Intersecretariat Working Group on Price Statistics (IWGPS)

Terms of reference for the Technical Expert Group for updating the 2004 CPI Manual (TEG-CPI)

August 4, 2015

1. Mandate

The Technical Expert Group (TEG-CPI) is established by the IWGPS from which it receives its mandate and to which it reports. The IWGPS is responsible for the overall management and for the final approval of the updated Manual, to be presented for consultation of relevant national statistical authorities, and to be endorsed by the United Nations Statistical Commission.

2. Objective

The objective of the TEG-CPI is to review and update the 2004 CPI Manual.

The main objectives of the update include:

1) Provide clearer and more prescriptive recommendations and guidelines in cases where research, methodological development and practical experience warrant such recommendations and guidelines, and where this is found useful.
2) Take into account experiences gained on the applicability and usefulness of the 2004 manual.
3) Incorporate relevant developments in methods and practices as well as theory and research over the last decade.
4) Update material on data sources, data collection methods and related calculation methods to reflect developments since 2004.
5) Reflect recent developments in user needs.
6) Harmonize the CPI concepts in line with the 2008 SNA

The CPI Manual has global outreach and the update should take into account that the manual targets producers and users in both developed and developing countries. The manual not only provides practical and theoretical guidance to compilers, but also serves as valuable resource for users of CPI data.

3. Guidance for reviewing and updating the 2004 CPI Manual

The update is not intended to include fundamental or comprehensive changes. Authors should, as a rule of thumb, avoid heavily editing/rephrasing text beyond the objectives noted above. The update is also not intended to unduly increase the volume of the Manual. Major changes to include or exclude certain parts of the Manual should first be discussed with the TEG Chair and editor, and subsequently be approved by the IWGPS.

The update of the Manual should clarify and update existing recommendations, as necessary. It should also identify those areas in the text where more prescriptive advice could be provided, and update the text accordingly. The update should incorporate, as needed, developments in theory, empirical work, practice, technology, and standards since 2004.

In those cases where there is no consensus on the most appropriate method, every attempt should be made to clarify the advantages and disadvantages of each method. Where possible, recommendations of preferred methods/practices should be identified.

The updated Manual should include and give due consideration to new theoretical and empirical developments, and to new developments that can be derived from good practice or new technology and standards.

The update should eliminate text on out-of-date principles and practices. It should also tighten material found by experience and methodological developments to be out-of-proportion to its analytical and practical use.

Throughout the manual, recommendations and practical guidance should be based on sound methods which are known to provide good results.

As a general rule, the Manual should be made consistent with the System of National Accounts (SNA) 2008.

The Manual should also include update of all references to theoretical and empirical literature and to discussion of findings thereof. References to new material should be cited in the text, for example Diewert (2014), and provide the full reference at the end of the chapter. Out-of-date references should be removed.

The updated Manual should preferably provide more cross-referencing between chapters, so that users of the Manual can get a coherent story, and consequently apply consistent methodological approaches in compiling and using CPI-data.

Because the Manual has global outreach and is targeted to producers and users who may be non-native English speakers, common and clear English language should be used.

3.1 Chapter-by-chapter proposals for changes

Annex 1 provides an overview of the potential issues identified in each chapter that should be taken into consideration by the TEG. Following the guidelines and objectives above, the TEG agree on the key issues that will be included in the update. Annex 1 is indicative and intended to guide discussion, not to dictate the changes to be made.

3.2 Update of the theoretical chapters (chapters 15-20)

The theoretical chapters should be more streamlined towards theory that is relevant for the explanation of the recommended concepts and/or methods. There is a need to improve the accessibility of the theoretical chapters for CPI compilers, by having another look at the presentation style and the exclusion of possibly unwarranted details. What is suggested here is not a complete re-writing but rather a streamlining of the existing text to make it more accessible (understandable) and relevant to the recommended methods and practices (which could also entail removing some of the details and reducing lengthy explanations of historical discussions or developments). The TEG is requested to come up with more concrete proposals to address these concerns.

3.3 Use of examples and concrete case studies

The Manual constitutes the statistical framework for compiling CPI-data, by providing the relevant concepts, definitions and methods, and some practical guidance. In some chapters, more practical guidance is considered useful, including practical examples and worked-through concrete cases to illustrate, for example, calculation methods. The examples are primarily intended to illustrate the implementation of recommended methods and practices and should preferably be of general relevance to all users of the Manual.

3.4 Recommendations and major changes

For each chapter, a separate document should be provided that includes a summary of the main recommendations and briefly outlines any *major* changes in terms of e.g. the recommendations provided, the turn of an argument, a different emphasis of the text, inclusion of new or considerably expanded material, and exclusion of old or considerably limited material.

3.5 Editing the document

The update should take as a starting point the revised/updated versions of the chapters of the 2004 CPI Manual, available on the ILO-website (ILO will provide the Word versions of all chapters and annexes of the 2004 Manual). Besides, the update should also benefit from the "Practical Guide to Producing Consumer Price Indices" (2009).

All paragraphs should be numbered (as in the 2004 Manual). Sections and, where appropriate, sub-sections, should also be numbered.

The final updated Manual should be set up in a format, which facilitates the production of a searchable pdf version that will be made available online.

All changes should be *track-changed* in the document provided, unless there is a major overhaul of a complete section/chapter. In the latter cases, the relevant parts should be highlighted in yellow.

Preferably, the use of "*comments"* in Word is to be avoided. If the author is indecisive on the direction of an argument, alternative wordings, adequately highlighted, should be used.

The editor, in cooperation with the authors, is responsible for the elaboration and organisation of the details of the editing process in an efficient and transparent way.

4. Method of work

The TEG-CPI will propose and agree on mechanisms for co-ordination of work and quality assurance. The TEG-CPI will supervise the update of the Manual. It will submit regular progress reports to the Chair of the IWGPS. The Chair of the IWGPS will liaise between the TEG-CPI and the (extended) IWGPS. The final draft of the updated manual will be submitted to the IWGPS for approval.

It is envisaged that each chapter of the updated manual will be prepared by a lead author, while one or more contributing authors should act as discussant, provide inputs, review text and help ensure quality and coherence. Authors should be recognised experts in the, practical and/or theoretical, compilation of CPI data.

An editor, appointed by the lead agency, will ensure coherence and consistency across chapters, arrive at a clear structure, and ensure the use of clear and common English language throughout the manual.

The TEG-CPI Chair will be appointed by the lead agency in consultation with the IWGPS. The TEG-CPI Chair will work closely with the Chair of the IWGPS; take the lead in organising meetings of the group; lead discussions on the organisation of the work and the contents of the update; and coordinate the work and enforce the observance of deadlines.

A designated website with restricted access to members of the TEG-CPI and the IWGPS will be established to facilitate drafting and reviewing of the chapters, and exchanging information.

The TEG-CPI will work by use of electronic means, video and audio conferences and exchange of e-mails. The TEG-CPI is expected to have two to three face-to-face meetings, ideally in the margins of other international meetings if possible.

Drafts of the updated Manual should be consulted with relevant groups, including the meetings of the joint UNECE/ILO Expert Group on Consumer Price Indices and the Ottawa Group on Price Indices.

5. Time plan

The detailed timetable is attached as Appendix 1.

6. Membership of the TEG-CPI

The proposed membership of the TEG-CPI is as follows:

1. Maria Mantcheva (Chair)
2. Brian Graf (Editor)
3. Mick Silver (IMF)
4. Valentina Stoevska (ILO)
5. Erwin Diewert (International Expert)
6. Paul Armknecht (International Expert)
7. David Fenwick (International Expert)
8. Jan Wolschotts (CBS, Netherlands)
9. Claude Lamboray (STATEC, Luxembourg)
10. Rafael Goana (INEGI, Mexico)
11. Badria Alaadi (NCSI, Oman)
12. Yunita Rusanti (BPS-Statistics Indonesia, Indonesia)

The proposed membership of the TEG-CPI includes theoretical and practical experts from developing as well as developed nations. The TEG-CPI may invite additional experts to contribute to the update of specific chapters or topics as needs require.

7. Finances

The lead agency will provide funding for the editor and for covering certain expenses for the TEG face-to-face meetings (travel expenses for TEG-CPI members from developing countries, hosting meetings, etc).

Members of the TEG-CPI from developed countries and international organizations are expected to meet their own direct expenses.

Annex 1: Update of the 2004 CPI Manual – Chapter-by-Chapter Comments

Preface

1. To be updated as necessary.

Acknowledgements

1. To be updated as necessary.

Readers Guide

1. To be updated as necessary.

Chapter 1: An introduction to CPI methodology

1. To be updated to reflect the harmonization of the CPI concepts with the 2008 SNA.

Chapter 2: Uses of CPIs

1. Extend the description of uses of CPI in the national accounts; could be increased via reference to salient points of Chapter 14.
2. Extend the description of the use of the CPI as a macroeconomic indicator. This should include the use of the CPI as a measure of core inflation[1]. References should be made to the use of CPIs for monetary policy. Also consider the use of more timely flash estimates (country examples and Eurozone), daily "CPI" from MIT billion prices project, and so forth.
3. Some discussion of differences in scope and methods of CPIs for different purposes (COLI, inflation measure, deflation of national accounts series) and clarify issues, advantages and disadvantages, and possible clashes that should be considered.
4. Mention the use of aggregate CPIs, including G20 CPI (OECD), EU (Eurostat), WEO aggregates (IMF), ILO, FAO, others?

Chapter 3: Concepts and Scope

1. This is a very rich chapter. It distinguishes between acquisitions and expenditures (3.9–3.11); monetary and non-monetary (3.12–3.17); acquisitions and uses (3.18–3.21); durables and non-durables (3.22–3.25); CPIs based on acquisitions and uses (3.26 –3.29); and basket CPIs and COLIs (3.30–3.38). Material needs to be drawn together, maybe done under "uses of CPIs and different concepts." Also cross-reference to Chapter 14 on SNA.
2. Much is concerned with coverage. Better re-title chapter as "Concepts, scope, coverage and classifications" to distinguish the scope required for different uses, e.g. COLI, COGI, etc. The concepts of the SNA 2008 and the scope of CPI should be well explained. "Outlet coverage" should have more on internet expenditure.

[1] There are no international guidelines on core inflation measures and, arguably, no consensus. However, core inflation was mentioned as one of the areas where more guidance should be given in the 2007 CPI Survey and was a popular workshop at the 2014 CPI Expert Group meeting. It is not proposed that statistical aspects of core inflation measurement be included in the update, but only to mention the use of CPI data for this within a framework of macroeconomic planning.

Chapter 4: Expenditure weights and their sources

1. Additional information would be useful on how CPI statisticians derive CPI weights from household expenditure surveys (HESs), 4.17–4.24, including examination of survey design and coverage, especially if CPI is to be aggregated from regional indices; outlier detection and verification; expansion to whole year and from sample to population (inverse of sampling fraction); imputations; recall versus interview data; use of commodity flow approach for verification, 4.42–4.46.
2. Paragraphs on “seasonal weights” (4.63-66) and similarly for chapter 6 paragraph 6.41 – need to be aligned with updates to chapter 22. Chapter 4 is not the place to discuss advantages and disadvantages of fixed and variable weights approach, such as in 4.64-4.66. These paragraphs should be shortened to basically just mention that the two approaches exist. Their advantages/disadvantages should be explained in the chapter on seasonal products.
3. New requirements for high-frequency and timely economic indicators, especially in the context of the economic and financial crisis calling for further considerations for more up-to-date weights. There should be more on HBS frequency and updating basket. Reference to chapter 15 on chaining. Important to put advantages of more frequent updates both in terms of narrower bounds, as in chapter 15, but also opportunity to include new products, outlets, methodologies, avoid sharp steps (4.47–4.49).
4. There is some overlap between sections 4.4 - 4.7 (The weighting structure of the consumer price index) and 4.56 - 4.61 (Classification). Consider moving the classification section so that it is either part of, or directly follows, the section of weighting structure and remove any repetition.
5. Say more about adjusting HES weights, either at 4.9 or 4.42 - 4.43. Include detail about under reporting of certain expenditures in the HES (e.g. on alcohol, tobacco). Say more about verifying expenditures and expenditure shifts over time against other sources (e.g. taxation data). Consider including more details on alternative sources for weights and how these data could be used. Practical examples could be useful. For example, Japan has offered to provide practical experiences of how they adjust for underreporting of alcohol, tobacco and durables (e.g. cars).
6. Provide more detail about sources of outlet or outlet type weights at 4.13.
7. Distinguish more clearly between using scanner data in the forms of receipts (4.24) and actual electronic scanner data (4.32). Say more about the potential use of electronic scanner data as weights either here or reference to discussion of scanner data generated/informed weights in dedicated section on scanner data.
8. Paragraph 4.34 notes that "In practice, however the calculation of weights is not so straightforward and involves a number of steps." Consider identifying and describing these steps. This could incorporate some detail from subsequent sections 4.35 onwards.
9. Seasonal products (4.63 - 4.66) Perhaps overly obvious but consider describing how a seasonal product looks in the expenditure weights. What should a compiler look out for (in respect of seasonal trends) when deriving the weights?
10. Say more on frequency of updating weights, particularly under "normal" economic conditions. What are the costs and benefits or more regular updating?

Chapter 5: Sampling

1. Introductory text on what a "good sample should provide" would be useful.
2. Consider reorganisation of the chapter so that after an introduction to probability and non-probability based techniques, each is dealt with in turn to reflect a multi-stage approach to

sampling. The use of multi-stage sampling should be included as an over-arching framework for sampling (commencing 5.8): (i) products (by region, as applicable or suitably reliable expenditures available); (ii) representative item general specifications for each selected product; (iii) geographical areas within selected regions; (iv) outlets selling selected products by area, stratified by outlet types; (v) representative item tight specifications in an outlet, on initiation in outlet. At each stage probability or non-probability sampling may be applied, depending on availability of a sampling frame, as outlined in the chapter.

3. The Chapter focus on probability and non-probability sampling applied mainly to outlet sampling 5.8–5.26. There are omissions. The chapter is concerned with fixed sample strata sizes to avoid possible small numbers. Sample designs that effectively allocate sample sizes between strata are much more cost effective and accurate (efficient) than alternative designs, and could have a minimum cut-off. Consider including discussion on the minimum number of prices needed for an elementary index. More material is needed on how to allocate sample sizes across strata on the basis of expenditure weights and price variance. A well designed sample should facilitate representative and efficient price collection. This is partly dealt with in Chapter 8 B.2 but also merits earlier discussion in this Chapter. These more efficient designs include stratified sampling by proportional (expenditure) allocation, optimal allocation, and Neyman allocation. [2] The latter is easily used for CPIs since the variance of price changes over time can readily be calculated. Smaller sample sizes where the variance is lower (e.g. mail stamps) or expenditure low makes sense, as does smaller sample sizes for regions and types of outlets with relatively low expenditure.
4. Include section on the possible use of scanner data for weights(?) and for product variety sampling (as well as prices/average revenue).
5. Consider including text on keeping samples under review and updating samples so as to ensure ongoing representativity, notwithstanding that this is covered nicely in Chapter 8? Or perhaps a direct link to the relevant section of Chapter 8?
6. Costs and cost-efficiency should be taken into account in the recommendations.

Chapter 6: Price collection

1. More on product/variety sampling in a dynamic universe e.g. electronic goods and the use of scanner data for validating and updating a sample. Or should this be in Chapter 5?
2. The update should provide more guidance on higher-frequency (say weekly) price collection, which is currently only mentioned in paragraph 6.12. At the beginning and end of season for fresh fruit, vegetables, fish and so forth very large price changes may warrant higher frequency collection, as may, more generally, volatile prices. Some discussion and guidance will be useful.
3. More on scanner data, 6.117-6.118, and reference to measurement innovations in this area (chapters 15 and 20. Include organizational and management issues relating to using/collecting scanner data. Availability of electronic data sources for monthly, or even higher-frequency, price data, including scanner data and web-scraping, and consideration of the developments in associated methodological research; use of scanner data for validating and updating a sample. More on internet collection/web scraping, 6.43. Refer to

[2] Proportional allocation is outlined in 5.1, that is in an introductory section with no mention of its implementation. Optimal allocation is discussed in paragraphs 5.100-105 in the context of variances estimation, but not in implementing sampling methods.

billion prices MIT project and use of web/web-scraping for prices and quality adjusting; positives and negatives.

4. Section 6.103-6.107 be expanded to provide a better link to quality adjustment. Chapter 7 is to be revised accordingly.
5. An Appendix 6.2 might be a print screen for a hand-held computer. A separate section to be introduced on complex goods and services with high levels of model turnover. In such cases, for example laptops, a price collector following specified models is not the best approach. Large samples of web prices and their characteristics may be easily downloaded from the web and methods referenced to Chapter 7 used.
6. Something on need for a Handbook for price collectors and their training. Maybe refer to a good example of a handbook available on an NSO's web or put on the ILO site.
7. A more detailed discussion on how to organize the price initiation, how to record detailed product specifications and the role of price collectors in dealing with missing items and reporting of these to HQ - linking to how the compiler needs these data to facilitate quality adjustment (Chapter 7). This gives rise to the broader issue of the flow of data to and from HQ, particularly where there are regional offices operating between price collection and HQ. While this could be tackled more substantively under Chapter 12 (Organization and Management) it is a consideration for price collection and reporting also.
8. Section on integration of ICP and CPI data requires uniformity of item specifications – Eurostat project; refer to Annex IV. More on treatment of price cuts (6.83–4).
9. More emphasis on data collection in developing countries aka Practical Guide and non-market goods, treatment of taxes and subsidies.
10. There are fundamental differences between various price collection techniques (face to face in field, central collection by survey, web-scraping, scanner data) and between the situations prevalent in developing and developed countries. However, the principals underlying pricing to constant quality can be applied universally (or almost). Perhaps this Chapter could be reorganized so as to introduce the principals of price collection (include how these are addressed in training of field and HQ staff) and then to treat each of the techniques separately (and in more detail). Or even give the different types of techniques their own chapters.
11. More detail is needed on electronic price collection and the possibilities it affords for more efficient and more robust price collection/reporting. This is an area where there is considerable potential for raising the quality of CPIs - especially among developing countries.
12. Needs a section on/or link to quality management assurance (perhaps via data editing).
13. Costs and cost-efficiency should be taken into account in the recommendations.

Chapter 7: Adjusting for Quality Change

1. The chapter should be more firmly linked to chapter 6 on price collection. A new section should be included re-emphasizing the importance of recording and reporting of specifications and changes to specifications, and stressing the importance of sufficiently detailed specifications and the role of the price collector in determining when a price is temporarily or permanently missing. In the latter case instructions to the price collector, following Figure 6.1, would be to find a comparable replacement, or if unavailable, a non-comparable one (although in cases where products' market shares are going down it may be better not to select the most comparable but the most sold replacement). The price collector must then detail the difference in characteristics. If the replacement is to be linked to the old price and the price collector may ask the store manager if the replacement existed in the previous period, and record its price then to enable an overlap.

2. There is much on high-technology sectors with rapid turnover (7.125–7.158) that requires updating to new literature, though the sense remains. Similarly for the section of hedonics versus chained-matching. There is an old and new literature on using scanner data. Such data benefits from more comprehensive coverage but requires, along with careful handling, hedonic adjustments for quality adjustment. A section on this might be included.
3. The data example used to illustrate hedonics, 7.92–7.99, was collected from web prices on laptops in 2001. It looks out of date. A new dataset and results should be included. There have been many recent practical studies on hedonics, including de Haan, and implementations in NSOs, and this can be updated.
   New example for hedonics - with as much practical explanation as possible. Can we provide any insight into consumption sectors where attempts to hedonically quality adjust haven't been especially useful (or haven't been cost effective or have been difficult to sustain) versus those sectors where there is good evidence that hedonics works well.
4. Emphasis on cost-effective methods.

Chapter 8: Item substitution, sample space and new products

1. A very accessible/practical chapter as it stands. There are some overlaps (8.1-8.17) with chapter 7, which could be reduced, although some repetition may be necessary to maintain the "narrative" of each (especially for the novice reader).
2. Many of the examples and studies, while reasonable in 2004 as “new products” would benefit from updating, 8.37–8.39. Many of these are not illustrative, but based on detailed studies and updating would require a review of the more recent literature in this area, which is advised. Bring in studies of new outlets (Hausman). Reconsider inclusion of Appendices 8.1 and 8.2.

Chapter 9: Calculating CPIs in practice

1. The section on unit value indices (para 9.80-9.81) should be updated to reflect new literature and on the use of unit value indexes, including papers by Dalen, Diewert, Silver and de Haan. The advantages and disadvantages of UVI should be explained. UVI are briefly mentioned in para 9.36, but could be developed with cross reference to chapter 20. Comment: UVIs are not of much practical importance for the regular CPI compilation. The current section on UVI could be extend with (a few) relevant and practical examples/recommendations but should be kept short. Alternatively, material on UVI could be included in another chapter (perhaps together with scanner data).
2. The section on chain versus direct indices for elementary aggregates (para 9.40-9.45) should present in more detail the two-stage procedure(s) and their advantages/disadvantages over direct indices, Relevant index formulas could be included together with an illustrative concrete example. Material from paragraphs 7.165-173 may be drawn on.
3. The section on missing price observations (para 9.48-9.64) should be more prescriptive in requesting replacement to be included (without too much delay) when items disappear and that proper methods is applied to this end (avoiding e.g. (typically downward) bias).
4. The section on Other formulas for elementary indices (para 9.77-9.79) could be kept more or less as it stands, or para 9.77-9.78 could be included in the end of the section where Jevons, Carli and Dutot is presented, and para 9.79 with the weighted version of the LM could be moved to the section on calculation of elementary price indices using weights, which has become more common.
5. The section on the calculation of higher-level indices (para. 9.88-9.164) should be updated to reflect recent literature on higher-level aggregation (Young and Lowe and superlative

approximations). Currently chp 9 does not favour Young or Lowe (or any other) as the preferred option but explains under what conditions Lowe and Young may be expected to perform well and leave it to the NSO to decide. Should we stick to this, or be more prescriptive? Should we also give guidance/recommendations on geometric higher-level indices?

6. For the paragraphs on price-updating of weights – should we leave this open, explaining under which conditions either method would provide reasonable results, as we currently do, or give preference to one of the practices? The HICP approach should be referred to.
7. Para 9.164 on retrospective superlative indices should be extended with guidance on how to calculate e.g. retrospective Fisher, Walsh or Törnquist indices, and explain how these can be used (for example to estimate bias in the regular CPI).
8. Data editing is dealt with in paragraphs 9.139-9.145. Two issues should be considered:
    a) Should data editing remain in Chapter 9, or be moved to Chapter 6 Price collection, or Chapter 12 Organization and management, which could be re-titled to be about data quality issues, or have its own chapter? If kept in Chapter 9 it may be worthwhile to draw links to e.g. Chapters 6 and 12 (a requirement for data editing is usually preceded by a quality of price collection/reporting issue).
    b) Whether kept or moved to another chapter the text on data editing should be updated. It should deal with both detection of outliers and how these are treated (including extreme prices that are validated as correct). Use of Tukey algorithm, as specified, should be revisited. It is not mainstream and difficult to justify arithmetic means as efficient estimators for what are often fat-tailed, skewed price change distributions. Maybe some further country experience in addition to ONS to ground the work. More could be added on the impacts of data editing and sensitivity checking and checking that systematic biases are not being introduced, and how to ensure statistical efficient editing.
9. Section on measurement methods at elementary and higher level on new methods of using scanner data RYGEKS RYWTPD– reference chapters 15 and 20. Comment: Are these known to give sufficently good results? Are they in practice used by more than 1-2 countries for the regular compilation of the CPI? To be included we need evidence they give good results and are relevant to more than a very few countries. Would it be better to have an appendix or separate chapter on these and other similar methods? If somewhere we include a session/chapter/appendix on scanner data/electronic data, the presentation of these methods may fit better there.
10. The section on calculation of a chain index should be extended with more explanations and illustration on chaining/linking of time series. Paul Armknecht has some material already recently written.
11. The chapter might benefit from a representative process flow diagram detailing the data processing steps that might take place between data collection and dissemination. And from this, what should a software system provide? There is no discussion of the computer systems needed to produce a CPI, although there is a brief mention of spreadsheets in Chapter 12: reference to PIPS – Paul A. It could also be argued that discussion/recommendations on how to set up the IT system or on software should not go into chapter 9. If included it could be in an annex or, e.g. in chapter 12, and/or in the Practical Guide?
12. The section on Long-term and short-tem links (para 9.147-9.151) should be updated to reflect experiences from e.g. Sweden and US (papers from Sweden and BLS are available from the website of the CPI expert Group meeting in 2012) and give more guidance to countries.
13. Include example of breakdown of total CPI (e.g. in goods and services, or CPI excluding energy etc.) and decomposition of changes in overall CPI/higher-level indices.

14. Include guidance on how to treat zero-prices in practice. This also relates to the discussion of the scope/coverage of the CPI and hence should also be addressed in chapter 3 and perhaps also in chapter 4.

Chapter 10: Some special cases

The *current list* includes:

1. Owner-occupied housing. The material on OOH should be moved to chapter 23, which should be renamed Owner–occupied housing. All possible approaches should be outlined and explained.
2. Clothing: the treatment of non-seasonal clothing needs to be tied to chapter 7, and vice versa. The treatment of seasonal clothing is an interesting account. It is at odds with much of chapter 22, but (see below) this is in need of a rewrite. Any account here would have to tie in with the updated chapter 22.
3. Telecommunications: to be updated as necessary.
4. Financial services: to be updated as necessary with appropriate reference to FISIM. Include treatment of mutual fund fees, short term interest payment on credit card purchase. This is a difficult area where issues are not fully resolved.

The TEG-CPI should further consider the following possible inclusions:

5. A perishable seasonal good such as fish – timing of price collection and seasonal to tie in with chapters 6 and 22.
6. A homogeneous item where unit values, perhaps quality adjusted, would be appropriate, say peak electricity from competing (reliable) suppliers.
7. Another service, say tariff, domestic service or car repair.
8. Monitoring price movements in parallel or illegal markets and treatment of controlled or subsidized prices.
9. A rent index.
10. Health. There is much uncertainty on health concerning coverage and weighting issues (often related to different institutional arrangements, large variety in how the services are paid for etc.), the definition of the services that we are actually trying to price over time and quality adjustments. Some basic guidelines/recommendations would be very useful. The weight of health in many CPIs is growing, so this is a quite important area.
    The treatment of health insurance premiums.

Chapter 11: Errors and bias

1. Largely unchang**e**d: more on formulas bias and drift and maybe include material on variance estimation here. Formula bias is also dealt with in some of the theoretical chapters – consistency should be assured and duplication avoided.

Chapter 12: Organization and management

1. Chapter 12 should be renamed to ‘Quality management’ (or something similar) to reflect the content and focus of the updated chapter.
2. Chapters 6 and 9 also include material on data-editing. It should be considered to move this to chapter 12. Appropriate links between chapter 12 and chapters 6, 8 and 9 should be made. Figures 6.1 and 12.1 are identical; when merging material it may not be necessary

to have the same figure twice. Parts of the current chapter 12 that would not fit into the updated version could be moved to the relevant chapters.

3. In some countries the organization and management of data collection is the responsibility of regional offices to which considerable operational power is devolved. This can create problems. It might be helpful to provide some discussion on how HQs can manage such situations.
4. Quality management frameworks and systems are dealt with in the 2004 version but could benefit from an update here and there. If a practical example/model of QMF could be provided, that could perhaps be useful (proposed at the 2014 CPI workshop on management).
5. Are there any experiences with the use of tools such as the Generic Statistical Business Process Model (GSBPM) or the Generic Statistical Information Model (GSIM). Should we mention/recommend use of these?

Chapter 13: Publication, dissemination and user relations

1. Much more emphasis should be given to web based dissemination, metadata and data hubs. Changing information environment related to web-based dissemination and what is to be regarded as good practice in documentation and transparency. The current version has a small section on the advantages of doing so (13.55-13.58). The chapter might take as its default web-publication and make note of need for NSOs to exploit the potential for (i) availability of downloadable detailed series; (ii) metadata at different levels; (iii) FAQ; (iv) CPI research papers; (v) graphical devices; (vi) immediacy of updated information, (vii) contacts/facilities for queries; (viii) analysis, such as personal CPIs; and much more.
2. The Update should stress the need for openness and transparency, and websites provide an ideal platform for this. Particularly, recommendation to include publication of average prices to support transparency. Reference to the UN Principles of Official Statistics might be made.
3. Consideration should be given to "Indicators of quality of CPI." Such indicators would be best standardized and available on single web site. Maybe build on/develop something similar to IMF Data Standards Bulletin Board http://dsbb.imf.org/. About 180 countries are members and provide data. Comment: Which are these indicators? Should we ask the TEG to propose a list of quality indicators? Unless we have an organisation that takes ownership of such a website and ensures it is kept updated it may be better to drop the idea.
4. CPI with and without OOH and for "poor" segment of population.
5. Include text on a 'module/layered' approach for the documentation of the CPI, which should facilitate in a user friendly way documentation and make it easy to keep it updated (US – BLS has experience with such a system).

Chapter 14: the System of national accounts

1. To be dropped, the link to the SNA is included in chapter 1.

Chapter 15: Basic index number theory

1. The section on 'fixed base versus chain base (15.76–15.97) would benefit from an update using recent work on chain drift to include insights on the magnitude of such drift and mention of new methods of dealing with it, including Rolling Year GEKS and Weighted Time Dummy Product method. The section has the advantage of chain base only given in terms of narrower bounds – perhaps mention remedies intuition of out-of-date

counterfactual comparison; ability to revise methodology and coverage (new products) more regularly; mitigate large step changes on rebasing; issue of additivity.
2. An update may also include recent work on real-time approximations to superlative indices; Maybe too much on spatial linking detracts from relevance.
3. Discuss Divisia (15.65–15.75) in terms high-frequency source where p and q from say currency transactions.

Chapter 16: Axiomatic and stochastic approach

1. Suggest inclusion of axiomatic approach to unilateral price indices (16.11-16.29) be reconsidered and that comments on implications of findings in each section be extended as possible.
2. Inclusion of table of formulas and test results.

Chapter 17: The economic approach: single household

1. This chapter only needs updating to capture new developments. It includes the essential theory with a useful look at the standing Lowe index from an economic theoretic approach. Perhaps Diewert (2009) on superlative Bennet indicators. There is a section (from 17.92) on problem of moving from a free good. Examples asked for – maybe numerical.

Chapter 18: The economic approach: many-households

1. Consideration should be given to paring down the democratic index section (18.3–18.12) and stressing, maybe in the title, the concern with a conditional (plutocratic) index aggregation and its aggregation over many households in terms of nationally and by individual regions, and then aggregates thereof. There is in CPI practice often a tendency to stretch HES data over too many regions leading to sampling error in such weight estimates. While the chapter cannot resolve this, it can/does give the theoretical case for aggregating by region – and advice on using national weights for regional estimates of price changes. This change in emphasis may be of more interest to CPI compilers who rarely compile democratic indices.

Chapter 19: Price indices using an artificial data set

1. Is Dutot missing?
2. The chapter is an illustration of how particular indices work. The material could, alternatively, be spread on the other theoretical chapters, and chapter 19 deleted.

Chapter 20: Elementary index numbers

1. Initially outline how scanner data may absolve distinction between elementary and higher level formulas and use of weights is preferred against non-use, other things equal. Paragraphs 20.1–20.37 are lengthy before getting to the guts of the formulas.
2. An update may include a section on unit value indices as the "price" measure for homogeneous items following recent work in the area. Presently unit values are discussed in terms of the time aggregation problem (20.15-20.17). The section on the use of scanner data may also include web prices, where quantities are unavailable. It takes 37 paragraphs to get to the guts of the formulas – this initial section might be more pragmatically-orientated with guidelines on how to determine the dividing line between an EA and

higher-level aggregate. Section on measurement methods at elementary on new methods of using scanner data - RYGEKS RYWTPD – reference chapters 15 and 9.

Chapter 21: Quality Change and hedonics

1. To be updated with relevant new work. Notably recent work on relationship between hedonic imputation and time dummy methods to also be referred to in Chapter 7.

Chapter 22: Treatment of seasonal products

1. Could this chapter be moved after chapter 8?
2. Greater practical focus on identification of seasonal products (according to the type of seasonality), and how to deal with them. Major revisions and redrafting with similar orientation as the CPI Practical Guide. New sections should be included:
    a. Fixed or variable weights – explanations and recommendations
    b. Estimation of weights
    c. Identification of seasonal items and their cycles and implementation problems aka Practical Guide

    Redraft and keep imputation methods 22.78–22.86.

    Redraft and keep year-over-year monthly as a benchmark exercise, 22.16–34.

    Much less on year-over-year, 22.35–22.44.

    Much less on and possible recommendation against varying weights 22.45–22.64; Bean and Stein and Rothwell, 22.87–90.

    Much less emphasis on rolling year methods.22.45–22.6, 22.63–22.77 and 22.91–96.

    Redraft, keep and update maximum overlap and its problems, 22.63–22.77.

    Update and simplify data example with emphasis on imputation as opposed to higher-level formula. The artificial data set used in the chapter has a fixed seasonal pattern and is not very useful in practice since one of the problems with many seasonal products is that they don't necessarily appear or disappear in the same month year after year. The data set should be deleted or replaced by more realistic and useful examples.

    It may be useful with references to Chapters 6, 8 (nothing the importance of metadata for seasonal products) and clothing in Chapter 10.

Chapter 23: Durables and user costs

1. The chapter should be renamed to "Owner-occupied housing" and the sections on OOH in chapter 10 should be moved into this chapter. The chapter should be phrased in terms of all three approaches rather than the user cost-centric account adopted. It should be considered whether the chapter should stay or be moved forward in the manual. (it has also been proposed to move the text on OOH into chapter 10. Chapter 10 would then become rather large, and OOH could be considered important enough to have its own chapter).
2. Include strategies for measurement in less developed countries and countries where the rental sector is small and where often most houses are built by their owners.
3. Be explicit about difficulties and pragmatic data and measurement issues. For dissemination propose headline with and without OOH in difficult cases. Guidance to distinguish between maintenance and repair expenditure and investment should be provided

A glossary of main terms, including appendix

1. To be updated as necessary.

Annex 1. Harmonized Indices of Consumer Prices (European Union)

1. To be updated by Eurostat.

Annex 2. Classification of Individual Consumption according to Purpose (COICOP) – Extract

1. To be updated as necessary.

Annex 3. Resolution concerning consumer price indices adopted by the seventeenth International Conference of Labor Statisticians, 2003

1. To be updated as necessary.

Annex 4. Spatial comparisons of consumer prices, purchasing power parities and the International Comparison Program

1. To be updated as necessary. Integration of ICP and CPI data requires uniformity of item specs – Eurostat project; refer to chapter 6

Bibliography

1. To be updated as necessary.

Index

1. To be updated as necessary.

Annex 2: Tentative Timetable for the CPI Update

March-August 2015	Establishment of the TEG-CPI, including chair and editor, in consultation with the IWGPS.
August 2015	Presentation of the outline of the updated manual, including a list of main changes chapter-by-chapter to the TEG-CPI. IWGPS to be consulted in writing.
August - September 2015	TEG-CPI to send proposal for detailed time plan, allocation of work of authors and co-authors, quality assurance and draft outline of the updated manual, which includes a complete list of the proposed chapters and annexes of the update, to the IWGPS for consultation and approval.
September - December 2015	Reviewing and drafting of first outline of chapters. Communication by audio conferences/e-mails.
January 2016	Face-to-face meeting of TEG-CPI in Washington DC. Progress report presented by Chair of the IWGPS. Progress to be presented and discussed at the 2016 meetings of the UNSC and ILO-UNECE CPI Group of Experts.
January 2016-November 2016	Drafting of first version of the chapters. (Draft chapters posted on website for review and consultation with countries, as they become available.)
May 2016	Presentation of progress and discussion of those draft chapters that have been completed at the meeting of the Group of Experts on CPI in Geneva, May 2016 (month and dates to be confirmed).
May 2016	Face-to-face meeting of the TEG-CPI and meeting with the IWGPS in conjunction with the meeting of the Group of Experts on CPI in Geneva (month and dates to be confirmed).
October-December 2016	Revising draft chapters, taking comments from countries into account.
January 2017	Face-to-face meeting of TEG-CPI in Washington DC.
January 2017	Progress report presented by Chair of the IWGPS. Progress to be presented at the 2017 UNSC.
February 2017	Submission of full draft to the IWGPS for approval.
March – May 2017	Global consultation of final draft with countries and relevant organisations via electronic bulletin board. All draft chapters to be posted for comment.
June – July 2017	Final editing and approval of the IWGPS. Editing of individual chapters to be completed on a rolling basis.
February - March 2018	Submission of the final manual for endorsement by the UNSC in February 2018
NOTE	IMF to conduct five one-week seminars in each of the IMF's regional training institutes to introduce the updated manual to compilers.