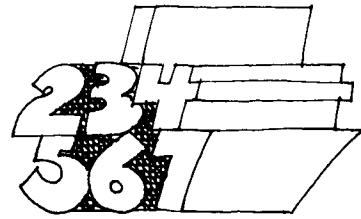


The Anatomy of Price Change



Two Consumer Price Index issues: weighting and homeownership

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In general terms, the purpose of indexation is to adjust Federal payments for changes in the cost of living. To achieve this objective, an accurate index of living costs is required. Since the Consumer Price Index is the major economic indicator designed to measure changes in family purchasing power, it has been a natural choice as the primary indexing mechanism. The CPI is a good measure of the changes in purchasing power of the average family represented in the index, but like any other statistical measure, the CPI is not perfect. In recent years, several questions concerning the methodology used to construct the CPI have been widely discussed. It is important that public policy decisions on indexation reflect a full understanding of these issues.

The fixed market basket. The CPI is constructed by obtaining the prices, each month, of a set of goods and services purchased in the base period (currently 1972 and 1973). This market basket is based upon a survey of consumers conducted during these years. BLS practice has been to hold the weights for the mix of goods and services purchased during the base period constant until a major revision of the index occurs—about every 10–12 years. The market basket is kept constant deliberately in order to isolate price changes from changes which may occur in living standards.

In recent years, as prices have continued to climb, some people have argued that the CPI market basket does not adequately represent current experience. They contend that rational consumers shift their purchases in response to changes in relative prices and suggest that

the CPI might overestimate the cost of maintaining current living standards.

Historically, differences in weighting patterns have not usually created large differences in price index measures. BLS research suggests that between CPI revisions in the past, the effect of consumption shifts on price measurement has been no more than a tenth or so of an index point per year. Of course, past experience on this question may not be conclusive, especially in the most recent years when inflation has been running at double-digit rates and large changes in certain prices (energy, for example) have been experienced.

Another way to gain perspective on the effect of weighting patterns on price index measurement is to examine the Commerce Department's Deflator for Personal Consumption Expenditures, for this index is published in alternative versions with different weights. The two most relevant versions of the PCE Deflator for 1980 differ by only 0.4 percentage points. That is, the PCE Deflator using 1972 weights and the PCE Deflator using 1979 weights both record double-digit inflation during 1980, and give very similar measures of it—10.9 and 10.5 percent, respectively (preliminary 1980 annual data). Those are two price indexes that differ from each other only in the weights.

There are many differences between the PCE Deflators and the CPI, so comparisons of re-weighted PCE Deflators are only suggestive. However, the data I have seen on this issue suggest that the effect of weighting differences on the CPI measurement is probably considerably less than what it has been speculated to be in some parts of the press and academic circles.

But even if comparison of indexes with alternative weighting schemes indicates that use of a more current market basket would not have had as large an impact as some have suspected, it is important to recognize that this result need not continue in the future. The BLS for more than three decades has recognized the need for a continuing consumer expenditure survey. I am pleased that we were able to secure the resources required to conduct such a survey and can report to you that field collection of these data is now underway. In a few

Commissioner of Labor Statistics Janet L. Norwood discussed the Consumer Price Index before the Senate Appropriations Committee on January 29. This report is drawn from her testimony.

years, when this survey has been fully set in place, BLS will be able to monitor the degree to which consumption patterns are changing and to have at hand the data required for future revisions of the CPI weights.

The treatment of owner-occupied housing in the CPI. The method for measurement of owner-occupied housing in the index is a subject on which BLS has been working for many years. BLS began public discussion of the issue about 10 years ago. During the most recent revision of the CPI, BLS staff did a series of detailed analyses of the homeownership component and evaluated several alternative methods of measurement.

The basic problem in designing the owner-occupied housing component is to determine just what the index should measure. The housing component of the official CPI views a house both as an asset which can be resold and as a home to live in which permits the owner to consume housing services.

The present CPI homeownership component includes the month-to-month changes in prices of five expenditures of owning a home. The weights for three of these expenditures—property taxes, insurance, and maintenance and repairs—represent the average expenditures by all people living in their own homes during the CPI base period. Weights for two other expenditures—house prices and contracted mortgage interest costs—are based on the small group of families, roughly 6 percent of the total, who actually purchased a home in the base period. The prices used for houses and mortgage interest components of the index are current prices, and these components of the index rise and fall each month as house prices and mortgage interest rates change.

Because the weight for homeownership under this approach is so large (about 23 percent of the entire index) and because the index is so strongly affected by changes in interest rates, a good deal of criticism of this component has been heard. To encourage public discussion, BLS began publishing several experimental measures last year. Each reflects a different conceptual theory from the official index as well as alternative measurement approaches. All of the experimental indexes would result in a much smaller weight for the homeownership component.

The most widely discussed of these experimental alternatives is the "rental equivalence" (CPI-X1) index. President Carter recommended in his FY 1982 budget submission that Congress legislate the use of CPI-X1 for indexation of Federal Government programs.

CPI-X1 differs from the official CPI because X1 includes as the homeownership component only the cost of consuming the shelter services provided by a house. Unlike the official CPI, it excludes the investment aspects of homeownership. CPI-X1 is a rental equivalence measure, but since a true rental equivalence sample—one made

up of housing units of the same types and in the same locations as owned units—is not currently available CPI-X1 uses the CPI rent component as the shelter measure. The BLS believes that an improved rental equivalence index is a worthwhile objective and if resources can be made available would like to do the testing required to determine the appropriate design of a rent sample which is more representative of the owner-occupied housing stock.

The CPI as an Aggregate Indexing Mechanism. The rate of inflation can vary across households, and the average may not represent the experience of the individual parts. In particular, these differences among households may be related to such characteristics as age and income level. We do not know the extent of this variation or the degree to which it is systematic. For this reason, it is possible that use of an aggregate index for adjusting payments could result in all households being equally compensated for changes in living costs, whereas some households actually gain while others lose.

Even if we assume that all households experience the same change in average price level, it is possible that their need for indexation will depend on what happens to their income. The CPI measures the change in total expenditure necessary to purchase a set of goods and services. To the extent that the percentage of income provided by indexed programs varies, the degree to which households are insured against inflation by indexation will also vary. In this case, the change in living standards as a result of inflation will depend on how other income sources vary with inflation. Thus, even in this very simplified case, living standards could change substantially despite escalation of benefits by an accurate index.

I have raised these last two issues because they relate directly to recent suggestions that special indexes might be designed to index payments to subgroups of the population, such as the elderly. These issues are potentially just as important in designing an effective indexation program as those technical issues, like the treatment of housing, which are important for all uses of the index. We do not know whether an index for a particular group of the population would produce results that are very different from the CPI for All Urban Consumers. A whole series of important issues would have to be clarified before any empirical testing could even be done. For example, policymakers would have to determine the exact definition of the group to be represented. And even then, it is not sufficient to construct a new index for a special group such as the elderly without considering the complex interrelationships among the design and accuracy of the index, the structure of the indexing mechanism and the ultimate objective of the indexation program. □