

THE CONSUMER PRICE INDEX

Its Uses
and Limitations

What it is

How it is
Compiled

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UNITED STATES DEPARTMENT OF LABOR

Martin P. Durkin, *Secretary*

BUREAU OF LABOR STATISTICS

Ewan Clague, *Commissioner*

THE CONSUMER PRICE INDEX

A Layman's Guide

Bulletin No. 1140

UNITED STATES DEPARTMENT OF LABOR

Martin P. Durkin, *Secretary*

BUREAU OF LABOR STATISTICS

Ewan Claguc, *Commissioner*



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Letter of Transmittal

UNITED STATES DEPARTMENT OF LABOR,
BUREAU OF LABOR STATISTICS,
Washington 25, D. C., May 15, 1953.

THE SECRETARY OF LABOR:

I have the honor to transmit herewith a bulletin on the Consumer Price Index. The volume of technical information concerning this important statistical series is as impressive as it is complete, but a real need—until now unfilled—has been felt for a popular description of the content, compilation, and uses of the index. The increased use of price change data in collective bargaining and in wage agreements has made such a document even more necessary. Very appropriately it is subtitled: *A Layman's Guide*. The text, written in language as nontechnical as is consistent with accurate description, was prepared by Mary S. Bedell of the Bureau's Office of Publications.

EWAN CLAGUE, *Commissioner*.

HON. MARTIN P. DURKIN,
Secretary of Labor.

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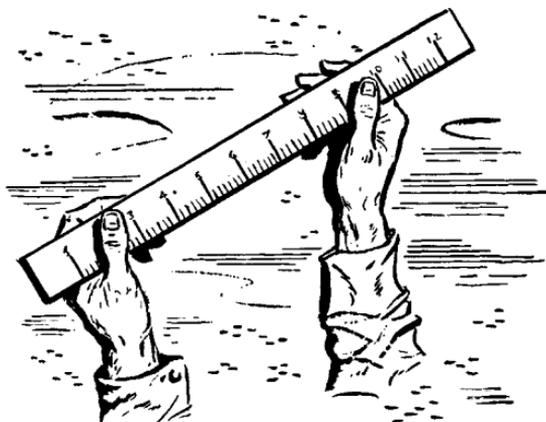
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The Consumer Price Index

I. What Is The Consumer Price Index?



First, let us look at the Consumer Price Index simply as a one decimal number as shown in the following table.

*Consumer Price Index—United States Average, by Groups
of Commodities, January 1953
[1947-49 = 100]*

All items.....	113.9
Food.....	113.1
Housing.....	116.4
Apparel.....	104.6
Transportation.....	129.3
Medical care.....	119.4
Personal care.....	112.4
Reading and recreation.....	107.8
Other goods and services.....	115.9

Beyond the bare facts in the table, what do these figures show?
By definition,

The Consumer Price Index is a measure of the average change in prices of goods and services customarily purchased by families of wage earners and clerical workers living in cities of the United States.

Thus, of all the factors that enter into changes in the cost of living, this index measures only one: *price*. Specifically, the index figure for a given date shows the percent change in the average cost of a list of goods and services, at prevailing prices, to that date from the average for the years 1947, 1948, and 1949—the base period of the index, which is always equal to 100.0. The index number of 113.9 for January 1953, for example, means that the cost of the goods and services was then 113.9 percent of (or 13.9 percent above) their average cost in 1947–49. The base period of an index number is selected to provide a uniform reference point, the use of which makes comparisons between dates an easy matter.

The percent change measures only the difference, between one time and another, in average prices for the same quantities of goods or services of the same qualities, priced in the same stores or service establishments. “Same” is the key word here: because the index is a measure of change in price, and price alone, the effects of other changes must not be permitted to creep into the measure. Variations in the quantity or quality of items priced would produce changes in the index apart from any real change in price. So would variations in stores where prices are obtained (e. g., a comparison of prices obtained in January only from chain food stores with prices obtained in February only from independents). The prices themselves are generally those on the price tags of up-to-date merchandise in good condition, available in the usual assortments (size, color, etc.), and regularly sold in retail stores where wage and salary workers buy.

The 300 different goods and services priced for the index are representative of a “market basket” of all the goods and services that made up the pattern of living of city workers’ families in 1952. The market basket is based on detailed information on the kinds, qualities, and amounts of goods and services bought by city families, and how much they spent for them. The infor-

mation covered purchases by families of two or more persons, whose principal earner got most of his income from employment in a skilled, semiskilled, or unskilled manual or service occupation (other than domestic service), or in a clerical or sales occupation. (Families who had incomes after taxes of \$10,000 or more were not included.) In 1952 these "index" families averaged 3.3 persons, and their average income *after taxes* was estimated at \$4,160. They represent nearly two-thirds of all *city* families, and nearly 40 percent of *all* families.

Prices are obtained in 46 cities so selected that their populations are representative of the entire population of the 3,000 cities in the United States. Prices in all 46 cities are then combined into the national index. Separate indexes are calculated for the 20 largest of the 46 cities—monthly for the 5 largest, and quarterly for the 15 others.

II. How Is The Consumer Price Index Compiled?



The methods of compiling the index are described step by step in this section. To simplify presentation, problems arising at various points are discussed at the end of the section (p. 11).

Selecting the Cities

The first step in making the index was the selection of cities of the United States where prices were to be collected. The 46 cities were selected to be representative of all kinds of cities, taking into account city characteristics which affect the way in which families spend their money (size, climate, density of population, and level of income in the community). Therefore, the list (appendix A) includes cities of all sizes; hot, mild, and cold cities; those with high, medium, and low income levels; and, within each of these groups, cities with thick, medium, and thin population density.

Determining the Market Basket

The next problem was to find out how wage and salaried workers' families in these cities spent their money—what went into their market basket. The Bureau conducted a nationwide

survey of the 1950 expenditures of city consumers, selected, city by city, to be representative of all city consumers.

The information thus obtained from about 8,000 wage earners' and clerical workers' families was analyzed and averaged to determine: (1) the kinds of goods and services bought; (2) the quantities bought and amount spent for each article; and (3) the quality of each article bought. These averages were then adjusted for changes in prices and buying habits that occurred between 1950 and 1952.

The market basket is based on the 1952 figures and contains the following broad classes of goods and services:

Food	Medical care
Housing	Personal care
Apparel	Reading and recreation
Transportation	Other goods and services

Each of these categories, of course, is composed of several smaller groups. Food, for example, consists of:

- Cereals and bakery products
- Meats, poultry, and fish
- Dairy products
- Fruits and vegetables
- Other food bought to be prepared at home
- Food away from home

Each smaller group of things in the market basket, in turn, is composed of specific items, ranging from matches to houses. Auto maintenance and repair, for example, includes such diverse items as inner tubes and tires, grease jobs, gasoline, drivers' licenses, and insurance against public liability and property damage.

Not all items are equally important in family spending, and so each item and group of items in the market basket also has a dollar-and-cents tag to signify its importance.

Selecting Items To Be Priced

It would be both unnecessary and impossible to price all items in the market basket, so the Bureau selected a representative list of about 300 items (appendix B), and these are priced regularly. They were chosen because of their importance in family buying,

and because, in combination, their price movements represent those of all goods and services. Those selected for pricing fall into three categories:

(a) *Items most important in family spending*—rent, electricity, and bread, for example. All of these are priced.

(b) *Items whose price movements represent those of related items.* Items whose prices moved in about the same way were grouped together after study of prices for hundreds of items in the market basket, and one or more items were chosen to represent each such group. Round steak prices, for example, rise and fall at about the same time and at about the same rate as do prices of sirloin and porterhouse steaks; so only round steak is priced, and the changes in price for sirloin and porterhouse steaks are estimated from price changes for round steak.

(c) *Items which are relatively unimportant but whose price cannot be estimated from prices of other items.* Postage rates, for example have a distinctive price movement, and no other item can be used to represent them in the index.

The quality of each item selected for pricing was then defined in a "specification" which describes the quality typically sold within the range of prices most commonly reported by families. These specifications permit some range of quality, such as minor differences in construction, fabric, and style. For example, in 1950 most men paid \$2.95 to \$3.95 for a business shirt and the following specification describes shirts which were usually sold within that range of prices:

Shirt, business: cotton broadcloth, white; combed yarn; thread count, 136 x 60 or 128 x 68; manufacturer's nationally advertised brand; fused or similarly constructed collar, attached; barrel cuffs; residual shrinkage 1 percent or less; full cut, clean workmanship; 31 to 32 yards per dozen based on 36-inch fabric; 14 to 17 inch neckband.

Collecting Prices for the Index

General Procedure

Most items are priced by Bureau agents who personally visit stores, barber and beauty shops, and other places where workers in the 46 index cities buy. Rents are largely collected by mail, as are prices for items whose quality can be described easily and exactly (e. g., fuel oil). Several items are most economically or

efficiently priced through central sources: rates for electricity, for example, are obtained from the Federal Power Commission.

The Bureau of Labor Statistics' pricing agents are intensively trained for their jobs, and, in collecting prices for the index, they usually consult the buyer or department head in the store. The agents personally examine merchandise to make sure it meets detailed specifications, and then record the prices on printed forms.

Prices are obtained in chain and independent, department and specialty, and downtown, neighborhood, and suburban stores which are representative of those in which workers' families buy.

Pricing Specific Commodities

The frequency of price collection and the number of cities priced each month vary for individual goods and services. Specifically, pricing procedures for food, housing, and other goods and services are:

(1) *Food.* The index includes prices for about 90 foods consumed at home and for complete luncheons in restaurants, collected from hundreds of independent and chain food stores and catering establishments. Foods for home consumption are priced each month in all 46 cities—on the first 3 days of the week in which the fifteenth of the month falls. Once every 3 months the Bureau's agents also get prices from one week's luncheon menus in different kinds of eating places in all cities (monthly in the five largest cities).

(2) *Housing.* Rents and the expenses of purchasing, maintaining, and operating a home are included in the index.

Rents are obtained each month in all 46 cities for dwellings selected (and periodically checked) to be representative of those in all sections of the city. All tenants in the "sample"—about 32,000—are visited initially by BLS agents, who arrange for future reports by mail and who return after several years to renew the arrangement and verify the accuracy of the mail reports. Each month some of the tenants in each city report how much rent they pay and what space, facilities, and services the landlord furnishes.

Home ownership expenses priced by BLS agents include maintenance and repair jobs, such as painting, roofing, and re-

placing water heaters and sink faucets. Prices are obtained from contractors who do this kind of work; materials used by homeowners to do such work themselves are priced in stores. Sales prices of houses are gathered from records of local sales transactions. Prices for other homeowner costs—such as insurance, taxes, and interest—come from the records of State or local agencies. Maintenance and repair items are priced in each city quarterly, other items annually or biennially.

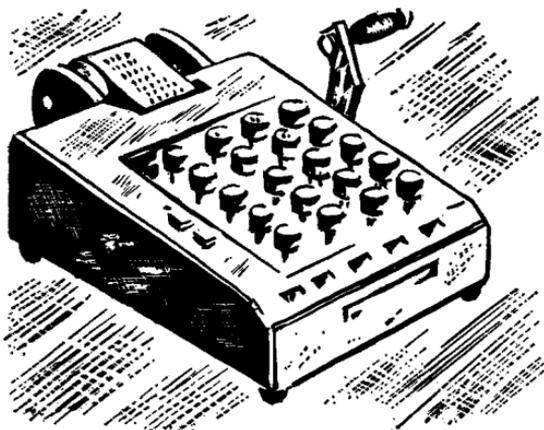
Fuel prices are collected by mail each month in all cities. Expenses of household operation, and housefurnishings and equipment are priced in the same way as "other goods and services," discussed below.

(3) *Other goods and services.* Apparel, transportation, medical care, personal care, reading and recreation, and other goods and services are priced in about 4,000 stores and service establishments. Bureau agents personally price almost all of these items. Prices are obtained each month in the five largest cities and three or four times a year in the others (see schedule in appendix A). A limited number of important items, such as local transportation, is priced monthly in all cities.

Calculating the Index

Each time prices are collected in a city, they are compared with prices for the preceding period, and the percentage price change for each item is computed. This computation takes into account the importance of different kinds of stores: in cities where people buy more in independent than in chain stores; for example, independent store prices have more importance in the index.

At this point, price changes are combined with the expenditure information described earlier. As indicated, initially each item in the market basket has a dollar-and-cents value—or "expenditure weight"—which represents its importance in the spending of city wage earners' and clerical workers' families. Each of the 300 items actually priced has a weight equal to the total weight of all the items it represents in the index. For example, white bread represents all bread and plain rolls in the index; and expenditures for all of those "bread products" add up to the weight carried by white bread. Similarly, the weights for all priced



food items combined are about 30 percent of the total—the share of family spending that goes to food; and the weights for all priced items add up to the amount spent by families for the hundreds of items in the market basket.

Here is an illustration of the way in which these figures are combined with those on price changes: if the expenditure weight for pork chops were \$15 in September, a 3-percent increase in pork chop prices for October would add 45 cents to expenditures for pork chops, and the October expenditure weight would be \$15.45. Similar calculations are made for all items in each group such as food, and the new expenditure weights are added to get the new group total. The following example shows how this is done for items of pork:

Item	September expenditure weight	Percent price change	Amount added to weight by price change	October expenditure weight after price change
Pork chops.....	\$15	+3	\$0.45 ($15 \times .03$)	\$15.45
Hams.....	8	+1	.08 ($8 \times .01$)	8.08
Bacon.....	10	+2	.20 ($10 \times .02$)	10.20
Total.....	33		.73	33.73

How the Consumer Price Index Is Figured

[Note: All figures are hypothetical]

Item	If the September indexes (1947-49=100) were—	Based on expenditures weights of—	And the October expenditure weights were—	Then the average change in price would be—	And the October indexes (1947-49=100) would be—
				<i>Percent</i>	
Food.....	115.4	\$1,204	\$1,216.04	+1	¹ 116.6
Housing.....	114.8	1,280	1,305.60	+2	117.1
Apparel.....	105.8	388	399.64	+3	109.0
Transportation.....	127.7	440	440	0	127.7
Medical care.....	118.8	188	188	0	118.8
Personal care.....	112.1	84	84.42	+0.5	112.7
Reading and recreation.....	107.3	216	214.92	-0.5	106.8
Other goods and services.....	115.9	200	200	0	115.9
Total (all items).....	114.1	4,000	4,048.62	+1.2	115.5

¹ 115.4 plus 1 percent of 115.4.

The percentage change from the preceding period is then computed, as for individual items. The figures from the illustration, for example, indicate that the average change in pork prices was about 2 percent.

For each group the percentage change is then applied to the index number for the preceding period to get the new index number for that group. That is, suppose the food index for New York were 110 in September, and the New York expenditure weight for food in October showed a 2 percent increase over September; the October food index for New York then would be 112.2 (110 plus 2 percent of 110).

In the last step in making an index for each city, expenditure weights for all groups are combined and compared, as in the table on page 10, using the procedures already outlined.

The same principle is used in calculating the United States index. City expenditure weights, for each group and for the total, are so combined that each city has an importance proportionate to the population it represents in the index. New York City, for example, represents four times as many wage-earner and clerical-worker families as Detroit, and a price change of 2 percent in New York would have four times as much effect on the United States index as would the same change in Detroit.

Some Problems in Measuring Price Changes

Keeping the Items in the Index Constant

One of the difficult problems of price index-making is to price the same quantities and qualities of goods each time so that the index reflects *price change and nothing else*. But new articles come onto the market and become popular; others virtually disappear; and there are constant innovations in established products. Eventually, such changes produce far-reaching shifts in buying habits that require periodic general revisions of the index, as described in section III (p. 15), if adjustments are not made in the meantime. In any event, the Bureau must take account of minor market changes in the course of its pricing operations. In consequence, the index shows a larger or smaller price change than a comparison of prices for *strictly* comparable merchandise would show, but these differences are relatively minor and more or less offsetting, so far as can be determined.

The necessary changes are made gradually, in the following way:

(a) *Basic changes in quality or size of unit priced.* Some changes involve the substitution of articles which differ in quality from the articles they replace—nylon for rayon hose, for example. Fortunately, such changes rarely occur overnight, and there is usually a time at which both articles are on the market. However, when the original disappears, for index purposes the price for the substitute cannot be compared with the price of the original. To do so would be equivalent to saying that, because a housewife bought a pair of rayons for 75 cents one month and a pair of nylons for \$1.50 the next month, the price of rayon hose had doubled. So, in order to measure only the price change, the Bureau compares the price of the substitute article with its own price in the preceding period, and the percentage change shown by this comparison is used in computing the change in the index over the period.

In items subject to long-term changes in quality, such as the depreciation of housing and used cars, the Bureau uses specific statistical adjustments to compensate. However, satisfactory adjustments cannot be made for some persistent trends in quality (e. g., technological improvements in household appliances over the years) and their effect on the index cannot be estimated.

In addition, the unit size of a product priced for the index may change. For example, recently a canner discontinued packing peaches in No. 2 cans and packed instead the larger No. 2½ can. If the index were to reflect the change in price from a No. 2 can to a No. 2½ can, it would measure the change in the size of the can along with any change in price that had taken place. To be sure that the index measures only the price change in such instances, the substitution of one size for another is made in the same way as that for quality changes.

(b) *Introduction or deletion of items.* On occasion, completely new items must be priced or commodities which people no longer buy must be dropped from the index. In such cases the distribution of the expenditure weights among the various items in the index is adjusted to take account of the cost of the items that are added or dropped. Surveys show that families make such adjustments in their budgets, spending less for one kind of

goods in order to buy more of another. Accordingly, when such items as baby foods are added to the index, the expenditure weights of related food items are correspondingly reduced.

(c) *Weight changes.* As indicated earlier, for the year 1952 the index expenditure weights are based on the pattern of expenditures characteristic of the standard of living of wage and salary workers in United States cities. In calculating the index, the expenditure weights for individual items rise and fall as prices change. If, when prices change, families actually do continue to buy the same quantities of various goods and services, the expenditure basis of the index can remain unchanged for considerable periods of time. But, as prices and incomes change, families often buy more of some things and less of others. To keep the importance of items in the market basket approximately in agreement with their importance in family expenditures, periodic sample surveys are made to find out what is actually happening to family spending, so that index weights may be adjusted when necessary.

Price Collection Problems

One problem encountered in pricing for the index concerns the frequency with which certain prices can be obtained. The prices of some housing items are collected only once each year: real estate taxes and interest rates on mortgages change so slowly that more frequent collection is unnecessary. Other items—chiefly in food and apparel—are available in the stores only at certain seasons. In between, their price movements must be estimated on the basis of the best information available (e. g., the change in prices for fresh fruits not currently on the market is assumed to be the same as that for fresh fruits which can be priced). This procedure may result in some short-term differences between the estimates and actual prices (were they obtained); these are corrected when the items are actually priced.

Another pricing problem arises because certain goods—principally consumers' durable goods such as refrigerators and automobiles—are sometimes sold at prices different from those on the price tags. An accurate measure of the actual prices would require knowing exactly the terms of each transaction, which of course is impossible; therefore, the Bureau must rely

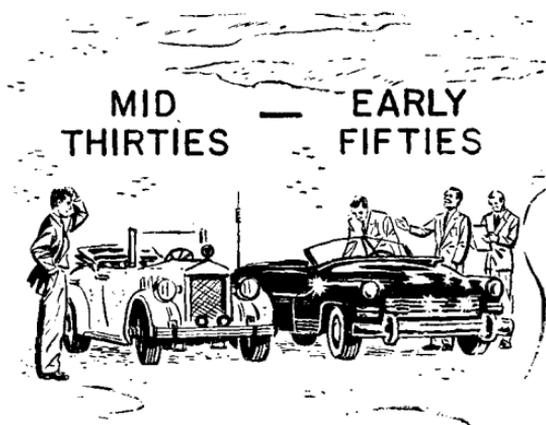
on the prices at which the goods are marked. The actual prices would be somewhat lower in times when supplies were plentiful, and somewhat higher when supplies were scarce. In the long run, however, the index will differ very slightly from an index based on transaction prices.

Other Problems

The very existence of the CPI depends on the voluntary cooperation of both consumers and merchants in responding to the Bureau's requests for information. Whenever information is obtained by asking questions of individuals, some of the answers contain some degree of inaccuracy. Bureau agents cannot always obtain from individual consumers the *exact* details of their expenditures, which may introduce slight errors into the market basket; nor can they always get from sellers *exactly* the prices charged for goods and services that meet the descriptions specified for pricing. Generally, these "errors" cancel each other out. In one or two instances which involve deliberate under- or over-statement (nearly all consumers under-report expenditures for alcoholic beverages, for example), the approximate magnitude can be estimated and adjustments are made accordingly.

Any statistic based on a "sample" of the various elements involved is bound to differ somewhat from one resulting from a survey of the *whole*. Modern sampling techniques make it possible to keep these differences—called "sampling errors"—at a minimum, thereby making unnecessary the extravagance of a complete enumeration, and most statistical measures are based on samples. In the case of the CPI, an absolutely perfect index would be based on the prices of *all* the transactions for *all* the articles bought each month by *all* the 18 million wage earners' and clerical workers' families in *all* 3,000 United States cities. The samples actually used in compiling the CPI were carefully and scientifically selected to accurately represent (1) the families whose price experience the index is designed to measure; (2) the articles which they purchase; (3) the cities where they live; and (4) the stores where they trade. The use of these samples places no serious limitations on the uses or the precision of the index, because the "sampling errors" that result can be measured and therefore controlled and, furthermore, they tend to be offsetting.

III. The Need for Periodic Revision



Periodic modernization is a requisite of good statistics, not confined to price indexes. This most recent revision is, in fact, the fourth in the history of the Consumer Price Index. Postwar surveys conducted in several cities prior to 1950 revealed that the products being bought by families were considerably different from those then in the market basket, which was based on family spending in the mid-1930's. Nor did the comparative importance of the various items in the market basket correctly reflect current consumer buying habits.

The index needed to be improved in other respects as well. It was limited to large cities and was therefore not representative of all United States cities. Economic conditions were very different after the war, and a postwar, rather than a prewar, base period was necessary to make the indexes more useful. The Bureau wished also to reexamine the procedures used in compiling the index, in the light of recent improvements in statistical techniques.

For these reasons, the Bureau in 1949 began a comprehensive program for revising the index, and the January 1953 index figures were the first to appear on the revised basis. In summary, the revision had the following results: (1) Cities of all sizes are represented in the CPI; (2) it is based on consumer buying habits in 1952; (3) it is calculated from prices for more items; (4) the

prices are collected in stores more widely representative of those patronized by city workers' families; (5) it is based on the average of prices in the more recent years 1947-49 as 100; (6) improved statistical methods were introduced. (Appendix C contains a more detailed comparison of the revised and unrevised indexes.)

Thus, the revision consisted primarily of modernizations and improvements, and the revised index is not basically different from earlier indexes. The earlier indexes have been converted to the new base (see appendix D) to form a continuous series beginning in 1913.

IV. Uses and Limitations



Extensive use of the Consumer Price Index led a congressional committee to term it, in 1951, the Government's "most important single statistic." Its most widely publicized use is in the automatic adjustment of wages under "escalator clauses" in collective bargaining agreements. Its use in collective bargaining is actually more widespread than this. Even where automatic escalator clauses are not used, the index is a factor in determining the wage rates of many workers. As a matter of fact, the index was initiated during World War I when rapid changes in living costs, particularly in shipbuilding centers, made such an index essential in wage negotiations.

The index is also used, both directly and indirectly, by Federal, State, and local government agencies in setting pay scales for their employees. In addition, both the Congress and the executive agencies of the Federal Government make wide use of the index as a guide in determining general economic policy, particularly with respect to wages, prices, and taxation.

Businessmen use the index in market analysis and sales and advertising campaigns: For example, in advertisements comparing the change in prices of a particular product with the change for other kinds of goods in the index. There are instances of the use of the index to adjust long-term leases for changes in prices, or even to adjust the amount of alimony payments and annuities!

Most of these uses are suggested by the basic nature of the index, as a measure of change in prices and purchasing power. This also points up the inappropriateness of its use for certain other purposes.

Under no circumstances can the index be used to measure changes in living *standards* or in total living *costs*, since both are responsive to many factors other than the changes in prices measured by the index. A family changes its standard of living according to its individual tastes and its individual income. So the standard of living may rise in the face of rising prices, for example, if incomes are rising faster; or it may fall if incomes are lagging behind. The CPI likewise does not measure changes in the total amount families spend for living, regarded by many as the "cost of living." The CPI measures only changes in the prices of goods and services; it does not include such costs as income taxes. In addition, the index market basket remains the same from month to month, while consumers actually do not buy the same things from season to season and year to year.

Nor can the index be used to measure differences in price levels between one place and another; it measures only time-to-time changes in the various places. A higher index for one city does not necessarily mean that prices are higher there than in another city with a lower index; it merely means that they have risen faster since the base period.

Most accurately, according to its definition, the index is used to measure the effect of price change on purchasing power (or on cost of living) of families or urban wage earners and clerical workers, on whose expenditures it is based. Lacking a better measure, it may be used similarly for other groups in the urban population, but such uses are subject to "errors of application," to the extent that the group's expenditures, incomes, and various other characteristics differ from those reflected in the index.

The risk of error in such applications of the index is greater in short periods of time than in long ones. A use of the index which would result in a substantial "error of application" in measuring month-to-month changes might still involve no appreciable error in measuring changes over a number of years—as from the bottom of a business cycle to the top, or from prewar to postwar. This is true because great changes such as those

in a pronounced swing of the business cycle or in a prolonged period of inflation or deflation penetrate to *all* parts of the economy and have considerable effect on prices paid by *all* consumers.

Users of the index should also recognize certain limitations on its precision which are common to statistical measures of this kind. The examples of problems encountered in making the CPI discussed earlier (p. 11) are typical of the ways in which an index based on an average of the observations and responses of samples of people will fall short of perfect accuracy. Limitations on the index have been examined by experts in economics and statistics, by users of the index, and by a congressional committee. The verdict of all these has, in general, been the same: that the index, though of course not perfect, is a satisfactory measure of what it sets out to measure and that it can be used with confidence for the purposes for which it was designed.

Appendix A

*Cities in which Prices are Collected for the Consumer Price Index, By Months in which They are Priced*¹

20

Cities	Pricing months											
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<i>All cities over 1,000,000</i>												
*New York, N. Y.-Northeastern New Jersey	x	x	x	x	x	x	x	x	x	x	x	x
*Chicago, Ill.	x	x	x	x	x	x	x	x	x	x	x	x
*Los Angeles, Calif.	x	x	x	x	x	x	x	x	x	x	x	x
*Detroit, Mich.	x	x	x	x	x	x	x	x	x	x	x	x
*Philadelphia, Pa.-Camden, N. J.	x	x	x	x	x	x	x	x	x	x	x	x
*Boston, Mass.	x			x			x			x		
*Pittsburgh, Pa.	x			x			x			x		
*Cleveland, Ohio		x			x			x			x	
*Washington, D. C.		x			x			x			x	
*Baltimore, Md.			x			x			x			x
*St. Louis, Mo.			x			x			x			x
*San Francisco, Calif.			x			x			x			x

Cities of 240,000-1,000,000

*Kansas City, Mo.....	x			x			x			x	
*Minneapolis-St. Paul, Minn.....	x			x			x			x	
*Portland, Oreg.....	x			x			x			x	
*Houston, Tex.....		x			x			x			x
*Scranton, Pa.....		x			x			x			x
*Seattle, Wash.....		x			x			x			x
*Atlanta, Ga.....			x			x			x		
*Cincinnati, Ohio.....			x			x			x		
Youngstown, Ohio.....			x			x			x		

Cities of 30,000-240,000

Canton, Ohio.....	x			x			x			x	
Charleston, W. Va.....	x			x			x			x	
Lynchburg, Va.....	x			x			x			x	
Evansville, Ind.....		x			x			x			x
Huntington, W. Va.-Ashland, Ky.....		x			x			x			x
Middletown, Conn.....		x			x			x			x
Madison, Wis.....			x			x			x		
Newark, Ohio.....			x			x			x		
San Jose, Calif.....			x			x			x		

See footnote at end of table.

*Cities in which Prices are Collected for the Consumer Price Index, By Months in which They are Priced*¹—Continued

Cities	Pricing months											
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<i>Cities under 30,000</i>												
Grand Forks, N. Dak.	x				x				x			
Madill, Okla.	x				x				x			
Pulaski, Va.	x				x				x			
Ravenna, Ohio.	x				x				x			
Camden, Ark.		x				x				x		
Garrett, Ind.		x				x				x		
Rawlins, Wyo.		x				x				x		
Shawnee, Okla.		x				x				x		
Anna, Ill.			x				x				x	
Glendale, Ariz.			x				x				x	
Grand Island, Nebr.			x				x				x	
Laconia, N. H.			x				x				x	
Lodi, Calif.				x				x				x
Middlesboro, Calif.				x				x				x
Sandpoint, Idaho.				x				x				x
Shenandoah, Iowa.				x				x				x

*Cities for which indexes will be published.

¹ Food, rent, and certain other items are priced monthly in all cities.

Appendix B

Items¹ Priced for the Consumer Price Index, and Their 1952 Relative Importance

Item	Relative importance	Item	Relative importance
ALL ITEMS	100.00	Dairy products	4.19
FOOD	30.08	Fresh milk, sold in stores and delivered	2.49
Cereals and bakery products	3.09	Milk, evaporated . . . . .	.29
Cereals:		Butter . . . . .	.56
Flour, wheat . . . . .	.56	Ice cream . . . . .	.34
Biscuit mix . . . . .	.16	American cheese . . . . .	.51
Corn flakes . . . . .	.10	Fruits and vegetables	4.52
Rolled oats . . . . .	.07	Fresh fruit:	
Corn meal . . . . .	.04	Oranges . . . . .	.31
Rice . . . . .	.08	Lemons . . . . .	.04
Bakery products:		Grapefruit . . . . .	.07
Bread, white	1.42	Apples . . . . .	.25
Soda crackers . . . . .	.17	Bananas . . . . .	.24
Vanilla cookies . . . . .	.49	Peaches . . . . .	.11
Meats, poultry, and fish	7.99	Grapes . . . . .	.09
Beef:		Strawberries . . . . .	.08
Round steak . . . . .	.98	Watermelons . . . . .	.18
Rib roast . . . . .	.18	Fresh vegetables:	
Chuck roast . . . . .	.65	Potatoes . . . . .	.53
Hamburger . . . . .	.72	Sweet potatoes . . . . .	.07
Pork:		Green beans . . . . .	.10
Pork chops . . . . .	.76	Cabbage . . . . .	.07
Smoked ham . . . . .	.65	Carrots . . . . .	.11
Bacon . . . . .	.81	Onions . . . . .	.10
Lamb, leg . . . . .	.21	Tomatoes . . . . .	.21
Veal cutlets . . . . .	.22	Pascal celery . . . . .	.12
Other meats:		Head lettuce . . . . .	.22
Frankfurters . . . . .	.79	Canned fruits:	
Canned luncheon meat . . . . .	.27	Orange juice, canned . . . . .	.19
Poultry—Frying chickens, dressed and ready-to- cook	1.17	Peaches, canned . . . . .	.17
Fish and seafood:		Sliced pineapple, canned . . . . .	.10
Fresh and frozen fin fish . . . . .	.31	Fruit cocktail, canned . . . . .	.09
Canned salmon . . . . .	.10	Canned vegetables:	
Canned tuna fish . . . . .	.17	Cream style corn, canned . . . . .	.13
		Peas, canned . . . . .	.15
		Tomatoes, canned . . . . .	.20
		Strained baby food . . . . .	.14

See footnotes at end of table.

Items¹ Priced for the Consumer Price Index, and Their 1952 Relative Importance—Con.

Item	Relative importance	Item	Relative importance
Fruits and vegetables—Con.		Food away from home.	4.60
Frozen fruits:		Restaurant meals:	
Orange juice, concentrate, frozen.	0.13	Luncheons.	4.60
Strawberries, frozen. . . . .	.03	APPAREL.	9.71
Frozen vegetables:		Men's apparel.	2.63
Peas, frozen. . . . .	.08	Topcoats. . . . .	.22
Green beans, frozen. . . . .	.05	Jackets. . . . .	.15
Dried fruits and vegetables:		Sweaters. . . . .	.06
Dried prunes. . . . .	.08	Suits, heavy. . . . .	.43
Navy beans. . . . .	.08	Suits, light wool. . . . .	.10
Other food bought to be prepared at home.	5.69	Suits, rayon. . . . .	.11
Partially prepared foods:		Slacks, rayon. . . . .	.05
Vegetable soup. . . . .	.40	Slacks, wool. . . . .	.15
Beans with pork. . . . .	.15	Trousers, work. . . . .	.21
Condiments and sauces:		Overalls. . . . .	.14
Sweet gherkins. . . . .	.23	Shirts, work. . . . .	.08
Tomato catsup. . . . .	.10	Gloves, work. . . . .	.05
Non-alcoholic beverages:		Shirts, sport. . . . .	.11
Coffee.	1.14	Shirts, business. . . . .	.19
Tea. . . . .	.12	Shorts, broadcloth. . . . .	.05
Cola drinks. . . . .	.33	Shorts, knit. . . . .	.17
Fats and oils:		Pajamas. . . . .	.06
Margarine. . . . .	.25	Socks, cotton. . . . .	.15
Lard. . . . .	.11	Socks, rayon. . . . .	.07
Vegetable shortening. . . . .	.31	Hats, felt. . . . .	.08
Salad dressing. . . . .	.19	Boys' apparel. . . . .	.48
Peanut butter. . . . .	.09	Suits, wool. . . . .	.11
Sugar and sweets:		Slacks, rayon. . . . .	.05
Sugar, white, granulated. . . . .	.37	Jackets. . . . .	.06
Corn syrup. . . . .	.12	Shirts, sport, woven. . . . .	.11
Grape jelly. . . . .	.13	Dungarees. . . . .	.10
Chocolate bars. . . . .	.28	Undershorts. . . . .	.05
Eggs, fresh.	1.26	Women's apparel.	3.58
Miscellaneous foods:		Coats, heavy wool, plain. . . . .	.38
Flavored gelatin dessert. . . . .	.11	Coats, wool, fur-trimmed ². . . . .	.09
		Coats, light weight wool. . . . .	.19

See footnotes at end of table.

Items ¹ Priced for the Consumer Price Index, and Their 1952 Relative Importance—Con.

Item	Relative importance	Item	Relative importance
Women's apparel—Con.		Footwear.....	1.50
Coats, muskrat ²	0.11	Oxford and ties, women's..	.17
Suits, wool.....	.28	Pumps, women's.....	.20
Suits, rayon.....	.09	Play shoes, women's.....	.15
Dresses, wool.....	.09	Street shoes, men's.....	.30
Dresses, cotton, street.....	.18	Work shoes, men's.....	.15
Dresses, rayon.....	.38	Children's shoes.....	.30
Housedresses, cotton.....	.14	Rubbers, men's dress.....	.08
Skirts, rayon.....	.10	Shoe repairs:	
Skirts, wool.....	.03	Half soles and heels,	
Blouses, rayon.....	.15	men's.....	.04
Sweaters, wool.....	.08	Heel lifts, women's.....	.11
Shorts.....	.03	HOUSING.....	32.02
Slips, nylon tricot.....	.08	Shelter.....	17.22
Slips, rayon.....	.12	Rent:	
Panties, rayon.....	.10	Residential rents.....	5.34
Girdles.....	.12	Other shelter:	
Brassieres.....	.11	Housing away from	
Nightgowns, rayon.....	.11	home.....	.37
Stockings, nylon.....	.46	Home owner expendi-	
Gloves, cotton.....	.04	tures:	
Handbags, fabric.....	.12	Sales prices of homes..	5.96
Girls' apparel.....	.68	Real estate taxes.....	.97
Coats.....	.18	Mortgage interest	
Dresses, cotton.....	.14	rates.....	1.52
Skirts, wool.....	.07	Property insurance	
Sweaters, cardigan wool..	.09	rates.....	.21
Panties.....	.12	Garage repaint job....	.14
Anklets, cotton.....	.08	Exterior house paint..	.25
Other apparel.....	.84	Contract price of re-	
Diapers.....	.19	painting dining	
Yard goods:		room.....	.25
Percale.....	.14	Paint brush.....	.30
Acetate taffeta.....	.04	Reshingling house	
Miscellaneous ³.....	.47	roof.....	.27

See footnotes at end of table.

Item	Relative importance	Item	Relative importance
SHELTER—Continued		Housefurnishings and equipment—Continued	
Home owner expenditures—Continued		Floor coverings:	
Replacing hot water heater.....	0.76	Rugs, wool.....	0.38
Kitchen cabinet sink, noninstalled.....	.13	Cotton scatter rugs.....	.06
Installed sink faucet.....	.30	Rugs, felt base.....	.12
Refinishing dining room floor.....	.16	Furniture:	
Lumber for porch flooring.....	.29	Living room suites.....	.55
Gas and electricity ⁴	1.90	Sofa beds.....	.17
Gas:		Dinette sets, wood.....	.13
Residential heating.....	.31	Bedroom suites.....	.54
Other than residential heating.....	.59	Bedsprings, coil.....	.06
Electricity.....	1.00	Mattresses, innerspring construction.....	.18
Solid fuels and fuel oil ⁴	1.28	Dinette sets, chrome.....	.21
Coal:		Household appliances:	
Anthracite.....	.24	Refrigerators, electric.....	.97
Bituminous.....	.50	Cook stoves, gas or electric.....	.51
Wood or prestologs.....	.03	Washing machines, electric.....	.53
Fuel oil.....	.51	Vacuum cleaners, electric.....	.22
Housefurnishings and equipment.....	6.65	Sewing machines, electric.....	.17
Textile furnishings:		Toasters, electric.....	.23
Sheets.....	.22	Other housefurnishings:	
Blankets, wool.....	.09	Pans, aluminum.....	.23
Bed spreads.....	.08	53-piece dinnerware sets.....	.16
Towels, bath.....	.07	Brooms.....	.10
Tablecloths.....	.03	Electric light bulbs.....	.05
Drapery fabrics.....	.20	Paper supplies.....	.23
Curtains, cotton and rayon.....	.16	Household operation.....	4.97
		Laundry soap.....	.64
		Dry cleaning.....	1.24
		Laundry services, finished and semifinished bundle service.....	.68

See footnotes at end of table.

Item	Relative importance	Item	Relative importance
Household operation—Con.		Hospital rates—Con.	
Automatic laundry service (launderette)	0.10	Semiprivate room	0.06
Residential telephone rates	1.08	Private room . . . . .	.06
Postage . . . . .	.26	Group hospitalization, monthly rate for family . . . . .	.90
Domestic service, day workers . . . . .	.54	Prescriptions:	
Residential water rates . . . . .	.33	Capsule, non-narcotic . . . . .	.09
Ice (delivered) . . . . .	.10	Liquid, narcotic . . . . .	.18
TRANSPORTATION	11.00	Penicillin . . . . .	.11
Automobiles, new	2.83	Multiple vitamin concentrates . . . . .	.20
Automobiles, used	1.97	Aspirin, unbranded . . . . .	.18
Automobile repairs	1.10	Milk of magnesia . . . . .	.06
Tires . . . . .	.35	PERSONAL CARE	2.12
Gasoline	2.25	Barber and beauty shop services:	
Motor oil, reg. . . . .	.21	Men's hair cut . . . . .	.59
Automobile insurance . . . . .	.81	Permanent wave . . . . .	.13
Registration fees . . . . .	.28	Shampoo and wave set . . . . .	.17
Local public transportation . . . . .	.91	Toilet goods:	
Railroad coach fares . . . . .	.29	Toilet soap . . . . .	.21
MEDICAL CARE	4.71	Cleansing tissues . . . . .	.14
Physicians' services:		Toothpaste . . . . .	.21
Obstetrical case . . . . .	.16	Shampoo . . . . .	.11
Appendectomy . . . . .	.16	Shaving cream . . . . .	.06
Tonsillectomy . . . . .	.08	Home permanent wave refill . . . . .	.04
Office visit . . . . .	.67	Face powder . . . . .	.13
Home visit . . . . .	.67	Face cream . . . . .	.13
Dentists' fees (usual charge for service to an adult):		Razor blades . . . . .	.14
Filling . . . . .	.64	Sanitary napkins . . . . .	.06
Extraction . . . . .	.16	READING AND RECREATION	5.37
Optometrists' fees:		Radios, table model . . . . .	.38
Eyeglasses—complete, including examination . . . . .	.27	Television sets . . . . .	.99
Hospital rates:		Television repairs . . . . .	.04
Men's pay ward . . . . .	.06		

See footnotes at end of table.

Item	Relative importance	Item	Relative importance
Motion picture admissions:		OTHER GOODS AND	
Adult.....	1.14	SERVICES.....	4.99
Child.....	.28	Cigarettes.....	1.73
Toys (catalog prices).....	.32	Cigars.....	.14
Sporting equipment (catalog prices).....	1.29	Beer.....	1.37
Newspapers.....	.93	Whiskey.....	.92
		Miscellaneous expenses ⁵.....	.83

¹ In some cases more than one specification is priced to represent a given item.

² Not priced in certain cities where, due to climate, they were not important in family expenditures.

³ Family expenditures for gifts of "other apparel," pins, needles, thread, zippers, yarn, dyeing, dressmaker, tailor, watch repairs, adults' jewelry, etc., are represented in the index by the weighted average of prices for all priced items in the total apparel group.

⁴ Because of considerable variation between cities and regions in the type of fuel used, all fuels are not priced in each city.

⁵ Family expenditures for nonmortgage interest, bank service charges, funerals, legal services, real estate not used for family, and raising own food are represented in the index by the weighted average of all priced items.

Appendix C

Basis of the Consumer Price Index Before and After the 1950 Adjustment and After the 1953 Revision¹

	Old Index	Adjusted Index*	Revised Index
Base period	1935-39	1935-39	1947-49
Expenditure basis of the index.	Average expenditures of families of wage earners and clerical workers in 42 large cities in 1934-36.	Average postwar expenditure pattern of wage earners' and clerical workers' families in large cities (based on postwar expenditure surveys in 7 cities and other data).	Average 1952 expenditure pattern characteristic of the standard of living of urban wage and clerical workers' families (based on 1950 expenditure survey in 91 cities, adjusted to 1952).
Population coverage:			
Family size	Two or more persons	No change	No change.
Employment:			
Occupation of chief earner or head of family.	Wage earner or clerical worker	No change	No change.
Length of employment	At least 1,008 hours in 36 weeks	26 weeks	No specific requirement, but major portion of family head's income must be from employment as wage earner or nonsupervisory clerical worker.

See footnotes at end of table.

Basis of the Consumer Price Index Before and After the 1950 Adjustment and After the 1953 Revision—Continued

	Old Index	Adjusted Index*	Revised Index
Population coverage—Con. Income	Minimum of \$500 (at least \$300 for chief earner). Maximum for salaried workers: \$2,000 annually or \$200 in any one month. No upper limit on earnings of wage earners or total family income. Less than $\frac{1}{4}$ of income could be from interest, dividends, rents, gifts, etc. Families on direct or work relief excluded.	Family income under \$10,000 after taxes. No lower income limit except that families with no income from wages or salaries were excluded.	No change.
Price basis of index: Frequency of price collection.	Food prices monthly in 56 cities; prices of other goods and services monthly in 10 cities, quarterly in 24 others, for a monthly total of 18.	No change.....	Foods and rents, and a limited number of other important items priced monthly in 46 cities; other goods and services in 17 or 18 cities each month, with complete coverage of all at least once every 4 months.

Number of cities.....	34 large cities (none less than 50,000 population; only one with 1950 population of less than 100,000). Food prices in 22 additional cities.	No change.....	Sample of U. S. urban places: 46 cities, ranging in size from about 2,500 to New York City, with about 9,000,000. See complete list in appendix A.
Commodity coverage:			
No. of items.....	About 200.....	About 225.....	About 300.
Food.....	51 items.....	60 items.....	90 items.
Rent.....	37,000 dwellings.....	52,000 dwellings.....	32,000 dwellings.
Apparel.....	62 items.....	66 items.....	75 items.
Housefurnishings.....	25 items.....	29 items.....	35 items.
Fuel.....	10 items.....	11 items.....	10 items.
Other.....	51 items.....	58 items.....	90 items.
Important changes:			
Food away from home...	Estimated to have same price movement as foods bought for home consumption.	No change.....	Restaurant meals priced.
Used cars.....	Estimated to have same price movement as new cars.	No change.....	Used cars priced.
Rent.....	Based on rents for same housing from one price collection to next.	Adjusted for "new unit bias" which had arisen because index failed to take account of the higher level at which housing being rented for first time came onto the market during war and postwar rent controls and housing shortages.	No change.

See footnotes at end of table.

Basis of the Consumer Price Index Before and After the 1950 Adjustment and After the 1953 Revision—Continued

	Old Index	Adjusted Index*	Revised Index
Commodity coverage—Con. Important changes—Con. Home ownership costs . . .	Home purchase not included in index. Maintenance costs estimated to have same price movement as rents.	No change	Home purchase included and priced. Maintenance items priced.

* The 1953 revision was anticipated in some respects by the decision to make certain interim adjustments in the index as a result of the "emergency" immediately following the outbreak of hostilities in Korea; the CPI being a key measure in the wage and price control program authorized by Congress in the fall of 1950, the Bureau felt it should not postpone improvements in the index for which the necessary information was available. In effect, the adjusted index was an intermediate step in the comprehensive revision completed in 1953.

Appendix D

Consumer Price Index, United States: All Items, Annual Averages, 1913-52
 [1947-49=100]¹

Year	Index	Year	Index
1913.....	42.3	1933.....	55.3
1914.....	42.9	1934.....	57.2
1915.....	43.4	1935.....	58.7
1916.....	46.6	1936.....	59.3
1917.....	54.8	1937.....	61.4
1918.....	64.3	1938.....	60.3
1919.....	74.0	1939.....	59.4
1920.....	85.7	1940.....	59.9
1921.....	76.4	1941.....	62.9
1922.....	71.6	1942.....	69.7
1923.....	72.9	1943.....	74.0
1924.....	73.1	1944.....	75.2
1925.....	75.0	1945.....	76.9
1926.....	75.6	1946.....	83.4
1927.....	74.2	1947.....	95.5
1928.....	73.3	1948.....	102.8
1929.....	73.3	1949.....	101.8
1930.....	71.4	1950.....	102.8
1931.....	65.0	1951.....	111.0
1932.....	58.4	1952.....	113.5

¹ The CPI, formerly calculated on the base 1935-39=100, has been converted to the new base (1947-49=100) in compliance with recommendations of the U. S. Bureau of the Budget, Office of Statistical Standards. Index series on the new base for "all items," food, and rent, are available for periods from 1913 to date; indexes for other groups from January 1947 to date. Beginning January 1953 the index structure has been revised.

Appendix E

Selected Bibliography

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