical quality.

- (a) Main users of each statistical operation should be consulted regularly on their assessment of the statistical quality of published data, namely on revisions;
- (b) Quality reports should be prepared on the statistics produced, and contain the users' views of revisions made.

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