

Meeting of the Ottawa Group
31 October – 2 November 1994, Ottawa Canada,
Government Conference Centre Room: Gatineau Room

MONDAY, OCTOBER 31, 1994

9:30 COFFEE

10:00 OPENING REMARKS

Purposes, objectives and organization of the conference Jacob Ryten, Statistics Canada

Overview of the problems Bohdan J. Schultz, Statistics Canada

11:45 LUNCH

13:15 TOPIC 1: PRICE INDICES AT THE MICRO AGGREGATION LEVEL AND THEIR MACRO EFFECTS: METHODOLOGICAL AND EMPIRICAL EVIDENCE

Chairperson: Ralph Turvey, visiting professor at the London School of Economics (UK)

Sampling and Data Capture Issues in the CPI Construction, Marta F. Haworth, Central Statistical Office (UK)

Improvements to the Food at Home, Shelter and Prescription Drug Indexes in the U.S. Consumer Price Index, Paul A. Armknecht, Brent R. Moulton, Kenneth J. Stewart, Bureau of Labour Statistics (US)

15:15 COFFEE

15:30 Constraining Macro Effects of the Use of Different Methods at the Basic Level in the Project to Harmonise Consumer Price Indices in the European Union, Don J. Sellwood, Eurostat

TUESDAY, NOVEMBER 1, 1994

8:45 COFFEE

9:00 CONTINUATION OF TOPIC 1: PRICE INDICES AT THE MICRO AGGREGATION LEVEL AND THEIR MACRO EFFECTS: METHODOLOGICAL AND EMPIRICAL EVIDENCE

Choice of Price Index Formulae at the Micro-aggregation Level: The Canadian Empirical Evidence, Bohdan J. Schultz, Statistics Canada

On the First Step in the Calculation of a Consumer Price Index, Bert M. Balk, Statistics Netherlands

10:30 COFFEE

10:45 Sensitivity Analyses for Harmonising European Consumer Price Indices, Jögen Dalén, Statistics Sweden

11:45 LUNCH

13:15 A Pragmatic Approach to the Selection of Appropriate Index Formulae, Keith Woolford, Australian Bureau of Statistics

Comparative Changes in Average Price and a Price Index: Two case studies, Alain Saglio, INSEE (France)

15:15 COFFEE

15:30 GENERAL DISCUSSION AND SUMMARY ON TOPIC 1

WEDNESDAY, NOVEMBER 2, 1994

9:00 COFFEE

9:15 TOPIC 2: BIAS OF A CONSUMER PRICE INDEX, SHALL WE TRY TO ESTIMATE IT?

Chairperson: Jack Triplett, Department of Commerce (US)

General discussion

10:45 COFFEE

11:00 CLOSING REMARKS: Jacob Ryten, Statistics Canada

OPENING REMARKS: Chair: Jacob Ryten (Canada)

In opening the session, the Chair explained that the purpose of this working group is to bring together an independent forum of specialists from different countries to exchange ideas on crucial problems of measuring price change and to propose concrete solutions.

The choice of the proposed topics for discussion originated from a long-standing debate about possible bias in the CPI. In the seventies, while inflation was relatively high, it was commonly believed that there was a downward bias in the CPI. At that time, media reported that the CPI was really too low and that actual inflation should have been higher. In fact, the 1982 Conference on Price Level Measurement organised by Statistics Canada, dealt indirectly with this issue. In recent years the debate on bias has re-emerged, however, notwithstanding that the inflation is low, it is now believed, at least in North America, that the bias is upward and that inflation is overestimated.

Proper discussion of this complex issue cannot be done without addressing several detailed questions such as: the sampling error of the CPI, the treatment of substitution of goods, the index formula and the formula aggregation at the macro level.

To make significant progress on these issues, it was agreed that the discussion for this first meeting should be devoted to only two main issues: the micro level aggregation and its macro effects, and how to detect and estimate the bias of the consumer price index.

In the first round table discussion, participants agreed that the CPI, by its nature, is at the heart of broad economic and policy issues and that it is an important and sensitive indicator. Therefore, the debate around the potential bias of the CPI is important and should be examined carefully. The group has also identified a wide range of issues related to this topic including:

- Relevance of the CPI as an indicator of the Cost of Living Index,
- Harmonisation of European price indices,
- Importance of agreeing on definition and concept of cost of living vs. fixed basket,
- Defining a wider measurement of inflation (ex. whole economy price index),
- Need for another economic approach to monitor inflation.

The Chairman concluded this first round table by suggesting to the participants to somehow extend the agenda when tackling the issue on bias, by including three main questions: 1) How to define it? ii) How to measure it? and iii) What are the elements contributing to the bias? He also stressed the point, made by many of the participants that it is important that the group's work increase the public understanding of the CPI.

Finally, the participants agreed that the practice used by the Voorburg Group, where the members' contribution to the Group is made on an individual level and does not necessarily offer any commitment by their respective statistical agencies, is a good one.

TOPICS OF THE CONFERENCE (Turvey and Hill)

Topic 1: Price Indices at the Micro Aggregation Level and their Macro Effects: Methodological and Empirical Evidence

Most of the literature on price index numbers is devoted to the computation of indices at macro aggregation levels, notwithstanding the fact that the choice of index formulae at this level has often-negligible effects on numerical results. On the other hand, writings on price indices, in particular official publications about Consumer Price Indices, tend to neglect the microaggregation level, almost implying that there is no work done at this level at all.

There is a growing interest in the derivation of micro-indices, followed by new evidence that alternative formulae can have a strong impact aggregate on index numbers. Several methodological problems contribute to it namely sampling, treatment of discontinuities in the resulting price series (which includes quality adjustments), and micro-aggregation formulae. These problems are interrelated and should not be treated in isolation from each other. Furthermore, for both theoretical and practical reasons, the choice of solutions may depend on products and on their actual price behaviour.

Topic 2: Bias of a Consumer Price Index, Shall we try to estimate it?

Many kinds of errors may affect the compilation of CPIs. On top of errors common to all statistical surveys, Re sampling errors in the price and weights collection, response errors, errors in transmitting and processing of data, there are errors that specifically result from price index making.

Price index making is subject to contradictory pulls. One would like indices to reflect the changing reality of consumption, yet to measure "pure" price variation, which implies that prices of the same goods and services be monitored. Solutions used to reconcile such contradictory requirements are at time sources of new errors. The treatment of quality changes in the pricesurveyed items (including new products and services), as well as the aggregation of price data (which translates into the choice of an index formula), are generally recognized as sources of problems. In addition, the exact nature and scope of price changes that are supposed to be measured is not always clear.

Price index makers are aware of these sources of error, and there is theoretical literature on most of them. Much less, though, is known about their practical consequences. Only recently some statistical agencies started to investigate them and to release quantified information about specific errors. Finally, the feasibility, indeed desirability, of assessing total CPI bias should be addressed and discussed.

TOPIC 2: BIAS OF A CONSUMER PRICE INDEX, SHALL WE TRY ESTIMATE IT? Chair: Jack Triplett (United States)

The issue:

Many types of errors affect the compilation of CPI's. Some, such as, sampling errors in the price and family expenditure surveys, response errors, transmission and processing errors are common to all statistical surveys. Others are more specific to the price index making, for example: adjustments for quality changes (including introduction of new goods and services) and problems of product and outlet substitution. Although, price index makers are well aware of these sources of error, it is only recently that some statistical agencies have started to investigate them and release quantified information about specific errors. The question that now arises is how feasible, (and desirable) is it to assess a total CPI bias?

Discussion:

Jack Triplett launched the discussion by reviewing the literature on the measurement of the CPI, reminding us that the problem was not entirely new as the Stigler Report, commissioned by the Office of Management of Budget in 1961, assessed in problems of price measurement in the U.S. In fact, the CPI in France and in the U.K. has been attacked in the past for underestimating rather than overestimating inflation.

He argued that the recent interest and concern on bias in the CPI has risen again for two main reasons: i) The Federal Reserve Bank has set its inflation target to zero, and therefore it wonders what value of the CPI implies a zero inflation, ii) Because the CPI is used extensively to adjust for taxation and escalate social benefits, the budgetary implication of small biases in the CPI could amount to a large overpayments (if the CPI is upwardly biased).

He then summarized that in the United States at least, the common view is that the bias in the CPI is upward. This view is based on the fact that the CPI is seen as a Cost-of-Living (COL) index, which implies that the problems created by product and outlet substitution and insufficient adjustment for quality change (including introduction of new products and services) lead to an over measurement of price change.

Although many countries have accepted the empirical estimation of the American bias and have used it in their own context, some participants did not accept the COL as the appropriate framework to judge the CPI. For some of them, the CPI should only reflect pure price change and therefore, the failure of a fixed weight index to capture product substitution cannot be seen as a source of bias. In fact, it was pointed out that the COL is not the framework put forward for the new harmonized indices that are being developed by the European Union to make rates of inflation in the European Union countries comparable. In the same vein, there were discussions about the need to clarify the definition of inflation and for the development of a broad, economy wide measure of inflation.

Some of the participants strongly argued that the CPI is more than a mere statistic, it is an institution which is viewed as reliable and almost infallible and any serious questioning of its credibility or reliability could have serious political and social repercussions. It is therefore important that improvements to the instrument should be seen as marginal rather than fundamental.

It was also discussed that some of the important advantages of the CPI, its timeliness, frequency and absence of revision, makes it useful for a variety of contractual and legal purposes. Although users will often recognise that the CPI was not designed for such uses, it is often the best measure available. In these cases the measure of bias is irrelevant for users who only need hard numbers.

Most participants, if not all, recognized that the questions of bias need to be addressed in future research and meetings, but it is also important to ensure that the changes are done carefully to avoid any weakening of the CPI.

CLOSING REMARKS:

Chair: Jacob Ryten (Canada)

The Chair, in opening the conference gave a broad outline of the purpose and role of this working group. Given the discussions arising from this first meeting, he asked the members five key questions in regard to future meetings: First, do we believe that we could have another meeting? Second, what should be discussed at that second meeting? Third, should the format be similar to this first meeting? Fourth, who is willing to volunteer papers and fifth, where should the next meeting be held?

To the first and third questions, the response was that there is a definite need for another meeting of the same format in a year from now. To the question of what should be discussed the following list of topics was presented:

- How to establish price indices for difficult areas such as insurance and gambling fees payable to a state agent.
- Product quality adjustment and the use of hedonic methods.
- The necessary steps for the harmonization of CPI.
- Clarifying concepts (e.g. What is a cost of living index?).
- Treatment of new products and outlets in price indices.
- Treatment of durable goods in the CPI. - Index formulae at macro level, including the linking problem.
- Organization and techniques related to price surveys.
- Linkage between temporal and spatial price comparisons.
- Problem of seasonality and price indices.
- Measurement of inflation.

Of these topics three were retained for the next meeting:

Topic 1: Purposes and Concepts of Consumer Price Indices

Given that consumer price indices serve many purposes, should official statistical agencies produce and publish several consumer price index series with specific uses in mind? Should the basic concept of the index change with its use? What are the practical estimations of consumer price indices based on specific concepts, and in particular, on the concept of cost-of-living.

Topic 2: Selected Difficult Areas of Consumer Price Indices

Several areas of consumer price indices are recognized as difficult, and for this reason often entirely ignored in the computation. It was suggested that the discussion focus on the sharing of experience in defining and computing difficult areas such as insurances, gambling and financial services.

Topic 3: Product Quality Adjustment to Prices

Discontinuities in price observations of the same products are inevitable. Their treatment is likely to be the major source of errors in the resulting price indices. The so-called splicing (linking) technique is one of the principal culprits, when used indiscriminately. The meeting

will focus on the various approaches to the problem, including their practical aspects. More particularly, hedonic methods should be discussed.

The next meeting will be organized by Statistics Sweden and will be held in Stockholm on November 15, 16 and 17, 1995. A call for papers will be made by Statistics Sweden in the Spring of 1995