

Publication strategy for the 1998 revised Consumer Price Index

*In a new plan for the Consumer Price Index,
the index will have a new set of items,
to be published at the national and local levels*

Steven Grandits

Beginning in 1998, the Bureau of Labor Statistics will introduce a new geographic area sample, a revised item structure, and updated expenditure weights into the Consumer Price Index (CPI). Approximately every 10 years, the CPI is revised in this manner in order to keep the index up to date. Since World War II, the CPI has been revised in 1953, 1964, 1978, and 1987.

A new geographic sample is selected in order to account for shifts in population and to ensure that the sample is representative of current demographics. The *CPI item structure*, the term for the categories of products and services that are priced and for the scheme used to aggregate them into broader groups, is revised to account for changes in consumer buying habits and to accommodate new or changing products in the marketplace. The expenditure weights are replaced with information from a more current consumer survey to properly reflect changes in the purchasing patterns of the populations represented.

Taken together, these changes require the development of a new publication strategy for the CPI. This strategy encompasses not only the presentation of the changes, but also the methods used in determining the exact number and form of the indexes being published and methods for easing the transition from the old publication structure to the new one.

The 1998 CPI revision contains substantial changes in both the items being presented and the frequency of publication of local area indexes. In addition, the CPI is, for the first time, using measures of variability to help determine

what should and should not be published. Also for the first time, the Bureau is preparing and publishing some new indexes a year ahead of their actual introduction in 1998, in order to help ease the transition for users in cases where there has been a substantial change in the composition of some local area indexes.

U.S. item structure

Effective in 1998, there will be considerable changes to both the items being priced and the manner in which they are being aggregated in the CPI. The most notable change in presentation is a reconstruction of several major groups, together with a resulting change from the currently available seven major groups to a new total of eight. (A detailed description of the revised item structure is provided in "Changing the item structure of the Consumer Price Index," this issue, pages 18–25.)

Currently the major groups are food and beverages, housing, apparel and upkeep, transportation, medical care, entertainment, and other goods and services. Three of these groups—food and beverages, transportation, and medical care—will remain the same. The apparel group was modified to exclude apparel upkeep products and services. The entertainment group has been slightly redefined and renamed "recreation," and a new major group, education and communication, has been formed from former subelements of the housing, entertainment, and other-goods-and-services groups. The addition of the latter group reflects the increasing importance

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of information and information-processing equipment, as well as a host of other consumer communication products and services that have grown so remarkably in the last 10 years. The linking of education with communication into a new major group makes a coherent arrangement, as communication and information-processing products and services become inextricably intertwined with the educational process, ultimately reflecting the growing importance of the role of education in our society.

Other important changes in the CPI item structure at lower levels are an expansion of the food-away-from-home index, which reflects the growing habit of eating out in the United States; a reorientation of the car and truck indexes to a vehicle index, which reflects the increase in the use of trucks for personal transport, as well as the growing difficulty in defining the difference between the two means of transportation; and an expansion of the information-processing equipment index.

Appendix 3, pages 78–81, gives a complete listing of the new CPI publication structure. This national-level index structure is composed of the complete CPI item structure and several additional substratum-level indexes that are included in order to maintain continuity for certain important users. These substratum indexes appear in italics in the appendices. The set of published index series for regional and national city-size class data is presented in Appendix 3a, page 82; the set of published index series for city and regional city-size class data is presented in Appendix 3b, page 83.

Publication plan for geographic areas

In each revision, the CPI geographic sample is selected to be representative of the current demographics of the United States. The current revision utilizes the 1990 Census of Population. CPI statisticians and economists develop an updated area sample design, decide on new local area indexes, and change the frequency of publication for local area indexes in order to better reflect the new demographics. These changes allow the Bureau to optimize the allocation of samples based upon a new area design and to incorporate the revised definitions for metropolitan statistical areas.¹

The selection of a new sample of urban areas is one of the first steps in the periodic revision of the CPI. The new area sample selected by the Bureau is based on revised definitions for the Nation's metropolitan areas that the Office of Management and Budget (OMB) announced on December 31, 1992. All agencies that conduct statistical activities to collect and publish data for metropolitan areas have been directed to use the most recent definitions established by OMB. (A discussion of the geographic sample used for the CPI revision is found in "The redesign of the CPI geographic sample," this issue, pages 10–17.)

In addition to the national index, the Bureau currently publishes indexes for 29 cities (metropolitan areas). In 1998, it will continue to publish indexes for all but two of these cities: Buffalo-Niagara Falls, New York; and New Orleans, Louisiana. Also, because of the revised OMB definitions pertaining to metropolitan areas, two other cities—Washington, DC, and Baltimore, Maryland—for which the Bureau currently publishes separate indexes will constitute a new consolidated metropolitan statistical area for which a single index will be published.

The new publication plan for local area indexes, to begin with the index for January 1998, is as follows:

- Monthly indexes will be published for the three largest cities. Because of sample design considerations, indexes for the Philadelphia and San Francisco areas, both currently published monthly, will be published every other month following the release of the December 1997 index.
- Bimonthly indexes will be published for the next 11 largest cities, including Atlanta and Seattle, which currently have semiannual average indexes.
- Semiannual average indexes will be published for 12 additional cities, including Pittsburgh and St. Louis, which currently have bimonthly indexes.
- The Bureau will continue to publish separate indexes for the four major regions of the United States defined by the Census Bureau. However, beginning in 1998, there will be only two size classes for metropolitan areas, instead of the current three: size A, consisting of areas with a population greater than 1.5 million; and size B/C, comprising areas with less than 1.5 million. This cutoff point of 1.5 million reflects a rise from the current cutoff of 1.2 million and is important because cities in size class A are those for which the Bureau publishes city-level indexes. The B/C size class is a combination of the old size B and size C metropolitan areas. In addition to the two metropolitan area size indexes for each region, separate size D indexes for urban nonmetropolitan areas will continue to be published for both the Midwest and the South. Separate indexes for Northeast and West urban nonmetropolitan areas were discontinued in 1987.

Exhibit 1 lists all the areas for which indexes will be published, beginning in January 1998.

Variance-based publication policy

The Bureau always has endeavored to present high-quality data. In 1991, the CPI program developed a Variance Calculation System to measure the variability of most of its major indexes by calculating a coefficient of variation² for each index. The 1998 revision allowed the program for the first time

Exhibit 1. Metropolitan Areas for which revised CPI indexes will be published beginning January 1998

1. Local index published monthly:

New York-Northern New Jersey-Long Island, NY-NJ-CT-PA
 Chicago-Gary-Kenosha, IL-IN-WI
 Los Angeles-Riverside-Orange County, CA

2. Local index published bimonthly:

In odd months (January, March, May, July, September, November)

Boston-Brockton-Nashua, MA-NH-ME-CT
 Washington-Baltimore, DC-MD-VA-WV
 Cleveland-Akron, OH
 Atlanta, GA
 Dallas-Fort Worth, TX

In even months (February, April, June, August, October, December)

Philadelphia-Wilmington-Atlantic City, PA-NJ-DE-MD
 San Francisco-Oakland-San Jose, CA
 Houston-Galveston-Brazoria, TX
 Detroit-Ann Arbor-Flint, MI
 Miami-Fort Lauderdale, FL
 Seattle-Tacoma-Bremerton, WA

3. Local index published semiannually (in January and July)

Pittsburgh, PA
 Kansas City, MO-KS
 Minneapolis-St. Paul, MN-WI
 Tampa-St. Petersburg-Clearwater, FL
 Denver-Boulder-Greeley, CO
 Portland-Salem, OR-WA
 Cincinnati-Hamilton, OH-KY-IN
 Milwaukee-Racine, WI
 St. Louis, MO-IL
 Anchorage, AK
 Honolulu, HI
 San Diego, CA

to take advantage of this system in determining its publication plans. The use of the information resulted in plans to provide slightly less detail at publication levels below the U.S. city average, dropping those lower level indexes whose variability calls their quality into question. (See appendices 3a (page 82) and 3b (page 83) for the publication stubs for these levels.)

Rules for acceptable variability at differing levels of publication were developed and used as an input to the overall publication decision process³. Other elements incorporated

into this decision process included the need for consistency of published detail across geographic areas, the value of the data series to our users and continuity with our current publication practices.

At the present time, variance data for the all-items index and major product groups for the United States and its four major Census Bureau regions are published annually.⁴ Starting in 1999, the CPI program plans to expand the publication of variance data to eventually include variances for all published indexes. The purpose of this policy is to keep users informed of the reliability of published estimates and to encourage users to consider the reliability of an index series when selecting it for use. Additionally, the CPI program will begin a policy of reevaluating publication decisions every 5 years, based on an analysis of the variability of its indexes. This will be the first time the program will systematically evaluate publication decisions between major revisions.

Transition issues

Because the changes the CPI undergoes during each revision can have a major impact on users, special steps are taken in order to ameliorate the effects of those changes. Four steps are being taken to assist in the transition to the 1998 CPI revision: early footnoting of series that are changing or being dropped, the publication of overlap indexes, the publication of underlap indexes, and the publication of special historical series.

Beginning with the release of the January 1997 index, data series that are changing or being dropped from publication will be footnoted as such in all published BLS tables. This provides an early warning to users to reconsider their use of those indexes and gives them time to make any necessary changes.

Overlap indexes are indexes that continue to be published using old item structures and old weights for a period after the introduction of a new item structure and weighting scheme. Such indexes have been a BLS policy for major revisions since 1964. The standard time frame for overlap indexes has been to provide them for the first 6 months after the introduction of the new structure, and the standard scope has been to produce these indexes for the old U.S.-level item structure and just the all-items index for local areas. The 1998 revision will follow this approach.

Also for the 1998 revision, a new transitional step has been taken: the publication of underlap indexes. These are indexes that are produced for new publication areas using old weights and structures, with a specially developed aggregation tree for a period before the introduction of these areas. Underlap indexes will be developed to handle two specific situations arising in the 1998 revision: the combination of Washington and Baltimore into a single metropolitan area and the combination of two separate population size classes for metropoli-

tan areas into one size class. These two situations present significant changes to the publication of CPI data, and because of substantial technical difficulties in developing overlap indexes for either of them, the CPI program devised the new approach of underlap indexes to assist users during the transition.

The following list provides a summary of how each geographic-level index will be handled during the transition:

1. All regions and the national and regional A-sized and D-sized city classes will have an overlap all-items index produced from the old weights on a monthly basis from January 1998 to June 1998.

2. The new national and regional B/C-sized city index (composed of current B- and C-sized cities) will have underlap all-items indexes produced monthly starting in January 1997, with a base of December 1996 = 100.0, using old weights and a special aggregation structure. In January 1998, this index will be linked to the new structure. All-items indexes will not be published for the old B- and C-sized city classes after December 1997.

3. The three cities of New York, Los Angeles, and Chicago, for which a local index will be published monthly, will have an overlap all-items index produced from the old weights on a monthly basis from January 1998 to June 1998.

4. The two cities (Philadelphia and San Francisco) for which indexes are now published monthly, but that will drop to bimonthly publication under the new plan, will have an overlap all-items index produced from the old weights on a bimonthly basis; overlap indexes for February, April, and June 1998 will be published.

5. The Washington-Baltimore consolidated metropolitan statistical area will have an underlap all-items index, as well as selected components, produced bimonthly starting in January 1997, with a base of November 1996 = 100.0, using old weights and a special aggregation structure. In January 1998, this index will be linked to the new structure. All-items indexes will not be published for Washington and Baltimore separately after November 1997.

6. All cities continuing their current publication frequency and cycle will have an all-items index produced from the old weights on the appropriate frequency from January 1998 to June 1998.

7. For the two cities (Pittsburgh and St. Louis) changing their frequency from bimonthly to semiannual publication, an overlap semiannual all-items index will be produced in July 1998, along with all other semiannual averages.

8. For the two cities (Atlanta and Seattle) changing their frequency from semiannual to bimonthly publication, an overlap semiannual all-items index will be produced in July 1998, along with all other semiannual averages.

9. The two cities (Dallas and Miami) currently on a bimonthly publication schedule, but changing their cycle, will have a bimonthly overlap all-items index produced along with the new indexes on the new cycle from January 1998 to June 1998.

10. The entire current U.S.-level aggregates and all-item strata will have monthly overlap indexes produced along with the new item structure from January 1998 to June 1998.

The last transitional device created to aid CPI users during the 1998 revision is the special historical series for certain indexes that are new or that have changed in concept or composition. The historical series for the indexes that are new will provide the user with an additional 5 years of data for these series, going back to January 1993. The historical series for the continuous indexes that have changed in concept or composition will provide the user with 5 years of a "research" index series. This will allow the user to compare how these indexes actually performed with how they would have performed if the change in their composition had been made 5 years ago.

For the 1998 revision, 12 U.S. city average indexes were identified as requiring a special historical series; these are coded with the designation "History" in Appendix 3, pages 78-81. At the major group level, these series are housing, recreation, education and communication (all new series), and other goods and services. Below the major group level, the series are fruits and vegetables, fuels and utilities, household furnishing and operation, new and used motor vehicles (a new series), audio and video (a new series), education (a new series), communication (a new series), and information and information processing.

Rebasing

It has been the Government's longstanding policy that index bases should be updated, or "rebased," periodically. The CPI program implements this policy by rebasing the index as part of its CPI revision. Rebasing is the act of establishing a new base for the index (that is, designating when the index equals 100) and recalculating the index numbers to reflect the new base. The current official index base for the CPI is 1982-84 = 100, which corresponds to the current expenditure weight reference period. This period will be updated to 1993-95 with the publication of the January 1998 CPI, and the official base for the CPI will be revised 1 year later, to bring the base in line with the expenditure weight reference period. □

Footnotes

¹ Metropolitan Areas are subdivided into Metropolitan Statistical Areas, Primary Metropolitan Statistical Areas, and Consolidated Metropolitan Statistical Areas. For more information, see the Statistical Policy Office of the Office of Management and Budget (OMB) Attachment to OMB Bulletin No. 93-05. *Metropolitan Areas: 1992*, Lists I-IV.

² The definition of a coefficient of variation in footnote 2 of the December 1996 issue of the *Monthly Labor Review* article entitled "Publication strategy for the 1998 revised Consumer Price Index," was incorrectly provided. It should read as follows

"The coefficient of variation of index change used to determine index

publishability was calculated as the root mean variance of index change divided by the mean index change. Mean index change and mean index change variances were computed from estimates for each month over a five year period."

³ These variance-based rules were developed by a team of CPI statisticians and economists, headed by Sylvia Leaver and additionally composed of Richard Bahr and Maureen Greene. Additional work in applying these rules was performed by Ms. Leaver and Richard Kerr.

⁴ See "Variance Estimates for Changes in the CPI," in *CPI Detailed Report Data for April 1996*.

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