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### Commission économique pour l'Europe

Conférence des statisticiens européens

#### Groupe d'experts sur les indices des prix à la consommation

Dixième session

Genève, 10-12 mai 2010

### Rapport

#### Note du secrétariat

##### *Résumé*

À sa cinquante-septième réunion plénière, en juin 2009, la Conférence des statisticiens européens a approuvé les activités entreprises dans le cadre du Programme de statistique 2009 de la Commission économique pour l'Europe, ainsi que la liste des réunions prévues de juin 2009 à juin 2010 telle qu'elle apparaissait dans le document ECE/CES/2009/2/Add.1 (voir le rapport de la cinquante-septième réunion plénière de la Conférence des statisticiens européens, ECE/CES/76, par. 70). Sur cette liste figurait une réunion du Groupe d'experts sur les indices des prix à la consommation, qui a été organisée en collaboration avec l'Organisation internationale du Travail et s'est tenue à Genève, du 10 au 12 mai 2010.

Le présent document constitue le rapport du Groupe d'experts, et il a pour but d'informer la Conférence des statisticiens de l'organisation et des résultats de cette réunion.

## I. Introduction

1. Le Groupe d'experts sur les indices des prix à la consommation s'est réuni à Genève du 10 au 12 mai 2010. Ont participé à la réunion des représentants des pays et territoires suivants: Afrique du Sud, Albanie, Allemagne, Angola, Antilles néerlandaises, Argentine, Australie, Autriche, Bélarus, Belgique, Canada, Chili, Chine, Croatie, Danemark, Espagne, États-Unis, Éthiopie, ex-République yougoslave de Macédoine, Fédération de Russie, Fidji, Finlande, Géorgie, Ghana, Hongrie, Iraq, Irlande, Israël, Italie, Jamaïque, Japon, Kazakhstan, Lettonie, Lesotho, Liban, Luxembourg, Mali, Maurice, Mexique, Mongolie, Namibie, Norvège, Nouvelle-Zélande, Pays-Bas, Pologne, Portugal, République de Corée, République tchèque, Royaume-Uni, Serbie, Slovaquie, Slovénie, Soudan, Suède, Suisse, territoire palestinien occupé, Turquie et Ukraine. La Commission économique pour l'Afrique (CEA), la Mission d'administration intérimaire des Nations Unies au Kosovo (MINUK), l'Organisation de coopération et de développement économiques (OCDE), l'Union européenne et Eurostat étaient également représentées. Les institutions spécialisées et organisations intergouvernementales suivantes ont participé à la réunion: Bureau international du Travail (BIT), Banque centrale européenne (BCE), Fonds monétaire international (FMI), Centre de formation statistique de l'Afrique de l'Est, Afristat et Banque des règlements internationaux. La Banque centrale du Chili, la Banque fédérale allemande, la Banque centrale de Turquie, l'Université d'État de Tbilissi, l'Université Hitotsubashi et l'Université Reitaku ont participé à la réunion à l'invitation du secrétariat. MM. D. Fenwick et W. E. Diewert ont également participé à la réunion en qualité d'experts invités.

2. L'ordre du jour provisoire a été adopté.

3. M<sup>me</sup> I. Goryatcheva (Fédération de Russie) a été élue présidente et M. M. Prud'Homme (Canada) a été élu vice-président.

## II. Organisation de la réunion

4. Les questions ci-après ont été débattues lors de la réunion, sur la base des documents fournis:

- a) Ateliers menés en parallèle sur les sujets suivants:
  - i) Données à lecture optique;
  - ii) Services financiers dans les indices des prix à la consommation (IPC);
  - iii) Ajustement en fonction des variations de qualité pour les produits saisonniers (vêtements et produits alimentaires);
  - iv) Indices des prix à la consommation harmonisés (IPCH);
- b) Questions méthodologiques;
- c) Indices des prix de l'immobilier;
- d) Système des indices des prix;
- e) Relations avec les utilisateurs des IPC;
- f) Questions pour la prochaine réunion du Groupe d'experts sur les indices des prix à la consommation.

### III. Résumé des débats et principales conclusions

5. Des recommandations en vue des travaux futurs sont formulées ci-après. Un aperçu des documents et des questions examinés par les participants et des conclusions auxquelles ils sont parvenus au cours de la réunion figure en annexe au présent rapport (en anglais seulement). Le compte rendu des débats de la réunion est affiché sur le site Web de la CEE<sup>1</sup>.

### IV. Travaux futurs recommandés

6. Les participants ont recommandé d'inclure l'organisation en 2012 d'une réunion du Groupe d'experts dans le programme de travail de la Conférence des statisticiens européens, sous réserve de l'approbation de la Conférence et de son Bureau. Les participants ont suggéré que les questions ci-après soient inscrites à l'ordre du jour de cette réunion:

- a) Indices des prix de l'immobilier:
  - i) Handbook on Residential Property Price Indices (Manuel sur les indices des prix des locaux à usage d'habitation);
  - ii) Autres questions concernant la place de l'immobilier dans les IPC;
- b) Système des indices des prix:
  - i) Intégration des IPC et PCI/parités de pouvoir d'achat (PPA); IPC polyvalents;
  - ii) Nomenclature des fonctions de la consommation individuelle (COICOP) dans les IPC, les PPA, les enquêtes sur le budget des ménages et les comptabilités nationales: mise à jour et harmonisation?
  - iii) IPC et comptabilité nationale;
  - iv) ICP harmonisés;
- c) Méthodes de relevé des prix:
  - i) Données à lecture optique, notification électronique et autres méthodes de relevé des prix;
- d) Ajustement en fonction des variations de qualité pour les services:
  - i) Mesure des prix et des volumes pour les services;
  - ii) Services financiers, santé, transports, assurances et télécommunications;
- e) Estimations instantanées et estimations révisables;
- f) Sources de données de pondération.

7. Les réactions recueillies auprès des participants aux ateliers ont été positives. Il a été suggéré d'envisager d'organiser des ateliers au cours des réunions futures et de les tenir à la fois le matin et l'après-midi afin que les participants puissent assister à plusieurs ateliers. Les ateliers, ou toute autre formule similaire, devraient continuer d'être axés sur les aspects pratiques de l'élaboration des indices des prix. Il faudrait favoriser une participation active en encourageant les participants à présenter et à examiner ensemble leurs expériences nationales et en prévoyant suffisamment de temps à cette fin.

<sup>1</sup> <http://www.unece.org/stats/documents/2010.05.cpi.htm>.

## Annexe

### Summary of the discussion

#### I. Parallel workshops

##### A. Workshop 1: Scanner data

Organisers: Statistics Netherlands and the Federal Statistical office of Switzerland.

1. The workshop on scanner data focused on information exchange with emphasis on practical aspects. Of the four countries giving a presentation three (Norway, Netherlands and Switzerland) use scanner data for the regular CPI production. Sweden currently uses scanner data for product sampling only. Even though all countries encountered very similar problems, these were solved differently. During the workshop the following questions have been addressed:

**1. What kind of methodology?**

2. By calculating a monthly chained Törnqvist index Norway uses all available price and quantity information at the elementary level. In the Netherlands the risk of chain drift in such an index has led to the choice of the Jevons index at the elementary level combined with implicit weighting ("cut-off-sampling"). Currently the Swiss Federal Statistical Office (FSO) relies upon traditional survey methods and index calculation methods (Jevons). For each survey position the best selling scanner data items are selected.

**2. For which branches of trade is scanner data (not) useful?**

3. All four countries calculate scanner data indices for a limited range of product groups only. Basically these are food and non-alcoholic beverages, near-food and pet food (all countries) and others (Netherlands: mainly non-durable household goods). The extension on other non-food groups is desirable and will be analyzed in the near future.

**3. Can the process be efficient?**

4. Although all countries mentioned considerable investment costs, the use of scanner data is considered efficient.

**4. Is a new information technology system necessary?**

5. All countries developed a new information technology (IT) system for index calculation based on scanner data. As Switzerland uses the same calculation methods as for the traditional price collection, a new software module was only needed for scanner data price collection and item selection (modular system).

**5. How to deal with peculiarities of data (e.g. item allocation to the Classification of Individual Consumption according to Purpose)?**

6. All countries have performed extensive analysis to identify and to handle the many peculiarities in the data. While Norway and Sweden allocate items to the COICOP themselves on the basis of EAN codes, Switzerland purchases the necessary item allocation data from a market research institute every month and uses in-store item numbers as the key identifier. The latter appear to be more stable than EAN codes. In the Netherlands the

scanner data themselves contain product group information to link EAN codes to COICOP groups.

## **6. New developments**

7. The Rolling-Year-GEKS is a newly developed monthly chained superlative index which is free of chain drift. It was used by Norway to detect indications of chain drift in their index. The Netherlands used it as a benchmark to determine the threshold value for the cut-off sampling. Switzerland will use the RY-GEKS as benchmark when extending the scanner data collection to some non-food groups in the near future.

## **7. The Swedish assessments**

8. The current method (Jevons index) appears to be applicable for scanner data CPI calculation. More analysis is necessary though to explain some discrepancies between scanner data and prices collected in the stores. The first results indicate that the traditional price collection is not optimal while scanner data contains adequate price information. Sweden will therefore continue efforts to minimize price collector's errors. Sweden also concludes that scanner data is compatible with the European Union's regulatory framework and that its use may be more cost-effective in the long run.

# **B. Workshop 2: Financial Services in the CPI**

Organisers: the Australian Bureau of Statistics and Statistics Norway

## **1. Direct banking fees**

9. Most countries price bank charges such as monthly fees on accounts, fees for using another bank's automate, annual credit card fees etc. However, concerns were expressed regarding the weighting of these fees in the CPI as they tend to be underestimated in Household budget surveys. Norway is using national accounts data rather than a household budget survey for obtaining weights.

## **2. Indirect banking fees**

10. Australia is the only country to price indirect banking fees in the CPI. No other countries have any short-term intentions of including indirect fees. The Australian approach to measuring indirect banking fees was discussed, including recent concerns with the index arising during the financial crisis. The volatility in times of changing interest rates and tracking of the interest rates were discussed. It was concluded that an index of financial intermediation services indirectly measured (FISIM) can be expected to behave in this manner.

11. Indirect banking fees are not included in the HICP as it is limited to monetary transactions only. The question was raised whether financial services on house purchase should be included in the CPI given this is treated as intermediate consumption in the National Accounts.

## **3. Other financial services**

12. Currency exchange fees were seen to be volatile in some countries. Some countries include fees for stock-broking services and mortgage interest is included in the CPI in some countries

#### 4. Conclusions and recommendations

13. It was concluded that financial services will continue to represent a challenging area in CPI compilation involving both conceptual and practical issues and problems. The inter-secretariat working group on national accounts (ISWGNA) is planning to convene a task force on the measurement of FISIM in October 2011. It would be desirable to have a representative of the price index community involved in the discussions and receive feedback from the ISWGNA on its view on the possible inclusion and treatment of FISIM in price indices.

### C. Workshop 3: Quality adjustment and seasonal products – clothing and foods

Organisers: Statistics Canada and the Central Bureau of Statistics of Israel.

#### 1. Quality adjustment of clothing

14. The first presentation was given by Marc Prud'Homme (Statistics Canada) on *Quality adjustment: a review of some methods with examples from clothing*. The measurement of price change is complicated by the appearance of new products and the disappearance of old ones. If there is a difference in quality between the old and new item then an adjustment is needed. The CPI compiler should not assume that all price change is a reflection of the change in quality or that products with different qualities are essentially equivalent. Quality adjustment methods can be split into two categories:

(a) Explicit quality adjustment methods which directly estimate the value of the quality difference between the old and new product and we adjust the price(s) accordingly. These include methods like expert valuation; product costs; quantity adjustment; option costs and hedonics;

(b) Implicit quality adjustment methods that estimate the pure price change component of the price difference between the old and new products based on the price changes observed for similar products. These include methods like direct price comparison; overlap; overlap mean imputation; class mean imputation and the matched models method.

15. Examples of quality adjustment methods were presented for clothing. The clothing issue is even more complicated due to fashion considerations. Each and every instance of commodity substitution is unique and must be carefully considered to ensure that the aim of measuring pure price change is respected, as far as practicable. Which method is used to make the quality assessment must also be considered on a case by case basis. The CPI compiler must be aware that different approaches generate different results.

#### 2. Seasonal products

16. The second presentation was given by Yoel Finkel (Central Bureau of Statistics, Israel) on *Different approaches to the treatment of seasonal products: test on the Israeli CPI, and Special cases, seasonal products*. Traditional methods for price measurement that are based on monthly data attempt to reflect monthly price movements which is the objective of the short term CPI. However these may not be able to be computed based on a fixed basket since the products have disappeared from the markets; may require imputation of missing prices; may introduce bias and erratic fluctuations in the index due to the mismatching of quantities with prices; other methods may introduce quantity changes and not only pure price changes. An attempt to overcome the problems of seasonality is by introducing annual and rolling year approaches. These methods have several advantages: they can be computed bases on a fixed basket if the products reappear in parallel months

each year; they can be executed using data usually at the disposal of the national statistical institutes; can use Fisher indices that reduce substitution bias of Laspeyres or Paasche indices; offer an objective and reproducible method for seasonally adjusted indices; are usually smoothed indices compared to the erratic month to month indices. However, these methods are centred on previous periods and may miss (in real time) the current month to month changes.

17. Many of these methods (based on chapter 22 of the *CPI Manual*) were simulated using real data from the Israeli CPI. The simulations demonstrated that unstable seasonal cycles can undermine the usage of some of the methods; results presented in the CPI Manual are very data sensitive, one method may work well for one data set but may not be preferable for a different one; decisions made by the experts on the CPI staff regarding inclusion (or exclusion) of specific products in the CPI data may lead to quite different results in seasonal price changes; analytical series alongside the official ones may be quite helpful in understanding of the seasonality problems. CPI compilers may turn to Chapter 9.5 of the *CPI Handbook* for additional advice on this complicated subject.

18. The third and final presentation was given by Monica Montella and Franco Mostacci (Italian Statistical Office) on *The impact of European Commission Regulation on the treatment of seasonality in the HICP for Italian clothing*. The clothing sector has many factors that interact with each other and influence price trends. For the Italian CPI these include: seasonality, sales periods and high substitution rates. The Italian clothing basket is characterized by three types of products: composite products, simple seasonal products and simple products available all year round. The authors examine EU regulations on treatment of seasonality and compare these to the current methods in the Italian CPI. They find that the regulations did not ensure an improvement because of different methods allowed; applying the methods as prescribed by the regulation led to different results and found that the most practicable method is class-confined seasonal weights with “bridged overlap” price estimation for out-of-season items which are not provided for by the monthly calendar of products to be included in the survey.

#### **D. Workshop 4: The Harmonised Consumer Price Index of the European Union**

Organiser: Eurostat.

19. The aim of the workshop was to give an overview of the EU’s system of HICP for consumer price experts in National Statistical Institutes within and beyond the EU. In many countries outside the EU, CPI harmonisation projects are ongoing and they often use the HICPs as a reference point.

20. The workshop was divided into six sessions. In session 1 Eurostat described the background to the development of HICPs, including users’ needs for harmonised CPIs, the process of harmonisation used to build the HICPs and explaining how HICPs were constructed from national CPIs. Session 2 explained the roles of Eurostat and the National Statistical Institutes in statistical production and dissemination. It also covered the approach used to monitor compliance with HICP requirements and to provide financial support for developing HICPs within the EU. Session 3 gave a short overview of HICP methodology, including weights, sampling and quality adjustment, sales prices, housing, insurance etc. In session 4 recent HICP developments and major current projects were summarised, including the treatment of seasonal items; weights, owner-occupied housing, quality adjustment and sampling and the strategy for developing multi-purpose consumer price statistics.

21. In session 5, Mauro Politi (ISTAT, Italy) gave his viewpoints on the HICP, stressing some of the benefits for ISTAT of having the HICP as well as its national CPI. Martin Eiglsperger (European Central Bank) gave an assessment of the HICP from the perspective of a key user. In the final session Eurostat outlined some key elements for calculating a proxy-HICP starting from a national CPI.

22. Based on both the feedback concerning this HICP workshop, and the high number of visits to HICP staff at Eurostat, Eurostat concluded that there seems to be a lot of interest in Eurostat providing further information on both the HICP process and HICP methodology. Eurostat would reflect on whether it could, at some point, organise a further HICP workshop or conference at which more detailed explanations could be given and harmonisation issues discussed.

## 1. Session 2: Methodological issues

Discussant: Mari Ylä-Jarkko, Statistics Finland introduced and summarised the three papers prepared for the session on methodological issues.

23. The paper *Plans for the development of disease based price indexes in the U.S.* (Michael Horrigan, Bureau of Labor Statistics, United States) summarises work accomplished by the US BLS on the development of medical care price index that reflect out-of-pocket cost to the consumer (CPI) and the total reimbursement received by providers (PPI) for the treatment of diseases. This is in contrast with the current practice where health care services and goods are priced, and not the treatment of the disease. It is believed that pricing services and not treatments lead to upward bias in the index for medical care because of the shift in the treatment of various diseases from in-hospital to out-patient facility care. The resulting reduction in the price of treating diseases is not reflected in a CPI based on prices of health goods and services.

24. In order to estimate disease based price indices in practice, a methodology has been established. It requires that:

(a) Claims database be used to identify and *quantify* the inputs used in the treatment of a disease;

(b) Current medical inputs be re-priced, on a monthly basis, keeping the *quantities* fixed;

(c) The *quantities* of inputs used to treat a disease be updated every year or two.

25. It is pointed out that there are number of difficulties in this approach including (i) treatments can vary a lot, (ii) protocols for treating disease can change over time, (iii) some changes in protocols may represent a quality change of the same protocol. Deciding when a substitution has taken place is a difficult task. Therefore, there may be a need to continue pricing the old and new treatment protocols after deciding a substitution has taken place. In the case of US, the Medical Expenditure Panel Survey that surveys both households and providers on the disease contracted and the use of goods and services to treat those diseases, is the main source of information on the substitution toward less costly treatments. Similar approach will be used in estimating the cost of medical services in the PPI.

26. The paper *Impact of Incentives to Traders on Quality and Cost of Price Collection* (Nicholas N. N. Nsowah-Nuamah, Ghana Statistical Service) describes the procedures used by Statistics Ghana to ensure continuous cooperation of the shop owners in open and covered markets and stalls, and consequently improve the quality of the price data collected. The paper points out that while the increase in the number of price collectors and market supervision helped to minimise interviewer's fatigue, not much has been done to minimize interviewee's fatigue. In order to get reliable, accurate prices, and motivate both price collectors and sellers, some budget has been allocated for price collectors to buy meat



and vegetables. However, this has proved ineffective and unsustainable. Therefore several methods have been tried, including:

- (a) Threatening with the use of the Statistical Service Law;
- (b) Organising meetings with representatives of trader's associations;
- (c) Organising series of forums for shopkeepers to educate them on the importance of the data collection exercise;
- (d) Organising seminars for the media.

27. As this did not prove effective, the management of Statistics Ghana in the presence of major TV stations visited the markets and interviewed shopkeepers. Various incentives like photographs, souvenirs, customised T-shirts and alike were distributed. These incentives evoked full cooperation between shop owners and price collectors and resulted in improved quality of data collected.

28. The paper *Reflecting consumer's e-commerce change in the Korean CPI* (Kyunghye Kim, National Statistical Office of Korea) presents the Korean experience with the collection of prices for goods purchased from Internet shopping malls. These prices have been used in the production of CPI estimates since 2005. In order to be selected as e-commerce items in the Korean CPI, the items should meet three criteria:

- (a) Transaction value should be above a given minimum threshold;
- (b) It should be available for e-commerce for at least 6 months, without its specifications being changed;
- (c) Its price trend should be different from the price trend of the same item priced in traditional outlets.

#### *Room Documents:*

*Producing disease based price indexes.* Ralph Bradley et al, Bureau of Labor Statistics, United States

*Proposal to create alternative multi-industry medical care prices indexes structured by disease.* Bonnie H. Murphy and Roslyn B. Swick, Bureau of Labor Statistics, United States

## **2. Session 3: House Price Indices**

### *Presentation of the first draft of an International Handbook on Residential Property Price Indices*

Discussant: Bert Balk, Erasmus University and Statistics Netherlands

29. Bert Balk introduced the first draft of the International Handbook on Residential Property Price Indices (RPPI), a project that is funded by Eurostat, under the auspices of the Intersecretariat Working Group on Price Statistics, and executed by Statistics Netherlands. He pointed out the main problems in the establishment of a RPPI, described the possible data sources and the four main methods presented in the handbook. He also reported on the progress made so far.

30. Jan de Haan (Statistics Netherlands) presented chapter 5 of the draft Handbook on Residential Property Price Indices. In his presentation he gave an overview of the main methods of measurement of RPPI:

- (a) Comparing (stratified) central location measures of transaction prices
- (b) Comparing repeated sales transaction prices

- (c) Comparing transaction prices to assessment (appraisal) prices
- (d) Hedonic regression methods

31. The advantages and disadvantages of the methods were highlighted and it was stressed that the choice of method will depend of the availability of data (e.g. on property characteristics, quality changes, low incidence of re-sales and lack of appropriate data in general).

32. David Fenwick (United Kingdom) presented chapters 3, 6 and 7 of the draft handbook dealing with uses of the index and user needs, data sources and compilation of residential property price indices in practice. He stressed that RPPIs are widely used for multiple purposes and their importance is increasing. However, the availability and comparability of these indices across countries are not considered satisfactory although improving and countries make better use of the available data. The approaches used in the measurement of RPPI are pragmatic rather than within the conceptual framework on the price indices. The necessity of calculating the RPPI based on the valuation of transactions versus stock of houses was also discussed.

#### *House Prices and Indices*

33. The paper *The Decomposition of a House Price Index into Land and Structures Components: A Hedonic Regression Approach* (W. Erwin Diewert, Jan de Haan and Rens Hendriks) describes the development of various hedonic regression models used to decompose the sale price of a house into land and structure components. The models are tested by using available real estate sales data for a city in Netherlands. The testing shows that stratification by size of the land is necessary to obtain sensible results. The limitation is that the model works only on the assumption that the prices are not declining. The model developed explains 84% of the price variation by using only 3 important price determining characteristics of the property: (1) the size of the lot, (2) the size of the structure and (3) the age of the structure. The paper also compares the results obtained by using non-linear regression models with the results of a traditional logarithmic hedonic regression models.

34. The paper *Methodological recommendations for house price indices* (Irina Goryatcheva, the Federal State Statistics Service, Russian Federation) provides details of the methodology used to monitor price levels and price changes on the housing market (both primary and secondary) in the Russian Federation. It describes the steps used to calculate average house prices and compile house price indices at the regional and federal levels. The prices level indicators and the price indices are disaggregated by size, by type of property (luxury, average, improved and low quality) and by type of building, with prices tracked separately for new properties and old privately owned housing. Examples of price index calculations for different reference periods are also given.

35. The Central Statistics Office Ireland (CSO) is currently developing a national house price index using monthly mortgage data supplied to the Ministry of Environment, Heritage and Local Government by Irish mortgage lending institutions. The paper *Challenges in Compiling a National House Price Index for Ireland* (Niall O'Hanlon, Central Statistics Office Ireland) describes the CSO's experience of using these administrative data. It points out the possible challenges with using such data, especially (1) absence of micro location details, (2) lack of consistency because the dataset originates from multiple mortgage lenders, each of whom operates different systems and practices, (3) heterogeneity and quality of data supplied by mortgage lenders.

36. The paper also points out the impact that the 2008 collapse in market activity has on the development of a house price index: (1) because of the reduced number of sales (price observation) stratification was not feasible, (2) because the decline in new lending has not been uniform across lenders, the efforts for improving the quality had to be focused on

those with big market shares. The paper concludes by stressing that the house price index must be designed in such way that it can cope with substantial falls in the number of observed prices.

37. The paper *House Price Measurement in New Zealand and Australia* (Daniel Griffiths, Statistics New Zealand) describes and compares different house price measures available in New Zealand and Australia. The paper highlights the challenges with respect to (1) the representativity of the sample, changing composition of the sample, limitation to adjust only for the variables observed and captured in the data; (2) timing and timeliness of data; and (3) the weighting scheme and its coverage.

38. The paper *On the evolution of the House Price Distribution* (Taakaki Ohnishi, Takayuki Mizune, Chihiro Shimizu, Tsutomu Watanabe, Japan) summarises the main findings from an analysis of the cross-sectional distribution of house prices in the Greater Tokyo Area during and outside housing price bubbles. The analysis is done on the basis of individual listings in a real estate advertisement magazine for the period 1986-2009. The approach developed is seen as an alternative to the hedonic approach in constructing a housing price index. As with the hedonic functions, it also assumes that price differences stem from differences in the attributes of a house. The differences are that (1) the price-size relationship is derived only from the statistical fact that the price and the size of a house follows, respectively, a power-law and an exponential distribution; (2) it allows to set clearer criteria and procedure to decide how many and which attributes of a house should be considered. The ultimate goal of this approach is to produce a new housing price index for Japan.

39. In the discussion, improving the quality of data sources was mentioned as a general and main challenge in the construction of house price indices. Some reservations were expressed about the feasibility of using hedonic regression models in countries where the market is not so developed, the numbers of sales are not significant and the information on housing characteristics not readily available. The necessity of accounting for the location of the house was also stressed and it was agreed that stratification of data, in general, produces better results.

40. Some counties expressed interest to use the model developed by Japan especially for detecting possible housing bubbles and outliers. Those that are interested to see if the model is applicable in other countries and have micro data were invited to contact Japan.

41. Alexandre Makaronidis (Eurostat) in the concluding remarks expressed appreciation of the work done on the RPPI manual. He underlined the necessity to further test the methods developed on various types of houses. He also stressed that according to Eurostat findings the size of the lot/house is not the only price-determining characteristic and that the location of the house is a variable that needs to be taken into account. He congratulated the presenters under this session and encouraged all countries to continue their research in this area.

#### *Owner-Occupied Housing in the CPI*

Discussant: David Fenwick, expert, United Kingdom

42. The third part of the session on housing price indices was introduced by David Fenwick (expert, United Kingdom). He stressed that the three papers prepared for this session reflect the lack of common methodology for including owner-occupied housing (OOH) costs in CPI. This lack of international consensus on the treatment of OOH results in a choice of different approaches, and consequently different numerical results. He pointed out that the ILO resolution does provide guidelines on the treatment of OOH.

43. The paper *An empirical analysis of the different concepts for owned accommodation in the Canadian CPI: The case of Ottawa, 1996-2005* (Andy Baldwin, Alice Nakamura and Marc Prud'Homme) discusses the conceptual challenges in the treatment of OOH in CPI, and illustrates various (six) alternative approaches that lead not only to different estimates but also to indices that have different trends. It highlights that no treatment is ideal for all of the complimentary (and at times rival) uses of the CPI, therefore compromises as how to best treat homeownership in CPI have to be made. It points out that the decision on the method very often will be driven by the availability and quality of data.

44. The paper *Housing and the HICP – It's all about compromise* (Matt Berger, ONS, United Kingdom) presents well rehearse arguments about the treatment of OOH in the national accounts and explains how HICP departs from SNA 2008. It considers different compromises to household final monetary consumption expenditure (HFMCE) that would be required to include owner occupiers' housing in the HICP. The paper includes a detailed description of owner occupiers housing costs in the 2008 SNA, as well as a side-by-side comparison of the SNA concept of household final consumption expenditure and HFMCE that underpins the HICP.

45. The paper *Housing in the CPI: The South African Experience and Concerns* (Lee Everts, Patrick Kelly, Kgotosaso Phaswana and Riaan Grobler, Statistics South Africa) illustrates practical limitations within which the NSO have to handle the OOH cost and underlines the weaknesses of the rental equivalence approach (imputed rents). It suggests that in countries where the rented housing market and the owner-occupied housing market are two distinct markets, the movements in rents may not reflect changes in owner-occupier costs. This is especially the case in countries where large numbers of people live in informal housing.

#### *Room documents:*

*Ukrainian experience for house price indices calculation.* The State Statistics Committee of Ukraine

*An overview of China's real estate price indices.* Dong Lijuan, National Bureau of Statistics of China

*Problems and issues in compiling price indices for owner-occupied housing in Georgia.* Lia Mdinarazde, National Statistics Office of Georgia

### **3. Session 4: System of Price Indices**

Discussant: Josef Auer, Statistics Austria

46. The paper *Revising the Consumer Price Indexes for the Eastern Caribbean Currency Union* (Paul Armknecht, CARTAC/IMF) describes the work with developing harmonised CPIs for countries in the Eastern Caribbean Currency Union (ECCU). The compilation of the harmonised CPIs is based on the Price Index Processor Software (PIPS). The elementary indices are calculated as Jevons index, higher-level indices are calculated as the weighted geometric average of the elementary indices (geometric Young indices). The PIPS also includes features for quality adjustments, imputations and introduction of new items. The aggregation is made according to COICOP so that the CPIs are comparable across the region. The harmonised CPIs introduce many of the improvements of the *CPI Manual*. The next step will be to develop a regional CPI. It was also mentioned that efforts are being made to further develop the PIPS to e.g. facilitate compilation of regional aggregates which will make the system more relevant also for larger countries.

47. The presentation *Compilation of SPPI using Price Index Processor Software* (Niall O'Hanlon, Central Statistics Office Ireland) describes the CSO's experiences in applying

the PIPS for the calculation of the PPI for services (SPPI). The software applied in PIPS is using Visual Basic running on MS Windows platform, and with the database in MS Access, SQL or SQL express. The software and the source code, together with user manuals, can be downloaded from [www.unece.org/stats/downloads/SW\\_CPI\\_PPI/pips.html](http://www.unece.org/stats/downloads/SW_CPI_PPI/pips.html) and adopted to the specific national conditions and needs. The PIPS was found to be user friendly, flexible and stable. Some suggestions for future developments included a quarterly periodicity option and the need for general support.

48. The paper *Indice des prix a la consommation: Ajustement de la qualité pour les produits vendus en unités non conventionnelles* (Claude Tchamda, AFRISTAT) gives the results of AFRISTAT's investigation of quantity measurement practices in West and Central African countries. Quantities are often traditionally indicated in units such as piece, pile, heap, pack, bundle or cup on markets. This makes it difficult to ensure that the price of similar quantity in terms of e.g. kilo, grams or litres, are followed over time. In a study by AFRISTAT, prices from August to September on a number of common food products (wheat, corn, potatoes etc.) were unchanged using the traditional measurement units (piece, pile, pack etc.) while there were significant price changes, up to more than plus/minus 10%, when quantities were converted into units of the metric system. In cases where the price collector buys the product, the seller can be asked to measure the quantity in the metric system, or alternatively, the price collector can do this. When the price collector does not buy the product the seller may not always be able or willing to measure the quantity in the metric system. The problem is believed to decrease with the modernization of the economies.

#### *Room Documents:*

*The System of price indices in the republic of Belarus.* Zlata Basova, National Statistical Committee of the Republic of Belarus

*The Sudan Consumer Price Index.* The Central Bureau of Statistics, Sudan

*Designing a CPI in a developing country. Some experiences.* Jörgen Dalen, Sweden

#### **4. Session 5: User Relations**

Discussant: Daniela Schackis, ECB

49. In his paper *Official statistics: Stakeholder engagement, user consultation and the planning process*, David Fenwick, United Kingdom, presents a number of issues to take into account in the consultation with users of the CPI. Consultation with users should be an integrated part of the work process, and inputs from users should feed into the work programme where it can help to set priorities and meet user demands. While the integrity of the statistics needs be ensured, the legal basis may sometimes provide constraints for the statistical office to meet user needs. Advisory committees or for example special user groups or thematic working groups may also be established where user needs may be raised; in all cases it is important that the role and the mandate of such groups are clearly stated. There are risks when users have unrealistic expectations or when the statistical office is not able to accommodate all users' needs. However, the statistical office should be proactive by providing clear information to users about the possibilities and follow-up with consultations with the users.

50. The paper *User relations and the New Zealand consumers price index* (Daniel Griffiths, Statistics New Zealand) explains the organisation and work of the CPI Revision Advisory Committee. The Committee is convened every six years or so and aims to provide an independent review of practices and methods used to compile the national CPI. It consists of members from research, academia, trade unions, business groups, economists and the financial sector. In its work with users the statistical office distinguish between

different categories of users (the curious enquirer, the savvy explorer, the focused fact finder and the truth hunter) that need to be dealt with differently. It is important to have robust, open and transparent frameworks for addressing policy and research questions and for identifying and engaging user groups. The importance of reviewing user products is also stressed.

51. The paper *Communicating the German CPI - Destatis CPI Kaleidoscope*, (Irmtraud Beuerlein, Destatis, Germany) presents the efforts of Destatis to communicate with a broad range of users of the German CPI. As public debate in recent years has shown a gap between perceived and measured price changes, it has been decided to implement a new communication strategy to help restoring the credibility of the CPI. It has been a key issue to communicate an understanding of the CPI as an average of many disparate price changes, that it builds on a comprehensive and representative basket of goods and services, and that the expenditure shares (the weights) are important for the overall CPI.

52. In the communication Destatis has developed a series of new interactive online tools to explain better the making of the CPI and provide an intuitive understanding (while at the same time aiming to improve the image of official statistics in the broad public). The online tools include the *Personal Inflation Calculator*, which allows users to basically construct their own CPI; the *Price Monitor*, which provides series and charts of detailed groups of goods and services, frequently bought items and price fluctuations; the *Most striking price changes*, that highlights the most extreme price changes; and the *Price Kaleidoscope*. The Price Kaleidoscope (available on [www.destatis.de/Voronoj/PriceKaleidoscope.svg](http://www.destatis.de/Voronoj/PriceKaleidoscope.svg)) gives a quick overview of the price changes and weights of the 12 main COICOP groups and about 115 sub-aggregates of the CPI and where the magnitude of price changes are also indicated by use of colour scale.

53. Pam Davis, ONS, UK, provided a presentation of the work with *Establishing an Advisory Committee for the UK CPI*. The Statistics and Registration Act (2007) established new governance arrangements and it was decided to establish a group of experts to advice the ONS on the scope and coverage of the CPI and improvements of methods. The proceedings of the Committee are kept confidential (consultations within the respective organisations are welcomed) so that only the advices of Committee are published. The creation of the Committee has been beneficial in that it provides a mechanism for considering proposals for change of the CPI, intellectual rigour when considering proposals for change and it helps to build trust in the CPI.

54. The paper *Managing relations with external stakeholders of the South African Consumer Price Index* (Patrick Kelly, Statistics South Africa) describes how the statistical office has dealt with user reactions and the media. In its user policy it distinguishes between three types of users: Professional users, informed users and occasional users. The key stakeholders are the statistics Council, the User advisory Committee, the National Treasury and the SA Reserve Bank, and news and media. To restore the credibility of the CPI and to educate users (about e.g. weighting issues and rebasing) the statistical office has initiated a number of activities such as consultations on the CPI basket, briefing of the media and rapid responses to questions and critiques raised in the press. Among lessons learned were that transparent and regular communication to users lays the basis for credibility, that it is important to identify the key role players who can influence the public debate, and that a hand-picked user committee can provide useful advice.

55. The paper *Review of the Australian Consumer Price Index* (Michael Abbondante and Susan Kluth, Australian Bureau of Statistics) describes the review process applied for the Australian CPI. Users are engaged through an Advisory Group with 15 members representing the Reserve Bank, government departments, academia, Statistics New Zealand and state governments. In its efforts to communicate with users ABS has used a variety of methods, including sending out mail to targeted users, advertising in newspapers, a "road"

show and video clips on youtube.com. The main issues in the consultations with users are the principal purpose of the CPI, compilation frequency, and analytical series. Concerning the principal purpose of the CPI the result of the user consultations is that the target of measuring household inflation should remain unchanged. Currently the Australian CPI is compiled on quarterly basis, while many users suggested monthly compilation. Users in general were content with the analytical series provided by ABS while also requesting additional new series. Other issues brought up concerned e.g. spatial indices and the geographical coverage (coverage outside capital cities).

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