

**I n t e r n a t i o n a l   C o m p a r i s o n   P r o g r a m**

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**26**

**Data Quality Assessment Framework (DQAF) for the International  
Comparison Program (ICP)**

*Paper for Session 5*



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## Table of Contents

Section No	Section Title	Page
<b>1</b>	<b>BACKGROUND</b>	<b>1</b>
1.0.	International Comparison Program	1
1.1.	Data Quality Assessment Framework	1
1.1.0.	Prerequisites of quality	2
1.1.1.	Assurances of integrity	2
1.1.2.	Methodological soundness	3
1.1.3.	Accuracy and reliability	3
1.1.4.	Serviceability	3
1.1.5.	Accessibility	3
<b>2</b>	<b>PART A: GLOBAL OFFICE ACTIVITIES</b>	<b>6</b>
2.0.	Prerequisites of Quality	6
2.0.1.	Legal and institutional environment	6
2.0.2.	Resources	8
2.0.3.	Relevance	10
2.0.4.	Other quality management	10
2.1.	Assurances of Integrity	11
2.1.1.	Professionalism	11
2.1.2.	Transparency	13
2.1.3.	Ethical standards	14
2.2.	Methodological Soundness	15
2.2.1.	Concepts and definitions	15
2.2.2.	Scope	16
2.2.3.	Classification/sectorization	16
2.2.4.	Basis for recording	17
2.2.5.	Aggregation	18
2.3.	Accuracy and Reliability	19
2.3.1.	Source data	19
2.3.2.	Assessment of source data	22
2.3.3.	Statistical techniques	23
2.3.4.	Assessment and validation of intermediate data and statistical outputs	24
2.3.5.	Revision studies	24
2.4.	Serviceability	25
2.4.1.	Periodicity and timeliness	25
2.4.2.	Consistency	25
2.4.3.	Revision policy and practice	26
2.5.	Accessibility	27
2.5.1.	Data accessibility	27
2.5.2.	Metadata accessibility	28
2.5.3.	Assistance to users	29
<b>3</b>	<b>PART B: REGIONAL COORDINATOR ACTIVITIES</b>	<b>31</b>
3.0.	Prerequisites of Quality	31
3.0.1.	Legal and institutional environment	31
3.0.2.	Resources	33

Section No	Section Title	Page
3.0.3.	Relevance	35
3.0.4.	Other quality management	35
3.1.	Assurances of Integrity	36
3.1.1.	Professionalism	37
3.1.2.	Transparency	38
3.1.3.	Ethical standards	40
3.2.	Methodological Soundness	40
3.2.1.	Concepts and definitions	41
3.2.2.	Scope	41
3.2.3.	Classification/sectorization	41
3.2.4.	Basis for recording	42
3.2.5.	Aggregation	44
3.3.	Accuracy and Reliability	44
3.3.1.	Source data	44
3.3.2.	Assessment of source data	47
3.3.3.	Statistical techniques	48
3.3.4.	Assessment and validation of intermediate data and statistical outputs	49
3.3.5.	Revision studies	49
3.4.	Serviceability	50
3.4.1.	Periodicity and timeliness	50
3.4.2.	Consistency	50
3.4.3.	Revision policy and practice	51
3.5.	Accessibility	52
3.5.1.	Data accessibility	52
3.5.2.	Metadata accessibility	54
3.5.3.	Assistance to users	54
<b>4</b>	<b>PART C: NATIONAL COORDINATOR ACTIVITIES</b>	<b>56</b>
4.0.	Prerequisites of Quality	56
4.0.1.	Legal and institutional environment	56
4.0.2.	Resources	58
4.0.3.	Relevance	60
4.0.4.	Other quality management	60
4.1.	Assurances of Integrity	61
4.1.1.	Professionalism	61
4.1.2.	Transparency	63
4.1.3.	Ethical standards	64
4.2.	Methodological Soundness	65
4.2.1.	Concepts and definitions	65
4.2.2.	Scope	66
4.2.3.	Classification/sectorization	66
4.2.4.	Basis for recording	67
4.3.	Accuracy and Reliability	68
4.3.1.	Source data	68
4.3.2.	Assessment of source data	71
4.3.3.	Statistical techniques	71

Section No	Section Title	Page
4.3.4.	Assessment and validation of intermediate data and statistical outputs	72
4.3.5.	Revision studies	73
4.4.	Serviceability	74
4.4.1.	Periodicity and timeliness	74
4.4.2.	Consistency	74
4.4.3.	Revision policy and practice	75
4.5.	Accessibility	76
4.5.1.	Data accessibility	76
4.5.2.	Metadata accessibility	77
4.5.3.	Assistance to the Regional Coordinator	77

## **1. BACKGROUND**

### **1.0. International Comparison Program**

The International Comparison Program (ICP) is a worldwide statistical initiative to collect comparative price data and estimate purchasing power parities (PPPs) of the world's principal economies. Using PPPs instead of market exchange rates to convert currencies makes it possible to compare the output of economies and the welfare of their inhabitants in real terms - that is, controlling for differences in price levels.

The 2005 ICP benchmark Round has been the largest ICP Round to date, covering 146 economies from five geographic regions: Africa, Asia and the Pacific, Commonwealth of Independent States, Latin America, and Western Asia, and the countries of the regular PPP program managed by the Organisation for Economic Cooperation and Development (OECD) and the Statistical Office of the European Communities (Eurostat). A regional organization coordinated the project in each of the five geographic regions. The ICP Global Office consolidated regional results and published the final ICP statistics for the benchmark economies in July 2008, together with imputed PPPs and volume measures for 42 economies that did not participate in the benchmark comparison.

To improve the quality of the ICP data in the 2005 Round, much effort went into harmonizing and standardizing practices in countries and regional offices. Regional Coordinators were brought together by the Global Office on a regular basis to discuss methodology and processes. Effort went into ensuring countries used the same methodology and consistent data collection procedures. National implementation agencies met on a regular basis with the Regional Coordinators to ensure consistency. The *ICP Handbook* and *Operational Manual* were developed to ensure a common understanding and use of the methodology. A huge effort went into the preparation of specifications for the products to be priced. Software was developed to ensure that rigid data validation was consistently applied.

The present document presents a framework for assessing the quality of the 2011 Round of ICP and future rounds. The framework constitutes a structured tool to evaluate the quality of: (1) ICP processes in countries, regional offices, and the Global Office, and (2) ICP data, including input data (prices and national accounts final expenditures) and output data (PPPs and volume measures).

### **1.1. Data Quality Assessment Framework**

The Data Quality Assessment Framework (DQAF) has been developed by the International Monetary Fund (IMF), in collaboration with the World Bank, as a methodology for assessing data quality that brings together best practices and internationally accepted concepts and definitions in statistics, including those of the United Nations Fundamental Principles of Official Statistics and the IMF's General Data Dissemination System. It provides a structure for assessing data quality by comparing country statistical practices with best practices, and it

focuses on the quality-related features of governance of statistical systems, core statistical processes, and statistical products.

The DQAF was developed to introduce rigor, structure, and a common language in the assessment of the quality of macroeconomic data. The Framework is organized in a cascading structure that progresses from the abstract/general to the more concrete/specific details.

The first level covers the **prerequisites** of quality and five **dimensions** of quality; assurances of integrity, methodological soundness, accuracy and reliability, serviceability, and accessibility. For each of these prerequisites and five dimensions, there are **elements** (two-digit level) and **indicators** (three-digit level).<sup>1</sup>

At the next level, **focal issues** that are specific to particular data sets are addressed. Below each focal issue, **key points** identify quality features that may be considered in addressing the focal issues. The key points are meant to be suggestive, not exhaustive.

Box A provides a view of the cascading structure employed in the Framework.

The elements and indicators within their respective dimensions are described below.

**1.1.0. Prerequisites of quality:** Although not in themselves dimensions of quality, this group of “pointers to quality” includes elements and indicators that have an overarching role as prerequisites, or institutional preconditions, for quality of statistics. Note that the focus is on the agency(ies) concerned, which, in the case of the ICP, is the Global Office, the Regional Coordinators and the National Coordinators . These prerequisites cover the following elements:

- 0.1 legal and institutional environment,
- 0.2 resources available for the statistical program,
- 0.3 relevance, and
- 0.4 other quality management.

**1.1.1. Assurances of integrity:** This dimension relates to the adherence to the principle of objectivity in the collection, compilation, and dissemination of statistics. The dimension encompasses institutional arrangements that ensure professionalism in statistical policies and practices, transparency, and ethical standards. The three elements for this dimension of quality are the following:

- 1.1 professionalism,

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<sup>1</sup> The first three levels are common with other Data Quality Assessment Frameworks that have been developed to assess datasets. This design was implemented to ensure a common and systematic assessment across datasets. To date, frameworks have been developed for national accounts statistics, consumer price index, producer price index, government finance statistics, monetary statistics, balance of payments statistics, and income poverty statistics.

- 1.2 transparency, and
- 1.3 ethical standards.

**1.1.2. Methodological soundness:** This dimension covers the idea that the methodological basis for the production of statistics should be sound and that this can be attained by following internationally accepted standards, guidelines, or good practices. This dimension is necessarily dataset-specific, reflecting different methodologies for different datasets. This dimension has four elements, namely:

- 2.1 concepts and definitions,
- 2.2 scope,
- 2.3 classification/sectorization, and
- 2.4 basis for recording.

**1.1.3. Accuracy and reliability:** This dimension covers the idea that statistical outputs sufficiently portray the reality of the economy. This dimension is also data specific, reflecting the sources used and their processing. The five elements of this dimension cover the following:

- 3.1 source data,
- 3.2 assessment of source data,
- 3.3 statistical techniques,
- 3.4 assessment and validation of intermediate data and statistical outputs, and
- 3.5 revision studies.

**1.1.4. Serviceability:** This dimension relates to the requirement that statistics are disseminated with an appropriate periodicity in a timely fashion, are consistent internally and with other major datasets, and follow a regular revision policy. The three elements for this dimension are as follows:

- 4.1 periodicity and timeliness,
- 4.2 consistency, and
- 4.3 revision policy and practice.

**1.1.5. Accessibility:** This dimension relates to the need for data and metadata to be presented in a clear and understandable manner on an easily available and impartial basis, that metadata are up-to-date and pertinent, and that a prompt and knowledgeable support service is available. This dimension has three elements, namely:

- 5.1 data accessibility,
- 5.2 metadata accessibility, and
- 5.3 assistance to users.

The DQAF was developed with specific macroeconomic data sets, typically compiled by a single institution in each economy, in mind. In adapting this generic framework to the ICP, cognizance must be given to the complex data collection and statistical compilation arrangements that apply to the Program. These arrangements comprise the following:

**At the global level,** the Global Office carries out the day-to-day work required to implement the ICP worldwide. The Global Office reports regularly to the ICP Executive Board with annual work programs and budgets requiring the approval of the Board. Important activities carried out by the Global Office and its external consultants are the development of ICP standards, the preparation of the framework to determine the goods and services to be priced, preparing the *ICP Handbook* and the *ICP Operational Manual*, producing the software for countries to edit and input prices data, analyzing data collected for the ICP, undertaking the Ring comparison (if used) and other price collection for particular goods and services, aggregating the prices and national accounts data within and between regions and disseminating the ICP global results. The Global Office incorporates the Eurostat-OECD results directly into the ICP by treating the Eurostat-OECD program as a sixth “region” in the world for ICP purposes. The Global Office also imputes PPP and volume measures for economies that do not participate in the benchmark comparison.

**At the regional level,** Regional Offices coordinate ICP work in each of the five geographical regions (Africa, Asia-Pacific, Commonwealth of Independent States, Latin America and Western Asia). The Regional Offices are responsible for developing regional price lists, collection, data validation and analysis of prices and compatible national accounts expenditure weights data from National Coordinators and compilation and dissemination of the regional results.

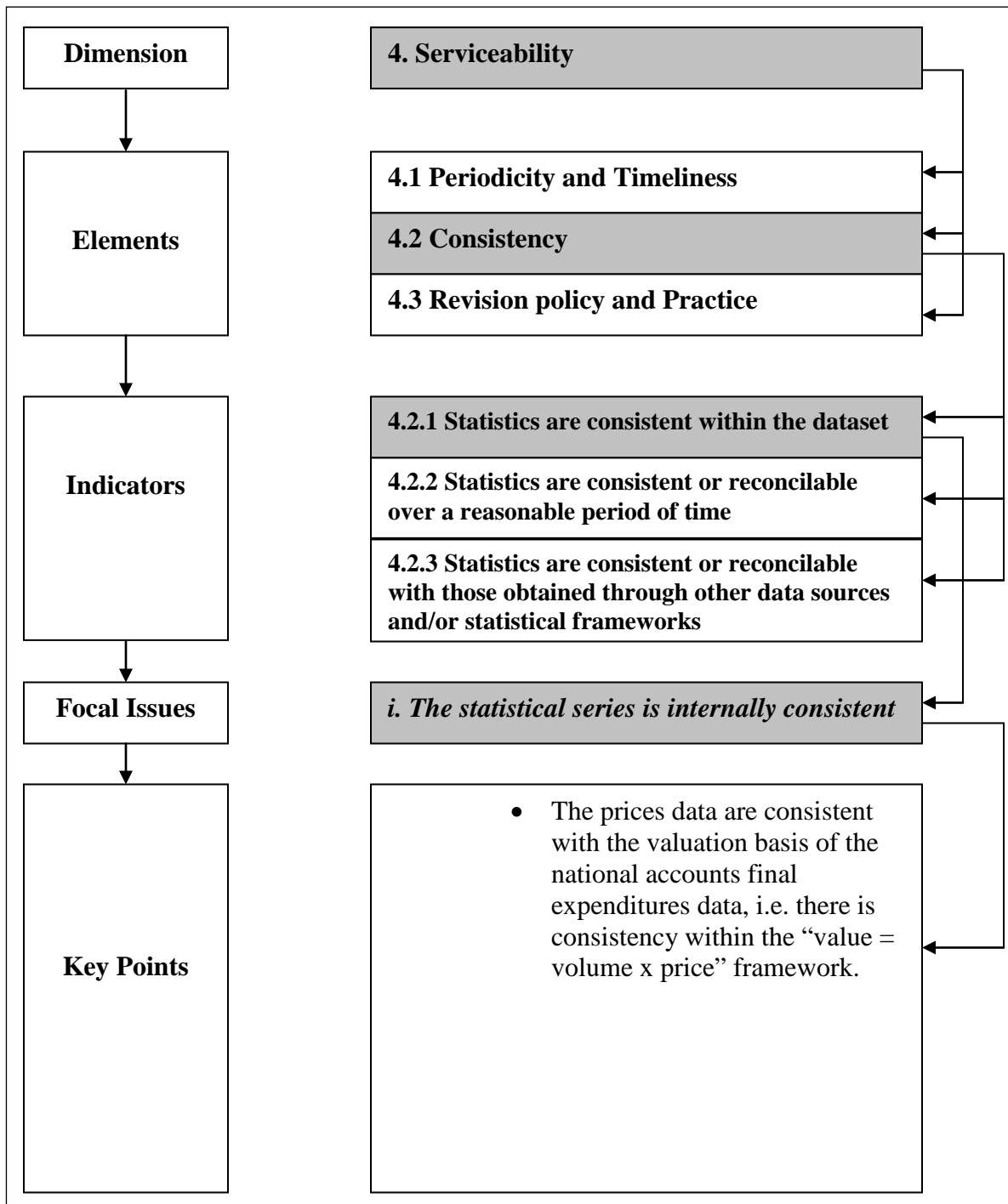
**At the level of the national economy,** national coordinating offices are responsible for assembling the economy’s ICP data (national accounts final expenditures, prices and wages) in accordance with ICP requirements and transmitting them to the Regional Coordinator. This entails ensuring that statistical and field staff (involved in collecting prices) are trained in the concepts underlying the ICP and the practical implications of collecting prices, that data are edited and entered into the ICP database, and that editing queries from the Regional Coordinator are handled promptly. The National Coordinators also attend the data validation workshops that are held in each of the regions to check the consistency of the data supplied within each region.

With these arrangements in mind, the DQAF for the ICP is in three parts: Part A covers the activities of the Global Office; Part B covers those of the Regional Coordinators; and Part C covers activities undertaken by the National Coordinators.



**Box A: The Cascading Structure of the Data Quality Assessment Framework for ICP Statistics: An Example**

Using serviceability, applied at the level of the Global Office, as the example of a dimension of quality, the box below shows how the framework identifies three elements that point toward quality. Within consistency, one of those elements, the framework next identifies three indicators. Specifically, for each indicator, focal issues are addressed through key points that may be considered in identifying quality.



## **2. PART A: GLOBAL OFFICE ACTIVITIES**

### **2.0. Prerequisites of Quality**

#### **2.0.1. Legal and institutional environment**

— *The environment is supportive of statistics.*

##### **2.0.1.1. The responsibility for collecting, processing, and disseminating the statistics is clearly specified.**

*i. The primary responsibility for collecting, processing, and disseminating the statistics is clearly established.*

- A formal provision (e.g., a resolution of the United Nations Statistical Commission) assigns primary responsibility as well as the authority to an agency to perform the Global Office functions for the collection, processing, and dissemination of the statistics.
- Working arrangements are consistent with this assignment of responsibility.
- Given that more than one data producing agency is involved in producing parts of the statistics, arrangements are in place to promote consistency of methods and results.
- Conflicts or potential conflicts between the formal authority to produce the statistics and other laws or provisions (e.g., international agency internal policies or processes) have been successfully resolved or reconciled with no major impairment to the data production.

##### **2.0.1.2. Data sharing and coordination among data-producing agencies are adequate.**

*i. Arrangements or procedures exist to facilitate data sharing and coordination between the agency (agencies) with the primary responsibility for compiling the statistics and other data producing agencies.*

- Procedures are in place to provide for the effective and timely flow of source data (e.g., regional data, Global Core Items data) to the Global Office.
- Contacts (e.g., regular meetings and workshops) are maintained with other data producing agencies to promote a proper understanding of data requirements, to avoid duplication of effort, and to take into account appropriate allocation of responsibilities.

**2.0.1.3. Observed outlet prices data are to be kept confidential and used for statistical purposes only.**

*i. The confidentiality of observed outlet prices data is guaranteed and that guarantee is widely known.*

- A law or other formal provision, e.g. internal rules of the international agency hosting the Global Office, clearly states that individual data (e.g. observed outlet prices of a particular product in a particular country) are to be treated as confidential, and shall not be disclosed or used for other than statistical purposes unless disclosure is agreed to in writing.
- In data collection activities, and as relevant, respondents are informed of their rights and obligations with regard to the provision of information, and they are informed that the information they provide will be used for the purpose of producing statistics.

*ii. Procedures are in place to prevent disclosure of observed outlet prices data.*

- Rules and regulations to prevent disclosure include penalties against staff who disclose confidential data.
- Access to individual data is restricted to staff who require the information in the performance of their statistical duties.
- Special aggregation rules are used to prevent residual disclosure when aggregations of observed outlet prices or other confidential data are disseminated.
- Staff review all data prepared for dissemination for possible indirect disclosure of individual data and design tables and outputs in a way that prevents disclosure.
- Where data beyond those in public releases are made available (e.g., for research purposes), the confidentiality of the individual data is protected (e.g., by following the data access policy approved by the ICP Executive Board).
- Confidentiality of data is appropriately guarded during storage and during the process of the destruction of records.
- Steps are taken to secure the premises of the international agency hosting the Global Office and its computer systems to prevent unauthorized access to individual data.

**2.0.1.4. Statistical reporting is ensured through legal mandate and/or measures to encourage response.**

*i. A law or other formal provision provides for the reporting of information needed to compile the statistics.*

- The Global Office has the formal authority to collect data (e.g., regional data, Ring country data (if this method is used)) required to compile the statistics).
- Collection activity is consistent with the formal authority.

**ii. *Other mechanisms are in place to provide for adequate reporting of data for compiling the statistics.***

- The Global Office considers carefully practical issues (e.g., availability of data, options for collecting data) that may arise in compiling ICP statistics and periodically evaluates current and alternative approaches.
- The Global Office provides assistance to Regional and National Coordinators in submitting data (e.g., by providing a point of contact).
- The Global Office seeks to secure cooperation by creating goodwill (e.g., by registering and dealing with emerging issues, indicating the purpose of the data collection, informing of measures to limit response burden, raising awareness of the importance of good quality statistics, and providing Regional and National Coordinators with data upon request).

**2.0.2. Resources**

— *Resources are commensurate with needs of statistical programs.*

**2.0.2.1. Staff, facilities, computing resources, and financing are commensurate with statistical programs.**

**i. *Staff resources for compiling the statistics are adequate to perform required tasks.***

- Overall, the number of staff is adequate to perform the required tasks.
- The qualifications of the staff are adequate, with their skills maintained and developed to perform the required tasks.
- A core staff with adequate training is maintained and staff turnover is manageable.
- Salary levels are adequate for the nature of the work and consistent with those for comparable international civil servants.

**iii. *Computing resources for compiling the statistics are adequate to perform required tasks.***

- Overall, sufficient resources are allocated and best efforts are made to exploit the full potential of effective computing technology for compiling and disseminating the statistical series.
- Software utilized for compiling and analyzing the statistical series (e.g. the “Toolpack” system) is effective, periodically updated, and well adapted to perform existing and emerging tasks.

- Hardware available to Global Office staff is distributed adequately to facilitate the efficient collection and processing of data, and management of databases.
- Adequate protection is provided for computer resources, including through provision of emergency back-up systems for retrieval of statistical series and updates in the event of natural disasters, accidents, and other unusual events.

*iii. Physical facilities and other resources are adequate to perform required tasks.*

- Office building provides adequate working facilities (e.g., lighting, heat, and cooling).
- Office furniture and equipment (e.g., desks, chairs filing cabinets, telephones, and related equipment) are adequate to perform required tasks.

*iv. Funding for compiling the statistics is adequate to perform required tasks.*

- Funding is reasonably secure for the identified needs of the ICP, both within the Global Office and for the ICP program more generally.
- Budgeting practices provide clear information to financing authorities (e.g., to the ICP Executive Board when reviewing priorities for improvements, cutbacks, or increase in certain elements of the program).
- The funding horizon is amenable to planning for statistical developments (e.g., over the full cycle of an ICP Round).

**2.0.2.2.Measures to ensure efficient use of resources are implemented.**

*i. Management ensures that resources are used efficiently.*

- Periodic reviews of staff performance are conducted.
- Efficiencies are sought through periodic reviews of work processes, e.g., seeking cost effectiveness of program design in relation to objectives, and encouraging consistent concepts, classification and other methodologies across datasets.
- When necessary, the Global Office seeks outside expert assistance to evaluate statistical methodologies and compilation systems.

*ii. Costing and budgeting practices are in place and provide sufficient information to management to make appropriate decisions.*

- Resources used to compile the statistics are measured periodically (costing) and compared to other statistical programs.
- Budgeting procedures are used to help allocate resources.

### 2.0.3. Relevance

— *Statistics cover relevant information on the subject field*

#### 2.0.3.1. The relevance and practical utility of the statistics in meeting users' needs are monitored.

*i. Specific actions are taken to ensure that current statistics meet needs of data users.*

- Data users are consulted and/or kept informed on specific aspects of current data (e.g., usefulness in terms of detail, periodicity, and timeliness) through surveys, newsletters or seminars, with their feedback actively sought (e.g., e-mail address provided).

*ii. Mechanisms are in place to identify new and emerging data requirements.*

- A structured and periodic process of consultation (e.g., users' advisory committee or working groups) takes place with key policy stakeholders and other principal data users, which include academia, the press, and/or other private sector representatives, to review the usefulness of existing statistics and to identify any emerging requirements that may need to be taken into account in the next ICP Round.
- The Global Office regularly participates in statistical meetings and seminars organized by international and regional organizations and by professional organizations (e.g., United Nations Statistical Commission, International Statistical Institute (ISI) and International Association for Official Statistics (IAOS)).
- The Global Office undertakes studies to help identify new and emerging data requirements that may need to be taken into account in the next ICP Round.

### 2.0.4. Other quality management

— *Quality is a cornerstone of statistical work*

#### 2.0.4.1. Processes are in place to focus on quality.

*i. There is recognition throughout the Global Office that quality builds trust and thus is a cornerstone of statistical work.*

- Management is sensitive to all dimensions of data quality, and promotes a shared concern for quality throughout the Global Office (e.g., mission statement emphasizes importance of quality, managers are held accountable for achieving quality).
- Staff training programs emphasize the importance of quality and give staff an understanding as to how quality may be achieved.

- The Global Office provides an infrastructure for quality by recognizing trade-offs, economies of scale, and interrelations between datasets.
- The Global Office has implemented externally recognized processes or activities that focus on quality (e.g., Total Quality Management, ISO 9000, quality initiatives within the UN-sponsored Committee for the Coordination of Statistical Activities, and independent evaluations).
- Information is publicly available on the Global Office's commitment to quality, including information about trade-offs affecting the statistical work program.

#### 2.0.4.2. **Processes are in place to monitor the quality of the statistical program.**

##### *i. Measures are in place for a systematic monitoring and review of quality.*

- Monitoring processes are in place to inform managers on the quality achieved in the ICP benchmark Round (e.g., data gaps, editing rates, adherence to timetables).
- Regional and National Coordinators have access to expert guidance on the quality of their data and on strategies for improving data quality.
- Periodic reviews are undertaken to identify steps necessary to maintain or improve data quality in future ICP Rounds.

#### 2.0.4.3. **Processes are in place to deal with quality considerations in planning the statistical program.**

##### *i. In planning the ICP, quality issues (including implicit and explicit trade-offs among the dimensions of quality) are considered.*

- Quality issues, such as the following, are addressed explicitly and taken into account in the work program planning process:
  - quality improvements identified during ongoing monitoring and in periodic reviews;
  - feedback from users on quality standards and on new and emerging data requirements; and
  - trade-offs among the dimensions of quality (e.g., resources availability, timeliness, and accuracy/reliability).

## **2.1. Assurances of Integrity**

*The principle of objectivity in the collection, processing, and dissemination of statistics is firmly adhered to.*

### **2.1.1. Professionalism**

— *Statistical policies and practices are guided by professional principles.*

#### 2.1.1.1. Statistics are produced on an impartial basis.

*i. The terms or conditions under which the statistics are produced are in accordance with professional independence.*

- In the context that the Global Office staff must report to the management of the international agency in which they are engaged and are also accountable to the ICP Executive Board in the overall conduct of the ICP, a law or other formal provision supports professional independence by, for example:
  - addressing the general need for the professional independence of the Global Office (e.g., the importance of professional independence in carrying out statistical functions is clearly stated and recognized);
  - prohibiting interference from others in the compilation and/or dissemination of ICP statistics; and
  - ensuring that the choice, tenure, and reporting arrangements of the Global Manager are supportive of the professional independence of the Global Office (e.g., tenure is consistent with the timeframe of a global Round; appointment and removal of Global Manager results from transparent processes with emphasis on professional qualifications and performance).
- If there is no law or formal provision to support professional independence,
  - traditions or cultures of professionalism are clearly recognized as essential to the credibility of statistical results (e.g., others within the international agency hosting the Global Office understand the importance of noninterference); and
  - the choice, tenure, and reporting arrangements of the Global Manager are supportive of the professional independence of the Global Office.

*ii. Professionalism is actively promoted and supported within the Global Office.*

- In the context of the general personnel policies and practices applying in the international agency hosting the Global Office, recruitment and promotion should as far as possible be based on relevant aptitude and/or expertise in ICP requirements (e.g., project management expertise, prices and national accounts subject matter).
- Formal (using internal and outside experts) and on-the-job training in the methodology and compilation methods is provided, including participation in seminars, courses, and workshops to further knowledge of statistical practices and providing easy access to professional literature.
- Processes and activities in the workplace promote a culture of professionalism (e.g., by professional accreditation of staff, peer review of statistical work, recognition of authors of methodological papers, organization of lectures and conferences, and the institutional support of professional bodies).
- Research and analysis (including rationale for the choice of methodologies) are encouraged and published subject to internal review and other processes to maintain the Global Office's reputation for professionalism.



**2.1.1.2. Choices of sources and statistical techniques as well as decisions about dissemination are informed solely by statistical considerations.**

*i. The choices of data sources and statistical techniques are informed solely by statistical considerations.*

- The choice of source data (e.g., prices to be collected, national accounts expenditure weights) is based on measurement objectives and data requirements.

*ii. Decisions about dissemination are informed solely by statistical considerations.*

- Decisions to disseminate data are based solely on statistical considerations.
- Decisions about the timing, media, and other aspects of dissemination are based solely on statistical considerations.

**2.1.1.3. The Global Office entitled to comment on erroneous interpretation and misuse of statistics.**

*i. The Global Office comments when its statistics are misinterpreted or misused.*

- The Global Office seeks to prevent misinterpretation or misuse of statistics by providing explanatory materials and briefings (e.g., to the media).
- There is a formal policy or well-established custom to deal with data misinterpretations or misuse of statistics.
- The Global Office:
  - monitors media coverage of its data (“clipping service”), and
  - comments publicly and in a timely manner on erroneous interpretations or misuse of the statistics in the media and in other fora.

**2.1.2. Transparency**

— *Statistical policies and practices are transparent.*

**2.1.2.1. The terms and conditions under which statistics are collected, processed, and disseminated are available to the public.**

*i. Information is available to the public about the terms and conditions under which the statistical series are compiled and disseminated, including the obligation to compile and disseminate the statistics, the confidentiality of observed outlet prices data, and other key features.*

- Global Office publications and/or websites reproduce material about the terms and conditions under which ICP statistics are compiled and disseminated.

These terms and conditions may refer to the formal mandate to compile and disseminate the statistics, the confidentiality of observed outlet prices data, and other key features (e.g., the codes of conduct under which ICP statistics are compiled and disseminated, the approval process for data dissemination, the procedures to hire and remove the Global Manager).

- In public speeches and other gatherings, the Global Office makes an active and ongoing effort to inform about the terms and conditions under which it operates.
- Statistical publications identify where more information about the Global Office and its products can be found.

#### **2.1.2.2. Pre-embargo access to statistics prior to their release is publicly identified**

*i. The public is made aware of pre-embargo access to statistics prior to their release to the public.*

- Pre-embargo access arrangements to statistics prior to release are made public in terms of who has access, and how long before the dissemination access is given.

#### **2.1.2.3. Products of the Global Office are clearly identified as such**

*i. Statistical products are clearly identified so that the public is aware of what the Global Office takes responsibility for.*

- Data released to the public are clearly identified as the Global Office's product (e.g., by name, logo, and insignia).
- In the case of joint publications, the part attributable to the Global Office is identified (e.g., statistics are clearly distinguished from policy interpretation).
- The Global Office requests attribution when its statistics are used or reproduced.

#### **2.1.2.4. Advance notice is given of major changes in methodology, source data, and statistical techniques**

*i. Users of ICP statistics are made aware in advance of major changes in methodology, source data, and statistical techniques.*

- Advance notice is given to the public (e.g., articles in bulletins, briefings, or news releases) when major changes are introduced in methodology, sources, and statistical techniques.

#### **2.1.3. Ethical standards**

— *Policies and practices are guided by ethical standards.*

### 2.1.3.1. Guidelines for staff behavior are in place and are well known to the staff

*i. A clear set of ethical standards has been prepared.*

- There are clear guidelines outlining correct behavior when the Global Office or its staff is confronted with potential conflict of interest situations. As appropriate, these guidelines may be the general guidelines applying to all staff in the international agency hosting the Global Office.
- There are clear guidelines that make the connection between ethics and staff work (e.g., with respect to guarding against misuse and misrepresentation of statistics (see also 1.1.3)).
- A strong culture for maintaining ethical standards discourages outside interference.

*ii. Staff is made aware of the ethical standards.*

- Management acknowledges its status as a role model and is vigilant in following the standards.
- New staff is made aware of the standards when they join the organization.
- Staff is reminded periodically of the standards (e.g., in staff training, announcements to staff, or by requiring staff to periodically reaffirm ethical practices or adhere to conflict of interest policy).

## 2.2. Methodological Soundness

*The methodological basis for the ICP statistics follows internationally accepted standards, guidelines, or good practices.*

The methodological soundness dimension is assessed in terms of the guidelines outlined in the *ICP Handbook*, which provides the theoretical and methodological background to guide the data collection, analysis, and estimation of purchasing power parities. The Global Office is responsible for the development of the *Handbook*.

### 2.2.1. Concepts and definitions

*— Concepts and definitions used are in accord with internationally accepted statistical frameworks.*

#### 2.2.1.1. The overall structure in terms of concepts and definitions follows internationally accepted standards, guidelines, or good practices

*i. Internationally accepted standards, guidelines, or good practices have been adopted in developing the concepts and definitions detailed in the ICP Handbook.*

- The *ICP Handbook* is compiled on the basis of internationally accepted theory and practices regarding purchasing power parities and is widely accepted as such (e.g. through adequate peer review by internationally accepted experts in the field of statistics).
- The *ICP Handbook* requirements are followed in compiling the ICP statistics.
- Deviations in the *Handbook* from internationally accepted theory and practices are explicitly agreed with the Global Manager and are kept under review (see also 5.2.1).

## 2.2.2. Scope

—*The scope is in accord with internationally accepted standards, guidelines, or good practices.*

### 2.2.2.1. The scope is broadly consistent with internationally accepted standards, guidelines or good practices

*i The scope of ICP statistics covers the complete final expenditure components of Gross Domestic Product (GDP) for all countries.*

- The scope of the ICP statistics covers the *basic headings* covering final expenditures on GDP as defined in the version of the United Nations *System of National Accounts* (SNA) on which the ICP benchmark Round is based.
- GDP estimates and expenditure data for each of the *basic headings* are to cover the full range of economic activities and transactions that are included in the SNA production boundary.
- Price collection arrangements must ensure that national annual average prices, consistent with the underlying expenditure weights for each of the *basic headings*, are available for countries/economies participating in the benchmark study.
- The Global Office is to estimate purchasing power parities and volume estimates for countries/economies that do not participate in the benchmark study using internationally accepted estimation techniques.

## 2.2.3. Classification/sectorization

—*Classification and sectorization systems are in accord with internationally accepted standards, guidelines, or good practices.*

### 2.2.3.1. Classification/sectorization systems used are broadly consistent with internationally accepted standards, guidelines, or good practices

*i The classification and sectorization used in the compilation of ICP statistics are in broad conformity with internationally recommended systems.*

- The SNA is followed to classify:
  - institutional units;
  - transactions;
  - other flows.
  
- The *Classification of Expenditure on GDP*, as specified in the *ICP Handbook*, is used for purposes of price collection and provision of expenditure weights.
- Deviations from the above classifications/sectorizations are kept under review (see also 5.2.1)

#### 2.2.4. Basis for recording

— *Flows and stocks are valued and recorded according to internationally accepted standards, guidelines, or good practices.*

##### 2.2.4.1. Market (purchasers') prices are, in general, used to value flows and stocks

*i. The valuation rules used for recording flows and stocks are in accordance with the SNA.*

With respect to the valuation of the GDP final expenditures used in compiling ICP statistics:

- The general rule is that transactions are valued at the actual prices agreed by the transactors (market or purchasers' prices).
- Imputed household expenditures should be valued in accordance with guidelines contained in the *ICP Handbook*.
- Income in kind should be valued at purchasers' prices if the employer has purchased the goods or services, or valued at producers' prices if the goods or services have been produced by the enterprise itself.
- Individual consumption expenditure by non-profit institutions serving households should be valued as the sum of the costs of production.
- Production of services of government should be valued as the sum of the costs of production.
- Purchases of goods and services by government, which are then passed on to households without any further processing by government, should be valued at purchasers' prices.
- Collective consumption expenditure by government is valued at cost.
- Gross fixed capital formation should be valued at purchasers' prices.
- Own-account production of fixed capital assets should be valued at basic prices.
- Change in inventories should be valued as the change in the physical quantities of inventories at the beginning and end of the year using, preferably, the average prices over the year, or prices prevailing in the middle of the year.
- Total imports and exports are valued on an f.o.b. basis.

- Transactions in foreign currency are converted using the mid-point exchange rate prevailing in the market at the moment they take place.
- Proper adjustments are made if a system of multiple official exchange rates exists.
- Deviations from the above valuation are kept under review (see also 5.2.1).

With respect to the prices to be collected for ICP purposes:

- Prices collected must be strictly consistent with the prices underlying the national accounts expenditure weights.
- These prices must be consistent with national annual average prices, or accepted procedures are used to estimate national annual average prices when these have not been collected.
- Product specifications include price-determining characteristics related to the terms of the transactions.
- Deviations from the above valuation are kept under review (see also 5.2.1).

#### **2.2.4.2. Recording is done on an accrual basis**

*i. The timing rules used for recording flows are in accordance with the SNA.*

- Transactions and flows are recorded on an accrual basis.
- Work-in-progress is recorded in the period it is produced.
- Government-related transactions are recorded on an accrual basis, in particular -taxes and subsidies on products; -expenditures.
- National annual average prices relate to the ICP reference year.
- Deviations from the above accrual accounting are kept under review (see also 5.2.1).

#### **2.2.4.3. Grossing/netting procedures are broadly consistent with internationally accepted standards, guidelines, or good practices**

*i. The grossing/netting procedures are in accordance with the SNA.*

- Gross fixed capital formation consists of net acquisitions (acquisitions less disposals) of fixed assets.
- Valuables are measured as acquisitions less disposals.
- Transaction prices are measured net of discounts or rebates.
- Deviations from the above recording are kept under review (see also 5.2.1).

#### **2.2.5. Aggregation**

—*Methods are adopted that minimize formula bias and achieve transitivity as between the regional and international results.*

#### 2.2.5.1. Aggregation methods are broadly consistent with internationally accepted standards, guidelines or good practices

*i. Compilation of basic heading PPPs should recognize the concept of representativity and produce transitive basic heading PPPs.*

- Ideally, the Extended Country-Product-Dummy with Representativity (CPRD) method should be used to estimate basic heading PPPs within regions and also between regions to obtain a complete set of transitive basic heading PPPs at the global level. Given the difficulty in implementing this method in some regions, the Country-Product-Dummy (CPD) method is an acceptable alternative method.

*ii. Compilation of higher level PPPs should avoid bias (e.g. the Gerschenkron effect) and produce transitive higher level PPPs.*

- Compilation of higher level PPPs involves trade-offs among alternative methods. The EKS and Ikle methods avoid the Gerschenkron effect, but they do not produce additive results. The G-K method has the Gerschenkron effect in some cases, but does produce additive results. The method used should be specified, including discussion of the reasons for the choice of method used.
- Compilation methods should be such that PPPs are invariant to the choice of country or numeraire currency, i.e. fixity is preserved.

### 2.3. Accuracy and Reliability

*Source data and statistical techniques are sound and statistical outputs sufficiently portray reality.*

The accuracy and reliability dimension is here applied to those elements of the ICP that are the specific responsibility of the Global Office.
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#### 2.3.1. Source data

*— Source data available provide an adequate basis to compile statistics.*

##### 2.3.1.1. Source data are collected from comprehensive data collection programs that take into account country-specific conditions

*i. The data collection programs employed to compile the ICP statistics are adequate.*

- The data sources of the data collection program, undertaken mainly by the Regional Coordinators, are broadly sufficient to compile the ICP statistics.
- The data sources are kept under continuous review to ensure that the data collection program is comprehensive.
- Information from other available sources supplements core compilation.

*ii. The price collection program is conducted such that adequate price data are available for ICP purposes.*

- The Structured Product Descriptions provide a sound basis for Regional Coordinators to generate Product Specifications for price survey purposes.
- The Global Office provides adequate oversight of the regional price collection programs.
- The Global Office provides specific direction to Regional Coordinators, and in some cases directly manages the collection of difficult to price items including housing services, equipment goods, construction projects (using the basket of construction components approach), and government services.
- Selection of items to be included in the Global Core List and to be priced by all countries participating in the Program is based on objective criteria aimed at computing robust factors to link the regions into the global comparison.
- The Global Office provides specific direction to Regional Coordinators on the selection of items from the Global Core List to be included in the regional list, as well as on the further selection of items to be priced by each country in their regions.
- Price data collected should be sufficiently detailed by product and use sufficiently detailed product specifications to ensure that comparable products are priced in each country.
- Adequate validation is undertaken of prices collected directly by the Global Office to ensure national annual average prices, consistent with the underlying national accounts expenditure components, are available.
- Adequate validation is undertaken of prices of items from the Global Core List collected by countries from the various regions for the purpose of linking the regions.
- The Global Office ensures that the relevant national annual average prices are consistent with the underlying national accounts expenditure components.
- Price recording forms are constructed according to sound design principles (e.g., they are subject to field/pilot testing). They are reviewed periodically to take account of changed circumstances, and proposed changes are pretested to ensure effectiveness.
- For those price collections for which the Global office is responsible, the design should ensure average annual national prices are collected or can be estimated using acceptable procedures.
- The price collection framework supports supplementary collections to allow the irregular collection of information to support the main compilation.
- Data collected are sufficiently detailed to enable adequate data verification.

*iii. GDP and the main expenditure aggregates are available for weighting purposes and to generate volume estimates.*



- GDP data, broken down into the required *basic headings*, are available for the reference year for all countries participating in the ICP benchmark collection. (These data are used for weighting purposes in compiling higher level PPPs and are deflated to generate volume estimates for comparison and aggregation among countries.)
- These data should respect SNA guidelines as far as possible but may be deficient in minor respects. (“Minor” in this sense means that the deficiencies do not seriously affect the level and growth rate of total GDP or the relative shares of household consumption, government consumption and capital formation.)

*iv. Ad hoc data collections are undertaken when needed to fill data gaps.*

- Ad-hoc data collections are undertaken, when necessary, to fill data gaps.

*v. The data collection programs are sufficiently open and allow for versatility to new developments in sources.*

- Periodic meetings are held with interested parties to identify new developments that need to be taken into account in the price collections and national accounts compilations.
- The press and research papers are monitored for information on activities that need to be taken into account in the ICP work.
- International standards, guidelines, and practices are monitored for changes that need to be taken into account in the ICP work.
- The Global Office consults with the Regional and National Coordinators to ascertain changes in circumstances that may affect the ICP statistics.

**2.3.1.2. Source data reasonably approximate the definitions, scope, classifications, valuation, and time of recording required**

*i. Source data approximate the definitions, scope, classifications, and valuation, and time of recording required.*

- Pilot tests have been conducted to ensure that price data collected will allow compilation of estimates according to ICP guidelines.
- Country national accounts data are consistent with the time of recording, reference periods, and valuation requirements of ICP statistics.
- Country data provide final expenditure dissections into *basic headings* as per ICP requirements.

*ii. The data collection program provides adequate coverage of economic activities.*

- The frequency of price collection is sufficient to approximate average annual prices.
- The geographic spread of the price collection is sufficient to approximate average national prices.
- If either or both of the above do not apply, accepted procedures are used to estimate national annual average prices.

#### 2.3.1.3. Source data are timely

##### *i. The data collection programs provide for the timely receipt of data.*

- Data collection and processing timetables are adequate to meet timeliness and periodicity for disseminating ICP statistics.
- The Global Office employs rigorous follow-up procedures to ensure the timely receipt of source data.

#### 2.3.2. Assessment of source data

— *Source data are regularly assessed.*

##### **2.3.2.1. Source data—including prices data and national accounts data—are routinely assessed, e.g., for coverage, frequency, consistency with SNA concepts; the results of the assessments are monitored and made available to guide statistical processes**

##### *i. Accuracy of the country data is routinely assessed.*

- Country national accounts data are analyzed to ensure they are adequate, in terms of comprehensiveness, level of detail, and up-to-datedness, for ICP purposes.
- Editing procedures (e.g., the standard deviation of prices at the national level and the residuals from the CPD method at the regional level) are used to assess price variability and to identify outliers and other atypical differences in price data for individual countries. Extreme values are confirmed and records maintained on the confirmation.
- More generally, the country data are analyzed to correct for underreporting/misreporting, in particular to check for:
  - inter-country consistency;
  - consistency with other related source data.

##### *ii. Accuracy of the information from administrative and other supplementary sources is routinely assessed.*

- Accuracy of administrative and other supplementary data used to verify the credibility of ICP statistics is routinely assessed.

### 2.3.3. Statistical techniques

— *Statistical techniques employed conform to sound statistical procedures.*

#### 2.3.3.1. Data compilation employs sound statistical techniques to deal with data sources

*i. Data compilation procedures are sound.*

- Compilation procedures minimize processing errors such as coding, editing, and tabulation errors.
- Adjustments to country source data are made only when clearly warranted (e.g., outliers are not replaced or modified unless clearly required and after confirmation with the country concerned).
- Procedures for imputation and adjustment for nonresponse are soundly based.

*ii. Appropriate measures are taken to validate the source data.*

- Sound estimation techniques are employed to adjust data for missing observations in country data.
- Adjustments for undercoverage follow appropriate guidelines. Grossing-up factors are derived scientifically.

#### 2.3.3.2. Other statistical procedures (e.g., data adjustments and transformations, and statistical analysis) employ sound statistical techniques

*i. Appropriate techniques are used to ensure data used for weighting purposes are consistent with ICP requirements.*

- Statistical procedures used to adjust country final expenditure data to meet ICP requirements follow a detailed, case-by-case, approach using specific sources that are most closely related to the estimated variables and pertinent to the reference period.
- Changes to country data are only made with the concurrence of the country concerned.

*ii. Generally accepted good practice statistical techniques are used to compile the purchasing power parities.*

- Compilation of basic heading PPPs should recognize the concept of representativity and produce transitive basic heading PPPs.
- Compilation of higher level PPPs should avoid bias and produce transitive higher level PPPs.

**2.3.4. Assessment and validation of intermediate data and statistical outputs**  
— *Intermediate results and statistical outputs are regularly assessed and validated.*

**2.3.4.1. Intermediate results are validated against other information where applicable**

*i. Intermediate results are validated against other independent data.*

- The data compiled from the main sources used to compile ICP statistics are checked against other independent data sources where available.

**2.3.4.2. Statistical discrepancies in intermediate data are assessed and investigated**

*i. The discrepancies in intermediate data are routinely investigated and measures taken to remove them.*

- A systemic procedure (e.g. Quaranta and Dikhanov tables) exists to routinely assess the potential discrepancies in intermediate data.
- Appropriate adjustments are made to remove the discrepancies in consultation with the Regional and National Coordinators.

**2.3.4.3. Statistical discrepancies and other potential indicators of problems in statistical outputs are investigated**

*i. Unusual or unexpected differences in PPPs among countries are investigated.*

- Unusual or unexpected differences among PPPs (e.g. arising from incorrect weighting data) are investigated.
- Comparisons with data from previous ICP rounds are used to check the credibility of the latest results.

**2.3.5. Revision studies**

— *Revisions, as a gauge of reliability, are tracked and mined for the information they may provide.*

**2.3.5.1. Studies and analyses of revisions between initial and final results are carried out routinely and used internally to inform statistical processes (see also 4.3.3)**

*i. Revision studies are undertaken on a regular basis.*

- Studies assess the initial estimates for the ICP Round against revised or final estimates and comprise:
  - studies of scale (magnitude of revision and number of time series revised)
  - studies of direction and of revisions.

- Studies investigate the sources of errors, omissions, and fluctuations in the data and explain the methods of revising the data.
- ii. Measures are undertaken to incorporate the findings from revision studies in data compilation.*
- Findings from revision studies are used to define the optimal publication cycle that is largely driven by the availability of country data.
  - Findings from revision studies are used to refine preliminary data and data collection programs for the subsequent ICP benchmark Rounds.
  - Adequate documentation on revisions is well maintained and includes description of causes of revisions, methods used to incorporate new data sources, the consultations that took place with Regional and National Coordinators, and the way data are adjusted.

## **2.4. Serviceability**

*Statistics, with adequate periodicity and timeliness, are consistent and follow a predictable revisions policy.*

### **2.4.1. Periodicity and timeliness**

*— Periodicity and timeliness follow internationally agreed understandings.*

#### **2.4.1.1. Periodicity follows agreed understandings**

*i. The periodicity of the statistics follows understandings reached at the United Nations Statistical Commission.*

- ICP statistics are compiled every six years.

#### **2.4.1.2. Timeliness follows dissemination standards**

*i. The timeliness of the statistics follows understandings reached at the United Nations Statistical Commission.*

- ICP statistics are disseminated in accordance with understandings reached at the United Nations Statistical Commission and coherent with the timeliness of the parallel Eurostat-OECD program.

### **2.4.2. Consistency**

*— Statistics are consistent within the dataset, over time, and with major datasets.*

#### **2.4.2.1. Statistics are consistent within the dataset**

*i. The statistical series is internally consistent.*

- The prices data are consistent with the valuation basis of the national accounts final expenditures data, i.e. there is consistency within the “value = volume x price” framework.

#### 2.4.2.2. **Statistics are consistent or reconcilable over a reasonable period of time**

##### *i. The statistical series is consistent over time.*

- Detailed methodological notes identify and explain the main breaks and discontinuities in methodologies, source data and statistical techniques between ICP benchmark Rounds, their causes, as well as potential impacts on the statistics.
- Unusual changes in economic trends are explained in the analytical text included in the publication and in the database accessible to users.

#### 2.4.2.3. **Statistics are consistent or reconcilable with those obtained from previous ICP rounds**

##### *i. The statistics are consistent or reconcilable with those derived from previous ICP rounds.*

- Users are advised of the differences between benchmark ICP statistics and estimates of PPP gross national income per capita compiled by the World Bank, which are derived from the previous benchmark, and the reasons for the differences.

#### 2.4.3. **Revision policy and practice**

— *Data revisions follow a regular and publicized procedure.*

##### 2.4.3.1. **Revisions follow a regular and transparent schedule**

##### *i. The practice of revisions (e.g., from initial estimates to final results) follows a predictable pattern of which users of statistics are informed.*

- The revision cycle is predetermined and stable for the benchmark Round. The revision cycle is made known to the public.
- The reasons underlying the cycle (e.g., the availability of country data) are explained.
- Adequate documentation of revisions is included in the publication of the statistical series and in the database accessible to users.
- If revisions outside the regular cycle are called for (e.g., by the discovery of new source data, errors), they are made known to the public.

#### **2.4.3.2. Preliminary and/or revised data are clearly identified**

*i. Users are informed about the preliminary nature of the data.*

- At the time of data dissemination, users are informed whenever data are preliminary.

*ii. Users are informed about the revised nature of the data.*

- At the time of data dissemination, users are informed whenever data are revised.

#### **2.4.3.3. Studies and analyses of revisions are made public (see also 3.5.1)**

*i. Users are informed of results and studies of the revisions to the statistics.*

- Revisions are measured, assessed, and explained in the statistical publication and in the database accessible by users.
- Analysis of differences between the revised and preliminary data is published for major aggregates to allow an assessment of the reliability of the preliminary data.

### **2.5. Accessibility**

*Data and metadata are easily available and assistance to users is adequate.*

#### **2.5.1. Data accessibility**

*— Statistics are presented in a clear and understandable manner, forms of dissemination are adequate, and statistics are made available on an impartial basis.*

##### **2.5.1.1. Statistics are presented in a way that facilitates proper interpretation and meaningful comparisons (layout and clarity of text, tables, and charts)**

*i. The presentation of ICP statistics is commensurate with users' needs.*

- ICP statistics are published in a clear manner; charts and tables are disseminated with the data to facilitate the analysis.
- Datasets are published with various levels of detail (disaggregation).
- Analysis of current-period circumstances is included with dissemination.
- Estimates are disseminated at a sufficiently detailed level to meet users' needs.

##### **2.5.1.2. Dissemination media and format are adequate**

*i. ICP statistics are disseminated in formats to suit users' needs.*

- Statistics are disseminated in ways that facilitate redissemination in the media (e.g., information releases).
- More comprehensive and/or detailed statistics are also disseminated in paper and/or electronic formats.
- Analytical series can be accessed (perhaps for a fee) through an electronic database maintained by the Global Office.

**2.5.1.3. ICP statistics are released on a preannounced schedule**

*i. ICP statistics are released on the preannounced schedule.*

- A schedule announces in advance the dates the statistics are to be released.
- The statistics are released punctually, that is, according to the preannounced schedule.

**2.5.1.4. ICP statistics are made available to all users at the same time**

*i. ICP statistics are made available to all users at the same time.*

- The public is informed of the statistics being released and of the procedures to access them (e.g., Internet, publications).
- The statistics are made available to all interested users simultaneously.
- If the press is briefed in advance, embargos are imposed to prevent early public disclosure.

**2.5.1.5. ICP statistics not routinely disseminated are made available upon request**

*i. ICP statistics not routinely disseminated are made available to users upon request.*

- In addition to the statistics routinely disseminated, other general statistics are made available upon request.
- Customized tabulations can be provided (perhaps for a fee) to meet specific requests.
- The availability of additional statistics and of the procedures for obtaining them are made known.

**2.5.2. Metadata accessibility**

— *Up-to-date and pertinent metadata are made available.*

**2.5.2.1. 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**



*i. The metadata give adequate information about the meaning of the data and about the methodology used to collect and process them.*

- A comprehensive sources and methods document is published and updated regularly, and it includes the following:
  - information on concepts, definitions, classifications, data sources, compilation methods, statistical techniques, and other relevant methodological aspects and procedures;
  - departures from internationally accepted standards, guidelines, or good practices;
  - information on data sources, such as price collection arrangements.
- The metadata are readily accessible (e.g., websites, statistical publications) and their availability is cross-referenced in data releases, and otherwise well publicized (e.g., in catalogs).

**2.5.2.2. Levels of detail are adapted to the needs of the intended audience**

*i. Different levels of metadata detail are made available to meet users' requirements.*

- General use information (e.g., a brochure) about the ICP statistics (e.g., how to locate the data) is available and made public.
- More specialized use information (e.g., background papers, working documents) is available and made public.

**2.5.3. Assistance to users**

— *Prompt and knowledgeable support service is available.*

**2.5.3.1. Contact points for the statistics are publicized**

*i. Adequate assistance is given to users of statistics.*

- Prompt and knowledgeable service and support are available to users of statistics.
- All ICP statistical releases identify contact points for enquiries by mail, telephone, facsimile, or by e-mail.
- Material to raise awareness on the use of ICP statistics is available (e.g., for schools and research).
- Access points for clients to obtain statistical information are well advertised.
- Assistance to users is monitored and reviewed periodically (e.g., time of response to e-mail requests).

**2.5.3.2. Catalogs of ICP publications, documents, and other services, including information on any charges, are widely available**

*i. Catalogs of ICP publications and other services are available to users of statistics.*

- Catalogs of ICP publications, documents, and other services to users are available and updated regularly (e.g., each year if needed).
- The prices of the statistical products and services are clearly disclosed and assistance is provided in placing orders.

### **3. PART B: REGIONAL COORDINATOR ACTIVITIES**

#### **3.0. Prerequisites of Quality**

##### **3.0.1. Legal and institutional environment**

— *The environment is supportive of statistics.*

##### **3.0.1.1. The responsibility for collecting, processing, and disseminating the statistics is clearly specified**

*i. The primary responsibility for collecting, processing, and disseminating the statistics is clearly established.*

- A formal provision (e.g., agreement of the ICP Executive Board, a memorandum of understanding with the Global Office) assigns primary responsibility as well as the authority to an agency to perform the Regional Coordinator functions for the collection, processing, and dissemination of the statistics.
- Working arrangements are consistent with this assignment of responsibility.
- Given that more than one data producing agency is involved in producing parts of the statistics, arrangements are in place to promote consistency of methods and results.
- Conflicts or potential conflicts between the formal authority to produce the statistics and other laws or provisions (e.g., supranational agency internal policies or processes) have been successfully resolved or reconciled with no major impairment to the data production.

##### **3.0.1.2. Data sharing and coordination among data producing agencies are adequate**

*i. Arrangements or procedures exist to facilitate data sharing and coordination between the agency (agencies) with the primary responsibility for compiling the statistics and other data producing agencies.*

- Procedures are in place to provide for the effective and timely flow of country data (e.g., prices data, national accounts expenditure data) to the Regional Coordinator.
- Contacts (e.g., regular meetings and workshops) are maintained with other data producing agencies to promote a proper understanding of data requirements, to avoid duplication of effort, and to take into account appropriate allocation of responsibilities.

**3.0.1.3. Observed outlet prices data are to be kept confidential and used for statistical purposes only**

*i. The confidentiality of observed outlet prices data is guaranteed and that guarantee is widely known.*

- A law or other formal provision e.g., internal rules of the supranational agency performing the role of Regional Coordinator, clearly states that individual data (e.g. observed outlet prices on a particular product in a particular country) are to be treated as confidential, and shall not be disclosed or used for other than statistical purposes unless disclosure is agreed to in writing.
- In data collection activities, and as relevant, respondents are informed of their rights and obligations with regard to the provision of information, and they are informed that the information they provide will be used for the purpose of producing statistics.

*ii. Procedures are in place to prevent disclosure of observed outlet prices data.*

- Rules and regulations to prevent disclosure include penalties against staff who disclose confidential data.
- Access to individual data is restricted to staff who require the information in the performance of their statistical duties.
- Special aggregation rules are used to prevent residual disclosure when aggregations of observed outlet prices or other confidential data are disseminated.
- Staff review all data prepared for dissemination for possible indirect disclosure of individual data and design tables and outputs in a way that prevents disclosure.
- Where data beyond those available in public releases are made available (e.g., for research purposes), the confidentiality of the individual data is protected (e.g., by following the data access policy approved by the ICP Executive Board).
- Confidentiality of data is appropriately guarded during storage and during the process of the destruction of records.
- Steps are taken to secure the premises of the supranational agency performing the role of Regional Coordinator and its computer systems to prevent unauthorized access to individual data.

**3.0.1.4. Statistical reporting is ensured through legal mandate and/or measures to encourage response**

*i. A law or other formal provision provides for the reporting of information needed to compile the statistics.*

- The Regional Coordinator has the formal authority to collect country data required to compile the statistics.
- Collection activity is consistent with the formal authority.

**ii. *Other mechanisms are in place to provide for adequate reporting of data for compiling the statistics.***

- The Regional Coordinator considers carefully practical issues (e.g. availability of data, options for collecting data) that may arise in compiling ICP statistics and periodically evaluates current and alternative approaches.
- The Regional Coordinator provides assistance to countries in completing and submitting forms (e.g., by providing a point of contact).
- The Regional Coordinator seeks to secure cooperation by creating goodwill (e.g., by registering and dealing with countries' issues, indicating the purpose of the data collection, informing of measures to limit response burden, raising awareness of the importance of good quality statistics, and providing countries with data upon request).

**3.0.2. Resources**

— *Resources are commensurate with needs of statistical programs.*

**3.0.2.1. Staff, facilities, computing resources, and financing are commensurate with statistical programs**

**i. *Staff resources for compiling the statistics are adequate to perform required tasks.***

- Overall, the number of staff is adequate to perform the required tasks.
- The qualifications of the staff are adequate, with their skills maintained and developed to perform the required tasks.
- A core staff with adequate training is maintained and staff turnover is manageable.
- Salary levels are adequate for the nature of the work and consistent with those for comparable supranational civil servants.

**ii. *Computing resources for compiling the statistics are adequate to perform required tasks.***

- Overall, sufficient resources are allocated and best efforts are made to exploit the full potential of effective computing technology for compiling and disseminating the statistical series.
- Software utilized for compiling and analyzing the statistical series (e.g. the “Toolpack” system) is effective, periodically updated, and well adapted to perform existing and emerging tasks.

- Hardware available to Regional Coordinator staff is distributed adequately to facilitate the efficient collection and processing of data, and management of databases.
- Adequate protection is provided for computer resources, including through provision of emergency back-up systems for retrieval of statistical series and updates in the event of natural disasters, accidents, and other unusual events.

*iii. Physical facilities and other resources are adequate to perform required tasks.*

- Office building provides adequate working facilities (e.g., lighting, heat, and cooling).
- Office furniture and equipment (e.g., desks, chairs, filing cabinets, telephones, and related equipment) are adequate to perform required tasks.

*iv. Funding for compiling the statistics is adequate to perform required tasks.*

- Funding is reasonably secure for the identified needs of the ICP both within the agency performing the Regional Coordinator role and for the regional ICP program more generally.
- Budgeting practices provide clear information to financing authorities (e.g., to the Global Office when reviewing priorities for improvements, cutbacks, or increase in certain elements of the program).
- The funding horizon is amenable to planning for statistical developments (e.g., over the full cycle of an ICP Round).

**3.0.2.2. Measures to ensure efficient use of resources are implemented**

*i. Management ensures that resources are used efficiently.*

- Periodic reviews of staff performance are conducted.
- Efficiencies are sought through periodic reviews of work processes, e.g., seeking cost effectiveness of program design in relation to objectives, and encouraging consistent concepts, classification and other methodologies across datasets.
- When necessary, the Regional Coordinator seeks outside expert assistance to evaluate statistical methodologies and compilation systems.

*ii. Costing and budgeting practices are in place and provide sufficient information to management to make appropriate decisions.*

- Resources used to compile the statistics are measured periodically (costing) and compared to other statistical programs.
- Budgeting procedures are used to help allocate resources.

### 3.0.3. **Relevance**

— *Statistics cover relevant information on the subject field.*

#### 3.0.3.1. **The relevance and practical utility of the statistics in meeting users' needs are monitored**

*i. Specific actions are taken to ensure that current statistics meet needs of data users.*

- Data users are consulted and/or kept informed on specific aspects of current data (e.g., usefulness in terms of detail, periodicity, and timeliness) through surveys, newsletters or seminars, with their feedback actively sought (e.g., e-mail address provided).

*ii. Mechanisms are in place to identify new and emerging data requirements.*

- A structured and periodic process of consultation (e.g., users' advisory committee or working groups) takes place with key policy stakeholders and other principal data users, which include academia, the press, and/or other private sector representatives, to review the usefulness of existing statistics and to identify any emerging data requirements that may need to be taken into account in the next ICP Round.
- The Regional Coordinator regularly participates in statistical meetings and seminars organized by international and regional organizations and by professional organizations (e.g., meetings of the ICP Executive Board, regional statistical meetings, the United Nations Statistical Commission, International Statistical Institute (ISI) and International Association for Official Statistics (IAOS)).
- The Regional Coordinator undertakes studies to help identify new and emerging data requirements that may need to be taken into account in the next ICP Round.

### 3.0.4. **Other quality management**

— *Quality is a cornerstone of statistical work.*

#### 3.0.4.1. **Processes are in place to focus on quality**

*i. There is recognition throughout the office of the Regional Coordinator that quality builds trust and thus is a cornerstone of statistical work.*

- Management is sensitive to all dimensions of data quality, and promotes a shared concern for quality throughout the office of the Regional Coordinator (e.g., mission statement emphasizes importance of quality, managers are held accountable for achieving quality).

- Staff training programs emphasize the importance of quality and give staff an understanding as to how quality may be achieved.
- The Regional Coordinator provides an infrastructure for quality by recognizing trade-offs, economies of scale, and interrelations between datasets.
- The Regional Coordinator has implemented externally recognized processes or activities that focus on quality (e.g., Total Quality Management, ISO 9000, quality initiatives within the UN-sponsored Committee for the Coordination of Statistical Activities, and independent evaluations).
- Information is publicly available on the Regional Coordinator's commitment to quality, including information about trade-offs affecting the statistical work program.

#### 3.0.4.2. **Processes are in place to monitor the quality of the statistical program**

##### *i. Measures are in place for a systematic monitoring and review of quality.*

- Monitoring processes are in place to inform managers on the quality achieved in the regional component of the ICP benchmark Round (e.g., data gaps, editing rates, revisions history, adherence to timetables).
- National Coordinators have access to expert guidance on the quality of their statistics and on strategies for improving data production.
- Periodic reviews are undertaken to identify steps necessary to maintain or improve quality in future ICP Rounds.

#### 3.0.4.3. **Processes are in place to deal with quality considerations in planning the statistical program**

##### *i. In planning the regional component of the ICP, quality issues (including implicit and explicit trade-offs among the dimensions of quality) are considered.*

- Quality issues, such as the following, are addressed explicitly and taken into account in the work program planning process:
  - quality improvements identified during ongoing monitoring and in periodic reviews;
  - feedback from users on quality standards and on new and emerging data requirements; and
  - trade-offs among the dimensions of quality (e.g., resources availability, timeliness, and accuracy/reliability).

### **3.1. Assurances of Integrity**

*The principle of objectivity in the collection, processing, and dissemination of statistics is firmly adhered to.*



### 3.1.1. Professionalism

— *Statistical policies and practices are guided by professional principles.*

#### 3.1.1.1. Statistics are produced on an impartial basis

*i. The terms or conditions under which the statistics are produced are in accordance with professional independence.*

- In the context that the Regional Coordinator staff must report to the management of the supranational agency in which they are engaged and are also accountable to the Global Office in the overall conduct of the regional component of the ICP, a law or other formal provision supports professional independence by, for example:
  - addressing the general need for the professional independence of the Regional Coordinator (e.g., the importance of professional independence in carrying out statistical functions is clearly stated and recognized);
  - prohibiting interference from others in the compilation and/or dissemination of ICP statistics; and
  - ensuring that the choice, tenure, and reporting arrangements of the Regional Coordinator are supportive of the professional independence of the Regional Coordinator function (e.g., tenure is consistent with the timeframe of a global Round; appointment and removal of the Regional Coordinator results from transparent processes with emphasis on professional qualifications and performance).
- If there is no law or formal provision to support professional independence,
  - traditions or cultures of professionalism are clearly recognized as essential to the credibility of statistical results (e.g., others within the supranational agency hosting the Regional Coordinator function understand the importance of noninterference); and
  - the choice, tenure, and reporting arrangements of the Regional Coordinator are supportive of the professional independence of the Regional Coordinator function.

*ii. Professionalism is actively promoted and supported within the agency performing the Regional Coordinator function.*

- In the context of the general personnel policies and practices applying in the supranational agency hosting the Regional Coordinator, recruitment and promotion are based on relevant aptitude and/or expertise in ICP requirements (e.g., project management expertise, prices and national accounts subject matter).
- Formal (using internal and outside experts) and on-the-job training in the methodology and compilation methods is provided, including participation in

seminars, courses, and workshops to further knowledge of statistical practices and providing easy access to professional literature.

- Processes and activities in the workplace promote a culture of professionalism (e.g., by professional accreditation of staff, peer review of statistical work, recognition of authors of methodological papers, organization of lectures and conferences, and the institutional support of professional bodies).
- Research and analysis (including rationale for the choice of methodologies) are encouraged and published subject to internal review and other processes to maintain the Regional Coordinator’s reputation for professionalism.

### **3.1.1.2. Choices of sources and statistical techniques as well as decisions about dissemination are informed solely by statistical considerations**

#### ***i. The choices of data sources and statistical techniques are informed solely by statistical considerations.***

- The choice of source data (e.g., prices to be collected, national accounts expenditure weights) is based on measurement objectives and data requirements.

#### ***ii. Decisions about dissemination are informed solely by statistical considerations.***

- Decisions to disseminate data are based solely on statistical considerations.
- Decisions about the timing, media, and other aspects of dissemination are based solely on statistical considerations.

### **3.1.1.3. The Regional Coordinator entitled to comment on erroneous interpretation and misuse of statistics**

#### ***i. The Regional Coordinator comments when its statistics are misinterpreted or misused.***

- The Regional Coordinator seeks to prevent misinterpretation or misuse of statistics by providing explanatory materials and briefings (e.g., to the media).
- There is a formal policy or well-established custom to deal with data misinterpretations or misuse of statistics.
- The Regional Coordinator:
  - monitors media coverage of its data (“clipping service”), and
  - comments publicly and in a timely manner on erroneous interpretations or misuse of the statistics in the media and in other fora.

### **3.1.2. Transparency**

— *Statistical policies and practices are transparent.*

**3.1.2.1. The terms and conditions under which statistics are collected, processed, and disseminated are available to the public**

*i. Information is available to the public about the terms and conditions under which the statistical series are compiled and disseminated, including the obligation to compile and disseminate the statistics, the confidentiality of observed outlet prices data, and other key features.*

- Regional Coordinator publications and/or websites reproduce material about the terms and conditions under which ICP statistics are compiled and disseminated. These terms and conditions may refer to the formal mandate to compile and disseminate the statistics, the confidentiality of observed outlet prices data, and other key features (e.g., the codes of conduct under which ICP statistics are compiled and disseminated, the approval process for data dissemination, the procedures to hire and remove the Regional Coordinator).
- In public speeches and other gatherings, the agency hosting the Regional Coordinator function makes an active and ongoing effort to inform about the terms and conditions under which it operates.
- Statistical publications identify where more information about the agency performing the Regional Coordinator function and its products can be found.

**3.1.2.2. Pre-embargo access to statistics prior to their release is publicly identified**

*i. The public is made aware of pre-embargo access to statistics prior to their release to the public.*

- Pre-embargo access arrangements to statistics prior to release are made public in terms of who has access, and how long before the dissemination access is given.

**3.1.2.3. Products of the Regional Coordinator are clearly identified as such**

*i. Statistical products are clearly identified so that the public is aware of what the Regional Coordinator takes responsibility for.*

- Data released to the public are clearly identified as the Regional Coordinator's product (e.g., by name, logo, and insignia).
- In the case of joint publications, the part attributable to the Regional Coordinator is identified (e.g., statistics are clearly distinguished from policy interpretation).
- The Regional Coordinator requests attribution when its statistics are used or reproduced.

#### 3.1.2.4. Advance notice is given of major changes in methodology, source data, and statistical techniques

*i. Users of ICP statistics are made aware in advance of major changes in methodology, source data, and statistical techniques.*

- Advance notice is given to the public (e.g., articles in bulletins, briefings, or news releases) when major changes are introduced in methodology, sources, and statistical techniques.

#### 3.1.3. Ethical standards

— *Policies and practices are guided by ethical standards.*

##### 3.1.3.1. Guidelines for staff behavior are in place and are well known to the staff

*i. A clear set of ethical standards has been prepared.*

- There are clear guidelines outlining correct behavior when the staff engaged in the Regional Coordinator function is confronted with potential conflict of interest situations. As appropriate, these guidelines may be general guidelines applying to all staff in the supranational agency hosting the Regional Coordinator function.
- There are clear guidelines that make the connection between ethics and staff work (e.g., with respect to guarding against misuse and misrepresentation of statistics (see also 1.1.3)).
- A strong culture for maintaining ethical standards discourages outside interference.

*ii. Staff is made aware of the ethical standards.*

- Management acknowledges its status as a role model and is vigilant in following the standards.
- New staff is made aware of the standards when they join the organization.
- Staff is reminded periodically of the standards (e.g., in staff training, announcements to staff, or by requiring staff to periodically reaffirm ethical practices or adhere to conflict of interest policy).

### 3.2. Methodological Soundness

*The methodological basis for the ICP statistics follows internationally accepted standards, guidelines, or good practices.*

The methodological soundness dimension is assessed against the guidelines outlined in the <i>ICP Handbook</i> , which provides the theoretical and methodological background to guide the data collection, analysis, and estimation
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of purchasing power parities. The Regional Coordinators contributed to the development of the *Handbook*.

### 3.2.1. Concepts and definitions

— *Concepts and definitions used are in accord with internationally accepted statistical frameworks.*

#### 3.2.1.1. The overall structure in terms of concepts and definitions follows internationally accepted standards, guidelines, or good practices

*i. The regional component of the ICP follows internationally accepted standards, guidelines, or good practices as detailed in the ICP Handbook.*

- The *ICP Handbook* requirements have been followed in compiling the ICP statistics.
- Deviations from the *Handbook* requirements are explicitly agreed with the Global Manager and are kept under review (see also 5.2.1).

### 3.2.2. Scope

— *The scope is in accord with internationally accepted standards, guidelines, or good practices.*

#### 3.2.2.1. The scope is broadly consistent with internationally accepted standards, guidelines or good practices

*i. The scope of ICP statistics covers the complete final expenditure components of Gross Domestic Product (GDP) for all countries in the regional comparison.*

- The scope of the ICP statistics covers the *basic headings* covering final expenditures on GDP as defined in the version of the United Nations *System of National Accounts* (SNA) on which the ICP benchmark Round is based.
- GDP estimates and expenditure data for each of the *basic headings* are to cover the full range of economic activities and transactions that are included in the SNA production boundary.
- Price collection arrangements must ensure that national annual average prices, consistent with the underlying expenditure weights for each of the *basic headings*, are available for countries/economies participating in the regional benchmark study.

### 3.2.3. Classification/sectorization

— *Classification and sectorization systems are in accord with internationally accepted standards, guidelines, or good practices.*

**3.2.3.1. Classification/sectorization systems used are broadly consistent with internationally accepted standards, guidelines, or good practices**

*i. The classification and sectorization used in the compilation of ICP statistics are in broad conformity with internationally recommended systems.*

- The SNA is followed to classify:
  - institutional units;
  - transactions;
  - other flows.
  
- The *Classification of Expenditure on GDP*, as specified in the *ICP Handbook*, is used for purposes of price collection and provision of expenditure weights.
- Deviations from the above classifications/sectorizations are kept under review (see also 5.2.1)

**3.2.4. Basis for recording**

— *Flows and stocks are valued and recorded according to internationally accepted standards, guidelines, or good practices.*

**3.2.4.1. Market (purchasers') prices are, in general, used to value flows and stocks**

*i. The valuation rules used for recording flows and stocks are in accordance with the SNA.*

With respect to the valuation of the GDP final expenditures used in compiling ICP statistics:

- The general rule is that transactions are valued at the actual prices agreed by the transactors (market or purchasers' prices).
- Imputed household expenditures should be valued in accordance with guidelines contained in the *ICP Handbook*.
- Income in kind should be valued at purchasers' prices if the employer has purchased the goods or services, or valued at producers' prices if the goods or services have been produced by the enterprise itself.
- Individual consumption expenditure by non-profit institutions serving households should be valued as the sum of the costs of production.
- Production of services of government should be valued as the sum of the costs of production.
- Purchases of goods and services by government, which are then passed on to households without any further processing by government, should be valued at purchasers' prices.
- Collective consumption expenditure by government is valued at cost.
- Gross fixed capital formation should be valued at purchasers' prices.
- Own-account production of fixed capital assets should be valued at basic prices.

- Change in inventories should be valued as the change in the physical quantities of inventories at the beginning and end of the year using, preferably, the average prices over the year, or prices prevailing in the middle of the year.
- Total imports and exports are valued on an f.o.b. basis.
- Transactions in foreign currency are converted using the mid-point exchange rate prevailing in the market at the moment they take place.
- Proper adjustments are made if a system of multiple official exchange rates exists.
- Deviations from the above valuation are kept under review (see also 5.2.1).

With respect to the prices to be collected for ICP purposes:

- Prices collected must be strictly consistent with the prices underlying the national accounts expenditure weights.
- These prices must be consistent with national annual average prices, or accepted procedures are used to estimate national annual average prices when these have not been collected.
- Product specifications include price-determining characteristics related to the terms of the transactions.
- Deviations from the above valuation are kept under review (see also 5.2.1).

#### **3.2.4.2. Recording is done on an accrual basis**

##### *i. The timing rules used for recording flows are in accordance with the SNA.*

- Transactions and flows are recorded on an accrual basis.
- Work-in-progress is recorded in the period it is produced.
- Government-related transactions are recorded on an accrual basis, in particular -taxes and subsidies on products; -expenditures.
- National annual average prices relate to the ICP reference year.
- Deviations from the above accrual accounting are kept under review (see also 5.2.1).

#### **3.2.4.3. Grossing/netting procedures are broadly consistent with internationally accepted standards, guidelines, or good practices**

##### *i. The grossing/netting procedures are in accordance with the SNA.*

- Gross fixed capital formation consists of net acquisitions (acquisitions less disposals) of fixed assets.
- Valuables are measured as acquisitions less disposals.
- Transaction prices are measured net of discounts or rebates.
- Deviations from the above recording are kept under review (see also 5.2.1).

### 3.2.5. Aggregation

—*Methods are adopted that minimize formula bias and achieve transitivity as between the regional and international results.*

#### 3.2.5.1. Aggregation methods are broadly consistent with internationally accepted standards, guidelines or good practices

*i. Compilation of basic heading PPPs should recognize the concept of representativity and produce transitive basic heading PPPs.*

- Ideally, the Extended Country-Product-Dummy with Representativity (CPRD) method should be used to estimate basic heading PPPs within regions. Given the difficulties in implementing this method in some regions, the Country-Product-Dummy (CPD) method is an acceptable alternative method.
- Deviation from either of these methods should be agreed with the Global Manager and only be made where compelling statistical reasons exist.

*ii. Compilation of higher level PPPs should avoid bias (e.g. the Gerschenkron effect) and produce transitive higher level PPPs.*

- Compilation of higher level PPPs involves trade-offs among alternative methods. The EKS and Ikle methods avoid the Gershenkron effect, but they do not produce additive results. The G-K method has the Gerschenkron effect in some cases, but does produce additive results. The method used should be specified, including discussion of the reasons for the choice of method used.
- Deviation from these methods should be agreed with the Global Manager and only be made where compelling statistical reasons exist.
- Compilation methods should be such that PPPs are invariant to the choice of country or numeraire currency, i.e. fixity is preserved.

### 3.3. Accuracy and Reliability

*Source data and statistical techniques are sound and statistical outputs sufficiently portray reality.*

The accuracy and reliability dimension is here applied to those elements of the ICP that are the specific responsibility of the Regional Coordinator.
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#### 3.3.1. Source data

— *Source data available provide an adequate basis to compile statistics.*

##### 3.3.1.1. Source data are collected from comprehensive data collection programs that take into account country-specific conditions



- i. The data collection programs employed to compile the ICP statistics are adequate.*
- The data sources of the data collection program, undertaken mainly through the National Coordinators, are broadly sufficient to compile the ICP statistics.
  - The data sources are kept under continuous review to ensure that the data collection program is comprehensive.
  - Information from other available sources supplements core compilation.
- ii. The price collection program is conducted such that adequate price data are available for ICP purposes.*
- The Product Specifications, which are based on Structured Product Descriptions provided by the Global Office and fined tuned in the regional pre-survey, are adequate for price survey purposes and ensure that comparable products are priced in each country.
  - Price recording forms are constructed according to sound design principles (e.g., they are subject to field/pilot testing). They are reviewed periodically to take account of changed circumstances, and proposed changes are pretested to ensure effectiveness.
  - The Regional Coordinator provides adequate oversight of the regional price collection programs.
  - The Regional Coordinator provides specific direction to National Coordinators, and in some cases directly manages the collection of difficult to price items including housing services, equipment goods, construction projects (using the basket of construction components approach), and government services.
  - For those price collections for which the Regional Coordinator is responsible, the collection design should ensure average annual national prices are collected.
  - The price collection framework supports supplementary collections to allow the irregular collection of information to support the main compilation.
  - Data collected are sufficiently detailed to enable adequate data verification.
  - Adequate validation is undertaken of prices collected to ensure national annual average prices, consistent with the underlying national accounts expenditure components, are available.
  - Advice on the selection of the Global Core List of items to be priced by all countries from all regions is based on objective criteria agreed upon by the Global Office and all Regional Coordinators and set out in the *ICP Handbook*.
- iii. GDP and the main expenditure aggregates are available for weighting purposes and to generate volume estimates.*
- GDP data, broken down into *basic headings*, are available for the reference year for all countries participating in the regional benchmark collection.

(These data are used for weighting purposes in compiling higher level PPPs and are deflated to generate volume estimates for comparison and aggregation among countries.)

- These data should respect SNA guidelines as far as possible but may be deficient in minor respects. (“Minor” in this sense means that the deficiencies do not seriously affect the level and growth rate of total GDP or the relative shares of household consumption, government consumption and capital formation.)

*iv. Ad hoc data collections are undertaken when needed to fill data gaps.*

- Ad-hoc data collections are conducted, when necessary, to fill data gaps or to complement data collected in the main benchmark collections.

*v. The data collection programs are sufficiently open and allow for versatility to new developments in sources.*

- Periodic meetings are held with interested parties to identify new developments that need to be taken into account in the price collections and national accounts compilations.
- The press and research papers are monitored for information on activities that need to be taken into account in the ICP work.
- International standards, guidelines, and practices are monitored for changes that need to be taken into account in the ICP work.
- The Regional Coordinator consults with the Global Office and national coordinators to ascertain changes in circumstances that may affect the ICP statistics.

**3.3.1.2. Source data reasonably approximate the definitions, scope, classifications, valuation, and time of recording required**

*i. Source data approximate the definitions, scope, classifications, and valuation, and time of recording required.*

- Pilot tests have been conducted to ensure that price data collected will allow compilation of estimates according to ICP guidelines.
- Country national accounts data are consistent with the time of recording, reference periods, and valuation requirements of ICP statistics.
- Country data provide final expenditure dissections into *basic headings* as per ICP requirements.

*ii. The data collection program provides adequate coverage of economic activities.*

- The frequency of price collection is sufficient to approximate average annual prices.
- The geographic spread of the price collection is sufficient to approximate average national prices.
- If either or both of the above does not apply, accepted procedures are used to estimate national annual average prices.

### 3.3.1.3. Source data are timely

#### *i. The data collection programs provide for the timely receipt of data.*

- Data collection and processing timetables are adequate to meet timeliness and periodicity for disseminating ICP statistics.
- The Regional Coordinator Office employs rigorous follow-up procedures to ensure the timely receipt of source data.

### 3.3.2. Assessment of source data

— *Source data are regularly assessed.*

#### **3.3.2.1. Source data—including prices data and national accounts data—are routinely assessed, e.g., for coverage, frequency, consistency with SNA concepts; the results of the assessments are monitored and made available to guide statistical processes**

#### *i. Accuracy of the country data is routinely assessed.*

- Country national accounts data are analyzed to ensure they are adequate, in terms of comprehensiveness, level of detail, and up-to-datedness, for ICP purposes.
- Editing procedures (e.g., the standard deviation of prices at the national level and the residuals from the CPD method at the regional level) identify outliers and other atypical differences in prices data for individual countries. Extreme values are confirmed and records maintained on the confirmation.
- The effects of changes to price collection forms on country data are assessed.
- Country data are audited to verify their accuracy.
- More generally, the country data are analyzed to correct for underreporting/misreporting, in particular to check for:
  - inter-country consistency;
  - consistency with other related source data.

*ii. Accuracy of the information from administrative and other supplementary sources is routinely assessed.*

- Accuracy of administrative and other supplementary data used to verify the credibility of ICP statistics is routinely assessed.

### **3.3.3. Statistical techniques**

— *Statistical techniques employed conform to sound statistical procedures.*

#### **3.3.3.1 . Data compilation employs sound statistical techniques to deal with data sources**

*i. Data compilation procedures are sound.*

- Compilation procedures minimize processing errors such as coding, editing, and tabulation errors.
- Adjustments to country source data are made only when clearly warranted (e.g., outliers are not replaced or modified unless clearly required and after confirmation with the country concerned).
- Procedures for imputation and adjustment for nonresponse are soundly based.

*ii. Appropriate measures are taken to validate the source data.*

- Sound estimation techniques are employed to adjust data for missing observations in country data.
- Adjustments for undercoverage follow appropriate guidelines. Grossing-up factors are derived scientifically.

#### **3.3.3.2. Other statistical procedures (e.g., data adjustments and transformations, and statistical analysis) employ sound statistical techniques**

*i. Appropriate techniques are used to ensure data used for weighting purposes are consistent with ICP requirements.*

- Statistical procedures used to adjust country final expenditure data to meet ICP requirements follow a detailed, case-by-case, approach using specific sources that are most closely related to the estimated variables and pertinent to the reference period.
- Changes to country data are made only with the concurrence of the country concerned.

*ii. Generally accepted good practice statistical techniques are used to compile the purchasing power parities.*

- Compilation of basic heading PPPs should recognize the concept of representativity and produce transitive basic heading PPPs.
- Compilation of higher level PPPs should avoid bias and produce transitive higher level PPPs.

### **3.3.4. Assessment and validation of intermediate data and statistical outputs**

— *Intermediate results and statistical outputs are regularly assessed and validated.*

#### **3.3.4.1. Intermediate results are validated against other information where applicable**

##### *i. Intermediate results are validated against other independent data.*

- The data compiled from the main sources used to compile ICP statistics are checked against other independent data sources where available.

#### **3.3.4.2. Statistical discrepancies in intermediate data are assessed and investigated**

##### *i. The discrepancies in intermediate data are routinely investigated and measures taken to remove them.*

- A systemic procedure (e.g. Quaranta and Dikhanov tables) exists to routinely assess the potential discrepancies in intermediate data.
- Appropriate adjustments are made to remove the discrepancies in consultation with the countries concerned.

#### **3.3.4.3. Statistical discrepancies and other potential indicators of problems in statistical outputs are investigated**

##### *i. Unusual or unexpected differences in PPPs among countries are investigated.*

- Unusual or unexpected differences among PPPs (e.g. arising from incorrect weighting data) are investigated.
- Comparisons with data from previous ICP rounds are used to check the credibility of the latest results.

### **3.3.5. Revision studies**

— *Revisions, as a gauge of reliability, are tracked and mined for the information they may provide.*

#### **3.3.5.1. Studies and analyses of revisions between initial and final results are carried out routinely and used internally to inform statistical processes (see also 4.3.3)**

##### *i. Revision studies are undertaken on a regular basis.*

- Studies assess the initial estimates for the regional component of the ICP Round against revised or final estimates and comprise:
  - studies of scale (magnitude of revision and number of time series revised)
  - studies of direction of revisions.
- Studies investigate the sources of errors, omissions, and fluctuations in the data and explain the methods of revising the data.

**ii. *Measures are undertaken to incorporate the findings from revision studies in data compilation.***

- Findings from revision studies are used to define the optimal publication cycle that is largely driven by the availability of country data.
- Findings from revision studies are used to refine preliminary data and data collection programs for the subsequent ICP benchmark Rounds.
- Adequate documentation on revisions is well maintained and includes description of causes of revisions, methods used to incorporate new data sources, the consultations that took place with countries, and the way data are adjusted.

### **3.4. Serviceability**

*Statistics, with adequate periodicity and timeliness, are consistent and follow a predictable revisions policy.*

#### **3.4.1. Periodicity and timeliness**

*— Periodicity and timeliness follow internationally agreed understandings.*

##### **3.4.1.1. Periodicity follows agreed understandings**

**i. *The periodicity of the statistics follows understandings reached at the United Nations Statistical Commission.***

- Regional ICP statistics are compiled at least every six years, or more frequently if agreed among the countries in the region.

##### **3.4.1.2. Timeliness follows dissemination standards**

**i. *The timeliness of the statistics follows understandings reached at the United Nations Statistical Commission.***

- ICP statistics are disseminated in accordance with understandings reached with the Global Office for ICP benchmark Rounds, or as agreed among countries in the case that more frequent PPP statistics are compiled .

#### **3.4.2. Consistency**

— *Statistics are consistent within the dataset, over time, and with major datasets.*

#### **3.4.2.1. Statistics are consistent within the dataset**

*i. The statistical series is internally consistent.*

- The prices data are consistent with the valuation basis of the national accounts final expenditures data, i.e. there is consistency within the “value = volume x price” framework.

#### **3.4.2.2. Statistics are consistent or reconcilable over a reasonable period of time**

*i. The statistical series is consistent over time.*

- Detailed methodological notes identify and explain the main breaks and discontinuities in methodologies, source data and statistical techniques between ICP benchmark Rounds, their causes, as well as potential impacts on the statistics.
- Unusual changes in economic trends are explained in the analytical text included in the publication and in the database accessible to users.

#### **3.4.2.3. Statistics are consistent or reconcilable with those obtained from previous ICP rounds**

*i. The statistics are consistent or reconcilable with those derived from previous ICP rounds.*

- Users are advised of the differences between benchmark ICP statistics and estimates of PPP gross national income per capita compiled by the World Bank, which are derived from the previous benchmark, and the reasons for the differences.

#### **3.4.3. Revision policy and practice**

— *Data revisions follow a regular and publicized procedure.*

##### **3.4.3.1. Revisions follow a regular and transparent schedule**

*i. The practice of revisions (e.g., from initial estimates to final results) follows a predictable pattern of which users of statistics are informed.*

- The revision cycle is predetermined and stable for the benchmark Round. The revision cycle is made known to the public.

- The reasons underlying the cycle (e.g., the availability of country data) are explained.
- Adequate documentation of revisions is included in the publication of the statistical series and in the database accessible to users.
- If revisions outside the regular cycle are called for (e.g., by the discovery of new source data, errors), they are made known to the public.

#### 3.4.3.2. **Preliminary and/or revised data are clearly identified**

##### *i. Users are informed about the preliminary nature of the data.*

- At the time of data dissemination, users are informed whenever data are preliminary.

##### *ii. Users are informed about the revised nature of the data.*

- At the time of data dissemination, users are informed whenever data are revised.

#### 3.4.3.3. **Studies and analyses of revisions are made public (see also 3.5.1)**

##### *i. Users are informed of results and studies of the revisions to the statistics.*

- Revisions are measured, assessed, and explained in the statistical publication and in the database accessible by users.
- Analysis of differences between the revised and preliminary data is published for major aggregates to allow an assessment of the reliability of the preliminary data.

### **3.5. Accessibility**

*Data and metadata are easily available and assistance to users is adequate.*

#### **3.5.1. Data accessibility**

*— Statistics are presented in a clear and understandable manner, forms of dissemination are adequate, and statistics are made available on an impartial basis.*

##### **3.5.1.1. Statistics are presented in a way that facilitates proper interpretation and meaningful comparisons (layout and clarity of text, tables, and charts)**

##### *i. The presentation of regional ICP statistics is commensurate with users' needs.*

- Regional ICP statistics are published in a clear manner; charts and tables are disseminated with the data to facilitate the analysis.
- Datasets are published with various levels of detail (disaggregation).



- Analysis of current-period circumstances is included with dissemination.
- Estimates are disseminated at a sufficiently detailed level to meet users' needs.

#### **3.5.1.2. Dissemination media and format are adequate**

##### *i. Regional ICP statistics are disseminated in formats to suit users' needs.*

- Statistics are disseminated in ways that facilitate redissemination in the media (e.g., information releases).
- More comprehensive and/or detailed statistics are also disseminated in paper and/or electronic formats.
- Analytical series can be accessed (perhaps for a fee) through an electronic database maintained by the Regional Coordinator.

#### **3.5.1.3. Regional ICP statistics are released on a preannounced schedule**

##### *i. Regional ICP statistics are released on the preannounced schedule.*

- A schedule announces in advance the dates the statistics are to be released.
- The statistics are released punctually, that is, according to the preannounced schedule.

#### **3.5.1.4. Statistics are made available to all users at the same time**

##### *i. The regional ICP statistics are made available to all users at the same time.*

- The public is informed of the statistics being released and of the procedures to access them (e.g., Internet, publications).
- The statistics are made available to all interested users simultaneously.
- If the press is briefed in advance, embargos are imposed to prevent early public disclosure.

#### **3.5.1.5. Regional ICP statistics not routinely disseminated are made available upon request**

##### *i. Regional ICP statistics not routinely disseminated are made available to users upon request.*

- In addition to the statistics routinely disseminated, other general statistics are made available upon request.
- Customized tabulations can be provided (perhaps for a fee) to meet specific requests.

- The availability of additional statistics and of the procedures for obtaining them are made known.

### 3.5.2. Metadata accessibility

— *Up-to-date and pertinent metadata are made available.*

#### 3.5.2.1. 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

*i. The metadata give adequate information about the meaning of the data and about the methodology used to collect and process them.*

- A comprehensive sources and methods document is published and updated regularly, and it includes the following:
  - information on concepts, definitions, classifications, data sources, compilation methods, statistical techniques, and other relevant methodological aspects and procedures;
  - departures from internationally accepted standards, guidelines, or good practices;
  - information on data sources, such as price collection arrangements.
- The metadata are readily accessible (e.g., websites, statistical publications) and their availability is cross-referenced in data releases, and otherwise well publicized (e.g., in catalogs).

#### 3.5.2.2. Levels of detail are adapted to the needs of the intended audience

*i. Different levels of metadata detail are made available to meet users' requirements.*

- General use information (e.g., a brochure) about the regional ICP statistics (e.g., how to locate the data) is available and made public.
- More specialized use information (e.g., background papers, working documents) is available and made public.

### 3.5.3. Assistance to users

— *Prompt and knowledgeable support service is available.*

#### 3.5.3.1. Contact points for the statistics are publicized

*i. Adequate assistance is given to users of statistics.*

- Prompt and knowledgeable service and support are available to users of statistics.
- All regional ICP statistical releases identify contact points for enquiries by mail, telephone, facsimile, or by e-mail.

- Material to raise awareness on the use of regional ICP statistics is available (e.g., for schools and research).
- Access points for clients to obtain statistical information are well advertised.
- Assistance to users is monitored and reviewed periodically (e.g., time of response to e-mail requests).

**3.5.3.2. Catalogs of regional ICP publications, documents, and other services, including information on any charges, are widely available**

*i. Catalogs of regional ICP publications and other services are available to users of statistics.*

- Catalogs of regional ICP publications, documents, and other services to users are available and updated regularly (e.g., each year if needed).
- The prices of the statistical products and services are clearly disclosed and assistance is provided in placing orders.

## 4. PART C: NATIONAL COORDINATOR ACTIVITIES

**Note: Country/economy participation in the ICP revolves around provision of prices and national accounts final expenditures data in accordance with ICP requirements. DQAF assessment of a country's/economy's ICP statistical work should ideally be considered in the context of DQAF assessment of the consumer price index, producer price index and national accounts of the country/economy.**

### 4.0. Prerequisites of Quality

#### 4.0.1. Legal and institutional environment

— *The environment is supportive of statistics.*

##### 4.0.1.1. The responsibility for collecting, processing, and submitting ICP data to the Regional Coordinator is clearly specified

*i. The primary responsibility for collecting, processing, and submitting ICP data to the Regional Coordinator is clearly established.*

- A law, such as a statistical law, or other formal provision (e.g., a memorandum of understanding with the Regional Coordinator Office) assigns primary responsibility as well as the authority to an agency to perform the National Coordinator functions for the collection, processing, and submission to the Regional Coordinator of data required for compiling ICP statistics.
- Working arrangements are consistent with this assignment of responsibility.
- Given that more than one data producing agency is involved in producing parts of the statistics, arrangements are in place to promote consistency of methods and results.
- Conflicts or potential conflicts between the formal authority to produce the statistics and other laws or provisions (e.g., access to information law or bank secrecy laws) have been successfully resolved or reconciled with no major impairment to the data production.

##### 4.0.1.2. Data sharing and coordination among data producing agencies are adequate

*i. Arrangements or procedures exist to facilitate data sharing and coordination between the agency (agencies) with the primary responsibility for compiling the statistics and other data producing agencies.*

- Procedures are in place to provide for the effective and timely flow of source data (e.g., prices data, national accounts expenditure data) to the National Coordinator.

- Contacts (e.g., regular meetings and workshops) are maintained with other data producing agencies to promote a proper understanding of data requirements, to avoid duplication of effort, and to take into account reporting burden.

**4.0.1.3. Observed outlet prices data are to be kept confidential and used for statistical purposes only**

*i. The confidentiality of observed outlet prices and any other individual reporters' data is guaranteed and that guarantee is widely known.*

- A law or other formal provision clearly states that individual data are to be treated as confidential, and shall not be disclosed or used for other than statistical purposes unless disclosure is agreed to in writing.
- In data collection activities, and as relevant, respondents are informed of their rights and obligations with regard to the provision of information, and they are informed that the information they provide will be used for the purpose of producing statistics.

*ii. Procedures are in place to prevent disclosure of observed outlet prices and any other individual reporters' data.*

- Rules and regulations to prevent disclosure include penalties against staff who disclose confidential data.
- Access to individual data is restricted to staff who require the information in the performance of their statistical duties.
- Special aggregation rules are used to prevent residual disclosure when aggregations of observed outlet prices or other confidential data are provided.
- Staff review all data prepared for submission to the Regional Coordinator for possible indirect disclosure of individual data and design tables and outputs in a way that prevents disclosure.
- Where unit records are made available (e.g., for research purposes), the confidentiality of the individual data is protected (e.g., by making all records anonymous, or ensuring that access to data is bound by confidentiality provisions).
- Confidentiality of data is appropriately guarded during storage and during the process of the destruction of records.
- Steps are taken to secure the premises of the institution performing the role of National Coordinator and its computer systems to prevent unauthorized access to individual data.

**4.0.1.4. Statistical reporting is ensured through legal mandate and/or measures to encourage response**

*i. A law or other formal provision provides for the reporting of information needed to compile the statistics.*

- The National Coordinator has the formal authority to collect data required to compile the statistics.
- Collection activity is consistent with the formal authority.

*ii. Other mechanisms are in place to provide for adequate reporting of data for compiling the statistics.*

- The National Coordinator considers carefully practical issues (e.g., availability of data, options for collecting data) that may arise in collecting data for ICP purposes and periodically evaluates current and alternative approaches.
- As relevant, the National Coordinator provides assistance to respondents in completing and submitting forms (e.g., by providing a point of contact).
- The National Coordinator seeks to secure cooperation by creating goodwill (e.g., by registering and dealing with respondents' issues, indicating the purpose of the data collection, informing of measures to limit response burden, raising awareness of the importance of good quality statistics, and providing respondents with data upon request).

#### **4.0.2. Resources**

*— Resources are commensurate with needs of statistical programs.*

##### **4.0.2.1. Staff, facilities, computing resources, and financing are commensurate with statistical programs**

*i. Staff resources for compiling the statistics are adequate to perform required tasks.*

- Overall, the number of staff is adequate to perform the required tasks.
- The qualifications of the staff are adequate, with their skills maintained and developed to perform the required tasks.
- A core staff with adequate training is maintained and staff turnover is manageable.
- Salary levels are adequate for the nature of the work and competitive with public administration conditions in the country.

*iv. Computing resources for compiling the statistics are adequate to perform required tasks.*

- Overall, sufficient resources are allocated and best efforts are made to exploit the full potential of effective computing technology for compiling and submitting the data series.

- Software utilized for compiling and analyzing the statistical series (e.g. the “Toolpack” system) is effective, periodically updated, and well adapted to perform existing and emerging tasks.
- Hardware available to National Coordinator staff is distributed adequately to facilitate the efficient collection and processing of data, and management of databases.
- Adequate protection is provided for computer resources, including through provision of emergency back-up systems for retrieval of statistical series and updates in the event of natural disasters, accidents, and other unusual events.

**iii. *Physical facilities and other resources are adequate to perform required tasks.***

- Office building provides adequate working facilities (e.g., lighting, heat, and cooling).
- Office furniture and equipment (e.g., desks, chairs, filing cabinets, telephones, and related equipment) are adequate to perform required tasks.

**iv. *Funding for compiling the statistics is adequate to perform required tasks.***

- Funding is reasonably secure for the identified needs of the ICP.
- Budgeting practices provide clear information to financing authorities (e.g., when reviewing priorities for improvements, cutbacks, or increase in certain elements of the program).
- The funding horizon is amenable to planning for statistical developments (e.g., over the full cycle of an ICP Round).

**4.0.2.2. Measures to ensure efficient use of resources are implemented**

**i. *Management ensures that resources are used efficiently.***

- Periodic reviews of staff performance are conducted.
- Efficiencies are sought through periodic reviews of work processes, e.g., seeking cost effectiveness of program design in relation to objectives, and encouraging consistent concepts, classification and other methodologies across datasets.
- When necessary, the National Coordinator seeks outside expert assistance to evaluate statistical methodologies and compilation systems.

**ii. *Costing and budgeting practices are in place and provide sufficient information to management to make appropriate decisions.***

- Resources used to compile the statistics are measured periodically (costing) and compared to other statistical programs.
- Budgeting procedures are used to help allocate resources.

#### 4.0.3. **Relevance**

— *Statistics cover relevant information on the subject field.*

##### 4.0.3.1. **The relevance and practical utility of the data in meeting ICP needs are monitored**

*i. Specific actions are taken to ensure that data meet ICP requirements.*

- The Regional Coordinator is consulted and/or kept informed on specific aspects of current data (e.g., usefulness in terms of detail, periodicity, and timeliness) with Regional Coordinator feedback actively sought (e.g., e-mail address provided).

*ii. Mechanisms are in place to identify new and emerging data requirements.*

- A structured and periodic process of consultation takes place with key stakeholders to review the usefulness of existing data and to identify emerging data requirements.
- The National Coordinator regularly participates in statistical meetings and seminars organized by international and regional organizations and by professional organizations (e.g., regional statistical meetings, the United Nations Statistical Commission, International Statistical Institute (ISI) and International Association for Official Statistics (IAOS)).
- The National Coordinator undertakes studies to help identify new and emerging data requirements.

#### 4.0.4. **Other quality management**

— *Quality is a cornerstone of statistical work*

##### 4.0.4.1. **Processes are in place to focus on quality**

*i. There is recognition throughout the office of the National Coordinator that quality builds trust and thus is a cornerstone of statistical work.*

- Management is sensitive to all dimensions of data quality, and promotes a shared concern for quality throughout the office of the National Coordinator (e.g., mission statement emphasizes importance of quality, managers are held accountable for achieving quality).
- Staff training programs emphasize the importance of quality and give staff an understanding as to how quality may be achieved.
- The National Coordinator provides an infrastructure for quality by recognizing trade-offs, economies of scale, and interrelations between datasets.



- The National Coordinator has implemented externally recognized processes or activities that focus on quality (e.g., Total Quality Management, ISO 9000, data quality initiatives within the region, and independent evaluations).
- Information is publicly available on the National Coordinator's commitment to quality, including information about trade-offs affecting the statistical work program.

#### 4.0.4.2. **Processes are in place to monitor the quality of the statistical program**

##### *i. Measures are in place for a systematic monitoring and review of quality.*

- Monitoring processes are in place to inform managers on the quality achieved in providing data to the Regional Coordinator (e.g., data gaps, editing rates, timeliness evaluations).
- Compiling areas have access to expert guidance on the quality of their data and on strategies for improving data production.
- Periodic reviews are undertaken to identify steps necessary to maintain or improve data quality in future ICP Rounds.

#### 4.0.4.3. **Processes are in place to deal with quality considerations in planning the statistical program**

##### *i. In planning the country contribution to the ICP, quality issues (including implicit and explicit trade-offs among the dimensions of quality) are considered.*

- Quality issues, such as the following, are addressed explicitly and taken into account in the work program planning process:
  - quality improvements identified during ongoing monitoring and in periodic reviews;
  - feedback from the Regional Coordinator on quality standards and on new and emerging data requirements; and
  - trade-offs among the dimensions of quality (e.g., resources availability, timeliness, and accuracy/reliability).

### **4.1. Assurances of Integrity**

*The principle of objectivity in the collection, processing, and submission of data to the Regional Coordinator is firmly adhered to.*

#### **4.1.1. Professionalism**

*— Statistical policies and practices are guided by professional principles.*

##### **4.1.1.1. Statistics are produced on an impartial basis**

*i. The terms or conditions under which the ICP data are produced are in accordance with professional independence.*

- A law or other formal provision supports professional independence by, for example:
  - addressing the general need for the professional independence of the National Coordinator (e.g., the importance of professional independence in carrying out statistical functions is clearly stated and recognized);
  - prohibiting interference from others in the compilation and/or submission of ICP data; and
  - ensuring that the choice, tenure, and reporting arrangements of the National Coordinator are supportive of the professional independence of the National Coordinator function (e.g., tenure is consistent with the timeframe of a global Round; appointment and removal of the National Coordinator results from transparent processes with emphasis on professional qualifications and performance).
- If there is no law or formal provision to support professional independence,
  - traditions or cultures of professionalism are clearly recognized as essential to the credibility of statistical results (e.g., others outside the agency hosting the National Coordinator function understand the importance of noninterference); and
  - the choice, tenure, and reporting arrangements of the National Coordinator are supportive of the professional independence of the National Coordinator function.

*ii. Professionalism is actively promoted and supported within the agency performing the National Coordinator function.*

- Recruitment and promotion are based on relevant aptitude and/or expertise in ICP requirements (e.g., project management expertise, prices and national accounts subject matter).
- Formal (using internal and outside experts) and on-the-job training in the methodology and compilation methods is provided, including participation in seminars, courses, and workshops to further knowledge of statistical practices and providing easy access to professional literature.
- Processes and activities in the workplace promote a culture of professionalism (e.g., by professional accreditation of staff, peer review of statistical work, recognition of authors of methodological papers, organization of lectures and conferences, and the institutional support of professional bodies).
- Research and analysis (including rationale for the choice of methodologies) are encouraged and published subject to internal review and other processes to maintain the National Coordinator's reputation for professionalism.

**4.1.1.2. Choices of sources and statistical techniques as well as decisions about dissemination are informed solely by statistical considerations**

*i. The choices of data sources and statistical techniques are informed solely by statistical considerations.*

- The choice of source data (e.g., prices to be collected, national accounts expenditure weights) is based on measurement objectives and data requirements.

*ii. Decisions about submission of data to the Regional Coordinator are informed solely by statistical considerations.*

- Decisions to submit data are based solely on statistical considerations.
- Decisions about the timing, media, and other aspects of data submission are based solely on statistical considerations.

#### **4.1.1.3. The National Coordinator entitled to comment on erroneous interpretation and misuse of the country's ICP statistics**

*i. The National Coordinator comments when ICP statistics for the country are misinterpreted or misused.*

- As appropriate, the National Coordinator seeks to prevent misinterpretation or misuse of ICP statistics for the country by providing explanatory materials and briefings (e.g., to the media).
- There is a formal policy or well-established custom to deal with data misinterpretations or misuse of statistics.
- The National Coordinator Office:
  - monitors media coverage of its data (“clipping service”), and
  - comments publicly and in a timely manner on erroneous interpretations or misuse of the ICP statistics for the country in the media and in other fora.

#### **4.1.2. Transparency**

— *Statistical policies and practices are transparent.*

##### **4.1.2.1. The terms and conditions under which ICP data are collected, processed, and submitted to the Regional Coordinator are available to the public**

*i. Information is available to the public about the terms and conditions under which the ICP data are collected and submitted to the Regional Coordinator, including the obligation to collect and submit the data, the confidentiality of observed outlet prices data, and other key features.*

- National Coordinator publications and/or websites reproduce material about the terms and conditions under which ICP data are collected and submitted to the Regional Coordinator. These terms and conditions may refer to the formal

mandate to collect and submit the data, the confidentiality of observed outlet prices data, and other key features (e.g., the codes of conduct under which ICP data are collected and submitted, the approval process for data submission, the procedures to hire and remove the National Coordinator).

- In public speeches and other gatherings, the National Coordinator makes an active and ongoing effort to inform about the terms and conditions under which it operates.
- Statistical publications identify where more information about the agency performing the National Coordinator function and its products can be found.

#### **4.1.2.2. Pre-embargo access to ICP statistics prior to their release is publicly identified**

*i. The public is made aware of pre-embargo access to ICP statistics prior to their release to the public.*

- Pre-embargo access arrangements to ICP statistics for the country prior to release are made public in terms of who has access, and how long before the dissemination access is given.

#### **4.1.2.3. Products of the National Coordinator are clearly identified as such**

*i. Statistical products are clearly identified so that the public is aware of what the National Coordinator takes responsibility for.*

- Data released to the public are clearly identified as the National Coordinator's product (e.g., by name, logo, and insignia).
- In the case of joint publications, the part attributable to the National Coordinator is identified (e.g., statistics are clearly distinguished from policy interpretation).
- The National Coordinator requests attribution when its statistics are used or reproduced.

#### **4.1.2.4. Advance notice is given of major changes in methodology, source data, and statistical techniques**

*i. Users of ICP statistics are made aware in advance of major changes in methodology, source data, and statistical techniques.*

- Advance notice is given to the public (e.g., articles in bulletins, briefings, or news releases) when major changes are introduced in methodology, sources, and statistical techniques.

#### **4.1.3. Ethical standards**

— *Policies and practices are guided by ethical standards.*

#### 4.1.3.1. Guidelines for staff behavior are in place and are well known to the staff

*i. A clear set of ethical standards has been prepared.*

- There are clear guidelines outlining correct behavior when staff engaged in National Coordinator functions is confronted with potential conflict of interest situations. As appropriate, these guidelines may be general guidelines applying to all staff in the agency hosting the National Coordinator function.
- There are clear guidelines that make the connection between ethics and staff work (e.g., with respect to guarding against misuse and misrepresentation of statistics (see also 1.1.3)).
- A strong culture for maintaining ethical standards discourages outside interference.

*ii. Staff is made aware of the ethical standards.*

- Management acknowledges its status as a role model and is vigilant in following the standards.
- New staff is made aware of the standards when they join the organization.
- Staff is reminded periodically of the standards (e.g., in staff training, announcements to staff, or by requiring staff to periodically reaffirm ethical practices or adhere to conflict of interest policy).

## 4.2. Methodological Soundness

*The methodological basis for the ICP statistics follows internationally accepted standards, guidelines, or good practices.*

The methodological soundness dimension is assessed against the guidelines outlined in the *ICP Handbook*, which provides the theoretical and methodological background to guide the data collection, analysis, and estimation of purchasing power parities. The National Coordinators contributed to the development of the *Handbook*.

### 4.2.1. Concepts and definitions

*— Concepts and definitions used are in accord with internationally accepted statistical frameworks.*

#### 4.2.1.1. The overall structure in terms of concepts and definitions follows internationally accepted standards, guidelines, or good practices

*i. The national component of the ICP follows internationally accepted standards, guidelines, or good practices as detailed in the ICP Handbook.*

- The *ICP Handbook* requirements have been followed in collecting and submitting ICP data.
- Deviations from the *Handbook* requirements are explicitly agreed with the Regional Coordinator and are kept under review (see also 5.2.1).

#### 4.2.2. Scope

—*The scope is in accord with internationally accepted standards, guidelines, or good practices.*

##### 4.2.2.1. The scope is broadly consistent with internationally accepted standards, guidelines or good practices

*i The scope of ICP statistics covers the complete final expenditure components of Gross Domestic Product (GDP) for the country/economy.*

- The scope of the ICP statistics covers the *basic headings* covering final expenditures on GDP as defined in the version of the United Nations *System of National Accounts* (SNA) on which the ICP benchmark Round is based.
- GDP estimates and expenditure data for each of the *basic headings* are to cover the full range of economic activities and transactions that are included in the SNA production boundary.
- Price collection arrangements must ensure that national annual average prices, consistent with the underlying expenditure weights for each of the *basic headings*, are available for the country/economy.

#### 4.2.3. Classification/sectorization

—*Classification and sectorization systems are in accord with internationally accepted standards, guidelines, or good practices.*

##### 4.2.3.1. Classification/sectorization systems used are broadly consistent with internationally accepted standards, guidelines, or good practices

*i The classification and sectorization used in the compilation of ICP statistics are in broad conformity with internationally recommended systems.*

- The SNA is followed to classify:
  - institutional units;
  - transactions;
  - other flows.
- The *Classification of Expenditure on GDP*, as specified in the *ICP Handbook*, is used for purposes of price collection and provision of expenditure weights.
- Deviations from the above classifications/sectorizations are kept under review (see also 5.2.1)

#### 4.2.4. Basis for recording

— *Flows and stocks are valued and recorded according to internationally accepted standards, guidelines, or good practices.*

##### 4.2.4.1. Market (purchasers') prices are, in general, used to value flows and stocks

*i. The valuation rules used for recording flows and stocks are in accordance with the SNA.*

With respect to the valuation of the GDP final expenditures used in compiling ICP statistics:

- The general rule is that transactions are valued at the actual prices agreed by the transactors (market or purchasers' prices).
- Imputed household expenditures should be valued in accordance with guidelines contained in the *ICP Handbook*.
- Income in kind should be valued at purchasers' prices if the employer has purchased the goods or services, or valued at producers' prices if the goods or services have been produced by the enterprise itself.
- Individual consumption expenditure by non-profit institutions serving households should be valued as the sum of the costs of production.
- Production of services of government should be valued as the sum of the costs of production.
- Purchases of goods and services by government, which are then passed on to households without any further processing by government, should be valued at purchasers' prices.
- Collective consumption expenditure by government is valued at cost.
- Gross fixed capital formation should be valued at purchasers' prices.
- Own-account production of fixed capital assets should be valued at basic prices.
- Change in inventories should be valued as the change in the physical quantities of inventories at the beginning and end of the year using, preferably, the average prices over the year, or prices prevailing in the middle of the year.
- Total imports and exports are valued on an f.o.b. basis.
- Transactions in foreign currency are converted using the mid-point exchange rate prevailing in the market at the moment they take place.
- Proper adjustments are made if a system of multiple official exchange rates exists.
- Deviations from the above valuation are kept under review (see also 5.2.1).

With respect to the prices to be collected for ICP purposes:

- Prices collected must be strictly consistent with the prices underlying the national accounts expenditure weights.

- These prices must be national annual average prices, or accepted procedures are used to estimate national annual average prices when these have not been collected.
- Product specifications include price-determining characteristics related to the terms of the transactions.
- Deviations from the above valuation are kept under review (see also 5.2.1).

#### 4.2.4.2. Recording is done on an accrual basis

##### *i. The timing rules used for recording flows are in accordance with the SNA.*

- Transactions and flows are recorded on an accrual basis.
- Work-in-progress is recorded in the period it is produced.
- Government-related transactions are recorded on an accrual basis, in particular -taxes and subsidies on products; -expenditures.
- National annual average prices relate to the ICP reference year.
- Deviations from the above accrual accounting are kept under review (see also 5.2.1).

#### 4.2.4.3. Grossing/netting procedures are broadly consistent with internationally accepted standards, guidelines, or good practices

##### *i. The grossing/netting procedures are in accordance with the SNA.*

- Gross fixed capital formation consists of net acquisitions (acquisitions less disposals) of fixed assets.
- Valuables are measured as acquisitions less disposals.
- Transaction prices are measured net of discounts or rebates.
- Deviations from the above recording are kept under review (see also 5.2.1).

### 4.3. Accuracy and Reliability

*Source data and statistical techniques are sound and statistical outputs sufficiently portray reality.*

The accuracy and reliability dimension is here applied to those elements of the ICP that are the specific responsibility of the National Coordinator.

#### 4.3.1. Source data

— *Source data available provide an adequate basis to compile statistics.*

##### 4.3.1.1. Source data are collected from comprehensive data collection programs that take into account country-specific conditions



*i. The data collection programs employed to compile the ICP data are adequate.*

- The data sources of the data collection program are broadly sufficient to compile the ICP data.
- The data sources are kept under continuous review to ensure that the data collection program is comprehensive.
- Information from other available sources supplements core compilation.

*ii. The price collection program is conducted such that adequate price data are available for ICP purposes.*

- The Product Specifications, which were based on Structured Product Descriptions provided by the Global Office and fine-tuned in the regional pre-survey, are adequate for price survey purposes in the country/economy.
- Price survey recording forms are constructed according to sound design principles (e.g., they are subject to field/pilot testing). They are reviewed periodically to take account of changed circumstances, and proposed changes are pretested to ensure effectiveness.
- The National Coordinator provides adequate oversight of the price collection program in the country/economy.
- The National Coordinator provides specific direction to the price collectors on the requirements of the ICP, especially for difficult-to-price items.
- The price collection framework should ensure that prices collected are suitable for the calculation of average annual national prices are collected.
- The price collection framework supports supplementary collections to allow the irregular collection of information to support the main compilation.
- Data collected are sufficiently detailed to enable adequate data verification.
- Adequate validation is undertaken of prices collected to ensure national annual average prices, consistent with the underlying national accounts expenditure components, are available.
- Prices for items on the Global Core List are collected in accordance with the criteria set out in the *ICP Handbook*.

*v. GDP and the main expenditure aggregates are available for weighting purposes and to generate volume estimates.*

- GDP data, broken down into *basic headings*, are available for the ICP reference year. (These data are used for weighting purposes in compiling higher level PPPs and are deflated to generate volume estimates for comparison and aggregation among countries.)
- These data should respect SNA guidelines as far as possible but may be deficient in minor respects. (“Minor” in this sense means that the deficiencies

do not seriously affect the level and growth rate of total GDP or the relative shares of household consumption, government consumption and capital formation.)

*iv. Ad hoc data collections are conducted when needed to fill data gaps.*

- Ad-hoc data collections are conducted, when necessary, to fill data gaps or to complement data collected in the main benchmark collections.

*v. The data collection programs are sufficiently open and allow for versatility to new developments in sources.*

- Periodic meetings are held with interested parties to identify new developments that need to be taken into account in the price collections and national accounts compilations.
- The press and research papers are monitored for information on activities that need to be taken into account in the ICP work.
- International standards, guidelines, and practices are monitored for changes that need to be taken into account in the ICP work.
- The National Coordinator consults with the Regional Coordinator to ascertain changes in circumstances that may affect the ICP statistics.

**4.3.1.2. Source data reasonably approximate the definitions, scope, classifications, valuation, and time of recording required**

*i. Source data approximate the definitions, scope, classifications, and valuation, and time of recording required.*

- Pilot tests have been conducted to ensure that price data collected will allow compilation of estimates according to ICP guidelines.
- Country national accounts data are consistent with the time of recording, reference periods, and valuation requirements of ICP statistics.
- Country data provide final expenditure dissections into *basic headings* as per ICP requirements.

*ii. The data collection program provides adequate coverage of economic activities.*

- The frequency of price collection is sufficient to approximate average annual prices.
- The geographic spread of the price collection is sufficient to approximate average national prices.
- If either or both of the above do not apply, accepted procedures are used to estimate national annual average prices.

#### 4.3.1.3. Source data are timely

*i. The data collection programs provide for the timely receipt of data.*

- Data collection and processing timetables are adequate to meet timeliness and periodicity requirements for submitting ICP data to the Regional Coordinator.
- The National Coordinator employs rigorous follow-up procedures to ensure the timely receipt of source data.

#### 4.3.2. Assessment of source data

— *Source data are regularly assessed.*

##### 4.3.2.1. Source data—including prices data and national accounts data—are routinely assessed, e.g., for coverage, frequency, consistency with SNA concepts; the results of the assessments are monitored and made available to guide statistical processes

*i. Accuracy of the country data is routinely assessed.*

- Information is available about collection errors: collection operations, biases, over/under-coverage, misclassification, processing, and missing data.
- Country national accounts data are analyzed to ensure they are adequate, in terms of comprehensiveness, level of detail and up-to-datedness, for ICP purposes.
- Editing procedures (e.g., the standard deviation of prices) identify outliers and other atypical differences in price data. Extreme values are confirmed and records maintained on the confirmation.
- The effects of changes to collection arrangements on country data are assessed.
- Country data are audited to verify their accuracy.
- The source data are analyzed to correct for underreporting/misreporting, in particular to check for consistency with other related source data.

*ii. Accuracy of the information from administrative and other supplementary sources is routinely assessed.*

- Accuracy of administrative and other supplementary data used to verify the credibility of ICP data is routinely assessed.

#### 4.3.3. Statistical techniques

— *Statistical techniques employed conform to sound statistical procedures.*

##### 4.3.3.1. Data compilation employs sound statistical techniques to deal with data sources

*i. Data compilation procedures are sound.*

- Compilation procedures minimize processing errors such as coding, editing, and tabulation errors.
- Adjustments to source data are made only when clearly warranted (e.g., outliers are not replaced or modified unless clearly required).
- Procedures for imputation and adjustment for nonresponse are soundly based.

*ii. Appropriate measures are taken to validate the source data.*

- Sound estimation techniques are employed to adjust data for missing observations.
- Adjustments for undercoverage follow appropriate guidelines. Grossing-up factors are derived scientifically.

**4.3.3.2. Other statistical procedures (e.g., data adjustments and transformations, and statistical analysis) employ sound statistical techniques**

*i. Appropriate techniques are used to ensure data used for weighting purposes are consistent with ICP requirements.*

- Statistical procedures used to adjust country final expenditure data to meet ICP requirements follow a detailed, case-by-case, approach using specific sources that are most closely related to the estimated variables and pertinent to the reference period.

*ii. Generally accepted good practice statistical techniques are used to compile the average annual national prices..*

- National annual average prices are compiled in accordance with the guidelines for price collection and validation as set out in the *ICP Handbook*.

**4.3.4. Assessment and validation of intermediate data and statistical outputs**  
— *Intermediate results and statistical outputs are regularly assessed and validated.*

**4.3.4.1. Intermediate results are validated against other information where applicable**

*i. Intermediate results are validated against other independent data.*

- The national annual average prices data compiled for ICP purposes are checked against other independent data sources where available.

**4.3.4.2. Statistical discrepancies in intermediate data are assessed and investigated**

*i. The discrepancies in intermediate data are routinely investigated and measures taken to remove them.*

- A systemic procedure (e.g. Quaranta and Dikhanov tables) exists to routinely assess the potential discrepancies in intermediate data.
- Appropriate adjustments are made to remove the discrepancies in consultation with the countries concerned.

#### **4.3.4.3. Statistical discrepancies and other potential indicators of problems in statistical outputs are investigated**

*i. Unusual or unexpected differences in PPPs among countries are investigated.*

- Unusual or unexpected differences among PPPs (e.g. arising from incorrect weighting data) are investigated.
- Comparisons with data from previous ICP rounds are used to check the credibility of the latest results.

#### **4.3.5. Revision studies**

*— Revisions, as a gauge of reliability, are tracked and mined for the information they may provide.*

##### **4.3.5.1. Studies and analyses of revisions between initial and final results are carried out routinely and used internally to inform statistical processes (see also 4.3.3)**

*i. Revision studies are undertaken on a regular basis.*

- Studies assess the initial estimates for the country against revised or final estimates and comprise:
  - studies of scale (magnitude of revision and number of time series revised)
  - studies of direction of revisions.
- Studies investigate the sources of errors, omissions, and fluctuations in the data and explain the methods of revising the data.

*ii. Measures are undertaken to incorporate the findings from revision studies in data compilation.*

- Findings from revision studies are used to refine preliminary data and data collection programs for subsequent ICP benchmark Rounds.
- Adequate documentation on revisions is well maintained and includes description of causes of revisions, methods used to incorporate new data sources, the consultations that took place with the Regional Coordinator and the way data are adjusted.

#### **4.4. Serviceability**

*Statistics, with adequate periodicity and timeliness, are consistent and follow a predictable revisions policy.*

##### **4.4.1. Periodicity and timeliness**

*— Periodicity and timeliness follow internationally agreed understandings.*

###### **4.4.1.1. Periodicity follows agreed understandings**

*i. The periodicity of the data follows understandings reached with the Regional Coordinator.*

- ICP benchmark Rounds are undertaken at least every six years, but PPPs may be compiled more frequently if agreement is reached among countries in the region.

###### **4.4.1.2. Timeliness follows dissemination standards**

*i. The timeliness of the data follows understandings reached with the Regional Coordinator.*

- ICP data are submitted in accordance with timetables agreed with the Regional Coordinator.

##### **4.4.2. Consistency**

*— Statistics are consistent within the dataset, over time, and with major datasets.*

###### **4.4.2.1. Statistics are consistent within the dataset**

*i. The statistical series is internally consistent.*

- The prices data are consistent with the valuation basis of the national accounts final expenditures data, i.e. there is consistency within the “value = volume x price” framework.

###### **4.4.2.2. Statistics are consistent or reconcilable over a reasonable period of time**

*i. The ICP data provided to the Regional Coordinator are consistent or reconcilable with those provided in previous ICP Rounds.*

- Detailed methodological notes identify and explain the main breaks and discontinuities in methodologies, source data and statistical techniques between ICP benchmark Rounds, their causes, as well as potential impacts on the statistics.

- Unusual changes in economic trends are explained to the Regional Coordinator so that they can be taken into account in compiling the regional ICP statistics.

#### 4.4.2.3. **Statistics are consistent or reconcilable with those obtained from previous ICP rounds**

##### *i. The statistics are consistent or reconcilable with those derived from previous ICP rounds.*

- Users are advised of the differences between benchmark ICP statistics for the country and those derived from the previous benchmark and the reasons for the differences.

#### 4.4.3. **Revision policy and practice**

— *Data revisions follow a regular and publicized procedure.*

##### 4.4.3.1. **Revisions follow a regular and transparent schedule**

##### *i. The practice of revisions (e.g., from initial estimates to final results) follows a predictable pattern of which users of statistics are informed.*

- The revision cycle is predetermined and stable for the benchmark Round. The revision cycle is made known to the public.
- The reasons underlying the cycle (e.g., the availability of source data, the timing of revisions with related datasets) are explained.
- Adequate documentation of revisions to country data is provided to the Regional Coordinator.
- When revisions outside the regular cycle are called for (e.g., by the discovery of new source data, errors), they are made known to the Regional Coordinator.

##### 4.4.3.2. **Preliminary and/or revised data are clearly identified**

##### *i. The Regional Coordinator is informed about the preliminary nature of the data.*

- At the time of data submission, the Regional Coordinator is informed whenever data are preliminary.

##### *ii. The Regional Coordinator is informed about the revised nature of the data.*

- At the time of data submission, the Regional Coordinator is informed whenever data are revised.

**4.4.3.3. Studies and analyses of revisions are made available to the Regional Coordinator (see also 3.5.1)**

*i. The Regional Coordinator is informed of results and studies of the revisions to the data.*

- Revisions are measured, assessed, and explained to the Regional Coordinator.
- Analysis of differences between the revised and preliminary data is documented to allow an assessment of the reliability of the preliminary data.

**4.5. Accessibility**

*Data and metadata are easily available and assistance to users is adequate.*

**4.5.1. Data accessibility**

*— Data are presented in a clear and understandable manner and forms of submission are adequate.*

**4.5.1.1. Data are provided to the Regional Coordinator in a way that facilitates proper interpretation and meaningful comparisons (layout and clarity of text, tables, and charts)**

*i. The provision of ICP data is commensurate with the needs of the Regional Coordinator.*

- ICP data are provided in a clear manner to facilitate analysis.
- The datasets are provided with the appropriate level of detail (disaggregation).
- Analysis of current-period circumstances is included with the data.

**4.5.1.2. Data submission media and format are adequate**

*i. Data are submitted to the Regional Coordinator in appropriate formats.*

- Data are submitted in ways that facilitate analysis and on-processing by the Regional Coordinator.
- Underlying source data (e.g., observed outlet prices) are maintained in formats that facilitate further analysis if required.

**4.5.1.3. Data are submitted to the Regional Coordinator in accordance with the agreed schedule**

*i. Data are submitted in accordance with the agreed schedule.*



- A schedule is agreed in advance with the Regional Coordinator of the dates the data are to be submitted.
- The data are submitted punctually, that is, according to the agreed schedule.

#### **4.5.1.4. Data not routinely submitted to the Regional Coordinator are made available upon request**

*i. Data not routinely submitted to the Regional Coordinator are made available in accordance with agreed procedures.*

- The availability of additional data and of the procedures for obtaining them are agreed with the Regional Coordinator. Particular attention must be given to preserving the confidentiality of observed outlet prices data.

#### **4.5.2. Metadata accessibility**

— *Up-to-date and pertinent metadata are made available.*

##### **4.5.2.1. 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**

*i. The metadata give adequate information about the meaning of the data and about the methodology used to collect and process them.*

- A comprehensive sources and methods document is available and updated regularly, and it includes the following:
  - information on concepts, definitions, classifications, data sources, compilation methods, statistical techniques, and other relevant methodological aspects and procedures;
  - departures from internationally accepted standards, guidelines, or good practices;
  - information on data sources, such as price collection arrangements.
- The metadata are readily accessible within the office of the National Coordinator, and are made available to the Regional Coordinator.

#### **4.5.3. Assistance to the Regional Coordinator**

— *Prompt and knowledgeable support service is available.*

##### **4.5.3.1. Adequate assistance is given to the Regional Coordinator**

*i. Adequate assistance is given to the Regional Coordinator.*

- Prompt and knowledgeable service and support is available to the Regional Coordinator.

- Contact points for follow up are known to the Regional Coordinator.