

Quality Guidelines 2014

Statistics Netherlands' Quality Assurance

Framework at Process Level

Quality Guidelines 2014

Statistics Netherlands' Quality Assurance Framework at Process Level

(formerly Standard for Statistical Processes 2011)

Summary: This report sets out the guidelines and standards applicable to the statistical processes within Statistics Netherlands and forms the basis for systems of audit standards and the self-assessment for statistical processes. The Quality Guidelines may also serve as input for process redesign.

Keywords: quality assurance framework, statistical processes, standards, audit, self-assessment, redesign, quality assurance, guidelines.



Revision control

Revision history			
Revision	Date	Description of the change	Author
2011	4 April 2011	The Executive Board discussed the Standard for Statistical Processes on 4 April 2011. It was resolved to proceed with the Standard for Statistical Processes for one year. The Executive Board will be informed of any unforeseen consequences that arise in the application of the Standard for Statistical Processes, which complies with international standards. The Quality Guidelines will be reviewed annually to assess the adequacy of coverage of risk management focus areas.	PNDT
2012	1 March 2012	The Standard for Statistical Processes for 2011 was also declared valid for 2012 and later, until the next update of the Standard for Statistical Processes (which is expected in early 2013). The standards are unchanged. The introductory chapters were updated.	PNDT
2014.p. 1	12 June 2013	Standard for Statistical Processes has been renamed as Quality Assessment Framework. Changes have been made based on the latest revision of the Code of Practice, the ESS Quality Assurance Framework, Executive Board resolutions, recommendations of the Focus Group (Quality Document working group) and the experience of audit team leaders. The sequence of standards is from output to source data.	PNDT
2014.p. 2	24 June 2013	Standards have been recoded. E.g. 1.1.A has been changed to 1.1.1.	PNDT
2014.p. 3	1 July 2013	'Objective: for' has been replaced by 'Objective'. The life span of data has been changed to the retention periods of data.	PNDT
2014.p. 4	1 July 2013	Name changed to Statistics Netherlands' Quality Assurance Framework at Process Level (abbreviated form: Quality Guidelines).	PNDT
2014.p. 5	11 July 2013	Executive Board comments dated 8 July 2013 incorporated. The Executive Board has adopted the Quality Guidelines. Spreadsheet included in the Quality Guidelines. Appendix II integrated into Appendix I. Appendix III moved to spreadsheet. The remaining open points are: <ul style="list-style-type: none"> • Retention periods of data. To be discussed by the Executive Board in August 2013. • Compliance with the architecture. Available for audits. 	PNDT
2014.p. 6	20 September 2013	Minor alterations. Retention periods of data and compliance with the business architecture remain open to amendment.	PNDT
2014.p.7	2 December 2013	Minor alterations. Alignment with the business architecture improved. Retentions periods of data updated.	PNDT
2014	7 January 2014	Alignment with privacy impact analysis improved. Guidelines finalized.	PNDT

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1 Introduction

This document sets down the standards to be applied to statistical processes.

The title of the document is Statistics Netherlands' Quality Assurance Framework at Process Level ('Quality Guidelines') and it is addressed to all managers and staff who are involved in the design, redesign, analysis and assessment of statistics.

1.1 Background

A Standard for Statistical Processes was developed in 2010 for the following reasons:

- to clarify matters by integrating existing frameworks into a single document;
- to forewarn statisticians about what to expect, so that they are not caught unawares when an audit standard is introduced;
- to clarify standards. Standards are explained where necessary, and the risks attached to noncompliance are stated, which is important for both audits and self-assessments;
- to create a uniform basis for both audits and self-assessment.

Statistics Netherlands has a Eurostat grant to develop the quality assurance framework.

The first version of the Quality Assurance Framework was released and taken into use in 2011. The introductory text of the Quality Assurance Framework was updated in 2012.

The Quality Assurance Framework was updated to the 2014 version in 2013. The main reasons for the revision were the new version of the Code of Practice, the introduction of the ESS Quality Assurance Framework, Executive Board resolutions and the insights of audit team leaders. The 2014 version is known as the Quality Guidelines.

1.2 Guide to the reader

The Quality Guidelines have two parts:

- the introductory chapters,
- an Appendix with the standards.

There is also a spreadsheet with a full list of standards. See the following section.

Chapter 1 includes the background to the document, this guide to the reader, the method of compilation and review, and the ownership and management of the Quality Guidelines.

Chapter 2 states the objectives of the Quality Guidelines.

Chapter 3 identifies the input that was used in creating the Quality Guidelines.

Chapter 4 explains how the Quality Guidelines relate to the other quality management tools for statistical processes.

Chapter 5 describes the structure of the Quality Guidelines.

Chapter 6 defines the scope of the Quality Guidelines.

Chapter 7 explains the various kinds of standards that exist, with particular attention to their relative importance.

Chapter 8 is a glossary. Section 8.1 is a separate glossary of data-related terms, such as data source and steady state.

The Appendix identifies the standards that are concerned with statistical processes.

1.3 Spreadsheet

This report is accompanied by a full list of standards in the form of a spreadsheet. The following information is given for each standard:

- the previous version of the standard;
- the category of importance (1,2 or 3);
- the objective of the standard;
- the applicable Code of Practice principles;
- whether the standard is applicable to Data Collection (DVZ);
- whether the standard is applicable to a short audit;
- whether the standard is included in the self-assessment.

1.4 Compilation and review of the Quality Guidelines

The Standard for Statistical Processes was compiled by Peter van Nederpelt. The 2011 version of the Standard for Statistical Processes was reviewed by Max Booleman, Frank Hofman, Jac van de Schoor, Peter Struijs, Ron Vellekoop, René Stikkel, Gé Conen and Kees Zeelenberg.

Comments on the 2011 Standard for Statistical Processes were also received from the audit teams for PPI (Geert Nielander, Daan Baart and Leon Willenborg) and Social Security (Ron Vellekoop, Rob van de Laar and Ron van der Werf), who have applied the Standard for Statistical Processes in their audits.

The 2014 Quality Guidelines have been discussed with the audit team leaders and the Quality Focus Group.

1.5 Ownership and management of the document

The Executive Board discussed the initial version of the document. The Executive Board is the owner of the Quality Guidelines. The Executive Board adopted the 2014 version in July 2013.

The document is maintained by Quality Management and Auditing.

The Quality Guidelines will be amended as and when the need arises, such as in response to Executive Board resolutions and experience gained by the audit teams. Suggestions for improving the Quality Guidelines are also welcome from members of staff.

The contact person for the Quality Guidelines is Peter van Nederpelt (Quality Management and Auditing).

Quality Management and Auditing evaluates the Quality Guidelines on a regular basis, in which the audit team leaders are always involved, in view of their intensive use of the Quality Guidelines. A new edition of the Quality Guidelines is posted on the intranet following evaluation.

This version of the Quality Guidelines is valid from 2014 until a new version is released.

The Quality Guidelines with the associated spreadsheet are available on the Statistics Netherlands SharePoint site – Statistics Netherlands' Quality Assurance Framework at Process Level. <http://cbsh1sps/sites/cbsdsmk/kz/statToetsingskader/default.aspx>

2 Objectives of the Quality Guidelines

This chapter gives the objectives of the Quality Guidelines.

The Quality Guidelines are intended to contribute to:

- achievement of the Statistics Netherlands mission;
- achievement of the core values of Statistics Netherlands, which are: reliability, relevance, coherence and timeliness. Statistics Netherlands also takes due care with regard to privacy and confidentiality;
- conformity with legislation;
- the confidence of all stakeholders in Statistics Netherlands and its products;
- stakeholder satisfaction with the products of Statistics Netherlands;
- the image and reputation of Statistics Netherlands;
- the transparency of Statistics Netherlands.

The Quality Guidelines:

- serve as input and explanatory notes for a quality assurance framework for individual audits;
- serve as input and explanatory notes in setting the questions for the self-assessment;
- provide a framework for statistical process redesign and amendment;
- ensure conformity with existing lower-level frameworks.

2.1 Audits

This document will be applied in the creation of quality assurance frameworks for the individual audits. Selected standards may be taken from this document for each audit. This document can then serve as explanatory notes for the audit quality assurance framework.

2.2 Self-assessments

This document will also be used for creating and amending the self-assessment, and this document can likewise then serve as explanatory notes for the questions.

2.3 Redesign

This document are useful as a guide to redesign. The requirements to be placed on a process when it is in production will be clear in advance.

3 Input for the Quality Guidelines

The Quality Guidelines are derived from a series of existing frameworks, which are described below and marked in yellow as sources in Figure 1.

3.1 Code of Practice

All relevant principles and indicators of the Code of Practice have been incorporated in the Quality Guidelines. The principles and indicators concerned are those that are applicable to an individual statistical process (as opposed to Statistics Netherlands as a whole).

3.2 Quality Assurance Framework (QAF)

The Code of Practice was further refined in 2012 in the QAF. Methods are defined for each indicator on institutional or process level, or both. The Quality Guidelines incorporate the process-level methods.

3.3 DQAF

The Quality Guidelines also incorporate the Data Quality Assurance Framework (DQAF), which is the quality framework of the International Monetary Fund (IMF). The standards concerned are all those that are applicable to individual statistical processes.

3.4 Statistical Output Quality Checklist

The Statistical Output Quality Checklist (R007) covers all focus areas concerned with statistical output. The Quality Checklist is a compilation of knowledge about these focus areas.

The Quality Guidelines refer to the Quality Checklist wherever the two documents cover the same focus area.

3.5 Other Statistics Netherlands frameworks

The Quality Guidelines also refer to other Statistics Netherlands frameworks for the following specific areas:

- the Methods Series;
- the Business Architecture and standard tools;
- various Executive Board resolutions, such as those concerned with the embargo policy;
- Statistics Netherlands performance indicators, including targets;
- publication regulations:
 - editorial regulations;
 - the Brief Survey Description template;
 - communication about the amendment of published results;
- various classification guidelines;
- list of image-determining statistics;
- list of critical and non-critical processes;
- coding rules;
- terminologies: QA Glossary (R001), Methods Series Glossary (R003c) and Business Statistics Division (BES) Glossary (R018).

4 Consistency of the Quality Guidelines with other tools

The following quality management tools have been implemented in Statistics Netherlands alongside the Quality Guidelines:

- Quality Document 2008;
- Quality Document 2014, including the self-assessment;
- audits.

These tools are briefly described below.

Each tool can be viewed on the following two dimensions (see Table 1).

- Scope. This is expressed in terms of the focus areas that the tool helps to manage.
- Depth. This may be limited to a framework (a system of requirements or standards) or may also involve quality assurance measures. The depth associated with the quantification of quality lies between these extremes (detective measure).

Table 1 Scope and depth of the tools

Tool	Scope	Depth
Quality guidelines	105 focus areas on statistical process level	Framework
Audits	As for the Quality Guidelines	Assurance
Quality Document ('VIR') 2008	16 focus areas on statistical process level	Assurance
Quality Document ('VIR') 2014	See self-assessment	Assurance
Self-assessment	As for the Quality Guidelines	Assurance

4.1 Quality Document 2008

The Quality Document have been operational for some considerable time. Since 2008 sixteen focus areas have been defined for which requirements have been set on each process. Furthermore the type of measure ('process measures') has been standardized, and may include manuals, agreements, and incident management. Each process is described textually and diagrammatically. The validity of this version of the Quality Document may extend to the end of 2016 at the latest.

4.2 Quality Document 2014

In 2012 a working group of the Quality Focus Group investigated opportunities for improving the effectiveness of the Quality Document. This has led to a simplified set of templates comprising:

- a front sheet;
- a description of the process (diagrammatic and textual);
- a description of the systems;
- a list of documentation.

The self-assessment has also been integrated into the Quality Document..

The 2014 Quality Document have therefore superseded the 2008 Quality Document.

The front sheet shows a proposed approach for any improvement actions that emerge from the self-assessment.

The self-assessment is based entirely on the Quality Guidelines. All standards from the Quality Guidelines are also included in the self-assessment. The integration of the self-assessment into the 2014 Quality Document has optimized the consistency of the quality management tools.

The Quality Document documentation must be updated each year for image-determining statistics. The frequency for statistics that are not image-determining is once every three years. The Quality Document coordinator monitors this update process.

All statistics will migrate to the new set of templates in the 2014-2016 period, and both template versions may therefore be encountered in Statistics Netherlands in the meantime.

4.3 Audits

Statistics Netherlands policy is to carry out ten audits each year, and to audit image-determining statistics every three years.

The audit framework is derived from the Quality Guidelines. A selection is made from the Quality Guidelines. All standards that are inapplicable to a given statistical process are always omitted.

The scope of an audit may be restricted further in the interests of effectiveness and capacity. Conversely, additional standards may be included at the request of the auditee.

The audit report gives any recommendations for improvement, on which basis the auditee will produce a plan of action. The execution of the plan of action and any deviation from plan will be monitored through the quarterly reports.

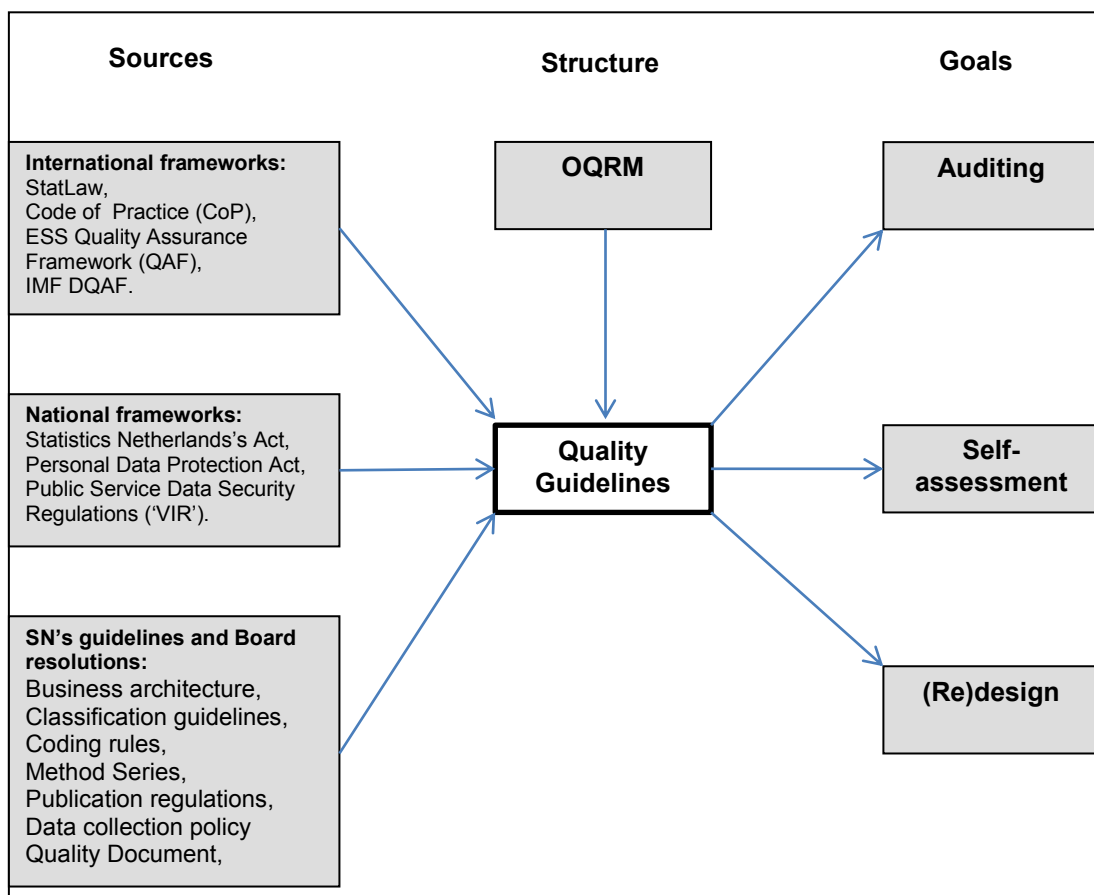


Figure 1 Sources, structure and goals of the Quality Guidelines

5 Structure of the Quality Guidelines

5.1 Object-oriented Quality and Risk Management

The Quality Guidelines were compiled on the basis of the Object-oriented Quality and Risk Management (OQRM) quality model (Van Nederpelt, 2012), which facilitates the integration of multiple frameworks into a single framework.

The document structure reflects the application of OQRM, with the objects identified first, followed by the associated focus areas. Standards are specified and the inherent risks are stated for each focus area.

5.2 Parts

The Quality Guidelines are in six parts:

- Part I: Users;
- Part II: Output;
- Part III: Internal;
- Part IV: Source data;
- Part V: Respondents, business respondents and suppliers;
- Part VI: Resources.

The structure traces the process from user to supplier.

Each part gives the details of various objects, each of which is presented in a separate chapter.

5.3 The structure for each object

The structure for each object is illustrated in Table 2.

Table 2 Levels for each object, with an example

Level	Code	Example
Object	2	Agreements with users
Focus area = Object + Characteristic	2.1	Availability of agreements with users
Standard	2.1.1	There is an agreement with every user

Each focus area has its own section.

Every standard has a three-digit code (e.g. 2.1.1) to allow reference from other documents, and use of the Quality Guidelines as reference documentation. Standards are always presented in a box.

5.4 Structure for each standard

Each standard includes:

- any necessary explanation ('notes');
- one or more assessment criteria;
- relevant extracts from other frameworks;
- reference material;
- objective that could be affected in case of noncompliance with the standard.

5.5 Assessment criteria

One or more assessment criteria are specified for each standard. These are operationalizations of the standard. These criteria are not exhaustive, and compliance with all criteria is not always required. Satisfactory and full compliance with the standard may be possible without meeting all criteria.

However, the more criteria that are met, the better the compliance with the standard .

5.6 External references

Any applicable passages are cited from external sources, such as the:

- 2011 Code of Practice;
- Quality Assurance Framework (derived and developed from the Code of Practice);
- IMF Data Quality Assurance Framework;
- Executive Board resolutions;
- 2008 Quality Document.

The 2014 Quality Document are no longer referred to, since the self-assessment, which is an important component of the 2014 Quality Document, is based entirely on the Quality Guidelines themselves.

5.7 Reference material

Reference is made to information on the SharePoint site in a folder containing reference material:

<http://cbs1sps/sites/cbsdms/kz/statnormenkader/Lists/Links/AllItems.aspx>

The Quality Guidelines refer to this material by code and name, for example 'R036 Statistics Netherlands Act'.

5.8 Objective

A statement of the objective of each standard is given. Any problems with a standard put achievement of the objective at risk.

Objectives reside on two levels of abstraction. Reference is made where possible to an objective on Level 2 in order to keep the objectives as concrete as possible.

The objectives on Level 1 are:

1. public confidence in Statistics Netherlands;
2. conformity with legislation;
3. user satisfaction;
4. supplier satisfaction;
5. the transparency of Statistics Netherlands;
6. impartiality of Statistics Netherlands.

The objectives on Level 2 are:

7. relevance of the statistical concept;
 8. utility of the statistical data;
 9. statistical data accuracy;
 10. punctuality of output release;
 11. clarity of statistical output;
 12. or: all quality aspects of the statistical output;
- plus
13. process continuity;
 14. costs and benefits for Statistics Netherlands;
 15. process efficiency;
 16. efficiency and effectiveness of the chain.

6 Scope of the Quality Guidelines

This chapter identifies the objects that are within the scope of the Quality Guidelines, the characteristics of these objects, and the standards that are included in the Quality Guidelines.

6.1 Objects

The Quality Guidelines refer to objects that are relevant to the statistical process, and which are listed in Table 3. There are **33** objects.

Table 3 Objects

1. Adjustment and revision process
2. Administrative data
3. Agreements with suppliers
4. Agreements with users
5. Collaboration with knowledge centres
6. Conceptual metadata
7. Data in the process
8. Documentation
9. Folders and files
10. Information systems
11. Internal source data
12. Knowledge
13. Methodology
14. Other data (output)
15. Other tools and services
16. Output release
17. Population register
18. Processes, other
19. Processes, statistical
20. Publication of corrections, adjustments and revisions
21. Publications
22. Quality document (Quality Document)
23. Quality indicators
24. Quality reports
25. Relationship and communication with respondents and suppliers
26. Relationship and communication with users
27. Release policy
28. Reporting burden
29. Source data delivery
30. Staff
31. Statistical concept
32. Statistical data
33. Statistical output

6.2 Focus area

One or more characteristics of each object are taken, where an object and a characteristic constitute an *focus area*. An focus area determines the scope of the underlying standards. There are **105** focus areas.

6.3 Standards

The standards (= guidelines) are derived from the frameworks that Chapter 3 identifies as input to the Quality Guidelines, plus the knowledge and experience of Statistics Netherlands' staff. As a rule these are existing standards, common sense standards, or normal practice.

All these standards are applicable on the level of statistical processes, and therefore exclude standards that are applicable to a level higher than individual statistical processes, and standards for business processes.

Category	Number of standards
1 = essential	83
2 = CoP/QAF	88
3 = other	83
Total	254

6.3.1 Standards for self-assessment

Only the standards in Categories 1 and 2 are compulsory in the self-assessment (Template K), the others being optional.

6.3.2 Standards for audits

For audits, a selection from all the standards may be made. Ninety standards in Categories 1 and 2 have been preselected for the short audit.

6.3.3 Standards on sector level

Several process measures that were included in the 2008 Quality Document have been brought to sector level, and are now standards in the Quality Guidelines. The explanatory notes for a standard state whether it applies on sector level. The spreadsheet also shows the related standards. There are six of these standards.

6.3.4 Standards for Data Collection

Not all the standards in the Quality Guidelines are applicable to Data Collection (DVZ). The spreadsheet gives those that are applicable.

7 Types of standards and their application area

This chapter discusses types of standards and the application areas of standards.

7.1 Higher standards

Some standards may be considered to be 'higher', and are generally applicable.

1. Promises must be kept. Processes and products must be compliant with agreements that have been made, regardless of level: rules and legislation (Code of Practice, Personal Data Protection Act, Quality Document), Statistics Netherlands standards, Executive Board resolutions and agreements about individual statistical processes and products.
2. Knowledge products must be available, correct, complete, currently relevant, valid, comprehensible and unambiguous.
3. The Deming cycle (Plan, Do, Check, Act) is performed for every focus area. However, completeness is dispensed with in this case to avoid the proliferation of standards that would result from explicitly specifying this standard repeatedly.
4. Comply or explain.

These higher standards are stipulated in the standards that are included in the Appendix to this document.

7.2 The relative importance of standards

Some standards carry more weight than others. The greater the importance, the greater the risk attached to noncompliance with the standard. Standards are accordingly subdivided into three levels of importance.

Level 1

Standards that are concerned with the following objects or focus areas are essential:

1. accuracy of the statistical data;
2. timely and punctual release of statistical output;
3. simultaneous release of statistical outputs (embargo policy);
4. clarity of statistical output;
5. confidentiality of published data (statistical confidentiality);
6. confidentiality of data in the process (internal);
7. methodology: all focus areas;
8. compliance of the process with the Personal Data Protection Act;
9. administrative data, population register, internal source data, and source data delivery: all focus areas;
10. integrity of the information systems.

The impact value that applies to essential standards in the formula 'risk = probability x impact' is always maximum. Noncompliance with an essential standard is likely to entail detrimental impact, which leads to a high level of risk.

Level 2

All standards that refer to the Code of Practice and the Quality Assurance Framework (and are not at Level 1), are at Level 2.

Level 3

All other standards are at Level 3.

7.3 Hardness of standards

Some standards are hard, in that compliance is mandatory. These are the standards concerned with compliance with legislation, including the Code of Practice and the QAF, irrespective of the level of risk. The framework gives no separate indication of the hardness of standards.

7.4 General and specific standards

Some standards are general, whereas others are more specific. The more general standards in particular allow scope for interpretation by the assessor. Any additional

details of the standards (operationalization) are provided in the form of assessment criteria.

The policy is to express standards as directly as possible. This means avoiding phrasing such as

A procedure is in place to ensure that statistical data are sufficiently consistent with other statistics

in favour of

Statistical data are sufficiently consistent with other statistics

Information is given with the assessment criteria as to how to identify the measures needed for this, such as a procedure ('controls').

7.5 Standards for image-determining and non-image-determining statistics

The standards prescribed for image-determining statistics are generally no different from those for non-image-determining statistics. Any different standards that do apply are stated explicitly. Among these is one of the standards concerned with the Quality Document: the Quality Document must not be more than one year old for image-determining statistics, and three years old for non-image-determining statistics.

However, compliance is far more important for image-determining statistics. For example, the overall outcome of an audit is far more likely to be negative if standards are not complied with, because of the greater impact of risks and the increased probability of detecting deviations.

7.6 Standards for European Statistics

The Code of Practice is applicable to European Statistics. However, there is no distinction in the Quality Guidelines between European and national statistics.

8 Glossary

The following list (Table 4) defines the terms used in the Quality Guidelines that call for explanation.

There is a separate glossary for terms related to data and data set (Table 5).

Table 4 Glossary

Term	Definition	Notes
Focus area	A combination of an <u>object</u> and an associated characteristic.	For example, the accuracy of the statistical data, the maintainability of information systems, and the efficiency of a process. Internal and operational auditors refer to this as the 'audit variable', but this term has no formal definition.
Dependency analysis	A method of determining i) the factors that are significant in achieving the quality system objectives, ii) the importance of these factors for these objectives and iii) the requirements to be set on these factors.	Source: QA Glossary.
Business Architecture Document (BAD)	Document recording the design of the statistical process, the statistical products and the parties involved.	None.
BoS	Bureau of Standards	None.
BoS list	List of terms, including definitions related to statistical objects.	Application of this list is mandatory in Statistics Netherlands.
Gross sample	All units from the <u>sample</u> who are invited to complete a questionnaire.	None.
Code of Practice	A Eurostat (European Commission) 'recommendation' that sets requirements on Member States regarding the quality of the statistical institutes, statistical processes and statistical outputs.	Statistics Netherlands gives Eurostat recommendations the same status as regulations.
Coding	The activity in the statistical process in which a code from a classification system is assigned to a description.	Source: Methods Series Glossary.
Coherence	See coherence of statistical concept.	This term is used in the Code of Practice.
Conceptual metadata	The description of the following data components in the statistical process (from source data to output): <ul style="list-style-type: none"> ▪ unit (object type); ▪ definition of the population of units; ▪ subpopulations (classifications); ▪ variables and their definitions; ▪ reference period. 	None.
Consistency of statistical data	How closely statistical data that refer to the same statistical item agree, or exhibit some connection.	Source: Statistical Output Quality Checklist.
Coverage error	Estimating error that arises from a discrepancy between the sampling frame or register and the target population through either undercoverage or overcoverage.	Source: Methods Series Glossary.

Term	Definition	Notes
Target unit	See statistical unit.	
Target population	The population under consideration.	In other words, the set of statistical units about which statistical statements are to be made. Derived from: Methods Series Glossary.
Target variable	The variable under consideration.	The Methods Series Glossary has the following alternative definition: 'variable observed in a survey that is a measure of an aspect of a phenomenon under investigation'. The survey objective will include estimating the population statistics for a target variable.
Clarity of statistical output	The degree of: 1) adequacy of metadata; 2) illustration of the statistical data using charts and maps; 3) availability of information about the quality of the statistical data; 4) explanation of any limitations in the use of the statistical data; and 5) provision of additional support.	Source: Statistical Output Quality Checklist.
Euro SDMX Metadata Structure (ESMS)	List of statistical concepts and sub-items.	Set down in Commission Recommendation 2009/498/EC (Eurostat).
European Statistical System (ESS)	The partnership between Eurostat, the National Statistical Institutes and other statistical authorities responsible in each Member State for the development, production and dissemination of <u>European Statistics</u>	Source: Code of Practice.
European statistics	Community Statistics as referred to in Council Regulation (EC) No 322/97 of 17 February 1997 on Community Statistics, which are developed, produced and disseminated by national statistical institutes and the Community statistical institute (Eurostat) in accordance with Article 285(2) of the Treaty establishing the European Community.	Source: Code of Practice.
External supplier	<u>Supplier</u> outside Statistics Netherlands.	
Simultaneity of release of statistical outputs	The closeness in the release times of statistical outputs.	None.
Imputation	The definition and introduction of a new value where a value is missing or has been set to 'unknown' (missing).	Source: Methods Series Glossary.
Information system	A logical entity comprising software and data.	Source: QA Glossary.
Matching keys	One or more key variables used in two or more data sources that are to be linked and integrated.	For example to perform a search based on records from one database in records in another. Source: Methods Series Glossary.
Quality document	The set of completed templates from Process control/Quality Document.	None.

Term	Definition	Notes
Quality metadata	Information about the quality of the statistical process and the statistical output.	None.
Quality reports	Reports about <u>quality metadata</u> .	None.
Vulnerability analysis	The process of determining the vulnerability of a factor based on a dependency analysis. The vulnerability of a factor is determined by the threats posed to the quality of the factor (cause) and the risk for Statistics Netherlands (effect) if these threats should materialize.	Source: QA Glossary.
Methodological discontinuity	The disturbance to a time series caused by a change in the survey design (e.g. in the questionnaire, or data collection mode).	An attempt may be made to adjust for this disturbance. Source: Methods Series Glossary.
Methodology Analysis Document (MAD)	Document setting out the methodological design of a statistical process.	
Accuracy of statistical data	A measure of how close the calculated or estimated value of a variable is to its true or actual value.	Source: Statistical Output Quality Checklist.
Standard	A criterion that a category of persons can or must pursue in their actions.	Source: Van Dale.
Net sample	The portion of the population from the <u>gross sample</u> that responded.	None.
Supplier	Someone who supplies a product or service.	Source: QA Glossary.
Object (type) (business)	Anything that has characteristics.	If the words 'the quality of ...' make sense as a qualifier, the term is an object.
Undercoverage	A property of a data set that does not comprise all the elements in the target population.	Source: Methods Series Glossary. This refers to data sets with microdata (not aggregates).
Unintentional disclosure	A situation in which information can be obtained from statistical data about an identifiable individual person, household, business or institution.	Source: Methods Series Glossary.
Grossing-up (raising)	A form of <u>weighting</u> in which the sum of the individual weights equals the population size.	Source: Methods Series Glossary.
Output specification	Document specifying the statistical products and their quality.	This is an advance (ex ante) specification for an external user. An output specification may be, but is not necessarily, arrived at through agreement with the user. An output specification may be part of any form of agreement, such as a protocol, covenant, or contract. Eurostat recommendations usually include an output specification.
Overcoverage	The situation in which some elements in a data set do not belong to the target population, or are included more than once.	Source: Methods Series Glossary. This refers to data sets with microdata (not aggregates).

Term	Definition	Notes
Process	There are various definitions, including: <ul style="list-style-type: none"> • a set of related activities for transforming source data into output; • a series of time-ordered events that take place in, or are linked to, material systems, each with their own variations, interrelationships, dependence and influence; • a systematic series of actions that are intended to achieve an objective; • any activity or group of activities that takes input, adds value, and provides output to an internal or external user. 	Source: QA Glossary.
Process metadata	Information about a process.	None.
Process measure	Measure to assure the quality of a process.	The term originates from Process control/Quality Document, which define a set of standard measures, such as a contingency procedure.
Punctuality of statistical output release	The time lag between the actual and planned release dates and times.	Source: Statistical Output Quality Checklist.
Response	A respondent's answer to a question for the purpose of compiling a statistic.	None.
Steady state	Data source that is no longer subject to change and that has a specified quality.	None.
Coherence of statistical concept	The degree of correspondence of the concepts used in different statistics, which accordingly determines how well they can be combined.	Source: Statistical Output Quality Checklist.
Seasonal adjustment	The adjustment of a time series to correct for seasonal effects.	Source: Methods Series Glossary.
Selectivity of the response	The representativeness of the <u>net sample</u> for the <u>gross sample</u>	None.
Service Level Agreement (SLA)	A written agreement between a single supplier and a single user about the provision of certain services or products.	The purpose of an SLA, besides documenting the deliverable services and products, is to formally specify the rights and obligations of both the provider and the user in respect of the agreed quality level (service level) of the services and products to be provided. Source: QA Glossary. See also Standard Service Level (SSL).
SharePoint	A document management system.	Users themselves can arrange access to SharePoint without the intervention of the ITS Service Desk.
Stakeholder	A party who has some involvement with Statistics Netherlands.	Stakeholders include sponsors, users, business respondents, respondents, data suppliers, supervisory authorities, and staff.

Term	Definition	Notes
Standard Service Level (SSL)	A written unilateral agreement from a supplier of certain services or products.	The purpose of an SSL is to communicate the conditions for the delivery of products and services to any recipients within Statistics Netherlands. An SSL also documents the rights and obligations of the provider in respect of the offered service level of the services to be rendered. Source: QA Glossary. See also Service Level Agreement (SLA).
Statistical concept	The <u>conceptual metadata</u> of the statistical output.	None.
Statistical process	A <u>process</u> that has <u>statistical information</u> as output.	None.
Statistical information	Statistical data about a societal phenomenon: publications about these data.	This term is used in the Statistics Netherlands mission statement.
Statistical authority	On a national level, the national statistical institute and other national statistical authorities responsible for the development, production and dissemination of <u>European Statistics</u> , and, on Community level, Eurostat.	Source: Code of Practice.
Sample	A subset of a population on which statements about the population are based.	Source: Methods Series Glossary.
Sampling error	Estimating error in a population parameter that arises from the data sampling process.	Cf. non-sampling error. Source: Methods Series Glossary.
Object type (statistical)	See statistical unit.	
Sampling frame	The frame from which a sample is drawn, which is (a possibly imperfect) administrative representation of the <u>target population</u> .	Source: Methods Series Glossary.
Timeliness of statistical output release	The lapse of time between the end of a reference period and the planned release date of the statistic.	Source: Statistical Output Quality Checklist.
Accessibility of statistical output	The convenience with which users are able to obtain and use statistical data.	Source: Statistical Output Quality Checklist. This focus area also covers the conditions for processing statistical output (costs, rights).
Total error	A function of <u>bias</u> and <u>variance</u> .	Source: Statistical Output Quality Checklist.
Transformation	The conversion of one statistical concept into another.	E.g. from tax entities to business units.
Outlier	An observation that strongly deviates from the mean or the average pattern, and therefore demands special attention, in particular in data editing and grossing-up.	Source: Methods Series Glossary.
Validation	The confirmation, through the provision of objective evidence, that the requirements for a <i>specific intended use or application</i> have been fulfilled.	Synonym: Declaration of validity. Source: ISO 9000:2005. N.B. Validation 'goes further' than verification.

Term	Definition	Notes
Variance of an estimate	The random spread of the error in the estimate around zero.	Source: Statistical Output Quality Checklist. Synonyms: precision, dispersion, random error.
Comparability of statistical data	The extent to which statistical data are sufficiently accurate and the corresponding variables have the same meaning.	Statistical data are comparable if they can literally be compared. For example, Germany's economic growth is higher than that of the Netherlands. Source: Statistical Output Quality Checklist.
Verification	The confirmation, through the provision of objective evidence, that <i>specified requirements</i> have been fulfilled.	Source: ISO 9000:2005.
Bias of an estimate	The average systematic deviation of an estimate from the true value of the variable.	Source: Statistical Output Quality Checklist. Average here refers to many samples from the same population. Synonym: systematic error.
Public Service Data Security Regulations	Ministerial decree setting requirements on the security of information in the processes.	None.
Weighting	The assignment of weights to respondents, after which population parameters are estimated by summing the products of the data with these weights.	Source: Methods Series Glossary.

8.1 Glossary of data-related terms

Table 5 Glossary of data-related terms

Term	Definition	Notes
Administrative data (or data source)	<u>Data source</u> that is the output of an administrative process at an external party.	E.g. VAT data, mobile telephone call records, and scanner data. The data concerned are always flow data. According to Daas et al. (2008): data held in an administrative system.
Aggregate	<u>Data set</u> that contains data about classes (subsets) of units.	According to BES (2010): a compilation of micro information.
Source	See <u>data source</u> .	
Source database	<u>Data set</u> of observations structured according to units and variables and from the same origin.	Source: BES (2010).
Data	A representation of facts, concepts or instructions in a formalized manner suitable for communication, interpretation, or processing by humans or by automatic means.	Source: Daas et al. (2008). Also: values of variables.
Data source	<u>Data set</u> that serves as input to a statistical process.	Data sources include aggregates and microdata. According to Daas et al. (2008): A general term for a register or other collection of data.

Term	Definition	Notes
Data set	A structured collection of <u>data</u> .	A data set either comprises microdata or is an aggregate. According to BES (2010): a set of micro or macro data and described by a view. A view is a selection of <u>data</u> .
Unit	See statistical unit.	Strictly speaking, 'statistical unit' refers to a type of unit, and a 'unit' is a single instance of a given type, such as the person John Smith.
External register	<u>Register</u> maintained by an external party.	E.g. the Key Register of Citizens.
Internal register	<u>Register</u> maintained by Statistics Netherlands.	E.g. register of business units.
Microdata (set)	<u>Data source</u> that contains data about units.	Microdata may include source data from a statistical process and a product released to a user.
Primary data source	<u>Data source</u> for which Statistics Netherlands defines all or part of the conceptual metadata.	Statistics Netherlands does not necessarily collect the data itself, as with social insurance data.
Register	<u>Data set</u> of units that is managed with the aim of complete coverage of the population.	E.g. Key Registers of citizens, companies, and vehicles. According to Daas et al. (2008) synonymous with registration.
Registration	The recording of a collection of data in a structured manner.	Source: Daas et al. (2008).
Steady state	A <u>data source</u> that has an agreed quality and resides in an interface.	The data sources in an interface can be accessed by all processes that need them.
Secondary data source	A <u>data source</u> for which Statistics Netherlands has no control over the conceptual metadata definitions.	E.g. VAT data. The conceptual metadata of a data source give the type of unit, the definition of the population, the variables and their associated definitions, and the reference period. According to BES (2010): Source of data that is collected by an organization other than Statistics Netherlands and for purposes other than those of Statistics Netherlands.
Statistical unit	The type of unit to which survey results pertain (as reported to the users of a statistic).	Source: Methods Series Glossary. E.g. company, person, or household.
Variable	Data type that is observed, delivered, or derived from other variables.	Source: BES (2010). The three types of variable are: identification; classification; quantitative, or count.

APPENDIX: Quality guidelines for statistical processes

Part I: users

Part II: output

Part III: internal

Part IV: source data

Part V: respondents and suppliers

Part VI: resources

Part I: users

1. Relationships and communication with users
2. Agreement with users

1 Relationship and communication with users

This chapter sets out the quality criteria for the relationship and communication with internal and external users. The users referred to may constitute links at any point in the chain, not only at the start or end.

The characteristic of the relationship and communication with users is:

1. effectiveness.

1.1 Effectiveness of the relationship and communication with users

1	A satisfactory consultation structure is in place.
---	--

Assessment criterion:

- a consultation structure exists between users and Statistics Netherlands;
- consultation takes place on strategic, tactical and operational levels;
- the frequency of consultation is sufficient;
- the items discussed include: agreements about the release and quality of products, any changes to these agreements, the impact of these changes, and any exceptions that arise in progress and the quality of the products.

Assessment criteria for paying customers:

- the formal contracting party within Statistics Netherlands is clearly identified;
- the contracting party is responsible for balancing the interests of the, generally external, user with those of Statistics Netherlands;
- it is clear who within Statistics Netherlands is to supply effort (the 'supplier');
- it is clear who has the role of user;
- a consultation structure with participation of the project leader is in place within Statistics Netherlands;
- progress is monitored;
- an acceptance procedure is in place;
- every release is followed by post-release service;
- the agreements and their implementation are evaluated regularly.

Objective:

- user satisfaction.

2	Change requests are handled satisfactorily.
---	---

Assessment criteria for paying customers:

- change requests are recorded;
- change requests are approved by the client and contracting party;
- implementation progress is monitored;
- the contracting party and client accept any changes explicitly.

Objective:

- user satisfaction.

3	Problems are handled satisfactorily.
---	--------------------------------------

Assessment criteria for paying customers:

- Statistics Netherlands and the user are aware of any problems;
- problems are registered and solutions are planned;
- progress reporting is satisfactory;
- problems are handled to the satisfaction of the user.

Objective:

- user satisfaction.

2 Agreements with users

This chapter presents the quality criteria for agreements with *internal and external* users. The users referred to may constitute links at any point in the chain, not only at the end.

The following characteristics, or quality aspects, apply to agreements with users:

1. availability;
2. correctness, current relevance and validity;
3. completeness;
4. clarity and lack of ambiguity;
5. feasibility.

The users in this framework are of data and metadata only (not publications).

Proper assessment of the criteria given in this chapter requires full details of releases to internal and external users.

Output specification

The 'agreement' for non-paying external users consists of an output specification only, which is not necessarily communicated to the user. The purpose of output specifications is to document what is to be released.

An output specification sets down the products to be released and specifies the required quality.

2.1 Availability of agreements with users

1	There is an agreement with every user.
---	--

Notes for internal users:

- internal users have a Service Level Agreement (SLA);
- a single SLA suffices for multiple reciprocal deliveries between two internal parties;
- SLAs apply across sector boundaries; SLAs are optional within a given sector;
- a Standard Service Level (SSL) may also be considered to be an internal, albeit unilateral, agreement.

Notes for external users:

- Eurostat output is specified in regulations or agreements;
- there are agreements for other international organizations, such as the UN, ILO, IMF, OECD and ECB;
- paying customers have a contract;
- an output specification in the form of an internal document may suffice for non-paying users;
- no agreements are applicable to anonymous users (i.e. StatLine users), for whom explanatory notes to a table and a brief survey description suffice instead.

Assessment criteria:

- SLAs or other documented agreements are available.

Quality Document 2008:

- the SLAs are given in process measure PM13 Internal Agreements of Template I.

Quality Document 2014:

- Template J identifies the agreements (SLAs, etc.) with users.

Objective:

- user satisfaction.

2.2 Correctness, current relevance and validity of agreements with users

1	The information in the agreements with users is correct.
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Assessment criteria:

- names, for example, must be stated correctly in the agreements.

Objective:

- user satisfaction.

2	All agreements with users are valid.
---	--------------------------------------

Notes:

- reconfirmation is desirable in the event of transfer of work or staff changes.

Assessment criteria:

- the agreement states a period of validity that has not yet ended.

Objective:

- user satisfaction.

2.3 Completeness of agreements with users

An output specification may suffice for non-paying users.

1	The product is specified in all agreements with users (output specification).
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Assessment criterion:

- the statistical concept is given for statistical products in terms of: unit, definition of the population, subpopulations (level of detail), variables including definitions and reference period (population time).

Objective:

- user satisfaction.

2	The product quality aspects are specified in all agreements with users (output specification).
---	--

Assessment criteria:

- one or more of the following quality aspects are covered in the agreements:
 - timeliness: the required release dates;
 - punctuality: the leeway in the release timing;
 - accuracy: acceptable errors; the appropriate statistical methods or procedures;
 - coherence: the statistics that it must be possible to combine with;
 - comparability over time or between subpopulations;
 - consistency: anything that the output has to be consistent with;
- the acceptance criteria are documented.

Objective:

- user satisfaction.

3	All agreements with users specify the quality reporting requirements (output specification).
---	--

Notes:

- quality reports state the degree of compliance with agreed quality, or give an account of quality;
- quality reports may also list adaptations of individual units, such as changes in the Dutch standard industrial classification (SBI) codes for individual business units;
- it may also be agreed that quality reports are unnecessary or undesirable;
- 'process information' and 'process tables' can also be considered to be quality reports;
- the user will preferably request the supplier to provide a quality report, but quality reporting may be considered to be a matter of course (a kind of standard information leaflet);
- quality reports help make processes and products more transparent.

Objective:

- user satisfaction.

4	All agreements identify any needs of the user that have yet to be fulfilled.
---	--

Notes:

- while this is not a hard standard, it is user-friendly to state explicitly any needs of the user that, temporarily or permanently, cannot be met;
- these needs are not necessarily feasible in terms of time and capacity.

Objective:

- user satisfaction.

5	All agreements with users state a validity period.
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Notes:

- there are no rules for the validity period of an SLA, but most are valid for one calendar year.

Objective:

- user satisfaction.

6	All agreements with users identify the contact persons of both parties.
---	---

Notes:

- the contact persons are responsible for contacting each other if any problems arise in the performance of the agreements.

Objective:

- user satisfaction.

7	All agreements with users set down a change procedure.
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Notes:

- the agreement states how changes are to be handled, regardless of whether they are user or supplier-initiated.

Objective:

- user satisfaction.

8	All agreements with users set down an incident procedure.
---	---

Notes:

- incidents include a delayed or incomplete release, or inaccurate statistical data.

Objective:

- user satisfaction.

9	All agreements with users set down an evaluation procedure.
---	---

Note:

- the timing of discussion between parties about revision or extension of the agreements, and who is to be involved, are documented.

Objective:

- user satisfaction.

2.4 Clarity and lack of ambiguity of agreements with users.

1	All agreements with users are comprehensible and unambiguous.
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Notes:

- the agreements must not be self-contradictory or ambiguous;
- the agreements must also be comprehensible for the parties involved.

Assessment criterion:

- the agreement does not raise questions for outsiders.

Objective:

- relevance of the statistical concept.

2.5 Feasibility of agreements with users

1	Agreements with users are feasible.
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Assessment criteria:

- assignments are accepted on the basis of a preliminary study;
- a preliminary study identifies the required source data, activities and capacity.

Objective:

- cost level of Statistics Netherlands.

Part II: output

3. Statistical concept
4. Statistical data
5. Statistical output
6. Other output in the form of data
7. Output release
8. Quality reports
9. Release policy
10. Publication of corrections, adjustments and revisions
11. Publications

3 Statistical concept

The statistical concept is the description of the unit (object type), the specifications of the population of units, the subpopulations (classifications), the variables including their definitions and the reference period (reference time) of the output of Statistics Netherlands.

The statistical concept is the same as the conceptual metadata of statistics.

Proper assessment of the standards given in this chapter requires full details of releases to internal and external users.

The following characteristics, or quality aspects, apply to the statistical concept:

1. relevance;
2. coherence with other statistics.

3.1 Relevance of the statistical concept

See Chapter 5 in the Statistical Output Quality Checklist (R007) for additional information about this focus area.

Code of conduct:

- Pages 3 and 4: The relevance of the Statistics Netherlands statistical data is determined by measuring the information requirement of the users in all possible ways. The statistics produced by Statistics Netherlands are relevant for social structures and institutions, describe economic and social trends, and facilitate comparisons over time and in an international connection.
- Page 13: Statistics Netherlands staff are alert to new trends in society. Statistics Netherlands staff explore what the public considers relevant now and in the future.

1	Known users' needs that statistical information meets are documented.
---	---

Notes:

- this is concerned with the purpose for which the statistics are used;
- there is no requirement for the information needs of StatLine users to be known.

Assessment criterion:

- the purpose for which the statistic is used is documented.

Code of Practice:

- Indicator 11.1: Processes are in place to consult users, monitor the relevance and utility of existing statistics in meeting their needs, and consider their emerging needs and priorities.

Objective:

- user satisfaction.

2	All statistics that have been or will be published are also included in the Statistics Netherlands Annual Plan.
---	---

Notes:

- inclusion in the Statistics Netherlands Annual Plan implies approval of the composition and publication of the statistic;
- all statistics must be produced on the basis of an agreement.

Objective:

- user satisfaction.

3	Every StatLine table has been accessed at least fifteen times in the past quarter.
---	--

Notes:

- this does not refer to the one-off statistics and statistics that have been stopped, but only to tables that are still subject to update;
- this standard is too strict for recently placed tables, and will apply only one quarter after initial placement;
- there are reports on Intranet with the number of StatLine accesses for each table;
- see the number 'T(able) visits' on the Excel worksheet; see R055;
- fifteen visits or more puts the statistic in the best 80% in terms of access frequency;
- this standard is more of an indicator (of what is going on) than a hard standard, but there may well be good reasons to retain the table nonetheless.

Assessment criterion:

- the number of T(able) visits is at least fifteen in the past quarter.

Objective:

- cost level of Statistics Netherlands.

4	The satisfaction of known users is investigated on a regular basis.
---	---

Notes:

- this is concerned with internal and external known users, and with satisfaction with the statistical concept;
- users of StatLine tables are not covered by this standard;
- investigation of Eurostat's satisfaction is less clear-cut, because data is released to Eurostat based on regulations;
- it is important for statistics to be usable, which is a better term than relevance.

Assessment criteria:

- there is regular consultation with known users or user groups;
- the meetings are minuted;
- there is follow-up in the form of actions for improvement.

Code of Practice:

- Indicator 11.3: User satisfaction is monitored on a regular basis and is systematically followed up.

QAF:

- Method 11.3.3 Assessment of satisfaction of key users. Measures to assess satisfaction of key users with particular products are in place (e.g. specific user satisfaction survey/indicators on product level).

Objective:

- user satisfaction.

5	The frequency of the statistic is sufficient to allow trends to be visible.
---	---

Notes:

- some phenomena are so stable that frequent measurement would be pointless;
- the time series must be long enough to confirm this.

Assessment criteria:

- the trends are within the margin of the statistical data;
- the trends are small enough to be irrelevant for users.

Objective:

- cost level of Statistics Netherlands.

6	There is regular consultation with users about the utility of the statistics and about future needs and priorities.
---	---

Notes:

- this is concerned with known users, not anonymous users of StatLine;
- this standard is not applicable to statistics that have a statutory requirement.

Assessment criteria:

- minutes are kept of meetings with users.

Code of Practice:

- Indicator 11.1: Processes are in place to consult users, monitor the relevance and utility of existing statistics in meeting their needs, and consider their emerging needs and priorities.

QAF:

- Method 11.1.6 Users' consultation procedures. Procedures for user consultation on the statistics are in place.

DQAF:

- Indicator 0.3.1: The relevance and practical utility of existing statistics in meeting users' needs are monitored.

Objective:

- user satisfaction.

7	The agreement on which a statistic is based is clear.
---	---

Note:

- it is clear which agreement is key.

Assessment criterion:

- the project leader or team leader knows which agreement the statistics are based on.

Objectives:

- user satisfaction.
- cost level of Statistics Netherlands.

3.2 Coherence of the statistical concept with concepts of other statistics

See Chapter 7 in the Statistical Output Quality Checklist (R007) for additional information about this focus area.

In general the coherence of the statistical concepts must comply with the Methods Series: Introduction to the statistical process (see R003a). Part 3 of this document addresses the coherence aspect: 'Ad Willeboordse's seven coordination levels'.

The first three standards in this section give an interpretation of Willeboordse's seven coordination levels.

The Quality Guidelines address the coherence of variables and subpopulations.

Coherence is also possible in terms of:

- the unit;
- the definition of the population;
- the reference period.

No details of this are provided here as yet.

1	The definitions of the variables are sufficiently comprehensible, unambiguous and complete.
---	---

Notes:

- the purpose of the standard is to ascertain whether there is coherence between statistics;
- coherence is oriented to the user, who must be able to create combinations. The standard is therefore concerned with variables that are visible to the external user (as well as the internal user).

Assessment criteria:

- variables are defined;
- definitions of variables are unambiguous;
- the definitions of the variables require no explanation.

Objective:

- clarity of statistical output.

2	The names of variables are unique.
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Note:

- needless to say, data suppliers, respondents and users may use different names in order to suit their own conceptual framework. The connection between the unique name and any synonyms must be stated explicitly.

Assessment criteria:

- StatLine is free of homonyms;
- no synonyms are used within the statistics.

Objective:

- clarity of statistical output.

3	The variables can be related meaningfully with other variables within the same theme.
---	---

Assessment criteria:

- statistics within the same theme share the same units, subpopulations and reference periods;
- variables of different statistics within the same theme can be combined into a single table;
- ratios may be derived based on two variables from the same table.

Code of Practice:

- Principle 14: [...] It is possible to combine and make joint use of related data from different sources.
- Indicator 14.3: Statistics are compiled on the basis of common standards with respect to scope, definitions, units and classifications in the different surveys and sources.

Objective:

- clarity of statistical output.

4	The variables have standard definitions.
---	--

Notes:

- use of the BoS definitions is compulsory. In the event of any problems with the BoS definitions, coordination is possible with the controller of the BoS list (R018);
- for any variables that are not in the BoS list, it is desirable to follow the procedure for proposing variables for the BoS list.

Assessment criterion:

- the BoS definitions are applied.

Code of Practice:

- Indicator 7.2: Procedures are in place to ensure that standard concepts, definitions and classifications are consistently applied throughout the statistical authority.

QAF:

- Method 14.3.2 Assessment of compliance with standards. Periodic assessments of compliance with standards on definitions, units and classifications are carried out and reflected in quality reporting.

DQAF:

- Indicator 2.1.1: The overall structure in terms of concepts and definitions follows internationally accepted standards, guidelines, or good practices.

References:

- R018 Bureau of Standards list.

Objective:

- clarity of statistical output.

5	There is consistency in the subpopulations.
---	---

Assessment criteria:

- use is made where possible of international classification systems;
- only approved contractions of Dutch standard SBI codes are used;
- Statistics Netherlands' rules for turnover classes, regions and age are used.

Code of Practice:

- Indicator 7.4 Detailed concordance exists between national classification systems and the corresponding European systems.

QAF:

- Method 7.4.1 Consistency of national classifications. National classifications are consistent with the corresponding European classification systems.
- Method 14.3.2 Assessment of compliance with standards. Periodic assessments of compliance with standards on definitions, units and classifications are carried out and reflected in quality reporting.

DQAF:

- Indicator 2.3.1: Classification/sectorization systems used are standards, guidelines, or good practices.

References:

- R017: SharePoint site with consistency-related guidelines and policy: SBI codes and permitted contractions, turnover classes, regions and age.

Objective:

- clarity of statistical output.

3.3 Consistency of the statistical concept with reality

1	The statistical concept is consistent with reality.
---	---

Notes:

- statistics are a numerical description of phenomena in the real world, and are generally not concerned with an administrative or statistical version of reality;
- this standard is less applicable to prescribed statistics (Eurostat).

Assessment criteria:

- the population reflects reality;
- the subpopulations reflect reality;
- the variables reflect reality;
- the classifications reflect reality;
- the reference period or time reflects reality;
- experts and users are consulted in the design of the statistics.

QAF:

- Method 7.2.3. Views of relevant experts and users. Surveys or statistical processes benefit from the views of relevant experts and users where appropriate.

Objective:

- relevance of the statistical concept;
- utility of the statistical data.

3.4 Stability of the statistical concept

1	The statistical concept is sufficiently stable over time.
---	---

Notes:

- a concept is said to be stable if it is not changeable in the course of time (in terms of units, population, variables, classification, or time);
- there is a trade-off between stability of a concept over time and relevance, in that adhering to a concept for too long can mean that it becomes outdated;
- there is also a relationship with comparability over time, in that a stable concept will be better comparable over time.

Assessment criterion:

- the statistical concept is and will remain stable for a reasonable period. What is deemed reasonable depends on the statistic.

Objective:

- relevance of the statistical concept;
- utility of the statistical data.

4 Statistical data

Statistical data are the values of the variables.

Proper assessment of the standards given in this chapter requires full details of internal and external releases.

The following characteristics, or quality aspects, apply to statistical data:

1. accuracy;
2. comparability;
3. consistency;
4. confidentiality.

References:

- RB053: Quality of statistical data. Guide for defining sufficient quality.

4.1 Accuracy of statistical data

1	Attention is given to the variance of statistical data.
---	---

Notes:

- a variance that is not documented (in an output specification) may be assumed to be 'self-evident';
- the permissible variance is related to the reporting burden, since achieving a smaller variance will involve higher burden and expense;
- the variance depends on the sample size and the response rate.

Assessment criteria:

- any methodological compromises made to achieve the permissible variance are clear;
- the statistical data are fit for purpose.

Code of Practice:

- Principle 12: European Statistics accurately and reliably portray reality.

Objective:

- utility of the statistical data.

2	Attention is given to bias in the statistical data.
---	---

Assessment criteria:

- any methodological compromises made to fall within the permissible bias are clear;
- the statistical data are fit for purpose;
- statistical intuition also plays a part in the level of bias achieved. It is not always possible to calculate the bias, taking all possible errors in the process into account.

Code of Practice:

- Principle 12: European Statistics accurately and reliably portray reality.

Objective:

- utility of the statistical data.

3	Accuracy is stable over time.
---	-------------------------------

Notes:

- it is more important for statistical data to have constant accuracy than maximum accuracy (constant quality);
- the beer that Heineken produces is also 'always' of the same quality.

Assessment criterion:

- the frequency of changes in methodology is low (e.g. once in five years). The frequency that is appropriate depends on the statistic concerned.

Objective:

- utility of the statistical data.

4.2 Comparability of the statistical data

See Chapter 8 in the Statistical Output Quality Checklist (R007) for additional information about this focus area.

There are three kinds of comparability:

- over time;
- between subpopulations;
- between countries (regional subpopulations).

Statistical data can be said to be comparable only if the concepts concerned are also coherent (this is a necessary condition).

Comparability of statistical data over time is also referred to as consistency over time.

1	The statistical data are sufficiently comparable within a reasonable period.
---	--

Notes:

- comparability over time suffers if the statistical concept or methodology change (methodological discontinuity);
- however, there are ways to repair methodological discontinuities;
- there is a trade-off with relevance of the statistical concept. A statistical concept that is no longer relevant can necessitate migration to a different concept, which is detrimental to comparability over time.

Assessment criterion:

- the time series is long enough, which may refer to both the actual and planned time series. Whether a time series is long enough depends entirely on how users use it.

Code of Practice:

- Principle 14: European Statistics are consistent internally, over time and comparable between regions and countries [..]
- Indicator 14.2: Statistics are comparable over a reasonable period of time.

DQAF:

- Indicator 4.2.2: Statistics are consistent or reconcilable over a reasonable period of time.

Objective:

- utility of the statistical data.

2	The statistical data of subpopulations are sufficiently mutually comparable.
---	--

Notes:

- subpopulations are divided into categories or classes from a classification system, which may also include spatial units within a country;
- the mutual comparability of subpopulations suffers if different methodologies are used for compiling the statistical data of the different subpopulations.

Assessment criterion:

- the same method is used for estimating the statistical data of the entire statistic.

Objective:

- utility of the statistical data.

3	Statistics are produced in accordance with Eurostat regulations.
---	--

Notes:

- compliance with the standard leads to sufficiently comparable statistical data across EU Member States;
- regulations refer to the concepts and the methods, or their operationalization.

Assessment criterion:

- the Eurostat concepts are adhered to fully.

Code of Practice:

- Principle 14: European Statistics are [...] comparable between regions and countries.
- Indicator 14.5: Cross-national comparability of the data is ensured within the European Statistical System through periodical exchanges between the European Statistical System and other statistical systems. Methodological studies are carried out in close cooperation between the Member States and Eurostat.

Objective:

- utility of the statistical data.

4.3 Consistency of statistical data

See Chapter 9 in the Statistical Output Quality Checklist (R007) for additional information about this focus area.

In the absence of agreements about consistency, this is concerned with common sense quality aspects.

There are various different kinds of consistency:

- between preliminary and final data;
- between short-term and long-term data, such as quarterly and annual;
- with other statistics such as the National Accounts;
- modelling consistency between statistics;
- between phenomena (plausibility);
- between microdata and aggregates.

Consistency over time is handled under 'comparability over time', which is the usual term.

A necessary condition for consistency between statistical data is coherence of the underlying concepts.

Needless to say, any agreements that have been made about consistency (on any level whatsoever) must be adhered to.

1	Preliminary results and final statistical data are sufficiently consistent.
---	---

Notes:

- the preliminary results must not be allowed to influence the final data as a way of achieving compliance with this standard;
- nonconformity with this standard must lead to critical inspection of the methods used, and may be a reason to delay or cease publication of preliminary results;
- another way of expressing this standard is that the preliminary results must have sufficient predictive power.

Assessment criterion:

- preliminary results do not deviate (upwards or downwards) structurally over time from the final statistical data.

Key Performance Indicator:

- performance indicators were defined in 2013 for Economic Growth per Quarter, International Trade, and Population Growth, with respect to discrepancies between the preliminary and final data (R056).

Code of Practice:

- Indicator 13.5: Preliminary results of acceptable aggregate accuracy can be released when considered useful.

Objective:

- utility of the statistical data.

2	Short-term and long-term statistical data are sufficiently consistent.
---	--

Notes:

- for example, the sum of monthly data agrees with the annual data.

Objective:

- avoiding user confusion.

3	Statistical data are sufficiently consistent with other statistics.
---	---

Notes:

- other statistics at any rate include the National Accounts;
- absolute consistency with the National Accounts is impossible to achieve because statistical data have to be fitted into them;
- any adjustments made in the National Accounts and the associated reasons must nonetheless be clear. There must be systematic evaluation and feedback between the source statistics and the National Accounts.

Assessment criteria:

- there is no substantial discrepancy between statistical data of different statistics that have the same underlying concepts;
- tables are combined where possible.

Code of Practice:

- Indicator 14.4: Statistics from the different sources and of different periodicity are compared and reconciled.

QAF:

- Method 14.1.2 Procedures and guidelines to ensure combination of outputs from complementary sources. Process specific procedures and guidelines ensure that outputs obtained from complementary sources are combined so as to assure internal coherence and consistency.

Objective:

- public confidence in Statistics Netherlands.

4	Statistical data are algorithmically consistent.
---	--

Notes:

- algorithmic consistency refers to relationships such as: $x=y$, or $a+b=c$. E.g. turnover = costs + profit;
- symmetrical flows, such as exports from the Netherlands to Germany and imports to Germany from the Netherlands, must be equal;
- statistical data within a statistic satisfy certain deterministic rules. 100% internal consistency is required for the National Accounts;
- other terms used in this connection include identities, bookkeeping rules and definitional equations;
- this standard applies across statistics as well as within a given statistic.

Assessment criterion:

- any algorithmic relationships that exist between statistical data are satisfied. There are no 'statistical differences'.

Code of Practice:

- Indicator 14.1: Statistics are internally coherent and consistent (i.e. arithmetic and accounting identities are observed).
- Indicator 14.4: Statistics from the different sources and of different periodicity are compared and reconciled.

QAF:

- Method 14.5.1 Analysis of asymmetries. An analysis of asymmetries is carried out where possible and reports on mirror statistics between Member States are made available to the public.
- Method 14.5.2 Identification and corrections of discrepancies in mirror statistics. Discrepancies in mirror statistics are identified and corrected whenever possible.

DQAF:

- Indicator 4.2.1: Statistics are consistent within the dataset.

Objective:

- public confidence in Statistics Netherlands.

5	Statistical data that have some relationship are sufficiently consistent (plausible).
---	---

Notes:

- this is concerned with the coherence of phenomena such as economic growth and unemployment, in contrast to the coherence of concepts;
- see also variables that appear in the Business Cycle Tracer. Certain trends, such as consumption and consumer confidence, should evolve in the same direction, where there is no deterministic connection between the statistical data, but the phenomena are coherent nonetheless;
- statistical data can also be compared with the expectations of experts;
- the keyword is plausibility;
- this standard also applies to intermediate results (meso analysis).

Assessment criteria:

- statistical data are assessed for plausibility by means of prepublication analysis;
- economic or other models are used to assess statistical data.

Code of Practice:

- Indicator 14.4: Statistics from the different sources and of different periodicity are compared and reconciled.

QAF:

- Method 12.1.3 Comparison of results with other sources. Results are compared with other existing sources of information in order to ensure validity.

DQAF:

- Indicator 3.4.1: Intermediate results are validated against other information where applicable.
- Indicator 3.4.2: Statistical discrepancies in intermediate data are assessed and investigated.
- Indicator 3.4.3: Statistical discrepancies and other potential indicators or problems in statistical outputs are investigated.
- Indicator 4.2.3: Statistics are consistent or reconcilable with those obtained through other data sources and/or statistical frameworks.

Objective:

- public confidence in Statistics Netherlands.

6	Aggregates and details (microdata) are sufficiently consistent.
---	---

Notes:

- inconsistency arises when editing meso and macro data without adjusting the microdata;
- this standard may be intentionally disregarded for efficiency reasons;
- this must be taken into account and explained if Statistics Netherlands releases the corresponding microdata to third parties;
- a possible option would be to append any changes at meso and macro levels to the set of microdata.

Assessment criteria:

- no changes are made to intermediate and final results;
- any changes are to microdata.

Objective:

- utility of microdata for users.

4.4 Confidentiality of the statistical data

1	The published data are subject to proper statistical security measures.
---	---

Notes:

- the risk of unintentional disclosure of individual units (persons, companies) must be sufficiently small; this applies to all releases, including custom work;
- this standard does not apply to data provided to Eurostat. Statistics Netherlands and Eurostat are both members of the European Statistical System (ESS).

Assessment criteria:

- the methods given in the Statistical Security Manual have been applied;
- security software has been used.

UN Principles:

- Principle 6: Individual data collected about natural persons and legal entities, or about small aggregates that are subject to national confidentiality rules, are to be kept strictly confidential and are to be used exclusively for statistical purposes or for purposes mandated by legislation.

EU Statistical Law:

- Chapter V, Article 20.3 lists the exceptional cases in which statistical confidentiality is inapplicable.

Code of Practice:

- Principle 5: Statistical confidentiality. The privacy of data providers (households, enterprises, administrations and other respondents), the confidentiality of the information they provide and its use only for statistical purposes are absolutely guaranteed.

Statistics Netherlands Act:

- Section 37.3 provides that the publication of data is arranged such that no identifiable data of an individual person, household, company, or institution can be derived;
- an exception is made for companies and institutions where there are grounds to believe that the company or institution concerned has no objection to disclosure.

Code of Conduct:

- Statistics Netherlands produces statistical information in which individual data are no longer identifiable;
- furthermore, data about individual persons or companies are not disclosed to other organizations.

References:

- R003-B Methods Series – Statistical Security Manual;
- R005 Code of Practice;
- R036 Statistics Netherlands Act;
- R043 EU Statistical Law;
- R045 Statistics Netherlands Code of Conduct;
- R046 UN Fundamental Principles of Official Statistics.

Objective:

- public confidence in Statistics Netherlands.

5 Statistical output

Statistical output is manifest in various forms, such as tabular data including explanatory notes, charts, diagrams, maps, and animations. The statistical output of relevance is that destined for external users.

The following characteristics, or quality aspects, apply to statistical output:

1. clarity;
2. accessibility;
3. completeness;
4. reproducibility.

5.1 Clarity of statistical output

See Chapter 13 in the Statistical Output Quality Checklist (R007) for additional information about this focus area.

Code of Practice:

- Principle 15: European Statistics are presented in a clear and understandable form, released in a suitable and convenient manner [...]. [..]
- Indicator 15.1: Statistics and the corresponding metadata are presented, and archived, in a form that facilitates proper interpretation and meaningful comparisons.
- Indicator 15.6: Users are kept informed about the methodology of statistical processes including the use of administrative data.

DQAF:

- Indicator 1.2.1: The terms and conditions under which statistics are collected, processed, and disseminated are available to the public. See Code of Practice Indicator 15.6.
- Indicator 5.1.1: Statistics are presented in a way that facilitates proper interpretation and meaningful comparisons (layout and clarity of text, tables, and charts). See Code of Practice Indicator 15.1.
- Indicator 5.2.1: Documentation on concepts, scope, classifications, basis of recording, data sources, and statistical techniques is available, and differences from internationally accepted standards, guidelines, or good practices are annotated.

1	The texts in StatLine tables comply with the <i>Editorial Regulations</i>
---	---

Notes:

- the Editorial Regulations are posted on Intranet (Statistics Netherlands, date unknown);
- the regulations cover:
 - the table title;
 - the umbrella text;
 - the explanatory notes for tables;
 - tab sheets;
 - definitions of variables;
- it is infeasible in an audit with broad scope to cover all regulations. It is recommended to investigate whether a regulation is applicable as and when conspicuous deficiencies are encountered in the texts.

Objective:

- user satisfaction.

2	The brief survey description complies with the regulations given in the brief survey description template.
---	--

Notes:

- the Brief Survey Description template is posted on Intranet (Statistics Netherlands, 2006);
- the explanatory notes for a table refer to the brief survey description;
- the brief survey description covers the:
 - objective;
 - target population;
 - statistical unit;
 - start of the survey;
 - frequency;
 - release policy;
 - type of survey;
 - data collection method;
 - business respondents;
 - sample size;
 - verification and correction methods;
 - weighting;
 - accuracy;
 - sequential comparability;
 - quality strategy.

Code of Practice:

- Indicator 6.4: Information on the methods and procedures used is publicly available.

Objective:

- user satisfaction.

3	The statistical concept of the StatLine table is explained in full.
---	---

Notes:

- the statistical concept covers: the statistical unit or target unit, definition of the target population, the target-subpopulations or classifications, and the variables including their definitions and the reference period (time);
- the explanatory notes to a table (variables) and the brief survey description (unit, population) refer to the statistical concept.

History:

- there used to be a long survey description, for which a draft template exists. The long survey description had the following sections:
 - objective and design;
 - background and comparability over time;
 - research population;
 - data collection and response;
 - data processing;
 - outcomes and algorithms;
 - quality and accuracy of the outcomes;
 - information;
- however, since the template was never approved and released, it is impossible to prescribe the inclusion of a long survey description that complies with the template;
- see the previous standard for the brief survey description.

Objective:

- transparency of Statistics Netherlands.

4	Significant revisions or changes are announced in advance.
---	--

Notes:

- revisions or changes are concerned primarily with changes of methodology, but changes in the process, concepts and data sources are also applicable;
- a revision or change is deemed important if it has any impact on one more quality aspects of the output, or causes a change in already released, final statistical data.

Assessment criteria:

- an announcement is available to an Advisory Board, to users, on Internet, or a combination of these;
- the announcement is made a reasonable time (between one and six months) prior to the release of the output.

Code of Practice 2011:

- Indicator 6.6: Advance notice is given on major revisions or changes in methodologies.

DQAF:

- Indicator 1.2.4: Advanced notice is given of major changes in methodology, source data, and statistical techniques.

Executive Board 4 March 2013:

- The advance notice of major revisions or changes in methodologies that is required in accordance with the Code of Practice for European Statistics may be given in the advisory boards, as is current practice.

Objectives:

- compliance with the Code of Practice;
- public confidence in Statistics Netherlands;
- transparency of Statistics Netherlands.

5.2 Accessibility of statistical output

See Chapter 12 in the Statistical Output Quality Checklist (R007) for additional information about this focus area.

The predominantly central nature of the management of access to statistics means that there is no extensive description of this access in the Quality Guidelines. A single statistic cannot be meaningfully assessed against these standards. The following standards are nonetheless specific to a single statistic.

1	The output is sufficiently accessible for internal users.
---	---

Notes:

- this is concerned only with releases to specified internal users;
- in accordance with the business architecture, statistical products are placed in interfaces to ensure optimum accessibility. This access is facilitated by the Data Service Centre (DSC), which, however, is operational only for a limited number of statistics. The standard accordingly still addresses local solutions.

Objective:

- user satisfaction.

2	The output is released to internal and external users through the agreed medium and in the agreed format.
---	---

Notes:

- this is concerned only with releases to specified users, both internal and external;
- this standard is inapplicable in the absence of an agreement;
- medium: paper, CD, e-mail, data communication, Data Service Centre (DSC), database, etc.;
- format: Word document, PDF file, Excel worksheet, HTML, Access database, SDMX, etc..

Code of Practice:

- Principle 15: European Statistics are [...] released in a suitable and convenient manner [...].

DQAF:

- Indicator 5.1.2: Dissemination media and format are adequate.

Objective:

- user satisfaction.

5.3 Completeness of statistical output

1	The statistical output covers the agreed units and population of units.
---	---

Objective:

- user satisfaction.

2	The statistical output includes all agreed variables.
---	---

Notes:

- this standard applies to all releases to both internal and external users;
- it is concerned with the variables specified in the output specification and the SLAs. Assessment against this standard is possible only if these documents are available.

Objective:

- user satisfaction.

3	The agreed classification systems are applied.
---	--

Notes:

- as well as the appropriate classification system, it is also necessary to apply the correct version.

Objective:

- user satisfaction.

4	The statistical output describes the agreed subpopulations.
---	---

Notes

- an appropriate level of detail is chosen, for example SBI on 3-digit level.

Objective:

- user satisfaction.

5	The statistical output describes the agreed reference period
---	--

Objective:

- user satisfaction.

5.4 Output reproducibility

Statistical output that is reproducible is also verifiable, which is to say that the process of creating statistical output is open to scrutiny.

Reproducibility is the ability to repeat the statistical process and obtain the same output.

Reproducibility facilitates error tracing and helps make the process more transparent.

Code of Conduct:

- Statistics Netherlands promotes transparency by being answerable at all times to the public and on a scientific level, one element of which is the reproducibility of statistical data. See pages 4-5.

References:

- R045 Code of Conduct.

1	Manual changes to data are minimized.
---	---------------------------------------

Note:

- manual changes hamper the reproducibility, and hence the verifiability, of output.

Assessment criterion:

- the automation of manual changes is infeasible, complicated, or too expensive in proportion to the potential savings.

Objective:

- statistical data accuracy.

2	All manual changes to the data are recorded or logged.
---	--

Assessment criteria:

- a log is kept of what is changed or the old values are stored.

Objective:

- statistical data accuracy.

3	A record is kept for each version of the output of the versions of the data sources that were processed and of the software release that was used.
---	--

Assessment criteria:

- every output has a version number;
- all source data have a version number;
- software has a version number;
- a record or log is kept for each output of the source data and software versions used.

Objective:

- statistical data accuracy.

6 Other output in the form of data

Other output refers to data that do not yet constitute statistics. This category includes microdata and intermediate or semifinished products, which have yet to undergo further processing into a statistic.

6.1 Conformity of the other output with the agreements

1	The other output conforms with the agreements.
---	--

Note:

- it may be assumed that agreements have been made about aspects such as correctness, completeness and suitability for linking.

Assessment criteria:

- a monitoring process is in place for assessing the other output against the agreements;
- any deviations from the agreements can be rectified or reported to the user.

Objective:

- user satisfaction.

7 Output release

Proper assessment of the standards given in this chapter requires full details of internal and external releases.

Release is defined to include making output available (passive), and sending output to a user (active). Dissemination is an alternative term for release.

The following characteristics, or quality aspects, apply to released output:

1. completeness;
2. timeliness;
3. predictability;
4. punctuality;
5. simultaneity.

7.1 Completeness of the released output

See Chapter 15 in the Statistical Output Quality Checklist (R007) for additional information about this focus area.

Completeness can be assessed only against established agreements. This focus area is concerned with output for both internal and external users. Conformity with agreements is assessed.

1	All statistics in the Statistics Netherlands Annual Plan are also published on StatLine.
---	--

Notes:

- the Statistics Netherlands Annual Plan states the publication times for specific tables on StatLine;
- for efficiency reasons, no more is published than that stated in the Statistics Netherlands Annual Plan.

Objective:

- public confidence in Statistics Netherlands.

2	All statistical data released to external users are on StatLine or on the Statistics Netherlands website.
---	---

Notes:

- a dedicated project was executed in 2000 to incorporate all publishable data in StatLine;
- all users must have simultaneous access to the same information;
- this standard also applies to paid (custom) work for third parties;
- this standard does not apply to the release of intermediate results to partners;
- releases to users may overlap. A single table on StatLine or the website may be more efficient;
- noncompliance with the standard is acceptable only where there are sound reasons (comply or explain).

Assessment criteria:

- as for the standard.

Objective:

- user satisfaction.

7.2 Timeliness of the release of statistical output

See Chapter 10 in the Statistical Output Quality Checklist (R007) for additional information about this focus area: Current relevance of a statistic.

1	The 1-to-1 standard is complied with.
---	---------------------------------------

Notes:

- the production turnaround time is no longer than the reference period, starting from the end of the reference period;
- Eurostat regulations generally give release dates, which must also be complied with;
- this standard applies to the first version of statistical data (preliminary results);
- this standard is applicable to external users;
- see also paragraph **Fout! Verwijzingsbron niet gevonden. on Fout! verwijzingsbron niet gevonden..**

Executive Board 7 January 2013:

- there are sixteen statistics that do not comply with this standard, for nine of which the feasibility of accelerated turnaround is to be investigated;
- see R039 Decisions about the 1-to-1 standard:
<http://cbsh1sps/sites/cbsdmk/kz/tijdigheid/default.aspx>

Assessment criterion:

- any deviation from the 1-to-1 standard is accounted for in the self-assessment (or a different document).

Code of Practice:

- Principle 13: European Statistics are released in a timely and punctual manner.
- Indicator 13.1: Timeliness meets European and other international release standards.
- Indicator 13.5: Preliminary results of acceptable aggregate accuracy can be released when considered useful.

QAF:

- Method 13.5.5 Review of the possibility of disseminating preliminary results. The possibility of disseminating preliminary results is reviewed regularly taking into account the data accuracy.

DQAF:

- Indicator 4.1.2: Timeliness follows dissemination standards.

N.B.

- reducing the turnaround time is an accepted way of increasing process efficiency. A shorter turnaround time helps expose any obstacles to be resolved.

Objective:

- utility of the statistical data.

7.3 Predictability of the release of statistical output

See Chapter 11 in the Statistical Output Quality Checklist (R007) for additional information about this focus area. This focus area is concerned with output for both internal and external users.

1	The release of statistical data is announced in the weekly calendar.
---	--

Notes:

- the weekly calendar is published on the preceding Friday;
- the publication calendar is concerned with publications such as press releases;
- the date is determined by Statistics Netherlands subject to the requirements of Eurostat and other users;
- the main reason for these standards is to avoid any appearance that the announcement of output is in any way influenced by political expediency. For instance, if we were to focus area a map with 'the share of people with foreign background' on the day before or after a general election, we would do so because it had been planned in advance, not because of any election that might have been called in the meantime.

Assessment criteria:

- the release of the statistical data is/was announced in the weekly calendar;
- the release of statistical data is routinely announced in the weekly calendar.

Reference:

- R040 Weekly calendar. <http://www.cbs.nl/nl-NL/menu/publicaties/default.htm>

Code of Practice:

- Indicator 6.5: Statistical release dates and times are pre-announced.
- Indicator 13.2: A standard daily time for the release of statistics is made public.

DQAF:

- Indicator 5.1.3: Statistics are released on a preannounced schedule.

Objective:

- public confidence in Statistics Netherlands;

2	Any divergence from the dissemination time schedule is publicized in advance, explained, and a new release date set.
---	--

Note:

- divergence from the dissemination time schedule is taken to include both the annual plan and the weekly calendar.

Assessment criterion:

- there is a known method of publicizing a divergence from the dissemination time schedule on the website.

References:

- R040 Weekly calendar;
- R029 Publication plan.

Code of Practice:

- Indicator 13.4: Divergence from the dissemination time schedule is publicized in advance, explained and a new release date set.

Objective:

- public confidence in Statistics Netherlands.

7.4 Punctuality of the release of statistical output

See Chapter 11 in the Statistical Output Quality Checklist (R007) for additional information about this focus area.

There is a difference between punctuality and timeliness:

- timeliness relates to the delay from the end of the reference period to the planned publication date;
- punctuality relates to any delay between the planned and actual publication date.

1	The key statistical data have been published on the pre-announced date for the past twelve months.
---	--

Notes:

- the pre-announced time is as stated in the publication plan for the calendar year and in the weekly calendar;
- the definition of 'key statistical data' is at the discretion of the user of the standard;
- the performance indicators on 2013 for Statistics Netherlands as a whole were:
 - the proportion of press releases published on the planned date, with a target value of 90% ;
 - the proportion of releases to Eurostat on the planned date with a target value of 90%.

Assessment criteria:

- as for the standard.

References:

- R029 Publication plan;
- R040 Weekly calendar.

Code of Practice:

- Principle 13: European Statistics are released in a timely and punctual manner.

Objective:

- user satisfaction.

7.5 Simultaneous release of statistical outputs

See Chapter 11 in the Statistical Output Quality Checklist (R007) for additional information about this focus area.

1	Statistical data are released simultaneously and in the same manner to all users.
---	---

Notes:

- any deviation from this standard must be publicly announced;
- this standard does not apply to the dissemination of output to partnerships.

Executive Board resolution dated 25 October 2010 (embargo policy):

- no opportunity is provided for privileged pre-release access when new data are released;
- in drafting press releases and web bulletins, external parties may be asked only if necessary to comment on any statements made by Statistics Netherlands that accompany the statistical data;
- privileged pre-release access is inevitable with joint publications;
- the existing agreements with Eurostat, those with the Ministry of Social Affairs and Employment regarding the Unemployment and Poverty Survey statistics, those with the Ministry of Health, Welfare and Sport regarding the Costs of Care statistics, those with the Netherlands Bureau for Economic Policy Analysis regarding Economic Growth (initial estimate), and those with the Ministry of Finance regarding the Government Deficit, are posted on the website;
- other existing privileged pre-release access arrangements must be phased out within two years (PNDT: i.e. no later than 25 October 2012).

Assessment criterion:

- any privileged pre-release access is reported on the website under Publication Policy.

Reference:

- R025 Publication Policy.

Code of Practice:

- Indicator 6.7: All users have equal access to statistical releases at the same time. Any privileged pre-release access to any outside user is limited, controlled and publicized. In the event that leaks occur, pre-release arrangements are revised so as to ensure impartiality.

DQAF:

- Indicator 1.2.2: Internal governmental access to statistics prior to the release is publicly identified.
- Indicator 5.1.4: Statistics are made available to all users at the same time.

Objective:

- public confidence in Statistics Netherlands.

8 Quality reports

This chapter presents the standards concerned with quality reports to all known users, both internal and external. A distinction is made between the quality reports and the associated release process.

Quality reports serve two different purposes:

- assessing whether the agreed quality has been achieved, and managing the ensuing process, where additional measures may be considered if the quality is found to be insufficient;
- accounting for quality.

Quality reports help make processes and products more transparent.

Quality Document 2008:

- the dependency analysis (Template F point 7) sets requirements on the quality of the metadata;
- the process measures (Template I Process Measure PM23 Metadata) specify the documentation for metadata.

Proper assessment of the standards given in this chapter requires a complete list of output specifications or agreements with users.

The following characteristics, or quality aspects, apply to quality reporting:

1. availability;
2. conformity with Eurostat regulations;
3. conformity with any agreements with other users;
4. punctual release.

8.1 Availability of quality reports

1	All quality reports are delivered as agreed.
---	--

Notes:

- the quality reports concerned are those for both internal and external users;
- the business architecture specifies that a quality report is to accompany the data sets in the interfaces. The data set user is then able to assess whether the quality is as agreed;
- the brief survey description can also be viewed as a kind of quality report to StatLine users.

Code of Practice:

- Indicator 4.3: [...] Product quality is regularly monitored, assessed with regard to possible trade-offs, and reported according to the quality criteria for European Statistics;
- Indicator 15.7: Users are kept informed about the quality of statistical outputs with respect to the quality criteria for European Statistics.

Assessment criteria:

- as for the standard.

Objective:

- clarity of statistical output. Users are not in a position to evaluate the statistical data.

2	Quality reports addressed to Eurostat are also posted on the Statistics Netherlands website.
---	--

Note:

- Statistics Netherlands has a standard quality reporting format, but its use is currently optional.

Assessment criteria:

- quality reports are posted on the Statistics Netherlands website;
- the brief survey description has a link to the quality report (at the end).

Executive Board 2 April 2013:

- in 2013 EBN and the Netherlands Social and Economic Council will each post eight of the quality reports to Eurostat also on the Statistics Netherlands website ;
- agreements for 2014 have yet to be made (as at May 2013).

QAF:

- Method 4.3.3 User oriented quality reports. User oriented quality reports are made available to the public.
- Method 15.6.1 Publication of quality reports and methodological documents. User-oriented quality reports and methodological documents are made available to the public.
- Method 15.7.1 Publication of quality reports. User oriented quality reports are made publicly available.
- Method 4.3.4 Producer oriented quality reports. Producer oriented quality reports are published regularly (periodicity to be determined: e.g. by the specific Regulation and the survey life cycle), bearing in mind the standards for reference metadata and quality indicators, in particular the Single Integrated Metadata Structure (SIMS).

Reference:

- R054 SIMS.

Objective:

- clarity of the statistical output and its quality.

8.2 Conformity of quality reports with agreements

1	Quality reports to Eurostat comply with the regulations.
---	--

Notes:

- this is concerned with both the content of the quality reports and the agreed release timing;
- the requirement for quality data, and the nature of the data, vary greatly from one recommendation to another;
- e.g. Council Regulation No. 58/97 of 1996 concerning structural business statistics: 'For each of the characteristics listed in Section 4, point 4, Member States will indicate the degree of precision by reference to a confidence level of 95 %';
- there is an ongoing quality reporting harmonization process in Eurostat (as at May 2013). A set of concepts has been defined for 'user-oriented quality reports' and for 'producer-oriented quality reports';
- a tool is also available (National Reference Metadata Editor, NRME) for submitting quality reports to Eurostat on the web. This tool is being implemented in steps for the individual data flows and domains towards Eurostat.

Assessment criteria:

- prescribed quality report formats are available;
- the prescribed format is used;
- the quality report is complete and correct;
- the quality report is clear and unambiguous.

QAF:

- Method 8.3.6: Measurement and reporting of sampling precision. Estimations of sampling precision are properly measured and adequately reported to users.
- Method 12.2.2 Quality reporting on accuracy. Periodic quality reporting on accuracy is in place (serving both producer and user perspectives).
- Method 12.2.3 ESS recommendations on quality reporting. Quality reporting on accuracy is guided by ESS recommendations.
- Method 15.7.2 Compliance of quality reports with ESS standards and guidelines. User oriented quality reports are defined according to ESS standards and guidelines for quality reporting.
- Method 4.3.4 Producer oriented quality reports. Producer oriented quality reports are published regularly (periodicity to be determined: e.g. by the specific Regulation and the survey life cycle), bearing in mind the standards for reference metadata and quality indicators, in particular the Single Integrated Metadata Structure (SIMS).

Reference:

- R054 SIMS.

Objective:

- user satisfaction.

2	Quality reports to external users other than Eurostat comply with agreements.
---	---

Notes:

- this is concerned with both internal and external users;
- this standard is inapplicable in the absence of agreements about quality reporting.

Assessment criteria:

- agreed quality report formats are available;
- the agreed format is used;
- the quality report is complete and correct;
- the quality report is clear and unambiguous.

QAF:

- Method 8.3.6: Measurement and reporting of sampling precision. Estimations of sampling precision are properly measured and adequately reported to users.
- Method 12.2.2 Quality reporting on accuracy. Periodic quality reporting on accuracy is in place (serving both producer and user perspectives).

Objective:

- user satisfaction.

3	A quality report accompanies each release to an internal user.
---	--

Notes:

- exception reporting may suffice where output quality is covered by agreements;
- quality reports to internal users are highly desirable, but this is not a hard requirement, and is not Statistics Netherlands' policy.

Assessment criteria:

- quality reports are delivered with each output release;
- quality reports contain information that is relevant to the quality of the accompanying statistical output.

Objective:

- all statistical output quality aspects.

9 Release policy

The following characteristic applies to release policy:

1. public availability.

9.1 Public availability of the release policy

1	The release policy is available to the public.
---	--

Notes:

- publication strategy is another term for release policy;
- the Executive Board resolved on 15 April 2004 that there is to be a release policy for each statistic;
- the release policy must comply with the guidelines for the Communication of Adjustments to Published Consumer Confidence Survey Results (Statistics Netherlands 2007b); these guidelines state: 'The release policy will be covered in the survey description';
- release policy does not refer to the publication or embargo policy.

Assessment criterion:

- the release policy section of the brief survey description is correct and complete.

QAF (at institutional level):

- Method 13.2.1 A release policy. A release policy is defined and published. The release policy distinguishes between different kinds of publications (e.g. press releases, specific statistical reports/tables, general publications) and their corresponding release procedures.

References:

- R009a Brief Survey Description – template;
- R009b Brief Survey Descriptions;
- R011a Communication of Adjustments to Published Survey Results.

Objective:

- clarity of statistical output.

10 Publication of corrections, adjustments and revisions

The following characteristics apply to the publication of corrections, adjustments and revisions:

1. public availability of the policy;
2. conformity with the regulations.

10.1 Public availability of the revision policy

1	The revision policy is available to the public.
---	---

Assessment criterion:

- the revision policy is given in the brief survey description or the explanatory notes to a table.

QAF:

- Method 13.5.7 A policy for scheduled revisions. Key outputs, or groups of key outputs, which are subject to scheduled revisions have a published policy covering those revisions.

Objective:

- clarity of statistical output.

10.2 Conformity of the publication of corrections, adjustments and revisions with the regulations

1	Any corrections, adjustments and revisions are published in accordance with the regulations.
---	--

Notes:

- correction is the rectification of incorrect statistical data;
- adjustment is the conversion of preliminary data to final data;
- revisions are changes made after some considerable period; the statistical concept may also be adjusted retroactively at the same time;
- there are Statistics Netherlands regulations for corrections and revisions (R010-12);
- there are also Eurostat guidelines for corrections, adjustments and revisions (R038).

Assessment criteria:

- the regulations are known;
- the regulations are applied in specific cases;
- any corrections, adjustments and revisions are explained on the website;
- the revision history remains available to users (on request or on the website);
- the Eurostat guidelines are observed (R038).

Code of Practice:

- Indicator 8.6: Revisions follow standard, well-established and transparent procedures;
- Indicator 6.3: Errors discovered in published statistics are corrected at the earliest possible date and publicized.

QAF:

- Method 12.3.3 Compliance of the Revision Policy with standard procedures. The Revision Policy follows standard and transparent procedures in the context of each survey;
- Method 8.6.3 Explanations and publication of revisions. Revisions are accompanied by all necessary explanations and made available to users.

DQAF:

- Indicator 3.5.1: Studies and analyses of revisions are carried out routinely and used internally to inform statistical processes;
- Indicator 4.3.1: Revisions follow a regular and transparent schedule;
- Indicator 4.3.2: [...] revised data are clearly identified;
- Indicator 4.3.3: Studies and analysis of revisions are made public.

References:

- R010 About delays, advance publication and corrections of results published by Statistics Netherlands (2007);
- R011 Communication of Adjustments to Published Consumer Confidence Survey Results 1 (2007);
- R012 Communication of Adjustments to Published Consumer Confidence Survey Results 2 (2007);
- R038 ESS Guidelines on revision policy for PEEIs (2013).

Objective:

- clarity of statistical output.

11 Publications

The following characteristic applies to publications:

1. consistency with StatLine tables.

11.1 Consistency of publications with StatLine tables

1	Statistical data in publications agree with statistical data in StatLine.
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Assessment criterion:

- statistical data in publications do not differ from the statistical data in the StatLine tables.

Objective:

- public confidence in Statistics Netherlands.

Part III: internal

12. Methodology
13. Statistical processes
14. Adjustment and revisions process
15. Other processes
16. Documentations
17. Data in the process
18. Conceptual metadata
19. Quality indicators
20. Quality document
21. Folders and files

12 Methodology

This chapter sets down standards related to methodology. The combination of methodology and data sources is an important determinant of statistical data accuracy.

The characteristics of methodology are the degree of soundness of the following aspects:

- the methodology in general;
- sampling;
- data collection;
- response-enhancing measures;
- data editing;
- imputation;
- detecting and handling outliers;
- the transformation process;
- data linking;
- weighting and grossing-up;
- correction;
- data fitting.

Proper assessment of the standards given in this chapter requires full details of releases to internal and external users. The standards relate to the individual releases.

Moreover any specific agreements that have been entered into about the accuracy of the statistical data must be fulfilled.

Code of Practice:

- Indicator 8.3: Survey designs, sample selections and estimation methods are well based and regularly reviewed and revised as required;
- Indicator 8.4: Data collection, data entry, and coding are routinely monitored and revised as required;
- Indicator 8.5: Appropriate editing and imputation methods are used and regularly reviewed, revised or updated as required.

DQAF:

- Indicator 3.2.1: Source data – including censuses, sample surveys [...] – are routinely assessed, e.g., for coverage, sample error, response error, and nonsampling error; the results of the assessments are monitored and made available to guide statistical processes.

Generic assessment criteria for the design of a method

The design of a method for statistical process can be assessed by analysing how it was created (i.e. a process-oriented rather than a product-oriented assessment). This approach can help avoid the need to reassess the design. This aim cannot be achieved through a standard audit or self-assessment.

The assessment criteria are:

1. the design was created and / or reviewed at the time by an expert in the field that relates to the method;
2. the design was created and / or reviewed at the time by an expert in the subject matter concerned;
3. the design is documented completely, clearly, consistently and unambiguously; it is possible to explain and comprehend the method;
4. the method is incorporated in the Methods Series;
5. the method is selected on the basis of objective criteria.

There are three possible courses of action if a method is employed that is not compliant with the Methods Series:

- the method may be submitted to the editorial board of the Methods Series with a view to incorporating it in the Methods Series;
- the method may be assessed as sound by a methodologist;
- a migration plan to the correct method may be drawn up. The time line depends on the severity of the impact on the accuracy of the statistical data (urgency).

Generic assessment criteria for the implementation of a method

It is likewise possible to assess the implementation of a method in a statistical process by analysing its creation process and the related statistical production process. The focus is on the implementation of the method in a system, not on the organizational implementation:

6. an acceptance test of the application in which the method is programmed has taken place;
7. the acceptance test comprises test cases, test expectations and test results, where the test results are assessed against the test expectations. This process is documented in reports;
8. the test is repeated following any software change. A test that always covers the entire application (regression test) and employing a standard test set is preferable;
9. the parameterization / configuration of the method is reviewed on a regular basis, where the frequency depends on the frequency of the statistic and the stability of the phenomenon being measured.

Generic assessment criteria for the performance of a method

The performance is concerned with the manual operations:

10. checks of the plausibility of the results are carried out in the production process;
11. the applications are used in the intended manner, with no workarounds or bypasses;
12. work proceeds in accordance with the relevant manual and instructions.

12.1 Soundness of the methodology

1	The method and method descriptions are reviewed on a regular basis.
---	---

Notes:

- the aim is *not* to redesign the method;
- the review is oriented to statistical data accuracy;
- another aim of the review is to identify any possible production speed and efficiency improvements;
- these reviews are distinct from audits, which have a broader scope, albeit that they may use the results of the periodic reviews.

Assessment criteria:

- there is a review of the method once every year;
- the reviewer is preferably an independent expert, but not necessarily a Process Development, IT and Methodology (PIM) division methodologist. Another option is internal evaluation.

Code of Practice:

- Principle 7: Sound methodology underpins quality statistics. This requires adequate tools, procedures and expertise;
- Indicator 8.3: Survey designs, sample selections and estimation methods are well based and regularly reviewed and revised as required;
- Indicator 8.4: Data collection, data entry, and coding are routinely monitored and revised as required;
- Indicator 8.5: Appropriate editing and imputation methods are used and regularly reviewed, revised or updated as required.

QAF:

- Method 10.4.3 A statement in the methodological documentation. A statement explaining steps taken to move gradually towards or to comply with standardization is part of the reference metadata;
- Method 12.2.4 Methods and tools for preventing and reducing errors. Methods and tools for preventing and reducing sampling and non-sampling errors are in place.

DQAF:

- Indicator 3.3.1: Data compilation employs sound statistical techniques to deal with data sources;
- Indicator 3.3.2: Other statistical procedures (e.g., data adjustments and transformations, and statistical analysis) employ sound statistical techniques.

Quality Document 2008:

- the dependency analysis (Template F point 8) sets requirements on the soundness of the methodology;
- the process measures (Template I residual risk point 12) defines the residual risk in terms of the soundness of the methodology.

Objective:

- statistical data accuracy.

2	The method is selected on the basis of objective criteria.
---	--

Notes:

- calculations must not favour a particular result;
- this standard applies not only to the method itself but also to how it is implemented.

Assessment criteria:

- an advisory report from a methodologist is available regarding the choice of method;
- a report is available to justify the choice of method.

Code of Practice 2011:

- Indicator 6.1: Statistics are compiled on an objective basis determined by statistical considerations.

Objectives:

- statistical data accuracy;
- impartiality of Statistics Netherlands.

12.2 Soundness of sampling

1	The sampling is correctly designed.
---	-------------------------------------

Note:

- see Chapter 21: Population register for the quality of the sampling frame.

Assessment criteria:

- see 'Generic assessment criteria for the design of a method' at the beginning of this chapter;
- there is compliance with the Methods Series: Sample design;
- the sample design is no more than five years old.

QAF:

- Method 8.3.3 Compliance of survey designs and sample selections with standards. Survey designs and sample selections are developed according to standard methods;
- Method 8.3.4. Renewal of sample designs. Sample designs are periodically renewed for recurrent surveys.

Objective:

- statistical data accuracy.

2	The sampling is correctly implemented.
---	--

Assessment criteria:

- see 'Generic assessment criteria for the implementation of a method' at the beginning of this chapter.

Objective:

- statistical data accuracy.

3	The sampling is correctly performed.
---	--------------------------------------

Assessment criteria:

- see 'Generic assessment criteria for the performance of a method' at the beginning of this chapter.

Objective:

- statistical data accuracy.

4	The sampling error is known.
---	------------------------------

Note:

- the sampling error and the variance are interrelated.

Assessment criteria:

- the sampling error is measured;
- the sampling error is documented and/or reported;
- the sampling error calculation method is documented.

Code of Practice:

- Indicator 12.2: Sampling errors [...] are measured and systematically documented according to the European standards.

QAF 2012:

- Method 8.3.5: Comparable methods for calculating accuracy. Methods for calculating the accuracy of statistical data allow for the accuracy of European Statistics to be compared;
- Method 8.3.6: Measurement and reporting of sampling precision. Estimations of sampling precision are properly measured and adequately reported to users.

Objective:

- clarity of statistical output.

5	The sampling error falls within the limits of prior agreements.
---	---

Note:

- this standard is applicable only if agreements have been made about the permitted sampling error.

Assessment criterion:

- the sampling error can be compared with the permitted sampling error.

Objective:

- statistical data accuracy.

12.3 Soundness of data collection

1	The questionnaire is correctly designed.
---	--

Assessment criteria:

- see 'Generic assessment criteria for the design of a method' at the beginning of this chapter;
- there is compliance with the Methods Series: Questionnaire development;
- use is made of the Questions Lab (*Vragenlab*) for assessing and testing the questionnaire and the associated instructions;
- the response time, or interview time, is measured.

Code of Practice:

- Indicator 8.2: In the case of statistical surveys, questionnaires are systematically tested prior to the data collection.

QAF:

- Method 8.2.2 Testing of questionnaires. Prior to data collection, survey questionnaires are tested by appropriate methods (questionnaire pretest, pilot in real situation, in-depth interviews, focus groups, interviewer support, etc.). The response time (the interview length) is estimated at this stage, if necessary;
- Method 8.2.3 Use of the test results. The test results are taken into account in the process of implementing the final questionnaire, and documented in a report.

Objectives:

- statistical data accuracy;
- level of reporting burden.

2	The questionnaire is correctly implemented.
---	---

Assessment criterion:

- the questionnaire design has been translated properly into Blaise or the paper version.

Objective:

- statistical data accuracy.

3	The approach strategy is correctly designed.
---	--

Assessment criteria:

- see 'Generic assessment criteria for the design of a method' at the beginning of this chapter;
- there is compliance with the Methods Series: Questionnaire development and approach strategy.

QAF:

- Method 8.4.4 A procedure to monitor data collection techniques. Data collection techniques are periodically monitored.

Objective:

- statistical data accuracy.

4	The approach strategy is correctly implemented.
---	---

Assessment criterion:

- see 'Generic assessment criteria for the implementation of a method' at the beginning of this chapter.

Objective:

- statistical data accuracy.

5	The approach strategy is correctly performed.
---	---

Assessment criterion:

- see 'Generic assessment criteria for the performance of a method' at the beginning of this chapter.

Objective:

- statistical data accuracy.

6	The interviewers have received sufficient training for the survey concerned.
---	--

Notes:

- interviewers are taken to include field employees and staff who have telephone or e-mail contact with respondents and business respondents;
- interviewers must have been given instructions for performing the survey.

Assessment criterion:

- there is compliance with the Methods Series: Interview training.

QAF:

- Method 8.4.5 Training courses for interviewers. Training courses are provided for interviewers. For each survey, an interviewer manual/handbook exists and the accompanying interviewer procedures are implemented.

Objective:

- statistical data accuracy.

12.4 Soundness of response-enhancing measures

This is concerned with the response in primary data collection.

1	The response-enhancing measures are correctly designed.
---	---

Assessment criteria:

- see 'Generic assessment criteria for the design of a method' at the beginning of this chapter;
- there is compliance with the Methods Series: Response-enhancing measures.

QAF:

- Method 8.4.6 A procedure to follow-up non-response. Follow-up procedures are in place and implemented in the case of non-response.

Objective:

- statistical data accuracy.

2	The response-enhancing measures are correctly implemented.
---	--

Assessment criterion:

- see 'Generic assessment criteria for the implementation of a method' at the beginning of this chapter.

Objective:

- statistical data accuracy.

3	The response-enhancing measures are correctly performed.
---	--

Assessment criterion:

- see 'Generic assessment criteria for the performance of a method' at the beginning of this chapter.

Objective:

- statistical data accuracy.

4	The response is known.
---	------------------------

Notes:

- response = net sample;
- insufficient response leads to excessive variance.

Objective:

- statistical data accuracy.

5	The response falls within the limits of prior agreements.
---	---

Objective:

- statistical data accuracy.

6

The response selectivity is known.

Notes:

- response selectivity may lead to bias, even with random sampling;
- knowledge of the selectivity also facilitates correction.

Objective:

- statistical data accuracy.

12.5 Soundness of data editing

1	The data editing method is correctly designed.
---	--

Assessment criteria:

- see 'Generic assessment criteria for the design of a method' at the beginning of this chapter;
- there is compliance with the Methods Series: Correction;
- the rules used in automatic data editing are known.

QAF:

- Method 8.5.3 Analysis of the editing and imputation. Analysis of the effect of editing and imputation is undertaken as part of assessing quality of the data collection;
- Method 8.5.4 Compliance of editing and imputation techniques with standards. Editing and imputation techniques follow standard methodological rules and are documented.

Objective:

- statistical data accuracy.

2	The data editing method is correctly implemented.
---	---

Assessment criteria:

- see 'Generic assessment criteria for the implementation of a method' at the beginning of this chapter;
- corrections are logged in order to ensure the verifiability and reproducibility of statistical data.

Objective:

- statistical data accuracy.

3	The data editing method is correctly performed.
---	---

Assessment criteria:

- see 'Generic assessment criteria for the performance of a method' at the beginning of this chapter.

Objective:

- statistical data accuracy.

12.6 Soundness of imputation

A choice is generally made between imputation and grossing-up.

1	The imputation method is correctly designed.
---	--

Assessment criteria:

- see 'Generic assessment criteria for the design of a method' at the beginning of this chapter;
- there is compliance with the Methods Series: Imputation.

QAF:

- Method 8.5.3 Analysis of the editing and imputation. Analysis of the effect of editing and imputation is undertaken as part of assessing quality of the data collection.
- Method 8.5.4 Compliance of editing and imputation techniques with standards. Editing and imputation techniques follow standard methodological rules and are documented.
- Method 8.3.7 Methodological rules applied in estimation. Estimation methods, including the correction of non-response, data calibration and seasonal adjustment follow transparent methodological rules.

Objective:

- statistical data accuracy.

2	The imputation method is correctly implemented.
---	---

Assessment criterion:

- see 'Generic assessment criteria for the implementation of a method' at the beginning of this chapter.

Objective:

- statistical data accuracy.

3	The imputation method is correctly performed.
---	---

Assessment criterion:

- see 'Generic assessment criteria for the performance of a method' at the beginning of this chapter.

Objective:

- statistical data accuracy.

12.7 Soundness of outlier detection and handling

1	The method for outlier detection and handling is correctly designed.
---	--

Notes:

- outliers are extreme values that are not necessarily either correct or incorrect.

Assessment criteria:

- see 'Generic assessment criteria for the design of a method' at the beginning of this chapter;
- there is compliance with the Methods Series: Representative outliers.

Objective:

- statistical data accuracy.

2	The method for outlier detection and handling is correctly implemented.
---	---

Assessment criterion:

- see 'Generic assessment criteria for the implementation of a method' at the beginning of this chapter.

Objective:

- statistical data accuracy.

3	The outlier detection and handling method is correctly performed.
---	---

Assessment criterion:

- see 'Generic assessment criteria for the performance of a method' at the beginning of this chapter.

Objective:

- statistical data accuracy.

12.8 Soundness of the transformation process

An alternative term for transformation is derivation.

The Methods Series has no method for transformations, with the exception of index calculation.

The standards below assume single-step transformations, from data collection to publication. However, a transformation may involve two or more steps.

1	The transformation to target units is correctly designed, correctly implemented and correctly performed.
---	--

Note:

- this is concerned with converting observed units to target units, such as from tax entities to business units, and from social benefit to recipient of social benefit.

Assessment criterion:

- see 'Generic assessment criteria for the design of a method', Generic assessment criteria for the implementation of a method' and 'Generic assessment criteria for the performance of a method' at the beginning of this chapter.

Objective:

- statistical data accuracy.

2	The transformation to the target population is correctly designed, correctly implemented and correctly performed.
---	---

Notes:

- this is concerned with converting the observed population to the target population;
- this standard is inapplicable if this transformation is performed by imputation or by weighting and grossing-up.

Assessment criterion:

- see 'Generic assessment criteria for the design of a method', Generic assessment criteria for the implementation of a method' and 'Generic assessment criteria for the performance of a method' at the beginning of this chapter.

Objective:

- statistical data accuracy.

3	The transformation to target variables is correctly designed, correctly implemented and correctly performed.
---	--

Note:

- this is concerned with converting observed variables to target variables.

Assessment criterion:

- see 'Generic assessment criteria for the design of a method', Generic assessment criteria for the implementation of a method' and 'Generic assessment criteria for the performance of a method' at the beginning of this chapter.

QAF:

- Method 7.4.2 Correspondence tables. Correspondence tables are documented and kept up-to-date. Explanatory notes or comments are made available to the public.

Objective:

- statistical data accuracy.

4	The transformation to the target classification is correctly designed, correctly implemented and correctly performed.
---	---

Notes:

- there are three ways of transforming to target classifications:
 - recoding: converting to a different classification variable with no loss of information, i.e. a one-to-one code conversion;
 - classification: converting to a different classification variable with some loss of information, e.g. the merging of classes;
 - coding: converting open answers to closed answers. Synonyms include typing, grading and categorizing;
- the Methods Series does not cover this subject, and therefore cannot be used for assessment;
- the supplementary series to the Methods Series does cover this subject, but does not constitute a satisfactory quality guideline;
- the terms 'frame error' and 'classification error' are also used in this context, although frame errors also relate to other errors in the sampling frame, such as coverage errors.

Assessment criterion:

- see 'Generic assessment criteria for the design of a method', 'Generic assessment criteria for the implementation of a method' and 'Generic assessment criteria for the performance of a method' at the beginning of this chapter.

QAF:

- Method 8.4.7 Data coding methods. The data coding methods are documented and stored.

Objective:

- statistical data accuracy (subpopulations).

5	The transformation to the target period or time is correctly designed, correctly implemented and correctly performed.
---	---

Notes:

- this is concerned with converting the observed period or time to the target period or time;
- the term 'population time' is also used;
- see 'Generic assessment criteria for the design of a method', 'Generic assessment criteria for the implementation of a method' and 'Generic assessment criteria for the performance of a method' at the beginning of this chapter.

Objective:

- statistical data accuracy.

6	Calculations are correctly designed, correctly implemented and correctly performed.
---	---

Notes:

- some examples of calculated values are: totals (aggregates), averages, trends (growth figures), and indices;
- see 'Generic assessment criteria for the design of a method', 'Generic assessment criteria for the implementation of a method' and 'Generic assessment criteria for the performance of a method' at the beginning of this chapter;
- for indices, there is compliance with the Methods Series: Indices.

DQAF:

- Indicator 2.4.1: Market prices are used to value flows and stocks;
- Indicator 2.4.2: Recording is done on an accrual basis;
- Indicator 2.4.3: Grossing/netting procedures are broadly consistent with internationally accepted standards, guidelines, or good practices.

Objective:

- statistical data accuracy.

12.9 Soundness of data linking

1	The data linking method is correctly designed.
---	--

Assessment criteria:

- see 'Generic assessment criteria for the design of a method' at the beginning of this chapter;
- there is compliance with the Methods Series: Data linking.

QAF:

- Method 10.3.3 Data linking and integration methods. Data linking and integration methods are pro-actively pursued subject to data security considerations.

Objective:

- statistical data accuracy.

2	The data linking method is correctly implemented.
---	---

Assessment criterion:

- see 'Generic assessment criteria for the implementation of a method' at the beginning of this chapter.

Objective:

- statistical data accuracy.

3	The data linking method is correctly performed.
---	---

Assessment criterion:

- see 'Generic assessment criteria for the performance of a method' at the beginning of this chapter.

Objective:

- statistical data accuracy.

12.10 Soundness of weighting and grossing-up

Weighting implies grossing-up to produce an estimate for the whole population.

1	The weighting method is correctly designed.
---	---

Assessment criteria:

- see 'Generic assessment criteria for the design of a method' at the beginning of this chapter;
- there is compliance with the Methods Series: Weighting as an adjustment for non-response.

QAF:

- Method 8.3.7 Methodological rules applied in estimation. Estimation methods, including the correction of non-response, data calibration and seasonal adjustment follow transparent methodological rules.

Objective:

- statistical data accuracy.

2	The weighting method is correctly implemented.
---	--

Assessment criterion:

- see 'Generic assessment criteria for the implementation of a method' at the beginning of this chapter.

Objective:

- statistical data accuracy.

3	The weighting method is correctly performed.
---	--

Assessment criterion:

- see 'Generic assessment criteria for the performance of a method' at the beginning of this chapter.

Objective:

- statistical data accuracy.

12.11 Soundness of correction (other than data editing)

1	The correction method is correctly designed.
---	--

Note:

- correction does not refer to data editing here, but, for example, to:
 - seasonal adjustment;
 - correction for workable days;
 - correction for special retail opening days;
 - quality-related correction.

QAF:

- Method 8.3.7 Methodological rules applied in estimation. Estimation methods, including the correction of non-response, data calibration and seasonal adjustment follow transparent methodological rules.

Assessment criteria:

- see 'Generic assessment criteria for the design of a method' at the beginning of this chapter;
- for seasonal adjustments, there is compliance with the Methods Series: Seasonal adjustment.

Objective:

- statistical data accuracy.

2	The correction method is correctly implemented.
---	---

Assessment criterion:

- see 'Generic assessment criteria for the implementation of a method' at the beginning of this chapter.

Objective:

- statistical data accuracy.

3	The correction method is correctly performed.
---	---

Assessment criterion:

- see 'Generic assessment criteria for the performance of a method' at the beginning of this chapter.

Objective:

- statistical data accuracy.

12.12 Soundness of fitting

1	The fitting method is correctly selected, correctly implemented and correctly performed.
---	--

Note:

- fitting is applicable only to National Accounts.

Objective:

- statistical data accuracy.

13 Statistical processes

The following characteristics, or quality aspects, apply to processes:

1. conformity with the Personal Data Protection Act (Wbp);
2. data collection process efficiency;
3. existence;
4. efficiency of other statistical processes;
5. robustness;
6. conformity with the business architecture;
7. position in the chain.

A process is a coherent set of activities that takes input and produces output.

- A process is *in place* if it is documented.
- A process *exists* if it is performed by staff or systems.
- A process *works* if it provides the agreed output and is therefore effective.

13.1 Conformity of the process with the Personal Data Protection Act (Wbp)

Person-related data include anything from which it is possible to deduce an ‘identified or identifiable natural person’, which means that the name of a person who is associated with the data is known or can be obtained.

Data is said to be person-related if the identity of a person can be ascertained within two or three days using Statistics Netherlands in-house resources (expertise, data sources, software). Data such as a MAC address or an IP number are deemed to be person-related if it is possible to associate a person with them.

A European privacy regulation that is now pending may raise other requirements. However, the date on which this will come into force is still unknown (May 2013).

References:

- R051a SPS data protection site;
- R051b Personal Data Protection Act (Wbp);
- R051c Personal Data Protection Act announcements on the Statistics Netherlands website;
- R051d Privacy audit framework;
- R051e Dutch Data Protection Authority (CBP) personal data security guidelines.

1	Notification is given when personal data are processed.
---	---

Notes:

- the Personal Data Protection Act applies when personal data are processed;
- this may also be the case when processing data about businesses (sole traders).

Assessment criteria:

- the Statistics Netherlands data protection officer is notified;
- the notification is signed by the DG;
- the Statistics Netherlands data protection officer posts a simplified account of the notification on the Statistics Netherlands website (R055).

Personal Data Protection Act:

- Section 27.1: notification is made of any fully or partially automated processing of personal data where the intention is the achievement of a purpose or of several related purposes.

Objective:

- conformity with legislation.

2	The notification is complete.
---	-------------------------------

Assessment criteria:

- all items given in Article 28.1 are entered;
- Point b refers to ‘Statistics production based on the Statistics Netherlands Act as set down in the Statistics Netherlands Annual Plan’. Reference is also made to the underlying Section 8(e) of the Personal Data Protection Act (Wbp);
- Point f refers to the Quality Document documentation (Quality Document) for the statistical process.

Personal Data Protection Act:

- Section 8(e): Personal data may be processed only if necessary for the proper fulfilment of a public-law duty by the administrative body concerned or the administrative body to which the data are provided;
- Section 28.1: the notification covers:
 - a. the name and address of the controller;

- b. the objective or purposes of the processing;
- c. a statement of the categories of those involved and of the related data or data categories;
- d. the possible recipients or categories of recipients of the data;
- e. any proposed transmission of data to countries outside the European Union;
- f. a general description to allow a provisional assessment of the appropriateness of the proposed measures in order to safeguard the security of the processing in compliance with Section 13 and Section 14;
- Section 28.2: the notification covers the objective or purposes for which the data or the categories of data have been or will be collected.

Objective:

- conformity with legislation.

3	The notification is timely.
---	-----------------------------

Assessment criterion:

- the data in the notification reflect reality and comply with the periods (week, year) stated in Section 28.3.

Personal Data Protection Act:

- Section 28.3: any change of the controller's name or address is notified within one week. Every change in the statement related to parts b to f, inclusive, of the first paragraph (see Section 28.1 b to f, inclusive), is notified within one year of the prior notification, where the change is of more than an incidental nature.

Objective:

- conformity with legislation.

4	There is compliance with the other provisions of the Personal Data Protection Act.
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Note:

- the Personal Data Protection Act has the following provisions in addition to those concerned with the notification:
 1. those concerned are properly informed about what Statistics Netherlands does with their data, which applies in particular to surveys;
 2. Statistics Netherlands uses the data only for the purpose for which it was collected (for statistics and research, but not for monitoring and registration);
 3. no more personal data are collected than necessary for the achievement of the objective;
 4. the collection is based on an explicit provision in law (a legitimate basis);
 5. personal data are satisfactorily secured in accordance with Dutch Data Protection Authority (CBP) personal data security guidelines;
 6. if processing of personal data is outsourced then there must be a satisfactory processing contract;
 7. in the event of joint processing, there must be a satisfactory collaboration agreement, which must set down the notification method;
 8. the publications are statically secured;
 9. the identity of the responsible owner (sector manager or higher) of all personal data is clear;
 10. any disclosure of personal data to third parties is within the constraints of the Statistics Netherlands Act;
 11. if no Quality Document documentation is available, a Privacy Impact Analysis must be performed (and recorded);
 12. transmission to a country outside the EU takes place only if the level of protection in the country concerned is satisfactory.

13. Some personal data must demonstrably be treated with extra caution, for example information concerning religion, ethnicity, political preference, health, sexual behaviour, personal data on trade union membership, criminal data at a personal level and data on unlawful or offensive behaviour at a personal level. Information concerning underage persons must also be treated with extra care. These extra precautions must be taken in processes concerning data collection (the information may only be used for the purpose for which it is collected), data accessibility, and statistical security.

Assessment criteria:

- the security officer has performed a risk analysis of the processing security and has found the measures that are in place to be satisfactory;
- the policy staff (CBO) lawyer has approved the collaboration or processing contract;
- any recommendations of the data protection officer have been observed.

Objective:

- conformity with legislation (in particular the Statistics Netherlands Act, the Personal Data Protection Act (Wbp) and the Guidelines for Personal Data Security of the Dutch Data Protection Authority).

13.2 Existence of processes

Assessment criteria:

- the process is documented ('in place'); this is an indication that the process also exists;
- the process produces output;
- something is done with the output; it constitutes input for another process or a subsequent cycle;
- the process is referred to in the job description of one or more members of staff.

1	Processes are in place for assessing and accepting source data.
---	---

Note:

- the relevant source data may be internal input from another process as well as the output of primary data sources or secondary data sources..

Code of Practice:

- Indicator 12.1: Source data, intermediate results and statistical outputs are regularly assessed and validated.
- Indicator 4.4: There is a regular and thorough review of the key statistical outputs using also external experts where appropriate.

QAF:

- Method 4.2.2 Procedures to monitor process quality. Procedures are in place to monitor the quality of different stages of the statistical production, e.g. according to a quality assurance plan or a similar scheme, like the establishment of regular expert group meetings.

Objective:

- statistical data accuracy.

2	Processes are in place for assessing and validating intermediate results.
---	---

Code of Practice:

- Indicator 12.1: Source data, intermediate results and statistical outputs are regularly assessed and validated.
- Indicator 4.2: Procedures are in place to plan and monitor the quality of the statistical production process.

QAF:

- Method 4.2.2 Procedures to monitor process quality. Procedures are in place to monitor the quality of different stages of the statistical production, e.g. according to a quality assurance plan or a similar scheme, like the establishment of regular expert group meetings.

Objective:

- statistical data accuracy.

3	Processes are in place for assessing and validating statistical output.
---	---

Notes:

- this is concerned not only with accuracy but with all quality aspects of output, such as relevance, timeliness, punctuality, coherence, comparability, consistency and clarity;
- the output consists not only of statistical data, but also of reports, publications and other metadata.

Code of Practice:

- Indicator 4.3: Product quality is regularly monitored, assessed [..].

QAF:

- Method 4.2.2 Procedures to monitor process quality. Procedures are in place to monitor the quality of different stages of the statistical production, e.g. according to a quality assurance plan or a similar scheme, like the establishment of regular expert group meetings.

Objective:

- user satisfaction.

4	Processes are in place for handling quality focus areas.
---	--

Notes:

- timeliness and punctuality versus accuracy is the most conspicuous quality focus area;
- quality focus areas are generally handled in the design phase;
- the implementation phase is concerned only with handling incidents, such as output that is too late, or too inaccurate.

Code of Practice:

- Indicator 4.3: Product quality is regularly monitored, assessed with regard to possible trade-offs [..].

Objective:

- all statistical output quality aspects.

13.3 Data collection efficiency

Code of Conduct:

- efficiency is one of the six principles of the Statistics Netherlands Code of Conduct;
- 'Statistics Netherlands makes use of existing registers and databases where possible'.

Reference:

- R045 Statistics Netherlands Code of Conduct.

1	Use is made of data that are available within Statistics Netherlands.
---	---

Notes:

- the first step in the data collection strategy is the reuse of any data that already exists (registers, surveys, and other pre-existing sources in Statistics Netherlands);
- before this step can be performed, the statistical information requirement, the population to be described and the quality requirements must first be established.

Assessment criterion:

- it is investigated whether the data are available within Statistics Netherlands.

Code of Practice:

- Indicator 9.5: Data sharing within statistical authorities is generalized in order to avoid multiplication of surveys.

QAF:

- Method 8.4.2 Optimization of data collection. Data collection is optimized in order to reduce costs and response burden, to improve accuracy and to reduce non-sampling errors.

Reference material:

- R050: Statistics Netherlands-wide data collection strategy 2011.

Objective:

- cost level of Statistics Netherlands.

2	Use is made of administrative data.
---	-------------------------------------

Note:

- the second step in the data collection strategy is to investigate and make use of secondary sources – that are not yet available within Statistics Netherlands – such as registers or other direct or indirect sources with information about the units, which may be collected from Internet, GPS systems, mobile telephone services and other sources.

Assessment criterion:

- it is investigated whether registers with the desired data are available.

Code of Practice:

- Indicator 9.4: Administrative sources are used whenever possible to avoid duplicating requests for information.
- Indicator 10.3: Proactive efforts are made to improve the statistical potential of administrative data and to limit recourse to direct surveys.

QAF:

- Method 8.4.2 Optimization of data collection. Data collection is optimized in order to reduce costs and response burden, to improve accuracy and to reduce non-sampling errors.
- Method 9.1.7 Consideration of alternative data sources. To minimize data collection there is explicit consideration of alternative data sources, including the availability and suitability of existing survey and administrative data.

Executive Board 16 August 2010:

- Statistics Netherlands' current data collection strategy is: *to maximize use of secondary data* (the relevant criteria are completeness, timeliness and quality) and to make use of primary data collection where there is no alternative (in the sequence: XBRL, web surveys, paper, CATI, and CAPI);
- this data collection strategy will continue to apply for the coming period.

Reference material:

- R050: Statistics Netherlands-wide data collection strategy 2011.

Objectives:

- level of reporting burden;
- cost level of Statistics Netherlands.

3	The most effective data collection mode or combination of modes is selected.
---	--

Notes:

- the third and final step in the data collection strategy is to perform primary data collection ourselves;
- the modes in order of increasing cost are:
 - Electronic Data Interchange (e.g. by means of XML or XBRL);
 - Internet survey;
 - written survey;
 - CATI telephone interviews;
 - CAPI interview with home visit;
- modes may be combined (mixed mode).

Assessment criterion:

- the availability of less expensive forms of primary data collection is investigated.

Reference material:

- R050: Statistics Netherlands-wide data collection strategy 2011.

Objectives:

- cost level of Statistics Netherlands;
- level of reporting burden (for businesses).

13.4 Efficiency of other statistical processes

Process efficiency is concerned with performing the process at the lowest possible costs; process effectiveness means also delivering the agreed products at the agreed quality.

Code of Practice

- Principle 10 Cost effectiveness: Resources are used effectively.

DQAF:

- Indicator 0.2.2: Measures to ensure efficient use of resources are implemented.

Code of Conduct:

- efficiency is one of the six principles of the Statistics Netherlands Code of Conduct;
- Statistics Netherlands produces statistics in an efficient manner, making use of all available resources. The aim is to achieve the lowest possible costs and burden for the business respondent. Statistics Netherlands makes use of existing registers and databases where possible.

Reference:

- R045 Statistics Netherlands Code of Conduct.

1	Duplicated effort in the chain is avoided.
---	--

Assessment criteria:

- checks are performed twice, possibly by different teams;
- two different processes have comparable output;
- shadow accounts are kept.

Objective:

- cost level of Statistics Netherlands.

2	IT is used optimally in the interests of efficiency.
---	--

Note:

- the payback time for IT costs must be reasonable; the business case, or cost-benefit analysis, must be favourable.

Assessment criteria:

- there are routine operations that demand substantial capacity;
- there are operations that are sensitive to errors.

Code of Practice:

- Indicator 10.2: The productivity potential of information and communications technology is being optimized for data collection, processing and dissemination.

QAF:

- Method 10.2.4 Review of the use of automated processing techniques. The use of automated processing techniques is regularly reviewed;
- Method 9.4.5 Applications for the collection of administrative data. Applications for the collection of administrative data to be used for statistical purpose are developed and implemented;
- Method 9.3.4 Use of business accounting concepts and IT systems. Business accounting concepts and standardized IT systems such as XBRL are used in data collections from businesses;
- Method 9.3.6 Tools to extract data from business accounting systems. Software tools to directly extract data from business accounting systems are in place.

Objective:

- cost level of Statistics Netherlands.

3	Optimum use is made of efficiency-promoting methods.
---	--

Note:

- methods may also be employed to help processes proceed more efficiently.

Assessment criterion:

- consideration is given to other statistical methods that achieve the same result with less effort.

Objective:

- cost level of Statistics Netherlands.

4	Only those variables and subpopulations that are given in the output specifications are released.
---	---

Notes:

- output specifications are given in Eurostat regulations, for example;
- this is concerned with predetermined output specifications, not the explanatory notes with StatLine tables;
- output specifications are specifications of the statistical concept;
- subpopulations relate to categories or classes, which is to say the details of the statistical data.

Assessment criterion:

- the output comprises no more variables than agreed;
- the output is no more detailed than agreed.

Code of Practice:

- Indicator 9.1: The range and detail of European Statistics demands is limited to what is absolutely necessary.

QAF:

- Method 9.1.6 Justification of each collected variable. Each collected variable is duly justified;
- Method 9.2.7 Limitation of questions. Questions used to collect information which will not be published are limited and justified.

Objective:

- cost level of Statistics Netherlands.

5	Optimum use is made of standard output.
---	---

Assessment criteria:

- custom work is replaced by a StatLine table;
- custom work is combined for multiple users.

Objective:

- cost level of Statistics Netherlands.

6	Optimum use is made of generic services.
---	--

Note:

- generic services are:
 - data collection through the Data Collection division;
 - the storage, provision of access and archiving of steady states by the Data Service Centre;
 - the storage and publication of tables in StatLine;
 - the performance of short-term and one-off surveys by the Centre for Statistical Research;
 - the delivery of databases to Eurostat and other international authorities.

Assessment criterion:

- a conscious choice is made between using or not using generic services.

Code of Practice:

- Indicator 10.4: Statistical authorities promote and implement standardized solutions that increase effectiveness and efficiency.

QAF:

- Method 9.5.3 Sharing of data archives. Data archives are shared within statistical authorities when useful and in compliance with confidentiality policies.

Objective:

- cost level of Statistics Netherlands.

7	Regular attention is given to efficiency improvement.
---	---

Assessment criteria:

- the 'lean' approach is followed;
- there is regular consultation about efficiency improvements, including in progress meetings.

Objective:

- cost level of Statistics Netherlands.

13.5 Robustness of the process

1	The statistical process is reasonably resilient to the loss of data sources.
---	--

Note:

- this is concerned with changes to sources as well as the loss of sources.

Assessment criteria:

- staff have sufficient knowledge of the subject matter and the process to handle incidents such as a lost data source;
- alternatives are on hand for any data sources that are lost;
- it is known which data sources make a key contribution to the output.

Objective:

- all quality aspects of statistical output.

13.6 Conformity of the process with the business architecture

1	The statistical process includes steady states and interfaces.
---	--

Notes:

- a steady state is a database that is no longer subject to change and that has a specified quality;
- an interface is a folder or system into which the supplier can enter steady states for retrieval by the user.

Assessment criteria:

- CBI04: data for reuse are recorded as steady states;
- CBI06: steady states are accessible and standardized, and are exchanged by means of interfaces;
- CBI09: the supplier of steady states delivers (to the interface), and the user retrieves (from the interface).

Reference:

- R057: Rensen & Wings (2010). *Architectuur van Huidig naar Gewenst* (Architecture from Current to Desirable).

Risk for:

- cost level of Statistics Netherlands.

13.7 Position of the process in the chain

1	The statistical process forms a logical component of the chain.
---	---

Notes:

- a possible structuring principle of processes in a chain is maximum consistency of each process and minimum coupling between the processes.

Assessment criteria:

- the coupling with other processes in the chain is as small as possible;
- all information flows with other processes are unidirectional.

Objective:

- efficiency of the chain.

2	Staff are aware of the output of the chain.
---	---

Note:

- it is important for the effectiveness of a chain for all chain participants to be aware of the output that the chain leads to and what the user does with it.

Assessment criteria:

- staff know the output that the chain delivers to external users;
- staff know what external users use the output for.

Objective:

- effectiveness of the chain.

14 Adjustment and revision process

The adjustment and revision process has the following characteristics:

1. conformity with standard procedures;
2. existence of analysis processes.

14.1 Conformity of the adjustment and revision process with standard procedures

1	Adjustments and revisions are performed in accordance with standard procedures.
---	---

Assessment criteria:

- adjustment and revision procedures are in place;
- the actions taken to perform an adjustment or revision are logged.

Code of Practice:

- Indicator 8.6: Revisions follow standard, well-established and transparent procedures.

Objective:

- statistical data accuracy.

14.2 Existence of analysis processes for adjustments and revisions

1	Processes are in place for analysing adjustments and revisions.
---	---

Note:

- analysis results are used for statistical process improvement.

Assessment criterion:

- use is made of quality indicators for adjustments and revisions.

Code of Practice:

- Indicator 12.3: Revisions are regularly analysed in order to improve statistical processes.

QAF:

- Method 8.6.4 Quality indicators on revisions. Quality indicators on the revisions made are regularly calculated in accordance with current standards and made known to users;
- Method 12.3.5 Use of analysis of revisions. Regular analysis of revisions is used to improve the statistical process, incorporating lessons learnt to adjust the production cycle.

Objective:

- statistical data accuracy.

15 Other processes

The following characteristics apply to other processes:

1. existence;
2. soundness of the publication process;
3. soundness of the logistical process.

15.1 Existence of processes (having procedures 'in place')

1	A control process is in place.
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Assessment criteria:

- there is an activity plan (Plan), the activities are performed (Do), progress against plan is monitored and results are checked (Check) and actions for improvement are performed (Act);
- this standard applies in particular to the cycle of the statistical process itself (monthly, quarterly, annual);
- use is made of quality indicators for quality management; see the chapter on quality indicators.

Objective::

- all statistical output quality aspects.

2	Improvement processes are in place.
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Note:

- improvement may relate to any statistical output quality aspect, including statistical data accuracy.

Assessment criteria:

- recent actions have been performed to improve output quality;
- an output quality improvement plan is in place;
- the table below may be used to determine a score for improvement processes (see R048); the table relates to statistical data accuracy ('error sources'), but can also be used for other quality aspects.

Exhibit 2e. Achievement Towards Mitigation and/or Improvement Plans				
Poor [1,2] ●	Fair [3,4] ▲	Good [5,6] ○	Very Good [7,8] ▼	Excellent [9,10] ○
There is no evidence that a plan is in place or that any planning has been done for studying or mitigating the risks for this error source.	Some planning has been done for mitigating the risks for this error source. But: The plan is in an unfinished state or is poorly written. For example, while the plan might specify key objectives, either there is no provision for measuring progress toward them or the objectives are not measurable.	A written plan with measurable objectives exists. The plan adequately addresses the work required for mitigating the risks of poor data quality relative to this error source. But: One of the following deficiencies with the plan exists: a. The plan has not been updated in at least one year. b. There is no evidence that the plan is ever referenced in the work or it is not referenced as often as necessary. c. There are no accountability measures in place to ensure compliance with the plan. d. No metrics are specified for gauging progress toward each objective. e. No resources have yet been allocated.	A well-written plan with measurable objectives exists. The plan adequately addresses the work required for mitigating the risks of poor data quality relative to this error source. None of the deficiencies noted under the "Good" criteria are present. But: Progress toward completing the goals and objectives specified in the plan have been only fair or has been inconsistent for some key objectives.	There exist well-documented, short and long-term plans for mitigating the risks to data quality from this error source. The plans are updated periodically as appropriate and are continually referenced in the work. Accountability measures are in place to ensure compliance with the plans. Progress toward all goals and objectives has been excellent. As a result, the level of error in the final estimates due to this error source is being maintained at an acceptable level for the primary purposes of the data. As a result of these efforts, the error source is under control and poses no or very little risk to data quality.

Reference:

- R048: Biemer and Trawin (2012). Development of Quality Indicators at Statistics Sweden.

Objective:

- all statistical output quality aspects.

3	Project management processes are in place.
---	--

Note:

- this standard applies to projects that involve custom work, or work for third parties, but not for mainstream production processes.

Assessment criteria:

- a planning process is in place:
 - the planning comprises all products and intermediate products to be delivered; this includes both the data and the associated documents, such as reports, metadata and publications;
 - the plan specifies when products are to be complete;
 - the plan states the capacity requirements;
- a process to control the scope is in place:
 - the project leader initiates the impact analysis of potential assignments;
 - the project leader only accepts assignments that can be performed under the conditions of the impact analysis;
- a process to control the resources is in place; the project leader arranges for sufficiently competent staff;
- an exception handling process is in place:
 - there is a mechanism for escalating any focus areas with the resources that threaten the plan, the required quality, etc..

Objective:

- costs and benefits of Statistics Netherlands (control).

4	An escalation procedure for incidents is in place.
---	--

Notes:

- an incident is a situation in which it is still possible to comply with prior agreements with customers;
- there are guidelines on Statistics Netherlands level regarding errors in StatLine;
- this relates to process measure PM19 Incident Management, which is no longer part of the Quality Document 2014;
- this standard may also be implemented on team or sector level;
- a template is available.

Assessment criteria:

- all data are entered in the incident management template;
- the data entered are up-to-date.

Objective:

- punctual output release.

5	An escalation procedure for emergencies is in place.
---	--

Notes:

- an emergency is a situation that prevents compliance with prior agreements with customers;
- this relates to process measure PM20 Emergency Management, which is no longer part of Quality Document 2014;
- this standard may also be implemented on team or sector level;
- a template is available.

Assessment criteria:

- all data are entered in the emergency management template;
- the data entered are up-to-date.

Objective:

- punctual output release.

15.2 Soundness of the publication process

1	The statistical data are publishable.
---	---------------------------------------

Notes:

- the smaller the sample or the response, the larger the variance. This applies to each subpopulation covered in a publication;
- bias depends on all other errors in the process;
- 'this is the best we have' is not a sufficient argument in favour of publication;
- suitability for publication also depends on user requirements. However, there are limits to what Statistics Netherlands is willing to publish.

Assessment criterion:

- a process is in place, or regular meetings are held, to assess whether the statistical data are suitable for publication.

Relationships with other standards:

- Standard 5.1.A: the proper combination of methods is selected to achieve acceptable variance;
- Standard 5.1.B: the proper combination of methods is selected to achieve acceptable bias;
- Norm 11.2.D: the sampling error is known;
- Standard 11.2.E: the sampling error falls within the limits of prior agreements;
- Standard 11.5.D: the response is known;
- Standard 11.5.E: the response falls within the limits of prior agreements.

Objective:

- public confidence in Statistics Netherlands.

2	All published digits of a number are significant.
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Notes:

- this refers to the constituent digits of the individual numbers in a table, i.e. the number 234 consists of the digits 2, 3 and 4;
- the number of digits used to express a published number suggests that each digit is significant. For example, the number 34.6 suggests that the true value is 34.6 ± 0.05 , and the number 300 suggests that the true value lies between 250 and 350;
- the variance must always be known, in order to assess the correctness of the number of significant digits in each number.

Assessment criterion:

- the number of significant digits corresponds with the variance of the number (margin).

Objective:

- clarity of statistical output: apparent accuracy.

3	Statistical symbols are used correctly in the StatLine tables.
---	--

Notes:

- the following definitions apply:
 - empty cell: no data can be presented for logical reasons;
 - . : unknown; Statistics Netherlands has no corresponding figures;
 - x: secret; Statistics Netherlands does have corresponding figures, but is unable to publish them for reasons of secrecy;
 - - : zero (the number really is '0');
 - 0 (0.0): the number happens to be 0 (0.0) after rounding, and was therefore less than half the selected unit;
 - a provisional figure is shown with a '*' symbol.

Objective:

- clarity of statistical output.

15.3 Soundness of the logistical process

Logistical actions in this context include the entry, selection, copying and publication of data.

Logistical actions are also designed, implemented and performed, albeit that these three categories are not mentioned explicitly below.

1	Data-entry and/or data-reading errors are prevented or corrected.
---	---

Note:

- it may be expected that a completeness check is performed on any data that are read in.

Assessment criterion:

- a monitoring process is in place. The output of the logistical process is compared with the source data.

Quality Document 2008:

- process measure PM15 Revision Control has the objective of ensuring the use of the correct version of a product.

Objective:

- statistical data accuracy.

2	Errors in the selection and copying of databases are prevented or corrected.
---	--

Notes:

- a possible error is the selection of an incorrect database version.

Assessment criteria:

- a monitoring process is in place for the selection and copying of databases. The expected and actual results are compared.

Objective:

- statistical data accuracy.

3	Errors in the publication process are prevented.
---	--

Notes:

- publication errors arise in converting the results of processing into StatLine tables and products released to users.

Assessment criterion:

- a monitoring process is in place for the selection and copying of databases. The expected and actual results are compared.

Objective:

- statistical data accuracy.

16 Documentation

The standards given in this chapter are new.

The following characteristics, or quality aspects, apply to documentation:

1. completeness;
2. current relevance;
3. version and status;
4. clarity;
5. accessibility.

16.1 Completeness of documentation

1	The documentation comprises a minimum set of information.
---	---

Notes:

- the table below lists the categories of documentation;
- Template J Process Documentation in Quality Document 2014 has the same structure;
- Columns 2 and 3 give the location of this documentation in the two versions of the Quality Document;
- Column 4 lists where the documentation is referred to in these Quality Guidelines;
- the non-compulsory components of the Quality Document 2014 are shown in grey.

Documentation category	Quality Document 2008	Quality Document 2014	See also chapter
Quality Document			20: Quality document
General documentation		Template J	
Agreements with users and suppliers	Template I: PM06 and PM13	Template J	2: Agreements with users 26: Agreements with suppliers
Manuals and instructions	Template I: PM05 and PM18	Template J	
Metadata - Conceptual	Template I: PM23	Template J	18: Conceptual metadata
Metadata - Process	Template B, C, D and I: PM23.	Template J	
Metadata - Quality	Template I: PM23	Template J	8: Quality reports 19: Quality indicators
Plans	Template I: PM12	Template J	
System documentation	Template I: PM15	Template J	
Publications		Template J	
Reports		Template J	
Legislation		Template J	
Other documentation		Template J	

Table 6: Documentation categories

Assessment criterion:

- all compulsory documentation is available.

QAF:

- Method 8.8.2 Documentation about administrative data. Documentation about the contents of the administrative data and the production process of the data (such as a methodological document, concepts and definitions and populations) is available to the statistical authority.

References:

- R004-A Quality Document 2008 Templates;
- R004-B Quality Document 2014 Templates;
- R004-C Quality Document Processes;
- R042 Documentation of Statistical Processes.

Objective:

- process continuity.

16.2 Current relevance of documentation

1	The documentation relates to the process that is in production.
---	---

Notes:

- the documentation corresponds with the current process;
- a distinction is made between documents relating to the current version, historical versions, and any future version of the process;
- the documentation is updated to reflect any changes in the process, such as those introduced in response to an incident.

Assessment criterion:

- the documentation bears the correct revision date.

Objective:

- process continuity.

16.3 Version and status of documentation

1	The version and status of all documents are clear.
---	--

Assessment criteria:

- the version of a document is indicated with a revision number and revision date;
- the reference period of the statistic for which the documentation is valid is clear.

Objective:

- process continuity.

2	The process owner approves all documents.
---	---

Note:

- this standard applies in particular to documentation for the current process.

Assessment criterion:

- the revision history of a document states the version that has been approved by management.

Objective:

- process continuity.

16.4 Clarity of documentation

1	Documentation is stored in an orderly fashion.
---	--

Notes:

- a SharePoint site has been developed (see R042) on which documentation is stored and reported in a standardized way;
- this site has a standard structure (see table in 14.1);
- this site is intended to replace the site on which only the Quality Documents are stored (R004-C);
- use of this site is not mandatory (as at May 2013).

Assessment criteria:

- a logical, clear folder structure has been chosen that facilitates document searches;
- every folder has a subfolder for each reference period of the statistic (if applicable).

References:

- R004-C Quality Document Processes;
- R042 Documentation of Statistical Processes.

Objective:

- process continuity.

16.5 Accessibility of documentation

This is concerned with the minimum set of documentation, as set down in section 16.1.

1	All Statistics Netherlands staff are able to consult the documentation.
---	---

Note:

- this encourages knowledge transfer and transparency.

Assessment criterion:

- all Statistics Netherlands staff have read permission for the folder or the site (cbsp\domain users) with documentation.

Objective:

- cost level of Statistics Netherlands.

17 Data in the process

The following characteristics apply to data in the process:

1. confidentiality;
2. retention periods;
3. reusability.

17.1 Confidentiality of data in the process

1	Access to data in the process is restricted to members of staff who need to work with these data.
---	---

Notes:

- the 'need to know' principle must be applied;
- this is concerned with data in which persons or businesses are still identifiable, and therefore not with statistics.

Assessment criteria:

- access permissions to the data are reviewed at least annually;
- access permissions are updated at each staff change.

EU Statistical Law

- see Article 20.5.

Code of Practice:

- Principle 5: The privacy of data providers (households, enterprises, administrations and other respondents), the confidentiality of the information they provide and its use only for statistical purposes are absolutely guaranteed.

DQAF:

- Indicator 0.1.3: Individual reporters' data are to be kept confidential and used for statistical purposes only.

Statistics Netherlands Act:

- see Sections 37.1, 37.2 and 38.

Quality Document 2008:

- the dependency analysis (Template F point 6) sets requirements on the 'exclusivity' of data;
- the process measures (Template I residual risk point 14) cover the residual risk in relation to exclusivity of the data.

References:

- R036 Statistics Netherlands Act;
- R043 EU Statistical Law

Objective:

- public confidence in Statistics Netherlands.

2	Personal data are anonymized.
---	-------------------------------

Note:

- business data may also contain data about persons, for example where sole traders are concerned.

Assessment criterion:

- personal data are anonymized at the earliest possible stage in the process.

Objective:

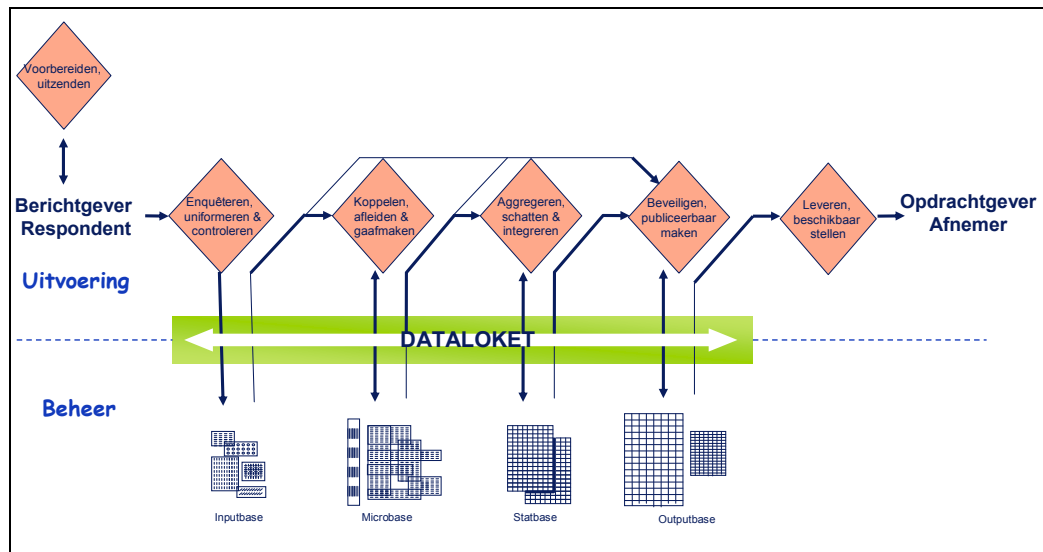
- conformity with the Personal Data Protection Act (Wbp).

17.2 Retention periods of data

The Executive Board adopted the following standards on 11 April 2011, 3 September 2013 and 30 September 2013. As of 1 December 2013, a proposal for the operationalization of the decisions taken on 30 September 2013 is forthcoming.

Business architecture:

- Retention periods have been defined for the input base, microbase, statbase and output base. These terms are defined in the business architecture.
- With reference to these terms the business architecture states: “Four fixed ‘bases’ can be distinguished in the value chain: the input base for source data, the micro-base for statistical microdata, the statbase for statistical information and the integrated macro-statistics and the output base for publishable data”.
- See the figure below for the positions of these four bases in the process.



Reference material:

- R044 Retention periods for documents and files.
- R057 Website Central Architecture Board

1	Date in the input-base of monthly, quarterly and annual statistics are retained 2,5 years after the end of the reference period.
---	--

Objective:

- process continuity.

2	Data in the input-base of statistics of 2 years and more, are retained according to the periodicity plus 1 year after the end of the reference period.
---	--

Objective:

- process continuity.

3	Data in the micro-base are retained indefinitely.
---	---

Note:

- These data are used for research in subsequent years.

Objective:

- process continuity.

4	Data StatBase (meso and macro data) are retained indefinitely.
---	--

Objective:

- process continuity.

5	Data in the output-base are retained indefinitely with their metadata.
---	--

Objective:

- process continuity.

6	Intermediate files are retained as long as they are needed for the current process.
---	---

Assessment criterion::

- As soon as the output is produced and published, intermediate files are removed.

Objective:

- process continuity.

7	Data on paper are retained for five years.
---	--

Assessment criteria:

- data on paper are stored in accordance with publication year;
- an annual procedure is in place to destroy data on paper after five years.

Objective:

- confidentiality of data.

8	Anything that is retained in digital form is not archived on paper.
---	---

Notes:

- there is an exception for the cause of death register.

Assessment criterion:

- when data are digitized any hardcopy is destroyed immediately afterwards.

Objective:

- confidentiality of data.

17.3 Reusability of data

1	Data are reusable for internal and external users.
---	--

Assessment criteria:

- the data are accompanied by descriptive metadata;
- the processing to which the data has been subjected is documented.

Objective:

- cost level of Statistics Netherlands.

18 Conceptual metadata

Conceptual metadata are data about data, namely:

- the description of the unit, which may also be referred to as the object type. Units are usually persons, households or business units;
- the description of how the population is divided;
- the names and definitions of the variables;
- the reference period or time, which may also be referred to as population time or reference period.

The following is also applicable to statistical output (aggregates):

- the division into subpopulations by means of classification systems.

The conceptual metadata of statistical output describe the statistical concept.

Conceptual metadata are also referred to as descriptive metadata.

Quality Document 2008:

- the dependency analysis (Template F point 7) sets requirements on the quality of the metadata;
- the process measures (Template I Process Measure PM23) specify the documentation for metadata.

This is concerned with conceptual metadata that are specified in advance (ex ante).

The following characteristics, or quality aspects, apply to conceptual metadata:

1. availability;
2. current relevance;
3. completeness;
4. standardization.

18.1 Availability of conceptual metadata

1	Conceptual metadata are available for all data in the statistical process.
---	--

Assessment criteria:

- all variables of data used in the process are defined (ex post) in a way that makes the meaning clear;
- the Data Service Centre guidelines are used, even when the data are stored elsewhere.

QAF:

- Method 8.1.3 Documentation about administrative and statistical processes. Documentation exists describing the differences between administrative and statistical processes in terms of definitions, concepts, coverage, etc.;
- Method 7.2.4 Methodological documentation. Methodological documentation is elaborated for each statistical process containing all pertinent information on metadata, namely concepts, methods, classifications, and is made public at least in a summary form.

Reference:

- R047 Data Service Centre guidelines.

Objective:

- continuity of the process.

2	Conceptual metadata are available to all Statistics Netherlands staff.
---	--

Note:

- see also Section 16.5 about Accessibility of documentation.

Assessment criterion:

- the conceptual metadata are in a folder or system that all staff can access.

Objective:

- cost level of Statistics Netherlands.

18.2 Current relevance of conceptual metadata

1	Conceptual metadata are consistent with the data of the current process.
---	--

Assessment criterion:

- the description of the metadata has the correct revision date.

Objective:

- process continuity.

18.3 Completeness of conceptual metadata

1	The conceptual metadata are complete.
---	---------------------------------------

Assessment criterion:

- CI05: There are no steady states without descriptive metadata (no data without metadata).

Reference:

- R057: Rensen & Wings (2010). *Architectuur van Huidig naar Gewenst* (Architecture from Current to Desirable).

Objective:

- process continuity.

18.4 Standardization of conceptual metadata

1	Conceptual metadata are documented in accordance with Data Service Centre (DSC) guidelines.
---	---

Notes:

- this standard is applicable at least where use is made of the DSC; the DSC stores no data without conceptual metadata;
- this standard is recommended for all databases to be stored;
- output databases have highest priority;
- DSC guidelines also cover quality aspects of the metadata.

Assessment criterion:

- DSC guidelines are applied.

Code of Practice:

- Indicator 15.5: Metadata are documented according to standardized metadata systems.

Reference:

- R047 Meta DSC guidelines.

Objectives:

- cost level of Statistics Netherlands;
- clarity of statistical output.

19 Quality indicators

The following characteristics apply to quality indicators:

1. relevance and completeness;
2. comparability over time.

19.1 Relevance and completeness of quality indicators

1	A sufficient set of quality indicators has been implemented.
---	--

Notes:

- quality indicators may serve internal purposes (timely intervention) and/or for inclusion in a quality report;
- some examples of quality indicators are sample size, sampling error, response rate, number of edits, number of imputations, release times, and dates.

Assessment criteria:

- quality indicators have been selected and documented;
- one or more quality indicators are used as stated in the QAF;
- one or more quality indicators are used as stated in SIMS; see R054;
- there is a description of how to measure the quality indicators;
- limit values are determined for the indicators;
- results of the measurements are available.

QAF 2012:

- Method 8.4.9 Quality indicators related to *data collection and coding*. Quality indicators related to data collection and coding are produced and analysed according to a quality assurance plan or any other similar scheme;
- Method 8.6.4 Quality indicators on *revisions*. Quality indicators on the revisions made are regularly calculated in accordance with current standards and made known to users;
- Method 12.3.4 Information on the *size and direction of revisions* for key indicators. Information on the size and direction of revisions for key indicators is provided and made public;
- Method 10.3.4 Quality indicators to improve the *use of administrative data*. Quality indicators are developed and compiled to improve the methods for using administrative data for statistical purposes;
- Method 11.1.7 Relevance measurement and assessment. Quality indicator(s) on *relevance* are regularly assessed;
- Method 13.1.4 Quality indicator(s) on *timeliness*. Quality indicator(s) on timeliness are regularly calculated and published;
- Method 13.1.5 Analysis and assessment of quality indicator(s) on *timeliness*; Quality indicator(s) on timeliness are regularly analysed and assessed to improve the statistical process, if relevant;
- Method 13.4.4 A procedure to calculate, monitor and disseminate quality indicators on *punctuality*. Quality indicator(s) on punctuality for preliminary and final results are regularly calculated, monitored and disseminated.

Reference:

- R054 SIMS Single Integrated Metadata Structure.

Objectives:

- statistical data accuracy;
- punctual release of statistical output.

19.2 Comparability over time of quality indicators

1	Quality indicators are monitored over time.
---	---

Note:

- changes in quality are monitored so that trends can be detected.

Assessment criterion:

- a time series is available for one or more quality indicators.

QAF:

- Method 4.3.5 Product quality monitoring. Users and producers quality reporting are used for regular quality monitoring over time. See R004b.

Objectives:

- statistical data accuracy;
- punctual release of statistical output.

20 **Quality document**

The Quality Document is the set of documents compiled for the Quality Document for each statistical process (Quality Document documentation).

The Quality Document is also a form of documentation (see Chapter 16 about Documentation). However, it is desirable to give specific attention to the quality of this document because of its specific objective of safeguarding process continuity. It has an umbrella function.

The following characteristics, or quality aspects, apply to the Quality Document:

1. completeness;
2. current relevance and status;
3. correctness and completeness of the individual templates;
4. clarity and lack of ambiguity;
5. accessibility.

A revised set of templates will be applicable from 1 January 2014 (Quality Document 2014). The Quality Document will be revised for non-image-determining processes every three years. Therefore, the 2008 version of the Quality Document will not be phased out completely until 1 January 2017.

20.1 Completeness of the Quality Document

1	All templates are completed.
---	------------------------------

Explanation and assessment criteria for Quality Document 2008:

- all data are entered in the following templates:
 - front sheet (Template A);
 - diagrammatic description of the process (Template B);
 - textual description of the process and the subprocesses (Templates C and D);
 - information systems (Template E);
 - dependency analysis (Template F);
 - process measures, implementation plan and residual risk (Template I);
- the vulnerability analysis (G) is performed centrally, but is nevertheless part of the Quality Document;
- the centrally defined measures, or the 'Base Security Level' (H), are also part of the Quality Document.

Explanation and assessment criteria for Quality Document 2014:

- all data are entered in the following templates:
 - front sheet (Template A);
 - diagrammatic description of the process (Template B);
 - textual description of the process and the subprocesses (Templates C and D);
 - information systems (Template E);
 - process documentation (Template J);
 - self-assessment (Template K). This replaces the dependency analysis (Template F);
- the completeness of Template J process documentation was referred to above in Chapter 16 about Documentation.

References:

- R004a Quality Document 2008 – Templates;
- R004b Quality Document 2014 – Templates;
- R004c Quality documents;
- R042 Site with documentation of a limited number of statistical processes, including the Quality Document.

Objective:

- process continuity.

20.2 Current relevance and status of the Quality Document

1	The Quality Document is no older than 36 months for noncritical processes, and no older than 12 months for critical processes.
---	--

Notes:

- critical processes contribute to image-determining statistics;
- the Quality Document front sheet (Template A) states whether a process is critical or noncritical.

Assessment criterion:

- the date of signing the front sheet is no more than 36 months in the past for noncritical processes, and 12 months for critical processes.

Objective:

- process continuity.

2	The Quality Document is approved by the process owner and sector manager.
---	---

Assessment criterion:

- the front sheet (Template A) is signed by the process owner and sector manager.

Objective:

- process continuity.

20.3 Correctness and completeness of the Quality Document (details)

1	The content of the Quality Document is correct and complete.
---	--

Note:

- this is concerned with the content of the separate documents (details) as opposed to the Quality Document as a whole.

Assessment criteria:

- Template B of the Quality Document must state all source data from, and output to, internal and external users;
- do not aim for a complete review when performing audits; make a note of what you encounter.

Objective:

- process continuity.

20.4 Clarity and lack of ambiguity of the Quality Document (details)

1	The content of the Quality document is comprehensible and unambiguous.
---	--

Note:

- do not aim for a complete review when performing audits; make a note of what you encounter.

Assessment criterion:

- the content of the Quality Document is – given the format of the template – easy to comprehend. The content must also be unambiguous.

Objective:

- process continuity.

20.5 Accessibility of the Quality Document

1	The Quality Document is available on SharePoint.
---	--

Notes:

- the Quality Documents were once also in Mavim;
- however, Mavim is no longer in active use, because access to SharePoint is already sufficient.

Assessment criteria:

- the latest known version of the Quality Document is on SharePoint;
- the entire document is available.

References:

- R004c Quality Document Processes;
- R042 Documentation of Statistical Processes (limited number of processes).

Objective:

- process continuity.

21 Folders and files

21.1 Clarity of folder and file structure

1	The folder structure is balanced.
---	-----------------------------------

Assessment criterion:

- the files are properly distributed over the folders.

Objective:

- efficiency of the processes.

2	The folders and files are clearly and unambiguously named.
---	--

Assessment criteria:

- the names of folders and files can be understood without further explanation and raise no questions;
- the folders and files have meaningful names.

Objective:

- efficiency of the processes.

3	Different publication years are distinguished.
---	--

Notes:

- it may also be necessary for the folders to be arranged by quarter or month, depending on the statistic concerned.

Assessment criteria:

- folders are subdivided into publication years at the lowest level;
- files are kept in folders in accordance with publication year.

Objective:

- efficiency of the processes.

Part IV: source data

22. Administrative data
23. Population registers
24. Internal source data
25. Source data delivery

Source data may serve several different roles:

- source material for compiling a statistic;
- a sampling frame;
- an auxiliary database for determining weights for the grossing-up process.

22 Administrative data

The following characteristics apply to administrative data:

1. utility;
2. coherence with the statistical concept;
3. completeness;
4. correctness;
5. suitability for linking;
6. stability.

Administrative data may be microdata, but could also be aggregated data, such as scanner data.

DQAF:

- Indicator 3.2.1: Source data – including [...] administrative records – are routinely assessed, e.g., for coverage, sample error, response error, and nonsampling error; the results of the assessments are monitored and made available to guide statistical processes.

22.1 Utility of the administrative data

1	The utility of the administrative data is assessed.
---	---

Assessment criteria:

- use is made of the Checklist for the Quality Evaluation of Administrative Data Sources (R037);
- any differences in concepts are analysed;
- transformation rules are defined to reconcile differences in concepts.

Code of Practice:

- Indicator 8.7: Statistical authorities are involved in the design of administrative data in order to make administrative data more suitable for statistical purposes.

QAF:

- Method 8.1.4 Studies about differences in concepts and measures to deal with it. Differences in concepts are thoroughly studied and measures to deal with these differences are taken, when appropriate.

Reference:

- R037: Checklist for the Quality Evaluation of Administrative Data Sources' by Piet Daas et al. (2009).

Objective:

- statistical data accuracy.

22.2 Coherence of administrative data concepts and the statistical concept

1	The concepts of the administrative data are sufficiently coherent with the concept of the statistical output.
---	---

Notes:

- coherence can be a problem in secondary data sources. Statistics Netherlands has little or no control over the conceptual metadata;
- a lack of coherence leads to excessive transformations, or the omission of necessary transformations.

Assessment criteria:

- there is sufficient correspondence between the microdata set and the statistical output regarding:
 - unit;
 - population definition;
 - variables;
 - reference period.

Code of Practice:

- Indicator 8.1: When European Statistics are based on administrative data, the definitions and concepts used for administrative purposes are a good approximation to those required for statistical purposes.

DQAF:

- Indicator 3.1.2: Source data reasonably approximate the definitions, scope, classifications, valuations, and time of recording required.

Objective:

- statistical data accuracy.

22.3 Completeness of the administrative data

1	Missing data are adequately corrected.
---	--

Note:

- this is concerned with both unit nonresponse and item nonresponse ('missing values') in the data supplier's source.

Assessment criteria:

- a process is in place for checking the completeness and relevance of the units (overcoverage and undercoverage);
- a process is in place for checking the completeness of entries in the fields.

Objective:

- statistical data accuracy.

22.4 Correctness of administrative data

1	Errors in classification variables are adequately corrected.
---	--

Notes:

- a classification variable is a variable from a classification system, such as the Dutch standard industrial classification (SBI), a size category, or a region;
- no correction is necessary if the errors are sufficiently limited.

Assessment criterion:

- a process is in place for checking the classification variables.

Objective:

- statistical data accuracy.

2	Errors in relevant quantification variables are adequately corrected.
---	---

Notes:

- quantification variables are the variables that are used in the statistical process to perform counts that lead to statistical data;
- quantification variables may also be referred to as quantitative variables, or count variables;
- no correction is necessary in creating a statistic if the number of errors is sufficiently limited.

Assessment criterion:

- a process is in place for checking the quantification variables.

Objective:

- statistical data accuracy.

22.5 Suitability of the administrative data for linking

1	The administrative data are sufficiently suitable for linking with other data sets.
---	---

Notes:

- an identification variable identifies a unit (key, or primary key), or refers to another unit (foreign key);
- an example is the Dutch Citizen Service Number of a person;
- identification variables are needed for linking and removing duplicates from data sets;
- no adjustment is necessary if the errors are sufficiently limited
- identification variable is the same as matching key.

Assessment criterion:

- a process is in place for checking and correcting the identification variables.

Objective:

- statistical data accuracy.

22.6 Stability of the administrative data

1	The administrative data are sufficiently stable.
---	--

Notes:

- data stability relates to the magnitude of adjustments made after the first release of the set;
- this is concerned with both the number of correction messages and the number of additions.

Assessment criterion:

- the number of subsequent releases is limited.

Objectives:

- all quality aspects of statistical output; in particular: timely and punctual output release;
- process efficiency.

23 Population register

The following characteristics apply to a population register:

1. completeness of the units;
2. correct composition of the units.

Code of Practice:

- Indicator 7.3: The business register and the frame for population surveys are regularly evaluated and adjusted if necessary in order to ensure high quality.

23.1 Completeness of the units in the register

The relevance of the completeness of the units in a register is that completeness is a key objective of a register.

1	Overcoverage is adequately corrected.
---	---------------------------------------

Notes:

- overcoverage means that a data set has more units than the target population; it includes units that should not be there;
- overcoverage must be detected if correction is to be possible.

Assessment criterion:

- an investigation is performed into the cover of the registers.

Objective:

- statistical data accuracy.

2	Duplication is adequately corrected.
---	--------------------------------------

Notes:

- duplication means that units occur two or more times in the data set;
- duplication may also occur across multiple data sets;
- duplication must be detected if correction is to be possible.

Assessment criterion:

- a procedure is in place to detect and eliminate duplication.

Objective:

- statistical data accuracy.

3	Undercoverage is adequately corrected.
---	--

Notes:

- undercoverage means that the dataset has fewer units than the target population; there are fewer units in the data set than there should be;
- this is analogous with unit nonresponse in primary data collection;
- undercoverage must be detected if correction is to be possible.

Assessment criterion:

- an investigation is performed into the cover of the registers.

Objective:

- statistical data accuracy.

23.2 Correctness of the units in the register

1	An anomalous composition of the units is adequately corrected.
---	--

Notes:

- the composition of a unit is anomalous if the unit does not satisfy the predetermined definition; a chosen unit may be too small or too large;
- this is relevant only if the composition of the units can influence the final result; which is possible with business units;
- for example, total turnover depends on the composition of the units: where the chosen units are large and turnover is consolidated, total turnover will become smaller as a result of disregarding internal turnover (inside a unit);
- bias may occur.

Assessment criterion:

- a process is in place for checking and correcting units.

Objective:

- statistical data accuracy.

24 Internal source data

The following characteristics apply to internal source data:

1. conformity with agreements;
2. accuracy (for a statistic).

24.1 Conformity of internal source data with agreements

1	The internal source data and their quality satisfy the agreements.
---	--

Assessment criterion:

- a process is in place to compare the internal source data with the agreements.

Objective:

- statistical data accuracy.

2	It is possible to assess the quality of the internal source data on the basis of a quality report.
---	--

Assessment criteria:

- quality reports are available regarding internal source data;
- the quality reports are used for checking the internal source data.

Objective:

- statistical data accuracy.

24.2 Accuracy of internal source data (in the form of a statistic)

1	The internal source data (in the form of a statistic) are sufficiently accurate.
---	--

Notes:

- this is concerned with statistics that are used as auxiliary databases in the statistical process, for example in weighting and grossing-up, or as an allocation ratio;
- the term 'hardness of the source data' is also used.

Assessment criterion:

- the accuracy of the statistic is known;
- or: the quality of the underlying chain is known;
- the desired accuracy ('hardness') of the source data is known.

Objective:

- statistical data accuracy.

25 Source data delivery

A data source is a data set that forms source data for a process in Statistics Netherlands. A data source may be delivered by either an internal or an external supplier.

The following characteristics apply to source data:

1. punctuality;
2. continuity.

25.1 Punctuality of the delivery of source data

1	Source data delivery is punctual.
---	-----------------------------------

Notes:

- punctuality is based on the assumption that agreements for delivery timing are in place.

Assessment criteria:

- source data has been delivered on time for the past twelve months;
- the punctuality of source data delivery is monitored; a monitoring process is in place.

DQAF:

- Indicator 3.1.3: Source data are timely.

Quality Document 2008:

- the dependency analysis (Template F, point 3) places requirements on source data punctuality;
- the process measures (Template I residual risk 8) define the residual risk related to source data punctuality.

Objective:

- punctual output release.

25.2 Continuity of source data delivery

Continuity of source data delivery is defined as the sustained timeliness of source data delivery. This is concerned in particular with administrative data.

1	A risk analysis is performed with respect to the continuity of administrative data delivery.
---	--

Notes:

- this standard is concerned only with image-determining statistics and secondary data collection;
- this used to be referred to as a fallback scenario or emergency procedure.

Assessment criterion:

- a risk analysis is available.

Executive Board 26 January 2009:

- the risk analysis must be updated at the same time as the Quality Document. The update is annual for image-determining statistics.

Quality Document 2008:

- standard process measures are PM19 Incident Management and PM20 Contingency Management; these measures constitute procedural arrangements for resolving incidents and emergencies at the correct level.

Objective:

- punctual output release.

Part V: respondents and suppliers

- 26. Agreements with suppliers
- 27. Contact and communication with respondents and suppliers
- 28. Reporting burden

26 Agreements with suppliers

This chapter covers standards related to the quality of agreements with *internal and external* suppliers.

The following characteristics, or quality aspects, apply to agreements with suppliers:

1. availability;
2. completeness;
3. correctness, current relevance and validity;
4. clarity and lack of ambiguity.

The relevant suppliers in this framework are those of data and metadata.

Proper assessment of the standards given in this chapter requires full details of deliveries from internal suppliers.

26.1 Availability of agreements with suppliers

1	There is an agreement with every supplier.
---	--

Notes:

- for external suppliers the agreement constitutes a legally valid obligation (contract);
- there may also be a statutory obligation;
- for example, municipalities are obliged to supply social assistance data in accordance with Ministry of Social Affairs regulations.

Code of Practice:

- Indicator 8.8: Agreements are made with owners of administrative data which set out their shared commitment to the use of these data for statistical purposes.

QAF:

- Method 8.8.3 Joint agreements with the owner of administrative data. Joint agreements concerning the security of the data, the provision of files of individual data and the delivery deadlines are jointly developed by the statistical authority and the owner of administrative data.

Quality Document 2008:

- external agreements are given in Process Measure PM02 External Agreements of Template I; this template is included in the Quality Document for the process.

Objective:

- all quality aspects of the output.

26.2 Correctness, current relevance and validity of agreements with suppliers

1	The information in the agreements with suppliers is correct.
---	--

Assessment criterion:

- details such as names must be stated correctly in the agreements.

Objective:

- all quality aspects of the output.

2	All agreements are valid.
---	---------------------------

Note:

- reconfirmation is desirable in the event of transfer of work or staff changes.

Assessment criteria:

- a valid agreement exists;
- revision or reconfirmation of the agreements is planned.

Objective:

- all quality aspects of the output.

26.3 Completeness of agreements with suppliers

1	All agreements with suppliers specify the product.
---	--

Assessment criterion:

- the concept of the data set is specified (metadata) in the agreements.

Objective:

- all quality aspects of the output.

2	All agreements with suppliers specify the quality aspects of the product.
---	---

Notes:

- the following quality aspects relate to statistical products:
 - timeliness: the required delivery date;
 - punctuality: the leeway in the delivery time;
 - accuracy: the acceptable margins; the appropriate statistical methods or procedures;
 - coherence: the statistics that it must be possible to combine with;
 - comparability over time or between subpopulations;
 - consistency.

Timeliness and accuracy are the key aspects of input specifications.

- The following quality aspects apply to data:
 - correctness of the data;
 - completeness of the units;
 - completeness of the data;
 - suitability of the data set for linking;
 - timely release of the data set;
 - punctual release of the data set;
 - stability of the data.

Objective:

- all quality aspects of the output.

3	All agreements with suppliers specify the desired quality reports.
---	--

Notes:

- quality reports state the degree of compliance with agreed quality, or give an account of quality;
- quality reports may also list adaptations of individual units, such as changes in the Dutch standard industrial classification (SBI) codes for individual business units;
- it may also be agreed that quality reports are unnecessary or undesirable;
- 'process information' and 'process tables' can also be considered to be quality reports;
- the user will preferably request the supplier to provide a quality report, but quality reporting may be considered to be a matter of course (a kind of standard information leaflet);
- quality reports help make processes and products more transparent.

Objective:

- all quality aspects of the output.

4	All agreements with suppliers state any needs that have yet to be met.
---	--

Note:

- while this is not a hard standard, it is user-friendly to explicitly state any internal user needs that have yet to be met.

Objective:

- user satisfaction.

5	All agreements with suppliers state the validity period.
---	--

Note:

- there are no rules for the validity period of an SLA, but most are valid for one calendar year.

Objective:

- user satisfaction.

6	All agreements with suppliers identify the contact persons of both parties.
---	---

Note:

- the contact persons are responsible for contacting each other in the event of any problems in the performance of the agreements.

Objective:

- process efficiency.

7	All agreements with suppliers set down a change procedure.
---	--

Objective:

- process continuity.

8	All agreements with suppliers set down an incident procedure.
---	---

Objective:

- punctual output release.

9	All agreements with suppliers set down an evaluation procedure.
---	---

Note:

- the timing of consultation between parties about revision or extension of the agreements, and who is to be involved, are documented.

Objective:

- process continuity.

26.4 Clarity and lack of ambiguity of internal agreements with suppliers

1	All agreements with suppliers are comprehensible and unambiguous.
---	---

Note:

- agreements with suppliers must not be self-contradictory or ambiguous.

Assessment criterion:

- agreements are comprehensible for a relative outsider.

Objective:

- process continuity.

27 Contact and communication with respondents, business respondents and suppliers

The following characteristic applies to contact and communication with respondents, business respondents and suppliers:

1. effectiveness.

27.1 Effectiveness of the contact and communication with respondents, business respondents and suppliers

1	A satisfactory consultation structure is in place with suppliers.
---	---

Assessment criteria:

- there is regular consultation with suppliers on director or sector manager level;
- there is regular consultation with suppliers on operational level.

Code of Practice:

- Indicator 8.9: Statistical authorities cooperate with owners of administrative data in assuring data quality.

QAF:

- Method 8.7.4 Discussions and meetings with the owners of administrative data. Regular discussions or meetings take place between the statistical authority and the owners of administrative data in order to be kept informed about amendments to the administrative data (contents, production process, etc.).

Objective:

- all statistical output quality aspects.

2	Feedback is given to suppliers.
---	---------------------------------

Assessment criterion:

- the quality of the source data is also communicated to the suppliers.

Objective:

- all statistical output quality aspects.

3	Communication takes place with respondents.
---	---

Assessment criteria:

- feedback is given to respondents;
- consultation takes place with respondents;
- the opinions of respondents about the data collection process are solicited.

QAF:

- Method 8.4.3 Provision of documents to respondents. Respondents are provided with all necessary documents (i.e. letters, questionnaires, leaflets, especially in the case of self-administrated questionnaires and feedback if possible). These documents are reviewed regularly;
- Method 9.3.5 Cooperation with the business community. Survey managers aware of potential difficulties in obtaining information, work together with the business community in order to find adequate solutions;
- Method 9.3.7 Informing the businesses of the survey results. To give thanks for their participation in surveys and to promote their importance in the Statistical System, businesses are kept informed of the results of surveys.

Objective:

- all statistical output quality aspects.

28 Reporting burden

Reporting burden refers to the capacity expended by respondents on answering Statistics Netherlands' questions.

This is not limited to the burden on businesses that report to Statistics Netherlands, but extends to all respondents.

The following characteristics, or quality aspects, apply to reporting burden:

1. level;
2. spread.

28.1 Level of reporting burden

Code of Practice:

- Principle 9: Non-excessive burden on respondents The reporting burden is proportionate to the needs of the users and is not excessive for respondents. The statistical authorities monitor the response burden and set targets for its reduction over time.

1	The reporting burden is kept to a minimum.
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Assessment criteria:

- there are no more questions than necessary;
- no more questionnaires than necessary are focus aread; the sample size is optimized;
- questionnaires are combined;
- data are linked to pre-existing data;
- the reporting burden is measured independently of the formal evaluation that is performed through the Response Burden Meter (EDM).

Code of Practice:

- Indicator 9.6: Statistical authorities promote measures that enable the linking of data sources in order to reduce reporting burden.

QAF:

- Method 9.2.5 Reduction of reporting burden. Reporting burden is reduced by appropriate sampling design, using for example coordinated sampling;
- Method 9.2.6 Calculation of the reporting burden. The reporting burden is calculated for the time needed: to answer the questionnaire, to retrieve the required information, to obtain internal or external expertise and to handle sensitive information;
- Method 9.1.5 Measurement of response burden. Response burden is measured periodically;
- Method 9.2.5 Reduction of reporting burden. Reporting burden is reduced by appropriate sampling design, using for example coordinated sampling.

Objective:

- supplier satisfaction (business respondents).

2	Optimum use is made of IT to reduce the reporting burden.
---	---

Assessment criterion:

- data are exported from business respondents' systems.

Code of Practice:

- Indicator 9.3: The information sought from businesses is, as far as possible, readily available from their accounts and electronic means are used where possible to facilitate its return.

QAF:

- Method 9.3.6 Tools to extract data from business accounting systems. Software tools to directly extract data from business accounting systems are in place.

Objective:

- Supplier satisfaction (business respondents).

28.2 Spread of the reporting burden

1	The reporting burden is spread in time as much as possible over the survey population.
---	--

Assessment criteria:

- a maximum is set on the number of consecutive requests made of a business respondent;
- 'survey holidays' (temporary exemptions) are granted.

Code of Practice:

- Indicator 9.2: The reporting burden is spread as widely as possible over survey populations.

Objective:

- supplier satisfaction (business respondents).

Part VI: resources

- 29. Staff
- 30. Knowledge
- 31. Collaborations with knowledge centres
- 32. Information systems
- 33. Other tools and services

29 Staff

The following characteristics, or quality aspects, apply to staff:

1. availability in a quantitative sense;
2. availability in a qualitative sense.

29.1 Availability of staff (quantitative)

1	A sufficient number of staff is available.
---	--

Notes:

- this standard applies on team or sector level;
- the permanent staff is sufficient in size to perform the planned work;
- the permanent staff is sufficiently utilized;
- there must also be sufficient flexibility to absorb any capacity shortfall in the event of temporary absence through illness or leave.

Quality Document 2008:

- the dependency analysis (Template F point 5) sets requirements on the availability of staff;
- the process measures (Template I residual risk point 4) give the level of the residual risk and whether this is acceptable;
- the objective of process measure PM14 Holiday and leave planning is to plan staff availability and match this with the work to be performed;
- among the objectives of process measure PM12 Production planning is to clarify when and how much personnel capacity is needed (resource planning).

Code of Practice:

- Principle 3: Adequacy of resources. The resources available to statistical authorities are sufficient to meet European Statistics requirements.
- Indicator 3.1: Staff, financial, and computing resources, adequate both in magnitude and in quality, are available to meet current statistical needs.

DQAF:

- Indicator 0.2.1: Staff [...] are commensurate with statistical programmes.

Objective:

- statistical output quality.

2	Holiday and leave plans are in place.
---	---------------------------------------

Notes:

- this standard may also be implemented on team or sector level;
- this relates to process measure PM14 Holiday and Leave Planning, which is no longer part of Quality Document 2014.

Assessment criteria:

- holiday and leave plans are documented or recorded in a system;
- the plans state who must be available and when;
- the plans state who will be absent and when.

Objective:

- punctual output release.

29.2 Availability of staff (qualitative)

1	The group of staff meets the set requirements.
---	--

Assessment criteria:

- the permanent staff carry out the appropriate jobs at the correct job levels in view of the work to be performed;
- the staff meet the job requirements sufficiently, as established in the annual cycle of working arrangements, appraisal and based remuneration ('WFBB').

Quality Document 2008:

- the dependency analysis (Template F point 5) sets requirements on the skills of staff;
- the process measures (Template I residual risk point 6) give the level of the residual risk and whether this is acceptable.

Code of Practice:

- Indicator 7.5: Graduates in the relevant academic disciplines are recruited.

Objectives:

- all statistical output quality aspects;
- costs for Statistics Netherlands.

29.3 Staff responsibilities and authorities

1	Delegated responsibilities and authorities are recorded.
---	--

Notes:

- this standard may also be implemented on team or sector level;
- this is concerned with process measure PM10 Delegated Responsibilities and Authorities, which is no longer part of Quality Document 2014;
- the focus area will typically be one of deputization.

Assessment criterion:

- delegated responsibilities and authorities are translated into working arrangements.

Objective:

- process continuity.

30 Knowledge

The following characteristics apply to knowledge:

1. availability among staff;
2. spread over staff.

Table 7 shows the different types of knowledge that are recognized.

Table 7 Types of knowledge

Type of knowledge	Description
Subject matter	Knowledge of the subject of the statistic.
Process	Knowledge of how the process fits together. Which steps have to be performed.
Methodological	Knowledge of the statistical methodology used.
Statistical concepts	Knowledge of the conceptual metadata of the data in the entire process.
Information systems operation	Knowledge of the software, files and file structures (internal).
Information systems use	Knowledge of how to use the information systems (external).
Metadata	Knowledge of the meaning of the variables (conceptual metadata).
Suppliers, business respondents and users	Knowledge of the parties inside and / or outside Statistics Netherlands that are involved in the process.

Quality Document 2008:

- the dependency analysis (Template F point 4) sets requirements on the availability and accessibility of knowledge;
- the process measures (Template I residual risk point 3) cover the residual risk in terms of the availability and accessibility of knowledge.

30.1 Availability of knowledge among staff

1	The maintenance of relevant knowledge receives continuous attention.
---	--

Note:

- see the eight types of knowledge given in Table 7.

Assessment criteria:

- staff participate in seminars, workshops, courses, conferences, and educational programmes;
- staff subscribe to relevant journals, newspapers and other information sources;
- new staff follow a structured induction process;
- staff give each other presentations or discuss technical focus areas with each other;
- staff have regular contact with stakeholders, such as users and suppliers;
- the formal working arrangements state how knowledge is maintained or enhanced.

Code of Practice:

- Indicator 7.6: Statistical authorities implement a policy of continuous vocational training for their staff.

QAF:

- Method 7.2.5. Attendance of seminars and workshops. Staff attend seminars and workshops at a national or international level on the application of standards, classifications, etc..

Objective:

- process continuity.

2	Sufficient knowledge is available about the hardness of source data.
---	--

Note:

- source data hardness relates to the completeness of the units, and the completeness and correctness of the data;
- the hardness of statistical data can be determined with reference to the factors that influence source data quality.

Assessment criteria:

- a checklist is used in assessing the quality of the source data itself; see R037;
- a checklist is used in assessing the factors that determine the quality of the source data; see R040;
- an evaluation report is available.

Reference material:

- R037: Daas et al. (2009). Checklist for the Quality Evaluation of Administrative Data Sources;
- R040 Van Nederpelt and Daas (2013), 49 Factors that influence the quality of secondary data sources.

Objective:

- statistical data accuracy.

3	Sufficient knowledge is available about errors in the statistical process.
---	--

Notes:

- the errors concerned are those that affect the output accuracy (incorrect statistical data);
- the knowledge concerned relates to errors of all kinds, specifically specification errors, frame errors, sampling errors, nonresponse, measurement errors, data processing, model/estimation error, revision errors, missing data and content errors;
- not all types of error are applicable to all products; the relationship between type of error and product is given below.

Product	Error Sources
<i>Survey Products</i>	Specification error
Foreign Trade of Goods Survey (FTG)	Frame error Nonresponse error
Labour Force Survey (LFS)	Measurement error
Annual Municipal Accounts (RS)	Data processing error
Structural Business Survey (SBS)	Sampling error
Consumer Price Index (CPI)	Model/estimation error Revision error
<i>Registers</i>	Specification error
Business Register (BR)	Frame: Overcoverage Undercoverage Duplication
Total Population Register (TPR)	Missing Data Content Error
<i>Compilations</i>	Specification error
National Accounts (NA)	Missing Data Content error Sampling error Model/estimation error Revision error

Assessment criterion:

- if appropriate, a score may be derived from the table below for each type of error.

Exhibit 2a. Knowledge of Risks				
Poor [1,2] ●	Fair [3,4] ▲	Good [5,6] ○	Very Good [7,8] ▼	Excellent [9,10] ◉
Internal program documentation does not acknowledge the source of error as a potential factor for product accuracy.	Internal program documentation acknowledges error source as a potential factor in data quality. But: No or very little work has been done to assess these risks.	Some work has been done to assess the potential impact of the error source on data quality. ↓ But: Evaluations have only considered proxy measures (example, error rates) of the impact with no evaluations of MSE components.	Studies have estimated relevant bias and variance components associated with the error source and are well-documented. But: Studies have not explored the implications of the errors on various types of data analysis including subgroup, trend, and multivariate analyses.	There is an ongoing program of research to evaluate all the relevant MSE components associated with the error source and their implications for data analysis. The program is well-designed and appropriately focused, and provides the information required to address the risks from this error source.

Code of Practice:

- Indicator 12.2: Sampling errors and non-sampling errors are measured and systematically documented according to the European standards.

Reference material:

- R048 Development of quality indicators at statistics Sweden Biemer et al. (2012).

Objective:

- statistical data accuracy.

4	Sufficient expertise is available to reduce errors in the statistical process.
---	--

Note:

- the relevant expertise is in the fields of methodology, measurement techniques, subject matter, and IT.

Assessment criterion:

- if appropriate, a score may be derived from the table below for each type of error.

Exhibit 2c. Available Expertise				
Poor [1,2] ●	Fair [3,4] ▲	Good [5,6] ○	Very Good [7,8] ▼	Excellent [9,10] ○
Among the staff assigned to work on the product, either (a) there are no staff that are familiar with techniques that will be required to deal with the potential risks to accuracy for the product or (b) the expertise of staff that are assigned is sorely inadequate.	The available expertise required to study this error source and communicate the findings of such studies to data users is adequate in some important areas. But: There are important areas where expertise is lacking.	The available expertise required to study this error source and communicate the findings of such studies to data users is adequate in most important areas. But: Either (a) there is at least one area that may be critical to accuracy where a higher level of expertise is needed or (b) there are one or more minor areas that could become important in the future that are not well covered.	The available expertise required to study this error source and communicate the findings of such studies to data users is adequate in all important areas. There is a good working relationship with the statistical area. But: There are one or more minor areas that could become important in the future which are not well covered. Current expertise is not adequate to achieve the highest ratings for all evaluation criteria for this error source.	The available expertise required to study this error source and communicate the findings of such studies to data users is more than adequate to achieve the high ratings across all evaluation criteria. There is an excellent working relationship with the statistical area.

Reference material:

- R048 Biemer et al. (2012). Development of quality indicators at Statistics Sweden.

Objective:

- statistical data accuracy.

30.2 Spread of knowledge among staff

1	Knowledge of subject matter, the process and the systems is sufficiently secured.
---	---

Note:

- knowledge is sufficiently secured if one member of staff is able to take over a task from another who is unavailable or no longer available within a reasonable period.

Assessment criteria:

- two or more members of staff have knowledge of the subject matter and the process;
- if a member of staff is unavailable, at least one other member of staff is able to take over in their absence;
- the spread of knowledge among the staff receives continuous attention;
- it is known which members of staff hold key positions in the process;
- staff are debriefed on termination of employment;
- minor statistics are implemented in a pool;
- knowledge is documented in such a way as to enable a member of staff to take over a task.

Objectives:

- process continuity;
- punctual output release;
- statistical data accuracy.

31 Collaboration with knowledge centres

The following characteristics apply to collaboration with knowledge centres:

1. existence and effectiveness.

31.1 Existence and effectiveness of collaboration with knowledge centres

1	Sufficient use is made of knowledge at other knowledge centres.
---	---

Note:

- knowledge centres include universities, research institutes, Eurostat (working groups) and fellow NSIs;
- the relevant knowledge is of subject matter, methodology, and future developments of the statistic.

Assessment criteria:

- there is a list of knowledge centres of relevance to the corresponding statistic;
- contacts are in place with relevant knowledge centres.

Code of Practice:

- Indicator 7.7: Cooperation with the scientific community is organized to improve methodology, the effectiveness of the methods implemented and to promote better tools when feasible.

Objectives:

- soundness of the statistical methods;
- relevance of the statistical concepts.

32 Information systems

Quality Document 2008:

- Template E of the Quality Document specifies all information systems that support the process.

The following characteristics, or quality aspects, apply to information systems:

1. availability;
2. accessibility;
3. integrity;
4. functionality;
5. maintainability.

32.1 Availability of information systems

1	The information systems are sufficiently available.
---	---

Assessment criterion:

- the information systems are always available when needed.

Quality Document 2008:

- the dependency analysis sets requirements on the availability of the information systems (Template F point 9);
- the process measures (Template I residual risk point 14) give the level of the residual risk and whether this is acceptable;
- among the aims of process measures PM19 Incident Management and PM20 Contingency Management is to resolve any unavailability of an information system as rapidly as possible.

DQAF:

- Indicator 0.2.1: [...] computing resources [...] are commensurate with statistical programmes.

Objective:

- punctual output release.

32.2 Accessibility of information systems

Statistics Netherlands currently implements Identity & Access Management (IAM), which facilitates effective and efficient access security. Quality Management and Auditing (DKA) has the role of security officer in this context. However, the standards remain in full force.

Quality Document 2008:

- the dependency analysis sets requirements on the exclusivity (i.e. accessibility) of the information systems (Template F point 9);
- the process measures (Template I residual risk point 15) give the level of the residual risk and whether this is acceptable;
- the objective of process measure PM01 Authorization Procedure is to provide controlled access to the information systems.

1	The information systems can be accessed by authorized staff only.
---	---

Note:

- the implementation of standard folder structures ('DFS') will enable more convenient authorization management (as at May 2013).

Civil Service Baseline Information Security (BIR) 2012:

- Article 11.2.4: Users' access rights are reviewed on a regular basis, at least annually.

Assessment criteria:

- the 'need to know' principle is observed;
- the access rights of relevant individual staff are updated on each personnel change;
- there are planned checks of the correctness of authorizations at fixed times each year.

Reference:

- R052b BIR 2012. *Baseline Informatiebeveiliging Rijksdienst* (Civil Service Baseline Information Security).

Objective:

- process continuity.

2	Access rights are allocated by management.
---	--

Assessment criterion:

- it is clear which manager updates or causes the update of authorizations.

Civil Service Baseline Information Security (BIR) 2012:

- Article 10.1.3: Duties and areas of responsibility must be segregated in order to reduce the opportunity of unauthorized or unintended change or misuse of the organization's assets.

References:

- R052b BIR 2012. *Baseline Informatiebeveiliging Rijksdienst* (Civil Service Baseline Information Security).

Objective:

- process continuity.

3	An authorization procedure is in place for access to folders and information systems.
---	---

Notes:

- this standard may also be implemented on team or sector level;
- this is concerned with process measure PM01 Authorization Procedure, which is no longer part of Quality Document 2014;
- the arrival of DFS will lead to standardization of the structure and access to the folders.

Assessment criterion:

- it is documented who grants and revokes authorization to folders and information systems.

Objective:

- process continuity.

32.3 Integrity of the information systems

Quality Document 2008:

- the dependency analysis sets requirements on the integrity of the information systems (Template F point 9);
- the process measures (Template I residual risk point 16) give the level of the residual risk and whether this is acceptable;
- the objective of process measure PM01 Authorization Procedure is to provide controlled access to the information systems (including source code and databases);
- process measure PM15 Revision Control is also concerned with the information systems.

Code of Practice:

- Indicator 5.5: Physical, technological and organizational provisions are in place to protect the security and integrity of statistical databases.

1	The software is correct.
---	--------------------------

Assessment criteria:

- the software is tested by the end-user (acceptance test);
- the software is tested after each software change;
- test data sets and test cases are available.

Objective:

- statistical data accuracy.

2	The source code is protected against user access.
---	---

Notes:

- this standard is applicable within the limits of technical feasibility;
- where there is segregation of regulations, rules and software, it is desirable to have a segregation of duties between production work and maintenance of the regulations;
- there is a risk in using Excel worksheets in that the formulas cannot be protected sufficiently.

Assessment criteria:

- users are able to make use of only the compiled version of the software;
- only authorized staff have access to the software source code. This refers to the general technical administrators of the software, not the staff in the production process.

Objective:

- statistical data accuracy.

3	Data are altered using the software only.
---	---

Note:

- this standard is applicable within the limits of technical feasibility; for example, this standard cannot be applied to Excel spreadsheets.

Assessment criterion:

- users have no direct access to the databases; only the database manager has direct access.

Objective:

- statistical data accuracy.

4	The software is subject to revision control.
---	--

Note:

- revision control reduces the probability of choosing the wrong software release.

Assessment criterion:

- the software files are version numbered.

Objective:

- statistical data accuracy.

5	The databases are subject to revision control.
---	--

Assessment criteria:

- databases are version numbered;
- a distinction is made between loss of quality (within a reference period) and versions over time (different reference period).

Objective:

- statistical data accuracy.

6	The databases have a clear folder structure.
---	--

Note:

- a clear folder structure reduces the probability of processing the wrong database.

Assessment criteria:

- the folder names are also clear for an outsider;
- each reference period has its own folder.

Objective:

- statistical data accuracy.

32.4 Functionality of the information systems

1	The information systems have the correct functionality.
---	---

Notes:

- all information system functionality is utilized; there is no superfluous functionality;
- there is no need to resort to workarounds.

Assessment criterion:

- in the opinion of the staff the systems support the process sufficiently.

Objectives:

- process efficiency;
- output accuracy.

32.5 Information system maintainability

1	Use is made of standard tools.
---	--------------------------------

Assessment criterion:

- the tools used comply with the list of standard tools.

References:

- RB035a Standard Tools Wiki;
- RB035b Microsoft Access as a standard tool.

Quality Document 2008:

- one of the objectives of process measure PM26 System Documentation is to facilitate maintenance.

Objectives:

- cost level of Statistics Netherlands;
- process continuity.

2	Information systems have a modular structure.
---	---

Assessment criterion:

- there is a logical connection between the steps in the statistical process and the modules of the system.

Objectives:

- cost level of Statistics Netherlands;
- process continuity.

3	Information systems are built in accordance with the regulations.
---	---

Notes:

- this standard also applies to software that was developed in house;
- currently the only known regulations are for the programming language R and SPSS.

Assessment criteria:

- information systems built in R must be certified by the centre of expertise *kennR!*
- the SPSS coding rules are applied.

References:

- R020a Coding Rules for R;
- R020b SPSS Coding Rules.

Objectives:

- cost level of Statistics Netherlands;
- process continuity.

33 Other tools and services

33.1 Availability of other tools and services

1	The availability of other tools and services is sufficient.
---	---

Notes:

- the requirements are given in the dependency analysis; see Data Security Regulations Quality Document 2008 below;
- other tools include office space, furniture, infrastructure, peripheral equipment, office supplies, and nonstandard hardware;
- other services include HR management, photocopying, inbound and outbound mail handling, the purchasing function, catering, archiving, and accounts.

Assessment criterion:

- staff find that the other tools do not hamper progress in the process.

Quality Document 2008:

- the dependency analysis (Template F point 10) sets requirements on the availability of other tools and services;
- the process measures (Template I residual risk point 17) give the level of the residual risk and whether this is acceptable.

Objective:

- punctual output release.

Explanation of symbols

.	Data not available
*	Provisional figure
**	Revised provisional figure (but not definite)
x	Publication prohibited (confidential figure)
–	Nil
–	(Between two figures) inclusive
0 (0.0)	Less than half of unit concerned
empty cell	Not applicable
2013–2014	2013 to 2014 inclusive
2013/2014	Average for 2013 to 2014 inclusive
2013/'14	Crop year, financial year, school year, etc., beginning in 2013 and ending in 2014
2011/'12–2013/'14	Crop year, financial year, etc., 2011/'12 to 2013/'14 inclusive

Due to rounding, some totals may not correspond to the sum of the separate figures.

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