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**ECONOMIC COMMISSION FOR EUROPE**

**CONFERENCE OF EUROPEAN STATISTICIANS**

Joint UNECE/ILO Meeting on Consumer Price Indices

Ninth meeting  
Geneva, 8-9 May 2008

**REPORT OF THE JOINT UNECE/ILO MEETING ON CONSUMER PRICE INDICES  
ON ITS NINTH MEETING**

**I. INTRODUCTION**

1. The Group of Experts on Consumer Price Indices meeting was held in Geneva 8-9 May 2008. It was attended by Algeria, Angola, Austria, Anguilla (U.K.), Azerbaijan, Bangladesh, Bosnia & Herzegovina, Brunei Darussalam, Bulgaria, Canada, Chile, China, Côte d'Ivoire, Croatia, Czech Republic, Denmark, Greenland (Denmark), Estonia, Ethiopia, Finland, Georgia, Germany, Ghana, Hungary, Iceland, Iraq, Ireland, Israel, Italy, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Republic of Korea, Latvia, Lesotho, Lithuania, Luxembourg, Mauritania, Mexico, Morocco, Netherlands, Netherlands Antilles, New Zealand, Norway, Poland, Qatar, Russia, Saint Lucia, Slovenia, South Africa, Spain, Sweden, Switzerland, Thailand, Turkey, Ukraine, United Kingdom, Vietnam and Zimbabwe. Also the European Commission (Eurostat), the Organization for Economic Cooperation and Development (OECD) and Afristat attended. Mr. Peter Hill and Mr. W. Erwin Diewert attended the meeting as invited experts.

2. The meeting adopted the provisional agenda. Mr. Luigi Biggeri (Italy) chaired the meeting; Mrs. Irina Goryatcheva (Russian Federation) acted as vice chair.

## **II. ORGANIZATION OF THE MEETING**

3. The following topics were presented and discussed at the meeting on the basis of the provided papers:

- (a) Report on activity by the Intersecretariat Working Group on Price Statistics (IWGPS), UNECE, ILO, the Ottawa Group and Eurostat;
- (b) Collection and processing of price data;
- (c) The future challenges and role of the joint CPI meetings;
- (d) Future work;
- (e) Integration of price indices;
- (f) Other CPI issues.

## **III. SUMMARY OF DISCUSSION AND THE MAIN CONCLUSIONS REACHED AT THE MEETING**

4. Recommendations for future work are given below. Other conclusions that the participants reached at the meeting will be presented (in English only) in a separate report to be prepared after the meeting and distributed to participants. The proceedings of the meeting are available from the UNECE webpage [www.unece.org/stats/documents/2008.05.cpi.htm](http://www.unece.org/stats/documents/2008.05.cpi.htm)

## **IV. RECOMMENDED FUTURE WORK**

5. The meeting recommended that a joint UNECE/ILO meeting on CPIs in 2010 should be included in the programme of work of the Conference of European Statisticians, subject to the approval of the Conference and its Bureau. The following topics were suggested for possible inclusion in the agenda:

- (a) House price indices;
- (b) User relations and how to meet user needs;
- (c) Quality adjustment for services in CPIs – and PPIs;
- (d) CPI and globalization;
- (e) System of price indices (CPI, PPI, PPP, XMPI, sectoral price indices).

ANNEX  
SUMMARY OF THE DISCUSSION  
(English only)

**Item 1: Welcome and administrative matters**

1. **UNECE** and **ILO** opened the meeting and welcomed the participants. As the first joint UNECE/ILO meeting on consumer price indices (CPIs) took place in 1978, the meeting in 2008 marks the 30 years anniversary and a special session is devoted to discuss progress made and future challenges.

2. A special meeting for developing countries and countries with economies in transition took place 7 May 2008. This meeting concentrated on presentations and discussions of the practical related part of the *CPI Manual*, and the forthcoming *Practical Guide to Compiling Consumer Price Indexes: A supplementary handbook to the International Manual on CPIs*. The meeting focused on practical problems and experiences and aimed to provide input to the revision of the *CPI Manual* and to the forthcoming supplementary handbook. The proceedings of the meeting are available from the webpage [www.unece.org/stats/documents/2008.05.cpi2.htm](http://www.unece.org/stats/documents/2008.05.cpi2.htm)

**Item 2: Reports on activities in the field of price statistics**

3. **Carsten Boldsen Hansen (UNECE)** reported on the activities in the UNECE Statistical Division and in the Intersecretariat Working Group on Price Statistics (IWGPS). The group aims to coordinate international work on price indices and to develop and implement the international price index manuals. The IWGPS has recognized a need to improve the coordination of the international work on price indices. Thus, it has been decided to change the frequency of the Ottawa Group meetings to every two years to be inter-changed with the Joint CPI meetings. This aims to make the scheduling of work easier and facilitate better integration of the two forums. The agenda of the two meetings will be coordinated to exploit synergies.

4. An international export and import price index (XMPI) manual is being drafted by the **IMF**. The draft chapters are expected to be ready for the editor around the middle of this year. Draft chapters are already available from [www.imf.org/external/np/sta/tegeipi/](http://www.imf.org/external/np/sta/tegeipi/)

5. Reports of meetings in the **IWGPS**, the terms of reference and other information is available from the website [www.ilo.org/public/english/bureau/stat/guides/cpi/index.htm](http://www.ilo.org/public/english/bureau/stat/guides/cpi/index.htm).

6. **Valentina Stoevska (ILO)** reported on the status on the revision of the electronic version of the *CPI Manual*. Errors/mistakes have been identified and corrected for almost all chapters. The ILO webpage contains the original version, errata and the latest corrected version. The electronic version is available on [www.ilo.org/public/english/bureau/stat/guides/cpi/index.htm](http://www.ilo.org/public/english/bureau/stat/guides/cpi/index.htm)

7. **Valentina Stoevska** also provided an overview of the results of the joint UNECE/ILO survey on the *CPI Manual* carried out in 2007 on behalf of the IWGPS, and thanked countries for their participation. The majority of respondents has evaluated the various chapters of the

manual favourably, judged all chapters useful and found that the topics discussed were relevant for CPI compilation. However, it is also clear from the comments that there is a need for 1) more practical guidelines and examples to be included in the future revisions of the manual, 2) supplements to the manual which will address practical matters in more detail, and 3) supplementary handbooks on specific issues. A report of the survey results were made available as a room document and the final report will be made available from the meetings webpage.

8. **Corinne Becker (the Federal Statistical Office of Switzerland)** informed about the next meeting in the Ottawa Group which will take place in Neuchatel, Switzerland, 27-29 May 2009 and be hosted by the Federal Statistical Office of Switzerland.

9. **Alexandre Makaronidis (Eurostat)** reported that a new regulation on quality adjustment and sampling introduces the concept of consumption segments and opens the way for further case-by-case HICP quality adjustment standards (Regulation 1334/2007). In addition a Centre of Excellence on HICP quality adjustment, led by the German statistical office, is carrying out a significant amount of work in this field. It is due to report later in 2008. Highest priority project is owner-occupied housing; 26 EU countries will participate in the final stage of pilot work due to be concluded at the end of 2009. Also, Eurostat will take the lead on work to produce the new handbook on residential property price indices. Further work to harmonise methodological requirements for the HICP is in progress for, in particular, seasonal items, weights and sampling. Eurostat has also strengthened its work on monitoring the compliance of EU statistical offices with HICP standards. The conclusions from this monitoring can be found on the new HICP website, which can be accessed from the Eurostat home page.

### **Item 3: Collection and processing of price data**

10. **John Morris (Statistics New Zealand)** introduced the first seven papers on data collection and data processing by pointing out the challenge of producing the best possible estimates with a minimal cost. He underlined also the role the price collectors have in quality adjustment procedure and the fact that they often are better placed to make judgment about the suitability of replacements.

11. The paper *The new architecture of the German PPI (producer price index) concerning survey sampling, data collection and processing* (Gerda Gladis-Dörr, Federal Statistical Office of Germany) describes the procedures used in selection of survey units, data collection and processing of price data for the German PPI. The selection of survey units is based on turnover and production statistics by using a combination of purposive and cut-off sampling. Close to 13'000 prices related to over 1'600 items in the basket are reported every month by using an online questionnaire that is prefilled with the data reported previously. A number of numerical and logical test are made when the data are entered in the system. Most of these checks are automatic, and generate information displayed on the screen. Similar set of checks are done on the totality of prices entered. Although various quality adjustment methods are used, the method of overlapping pricing is considered as the best. In order to deal with the missing prices (temporarily or permanently), two options are available in the program: (i) calculate the index for the missing item on the basis of the average price change of an equivalent series, or of higher

level series, (ii) carry forward the previous month price. The calculation of the overall index is made in several steps. The final check includes verification of methodological notes.

12. The paper *Electronic Data Collection Methods; the Use of Transaction Data for PPI* (Guðrún R. Jónsdóttir, Statistics Iceland) describes electronic data collection methods and the use of electronic transactions data sets in the calculation of a superlative index. Electronic data sets from the participating companies include, among others, information about the products, prices, quantities sold, as well as information about the buyers. The quantities collected through this electronic data collection have enabled the development of a monthly quantity index for industrial production on an experimental basis. The electronic data collection has made it possible to collect actual transaction prices – and in addition lowered collection costs and response burden. The electronic data also contain information needed to derive current weights, which are needed for the calculation of the PPI as a Fisher index.

13. The paper *CPI price collection system with hand-held computers in Finland - experiences and development* (Kati Heikkinen, Statistics Finland) describes the experiences and benefits from the electronic data collection in Finland. The electronic collection has been used in Finland since 2001, and the second generation of hand-held computers was introduced in summer 2005. The hand-held computer has a number of build-in validation checks and editing possibilities. It also contains information on the item specifications including quantities, previous month's observations for one price collector or for all collectors and comments. The introduction of the first generation of hand-held computers reduced the cost of data collection. The effects from the introduction of the second generation of hand-held computers are not as yet known but it is assumed that the saving of time, and money, will increase further. Additional benefits include efficiency in data transmission and elimination of transcription errors. Finally, the device, with its lightness and ergonomics, improves the working conditions for the price collectors.

14. The paper *Ethiopian Consumer Price Index: Methodology and Data Collection* (Central Statistical Agency Ethiopia) gives an overview of the conceptual aspects and the technical procedures which have been used in the construction of the Ethiopian CPI. The paper points out the importance of the regular household income and expenditure survey that is used as a main source of information for identifying goods and services bought by typical consumer, and determining the weights for the index.

15. The paper *Optimal allocation of prices in practice - using the Neyman formula as tool* (Alexandra Beisteiner, Statistics Austria) stress the importance of using available resources in the most efficient, given the resource restriction. The starting point is that resources should be allocated to those areas where the effect on the quality of the overall CPI is maximized. The paper presents a "ready-to-use" formula, the Neyman formula, for the allocation of the sample, which optimizes the precision of the CPI for given resources. More prices should be collected for goods and services with a high relative expenditure weight than for those with a lower weight. The second element that should be taken into account is the dispersion of prices and price changes within goods or services; the higher the dispersion, the more prices should be collected.

16. In the paper *Do we gain from collecting price data more than once per month?* (Nicholas N.N. Nsowah-Nuamah, Ghana Statistical Service), the author discusses advantages and disadvantages of collecting prices either once or twice a month. It points out that price collection once-a-month reduces cost in terms of money and human, and it enables the release of the index within the first week of the following month. However, it suffers from precision. To come out with CPI numbers that reflect as close as possible actual price changes on the market, and to be able to compile a CPI that is less vulnerable to short-term price fluctuations, twice-a-month price collection was adopted in Ghana. However, while collecting prices twice-a-month increases precision, it increases costs as well. It also suffers from interviewer and interviewee fatigue. The paper concludes that the change to twice-a-month data collection did not result in statistically significant difference, and the quality of the CPI based on once-a-month price collection could be improved with better training and supervision of price collectors.

17. The paper *Price collection procedure and its development in Lithuania* (Nadiezda Alejeva, Statistics Lithuania) presents the data collection process developed by Statistics Lithuania in the light of EU requirements for the compilation of a Harmonised Index of Consumer Prices, and describes the role of central and local staff in the organisation of work. A number of improvements have been implemented or are being considered with the adoption of the quality management system standard ISO 90001:2000. These include improvement of price collection procedures taking into consideration new methodological requirement for HICP, changes in IT technologies, implementation of advanced softwares for data management and data analysis, optimization of sample size on the basis of variation coefficients, potential of using scanner data, etc.

18. In the following discussion the use of hand-held computers for price collection was recognized as one way to reduce costs and increase quality. The presentations of practical methods in which to optimize the sample were found to be very useful. Even if conditions differ between countries, the methods, such as for example the Neyman formula, provide very useful guidelines on how to allocate the sample of goods and services. The question of whether to optimize the sample according to monthly or 12-months rates of changes was mentioned, and it was pointed out that it is difficult to take the cost of price collection into account. Therefore, the allocation of the sample is mainly determined on the basis of the weights, the variance of prices and price volatility. Regarding the question on price collection period, and advantages of spreading the price collection over a period of time vis-à-vis the price collection over a shorter period of time, it was suggested that users should be consulted before changing the frequency of price collection.

19. **Jacobiene van der Hoeven (Statistics Netherlands)** introduced the last four papers on collection and processing of price data. She underlined the importance of continuous development of new technologies for data editing and validation, which may also help in increasing efficiency and save resources. While the statistical methods can identify potential errors, she underlined the necessity of obtaining information that can explain unusual price developments and the necessity of providing proper training to the price collectors.

20. The paper *The System for Data Validation and Editing* (Tom Andersen Langer, Statistics Norway) illustrates the data validation and editing processes used in Statistics Norway.

The data validation system utilises several approaches and methods in identifying likely types of errors in data. The main tool for flagging such errors is the Hidioglou-Berthelot (HB) method designed for testing the distributions of price changes on detailed product level utilising the median and the quartiles. From the outset the HB method has been combined with a normalised test (Chebychef) utilising the mean and the standard deviation from the same distributions. A basic decision principle is that observations to be subject for inspection should be flagged using both methods. The editing procedures are semi-automatic in the sense that the system provides a suggestion how to handle a specific case. The suggestions given are based on a predefined set of algorithms selected according to a procedure catalogue for this purpose. All flagged observations are subject to inspection.

21. The paper *Data editing in the Danish CPI* (Martin Birger Larsen, Statistics Denmark) describes the data editing used in the Danish CPI in the different steps of the production phase. It consists of four steps, namely (i) manual editing, (ii) controls for consistency and logical errors, (iii) statistical data editing, and (iv) editing of calculated indices. The statistical editing system is based on the Hidioglou-Berthelot (HB) method and consists of two parts: Firstly, the HB method, where the potential errors are identified. Secondly, the influence of each individual HB-identified potential error on the elementary aggregate price index into which the price belong, is calculated. Thus the HB identified outliers can be ranked according to their influence on the index. It is possible to establish a simple validation rule, e.g. that you only validate potential HB errors if they have an influence above a given level on the elementary aggregate index.

22. The paper *The role of Tukey algorithm in validation procedures for price data in CPI* (David Fenwick, ONS, United Kingdom) reports on the results of work undertaken by the ONS in relation to the application of the Tukey algorithm and considers the issues which arise for compilers of the CPI. It also reports on a more detailed study on the impact of editing on the price index for clothing. Both pieces of work were undertaken a few years ago and resulted in the introduction of revised and improved editing procedures. The editing procedures that are used to detect and correct errors in price quotes are a non-trivial issue as they can have a systematic numerical impact on measured inflation which can lead to bias. The adopted procedures also have operational consequences. If applied correctly, editing procedures can not only improve the quality of the price index but also result in operational efficiencies in the compilation of the CPI

23. The paper *New editing methods at Statistics Sweden* (Anders Norberg, Statistics Sweden) points out various advantages of developing efficient general editing tools, such as decreased system maintenance cost, better distribution of the work among editors, fewer records to verify and coordination of process data. The editing method presented in the paper is based on the concepts of *suspicion* and *impact*, and it is shown that it is possible to include both statistical and non-statistical edits in the selection of records. In traditional editing suspicion is zero or one, accept or failure. The paper proposes a generalization towards a continuous measure 0-1 of suspicion, based on information about raw, "expected" and edited values. The *potential impact* is a function of the weight and price ratios. The final measure, the *expected impact*, is suspicion multiplied by potential impact. Efficient editing means that errors with a significant effect on the statistics are identified with high probability. This can, however, have a negative effect on

respondents and personnel if too many errors pass through without any reaction, motivated by insignificant impact on the output.

24. The following discussion pointed out that there are no automated data editing procedures that are absolutely safe. They flag the observations that are possibly erroneous, and provide suggestions for solutions but it is the editor that takes the final decision. In that respect the human factor plays a major role in data editing and validation process. Filtering of prices that have a significant impact on the index was suggested as an appropriate approach, leaving prices that have no or only insignificant and unsystematic impact on the index aside. The combination of input and impact validation was found to be a promising area for further research.

#### **Item 4: Future challenges and the role of the joint CPI meetings**

25. **David Fenwick (ONS)** presented the paper *Joint meetings of the ECE/ILO on Consumer Price Indices: a look back at the first thirty years and a look forward*. The paper gives an overview of issues discussed over the last thirty years and provides some pointers for future agendas and identification of main outstanding issues. It is concluded that the joint CPI meetings have provided a valuable forum for discussion of practical issues on index compilation and for the sharing of solutions. The close working with the Ottawa Group on Price Indexes has added further value. Still, a review of countries' CPIs indicates that many countries fall short of following best practice in constructing their CPIs.

26. In future work should be undertaken to identify those methodological issues which have potentially the biggest impact on the quality of the CPI – firstly in terms of bias and secondly in terms of precision. Priority should be given to the treatment of owner-occupied housing and its inclusion in a CPI, including guidance on concepts and practical recommendations on the compilation of house price indices. Harmonisation should be seen as an important issue, particularly with increased globalisation and free markets. On important methodological issues, and in cases where conceptual principles cannot be put into operation for practical reasons, the Ottawa Group should be approached to provide guidance.

27. **Irina Goryatcheva (Rosstat)** said that countries with economies in transition has benefited from participating in the joint meetings and from the contacts created through the meetings. She underlined the importance of the forum as a mean to ensure and further improve the international comparability of price statistics. She also stressed the need to allocate sufficient time to discuss problems that are of particular importance to transition economies.

28. **Djoret Biaka Tedang (AFRISTAT)** said that the work on the joint meetings has a direct influence on the activities on price statistics undertaken by member countries of AFRISTAT. He found it particular important to discuss also issues related to resources, for example sampling and price collection and automatising of data processing. Finally, he reminded about the need of funding to allow participants from African countries to attend the meetings, and also reminded about the possibility of organization of training seminars/ workshops based on the international manuals.

29. **Valentina Stoevska (ILO)** stressed the importance of the meeting as a unique opportunity for the national experts to meet on regular basis, exchange views and experience and organize collaboration between their countries. In spite of significant improvements there is still a gap between developed and developing countries. The meeting should continue to discuss and identify good practices that could be recommended for implementation by national statistical offices. Practical application of the international standards should remain a central objective of the meeting. The cost of participating in a meeting is also a problem for many countries, particularly for those very distant from Geneva. To address the problem of cost of participation, especially from the developing countries, she suggested organising the meeting to a non-European destination, or organising sub-regional meetings or workshops. Finally, for the discussions to be more useful, she suggested that the outcome of the meetings takes the form of recommendations or summary of conclusions that could be used as reference material on CPI.

30. **Carsten Boldsen Hansen (UNECE)** said that the meetings should be demand driven to stay relevant to the needs of NSOs. Further, the still broader group of participating countries raises the question of whether to change from a regional to a global perspective of the joint CPI meetings. He stressed that the joint meetings should also address institutional and organisational issues, for example on integrity and statistical independence and how these fundamental principles of official statistics are ensured also for CPIs.

31. In the following discussion the type of issues to be included in future joint meetings were discussed. The general opinion was that the meetings should focus on practical and implementation issues but also address methodological topics and research issues of relevance for the national statistical offices. It was also a general feeling that the exchange of practical experiences is an important part of the meeting and should be so in the future also; discussions should not be too detailed or technical, as such are better left to bilateral contacts.

32. It was suggested that a web discussion page should be created where questions and answers on CPI related issues could be made available to all interested. Such a website could also include links to other useful web pages etc.

#### **Item 6: Integration of price indices**

33. **Pam Davis (ONS, United Kingdom)** introduced the first six papers on integration of price indices. She underlined the importance of identifying and exploiting synergies in the production processes of CPIs, PPIs and CPIs. In some instances there will be a competition for resources for the compilation of the various indices and integration of the production processes may help to use resources more efficient and avoid duplication of work. She said that the ideas and examples of good practices in the papers were particular useful to countries and may inspire work to investigate the possibilities of integrating the production processes.

34. The paper *Elementary indices for Purchasing Power Parities*, (Peter Hill) reviews the different methods for calculating elementary PPPs for basic headings and compare these with methods used to calculate elementary aggregate indices in temporal price indices. The selection of the products to be included on the common list used for price collection in different countries is found to be of critical importance. It is also pointed out that the choice of elementary index is

contingent on whether or not reliable information about representativity can be collected and utilized. The methods that are able to take this information into account in the process of estimating the elementary PPPs are superior to those that do not. The differences between methods that make use of representativity and those that do not are not reduced as the number of prices collected for the product on the list increases. The choice of index formula can have a significant effect on the results even when a complete set of prices can be collected for the products on the common product list.

35. The paper *New Methodological Developments for the International Comparison Program* (Erwin Diewert, University of British Columbia, Canada), presents the methods that were used to construct and link basic heading and higher-level PPPs in the 2005 ICP round. The paper identifies several methodological problems that require additional research before the next round of the ICP program. This includes e.g. problems with hyperinflation; pricing of imports and exports; treatment of zero and negative expenditure categories; the quality of weighting data; treatment of housing; financial services and non-market production; lack of matched products; coordination of the ring product list and the regional product lists. The paper concludes that the 2005 ICP round was a big success, while a number of challenges should be addressed before the next round takes place.

36. In *The interpretation of the PPPs: a method for measuring the factors that affect the comparisons and the integration with the CPI work at regional level* (Luigi Biggeri; Istat and University of Firenze, Rita De Carli; Istat, and Tiziana Laureti, University of Tuscia, Italy) the authors decompose the divergence of the price level in two areas into three factors: a pure *price effect*, a *representativity (weights) effect* and a *characteristicity effect*. The factors are analysed and a method to evaluate the importance of the different factors is suggested. It is shown that knowledge of these effects can be helpful in the selection of products for the common list to be used for price collection in two regions, and it can help to balance the conflicting objectives of comparability and representativity. Finally, the method suggested can also be used to integrate work on CPI and PPP as it can be used to assess if or to what extent price data collected for the CPI can be applied for the calculation of PPPs for different areas.

37. The paper *Can we collect prices on ICP products and integrate with CPI prices to calculate the inflation?* (Nicholas Nsoah-Nuamah, Ghana Statistical Service) investigates the possibilities and consequences of using prices collected for the PPP for calculation of the CPI. Such an integration of price collection could potentially save substantial resources. The CPI is based on a sample of 242 items out of which 149 is also included in the PPP. Hence, for a period of two years the CPI has been calculated on the basis of the 149 PPP items and the resulting index is compared with the regular CPI based on the 242 items. The calculation shows that the regular CPI and the experimental CPI based on PPP items over time may be very similar while for individual months there are significant differences. This may partly be due to problems with data quality, and better price collection may help ensure comparable results. It is concluded that more work is needed before a final decision can be made.

38. The paper *Synergies in the production processes of CPI and PPP* (Merav Yiftach and Yoel Finkel, Central Bureau of Statistics, Israel) explains how synergies in the production of CPI and PPI have been explored and utilised by the Central Bureau of Statistics in Israel. In the ICP

2005 round a program was initiated to enhance synergies in three areas: price collection, price methodology and CPI technology principles. For *price collection* it includes the use of prices collected for the CPI for calculation of the PPP, selection of 'most popular items' from the CPI sample, calculation of annual average prices for seasonal products on basis of the CPI sample, data editing and provision of supplemental information. Synergies on *price methodology* include the sampling procedure for the CPI which has been expanded to allow for PPP, use of administrative data from CPI for PPP (e.g. housing and health) and editing and logical checks. *Technology principles* include implementation of a system, which automatically classifies PPP and CPI into identical categories, selection of consumption items identical for both programs, inclusion of special aggregates for the requirements of PPP, and datasets have been classified according to the same international classification. Future work will include developing and implementing a computer system for PPP according to CPI methodology with user transparent interfaces.

39. The paper *The integration of CPIs and PPIs for services in Germany* (Peter Roemer, the Federal Statistical Office of Germany) describes the PPI for services (SPPI) and the experiences of the statistical office with integration services indices in CPI and PPI with telecommunication as an example. The following conclusions are made: 1) Experience has been obtained by developing a business-to-business approach for the SPPI; Changing to the business-to-all approach requires adaptation of the reporting systems. This change was largely facilitated by the flexibility when the methodological work is done within one unit and by the same persons responsible for CPI and SPPI. 2) Expert knowledge about products and markets is invaluable for developing SPPIs. 3) The collision of work for rebasing the CPI with the development of the SPPI was a major disadvantage for an integrated procedure in CPI and SPPI. Overall, the integration of work for CPI and SPPI offers a number of advantages while it is also recognized that the regular work and responsibilities may slow down the progress of work for SPPI.

40. In the following discussion it was mentioned that in many countries there is a competition for resources between CPI and PPP, and in some instances the prices division is assigned to undertake the PPP work without receiving suitable resources for the purpose. This underline the need to utilise synergies in the production of CPI and PPP since this may help to save resources and increase efficiency. At the same time, integration of the production process of the CPI and the PPP provide possibilities also to improve calculation systems and the quality of the statistics. It was also mentioned that the points raised on PPP methodology should be taken into account in the preparation of the next ICP round which is planned to take place in 2011.

41. The three last papers of the session were introduced by **Richard Evans** (Statistics Canada). In his introduction he said that the three papers provide examples of how statistical agencies can improve quality, accuracy and coherence of CPI through good management practices and by maintaining capacity for research & development.

42. The paper *The interpretation of the divergences between CPIs at territorial level: Evidence from Italy* (Biggeri, Brunetti and Laureti) presents a method to decompose the divergence between CPIs of different geographical areas or regions into two factors: differences in price changes (elementary indices) and differences in the purchasing patterns, i.e. the expenditure weights. On basis of calculations for 2002 and 2007 the main finding is that price

changes generally outweigh effects from differences in the weights. The Italian study provides a powerful method for improving quality assurance. It does so by studying the geographical breakdown of the statistics, and making explicit the subtle and often obscure interplay between weights and prices. It also shows the benefits of a detailed comparison of one's own sub-national data.

43. The paper *Introduction of the Harmonised Index of Consumer Prices (HICP) in Switzerland* (Hans Markus Herren, Federal Statistical Office FSO, Switzerland) explains the adoption of the HICP standard in Switzerland. It describes the adjustments made to produce an index that is comparable with the CPIs of other European countries. The main adjustments were on the weighting, due to the geographical and population coverage, and to the data collection. The price collection period is extended from the first 6 days of the month to the first 2 weeks of the month, and the frequency of collection is increased to monthly for a large number of items. The monthly collection increased from 30.000 prices to over 50.000. The database allows for identification of the prices collected solely for the national CPI or the HICP which in turn facilitate setting up of a parallel computing environment, so that the effect of the changes can be estimated.

44. The paper *Quality Assurance and EFQM in the Israeli CPI* (Yoel Finkel, Central Bureau of Statistics, Israel) demonstrates the benefits of implementing internationally recognized management standards. It provides a look back five years after adopting the "Excellence Model" of the European Foundation for Quality Management (EFQM) framework in the Israeli CPI. The EFQM, focusing on achievable short and long-term goals, provides an effective framework within which to improve the Israeli CPI. The system was implemented in a very participative way, with all levels of staff involved in one way or another. Although some scepticism was initially expressed, significant achievements were reached, e.g., improving documentation of the survey, creation of a Satisfaction Survey of employees that spurred a number of initiatives to improve workplace wellness, enhancing the computer infrastructure. The Israeli experience suggests that only by managing effectively the production process will the statistical agency become more efficient, and free the resources needed to make the improvements.

#### **Item 7: Other CPI issues**

45. **Borbala Minary (the Hungarian Statistical Office, Hungary)** introduced the three papers on Other CPI issues. Concerning the treatment of mobile phones in the Jamaican paper she reminded about the Lifecycle of mobile phone equipment and the problem of identifying the right time for replacement. On perceived inflation as dealt with in the Japanese paper she raised the question about what role NSOs should play in compiling or explaining such measure and underlined the need to ensure the credibility of the CPI. On the Korean paper she raised the question about how to convey to the public the effects of quality changes and recommended a case-by-case approach to be followed when adjusting for quality changes.

46. The paper *Mobile phones in the Jamaican Consumer Price Index* (Andrelene Royal, Statistical Institute of Jamaica) describes the treatment of mobile phones in the Jamaican CPI. It discusses problems associated with weights and their sources, the sample of outlets, source of prices and the experience and how these have been dealt with. By applying a matched model

technique and liaising with the service providers, a great deal of information has been obtained. It is stressed that the CPI compiler has to keep abreast of the developments in the telecommunications market where the product specifications are constantly changing.

47. The paper *Empirical analysis of the difference between measured and perceived inflation in Japan* (Makoto Shimizu, Statistical Bureau, Japan) examines whether the perceived inflation rate is consistent with the rate of inflation as measured by the CPI. The paper identifies three factors causing the gap between perceived and measured inflation: (1) Perceptions are formed by price changes without quality adjustments for goods and services; (2) Perceptions are based on a subset of frequently purchased goods and services; (3) Perceptions are based on the nearest time period. The three factors are evaluated quantitatively and pictured by recompiling data used for the CPI. It is concluded that further empirical analyses to evaluate the effects of in particular quality changes are necessary.

48. The paper *Some concrete examples of quality changes in the Korean CPI* (Jinho Hur, National Statistical office of Korea) presents three concrete examples causing difficulties when calculating the CPI: 1) A change in the product specification of salad; 2) whether the length of the sales period should be taking into account in the decision of whether to include the sales price or the 'normal' prices; 3) The treatment of security deposits (so-called chunsei) made by the lessee to the owner of the dwelling.

49. In the following discussion the problems associated with compilation of price indices for goods or services, or even bundled goods and services, with rapid changes in technology and specifications were recognized and the need for further work and exchange of experiences was underlined. The gap between "perceived inflation" and inflation as measured by the CPI seems to be a prevailing phenomenon in many countries, and in the European Union the issue has been on the agenda for several years. It was found that occasionally publishing or referring to such measures of perceived inflation with proper explanations may help to ensure or restore credibility in the official CPI.

50. The following room documents were made available to the meeting:

*Review of the Harmonised Consumer Price Indices in the UEMOA.* Djoret Biaka Tedang, AFRISTAT.

*Retrospective Calculations of Superlative Price Indexes for Years where Expenditure Data is Unavailable.* Jan de Haan, Statistics Netherlands, Bert M. Balk, Erasmus University and Statistics Netherlands, and Carsten Boldsen Hansen, UNECE.

*Note sur l'Indice des Prix à la Consommation. Cas de l'Algérie.* Kadi Aicha, Office National des Statistiques, Algérie.

*Method for price collection in the field.* David Ghislain Dongmo Kemkeng, National Statistical Institute, Cameroon.

*Report on the 2007 international survey on the usefulness of the Consumer Price Index Manual.* Valentina Stoevska, ILO

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