



Spending habits of urban consumers and "blue-collar" consumers living in urban areas, 1984 and 2015

By Jonathan Church

Each month, the Bureau of Labor Statistics produces and publishes the Consumer Price Index (CPI). The CPI is not one index, but hundreds of indexes. A particular CPI index—among the hundreds of published indexes—is specified by its population, geographic scope, and item coverage. There are several geographic regions and hundreds of item categories, but only two population sets: the urban population, and a subset of the urban population consisting of wage earners and clerical workers.

The CPI for all urban consumers (CPI-U) is a measure of price change for urban consumers that reflects the expenditure patterns of an average consumer living in an urban area—approximately 89 percent of the U.S. population. The CPI-U population “covers households in all areas of the United States except people living in rural nonmetropolitan areas, in farm households, on military installations, in religious communities, and in institutions such as prisons and mental hospitals.”¹ Urban consumers include professionals, the self-employed, the unemployed, and retired people, as well as urban wage earners and clerical workers.² The CPI for urban wage earners and clerical workers (CPI-W) is a measure of price change for urban consumers that reflects the expenditure patterns of urban consumers who live in a household where more than one-half of the household’s income originates from clerical or wage occupations, and at least one of the household’s earners have been employed for 37 weeks or more during the previous 12 months.³ The CPI-W represents about 28 percent of the U.S. population. In short, the CPI-W is a measure of price change for ‘blue-collar’ workers living in urban areas, whereas the CPI-U measures price change for everyone in an urban area.

In order to be a measure of price change, the CPI must be based on a sample of prices. The sample of prices collected, and the stores from which prices are collected, are the same for both the CPI-U and the CPI-W. The difference between the two indexes lies in the expenditure data used to weight the prices. CPI-U prices are weighted by the expenditures of all urban consumers. CPI-W prices are weighted by the expenditures of a subset of this group, wage earners or clerical workers (blue-collar consumers) in urban areas. Thus, although the CPI-U and CPI-W reflect price patterns using prices collected from the same stores for the same items, the CPI-U reflects expenditure patterns for all urban consumers whereas the CPI-W reflects expenditure patterns for a subset of all urban consumers (i.e. urban wage earners and clerical workers). It is not prices, but differences in budget allocation, that account for differences in how the CPI-U and CPI-W indexes change over time, where budget allocation is the portion of total expenditures allocated to a particular item. For example, the typical ‘blue collar’ consumer spends a higher proportion of his budget on food than does a typical urban consumer.

This **Beyond the Numbers** article analyzes the difference in spending patterns between all urban consumers and wage earners and clerical workers (blue-collar consumers) in 1984 and 2015. The analysis sheds light on how budget allocations by the typical urban consumer compare with budget allocations by the typical blue-collar consumer living in an urban area. It illustrates these differences for major expenditure categories, as well as more specific categories of general interest.

Data

The budget allocations reflected in relative importance tables are based on data collected in the Consumer Expenditure (CE) survey conducted by the U.S. Census Bureau. The CE survey collects data on the dollar amount people spend on a broad range of goods and services. About 33,500 individuals and families participate in the CE survey, which consists of regular 2-week diary entries and quarterly interviews conducted over a 2-year period.

Starting in 1940, the CPI introduced updated data on expenditures into index calculation approximately every 10 years. The CPI would then update expenditure weights every year following based on relative price change until the next weight update. In January 2002, biennial updates were introduced.

Relative importance data are organized into tables that illustrate the breakdown of expenditures across item categories on a percentage basis. For example, in 2015, urban consumers spent approximately 15 percent of total expenditures on food and beverages.⁴ The data in relative importance tables can be used to examine changes in

the composition of consumer purchases over time.⁵ In particular, this article examines the changes in composition over the course of 30 years by comparing relative importance data in 1984 with relative importance data in 2015. It compares these data in both years for each of the CPI-U and CPI-W populations. In so doing, it provides insight into the relative importance of expenditures on various items for each of the two population sets. The article thus provides a picture of how consumers allocated their budget in 1984, and how they allocated their budget in 2015.

The resulting portrait of consumer spending patterns provides insight on how the consumer budget has evolved. For example, as the economy has grown over the last 30 years, consumers have reduced the portion of their budget spent on basic items such as food, energy, and clothing, while increasing the portion spent on recreation. Moreover, as the population's life expectancy continues to rise, a larger share of the budget is spent on medical care, compared with the portion spent 30 years ago.⁶ Finally, differences in expenditures across the CPI-U and CPI-W population lend some insight into the budget priorities of both populations. For example, although both populations have experienced a large decline in tobacco expenditures, the typical blue-collar consumer in an urban area still spends a larger share of his or her budget on tobacco than the typical urban consumer. These findings are explored in more detail below.

Results

Budget allocations for urban consumers have changed over 30 years. To highlight these changes, we first examine the general categories of consumer spending within the CPI aggregation structure. Then we take a selective look at some more granular categories of expenditure.

Table 1 shows the budget allocations of consumers across the eight major expenditure categories in the CPI structure. By examining table 1, one can see that food and beverages, apparel, transportation, and other goods and services all experienced dramatic percentage drops in the portion of the consumer's dollar allocated to these categories, relative to housing, medical care, and recreation. For the typical urban consumer, food and beverages went from constituting nearly 20 percent of their budget in 1984 to constituting just under 15 percent of their budget in 2015. Consumer budgets for apparel decreased to 3 percent in 2015, compared with 5 percent in 1984. Transportation's allocation in the urban consumer's budget declined from 22 percent to 15 percent. Other goods and services saw their place in the consumer budget decline from 5 percent (in 1984) to 3 percent (in 2015). The blue-collar urban consumer saw similar drops. For the CPI-U and CPI-W populations, the drops in budget allocation were roughly identical for food and beverages and transportation, but blue-collar urban consumers experienced a smaller dip in their allocations to apparel and other goods and services.

For those items that increased, both the CPI-U and CPI-W populations saw increases in their budget allocations to housing, medical care, and recreation. Both the CPI-U and CPI-W populations saw the largest share increase to recreation (approximately 35 percent for both), followed by medical care and housing.⁷ Overall, the budget allocation increases demonstrate that both the CPI-U and CPI-W population spent more of their budget on recreational pursuits in 2015 than they did in 1984. The CPI-U population saw a greater increase in its budget allocation to medical care than did the CPI-W population, while the CPI-W population saw a greater increase in its budget allocation to housing than did the CPI-U population. (See table 1.)

Table 1. Share of budget allocation of major categories of spending by the CPI-U and CPI-W populations, 1984 and 2015 (In percent)

Categories	CPI-U		Percent change	CPI-W		Percent change
	1984	2015		1984	2015	
Food and beverage	19.80	14.97	-24.37	21.27	16.20	-23.83
Housing	37.7	42.24	12.02	34.95	40.73	16.55
Apparel ⁽¹⁾	5.06	3.10	-38.72	5.00	3.32	-33.63
Medical care	6.27	8.38	33.59	5.57	7.04	26.34
Transportation	21.63	15.26	-29.45	24.13	16.97	-29.65
Entertainment ⁽²⁾	4.22	(2)	35.81	3.92	(2)	34.26
Recreation ⁽²⁾	(2)	5.73	35.81	(2)	5.27	34.26
Education and communication	(2)	7.15	(2)	(2)	7.02	(2)
Other goods and services	5.32	3.18	-40.27	5.16	3.44	-33.21

⁽¹⁾ 1984 data includes appareal upkeep.

⁽²⁾ In January 1998, a CPI revision was introduced whereby the index for "entertainment" was discontinued and two new indexes were created: "education and communication" and "recreation." In this table, "recreation" and "entertainment" are treated as conceptually equivalent.

Source: U.S. Bureau of Labor Statistics.

Table 2 shows the budget allocations of consumers across the volatile categories of food and energy, compared with all items less food and energy. One can see in table 2 that, for both the CPI-U and CPI-W populations, the percentage of the budget allocated to food and energy has declined significantly. The drop in both categories was larger for the typical urban consumer than it was for the typical blue-collar urban consumer. The opposite result occurred for all items less food and energy. Both the CPI-U and CPI-W populations experienced increases in expenditures on non-food and non-energy items of approximately 13 percent from 1984 to 2015, as can be seen in table 2 below.

Table 2. Share of budget allocation for food, energy, and all items less food and energy by the CPI-U and CPI-W populations, 1984 and 2015 (In percent)

Categories	CPI-U		Percent change	CPI-W		Percent change
	1984	2015		1984	2015	
Food	18.71	14.02	-25.10	20.10	15.32	-23.78
Energy	11.47	6.82	-40.55	12.06	8.32	-30.98
All items less food and energy	69.82	79.17	13.39	67.84	76.36	12.55

See footnotes at end of table.

Source: U.S. Bureau of Labor Statistics.

Table 3 examines the breakdown in CPI-U and CPI-W expenditures between commodities and services. Both the CPI-U and CPI-W populations experienced a shift in their budget away from commodities and toward services, with the CPI-W population seeing a slightly larger increase of 35 percent in the budget allocation to services, compared with 31 percent for the CPI-U population. The differences arise in part from the fact that the blue-collar consumer devoted a smaller share of his or her budget to services in 1984 than did the typical urban consumer, and that there was a slight narrowing of the difference between the CPI-U and CPI-W allocations to services from 1984 to 2015. These data show that both the CPI-U and CPI-W populations are fully immersed in the service economy. (See table 3.)

Table 3. Share of budget allocation for commodities and services by the CPI-U and CPI-W populations, 1984 and 2015 (In percent)

Categories	CPI-U		Percent change	CPI-W		Percent change
	1984	2015		1984	2015	
Commodities	51.81	36.86	-28.86	55.52	39.95	-28.05
Services	48.2	63.14	31.02	44.48	60.06	35.01

Source: U.S. Bureau of Labor Statistics.

One of the more notable budget reallocations over the last 30 years has been in housing, in particular, in the allocation of the consumer budget to rent and owners' equivalent rent.⁸ The overall change in the allocation of the budget to shelter has been relatively similar for the CPI-U and CPI-W consumers, though larger overall for the CPI-W. Within shelter, however, there are stark differences. But the CPI-U and CPI-W populations have experienced substantial increases in their allocation to owners' equivalent rent, given the rise in homeownership rates over the last 30 years. But the rise for the CPI-U population was much larger than for the CPI-W population (76 percent compared with 57 percent, respectively). Moreover, blue-collar consumers have seen their allocation to rent almost double (89 percent), compared with a much smaller increase in the share to rent (25 percent) for the typical urban consumer. (See table 4.)

Table 4. Share of budget allocation for shelter, rent or owners' equivalent rent by the CPI-U and CPI-W populations, 1984 and 2015 (In percent)

Categories	CPI-U		Percent change	CPI-W		Percent change
	1984	2015		1984	2015	
Shelter	21.79	33.15	52.14	19.95	31.56	58.24%
Rent	6.2	7.73	24.77	5.77	10.89	88.55
Owners equivalent rent	13.73	24.23	76.48	12.64	19.87	57.19

Source: U.S. Bureau of Labor Statistics.

As noted above, the allocation to food and beverages has declined precipitously for the CPI-U and CPI-W population. Similarly, the proportion of the budget allocated to apparel and transportation has declined, while the budget allocation to medical care and recreation has increased dramatically. The decline in the portion of the budget allocated to food and beverages has been driven mainly by a drop in the allocation to grocery items. In 1984, the CPI-U population spent approximately 13 cents out of every dollar on grocery items (food at home),

while the CPI-W population spent approximately 14 cents. In 2015, those numbers had declined to roughly 8 cents and 9 cents on the dollar for the CPI-U and CPI-W populations, respectively. Thus, the typical urban consumer saw a 35-percent drop in his or her budget allocation to groceries, while the typical blue-collar urban consumer saw a similarly large drop of 31 percent. Moreover, large declines in budget allocation were seen across the full spectrum of grocery categories, with double-digit percentage declines in each of the six main grocery categories (see table 5) in the CPI aggregation structure, for both the CPI-U and CPI-W populations.

Meanwhile, the budget allocation to food away from home had a smaller decline, compared with that to groceries. The CPI-U population decreased its budget allocation to food away from home (restaurants, delis, takeout, etc.) by about 6 percent, while the CPI-W population reduced its budget share to food away from home by about 8 percent. As is true with other categories, this does not necessarily mean that people spend less money on going out to eat today, compared to 1984, only that the proportion of their budget devoted to eating out is less. In addition, the typical urban consumer saw a larger drop in budget share to groceries than the typical blue-collar urban consumer, while the typical blue-collar urban consumer saw a larger drop in budget share to food away from home than the typical urban consumer. (See table 5.)

Table 5. Share of budget allocation for major grocery items by the CPI-U and CPI-W populations, 1984 and 2015 (In percent)

Categories	CPI-U		Percent change	CPI-W		Percent change
	1984	2015		1984	2015	
Food at home	12.58	8.23	-34.59	13.63	9.37	-31.23
Cereal and bakery products	1.71	1.10	-35.79	1.86	1.26	-32.22
Meats, poultry, fish and eggs	3.97	1.88	-52.76	4.36	2.29	-47.59
Dairy and related products ⁽¹⁾	1.64	0.85	-48.45	1.78	0.94	-47.38
Fruits and vegetables	1.92	1.40	-27.21	1.95	1.52	-22.06
Nonalcoholic beverages and beverage materials ⁽²⁾	1.36	0.98	-28.37	1.54	1.18	-23.80
Other food at home ⁽³⁾	3.34	2.03	-39.11	3.69	2.20	-40.28
Food away from home	6.13	5.79	-5.60	6.47	5.94	-8.07

⁽¹⁾ In 1984, this category is identified as "dairy products" and in 2015 it is identified as "diary and related products."

⁽²⁾ In 1984, this category is identified as "nonalcoholic beverages" and was included in "other food at home" and in 2015 it is identified as "nonalcoholic beverages and beverage materials" and listed as a category by itself, separate from "other food at home."

⁽³⁾ In 1984, nonalcoholic beverages was included as part of "other food at home."

Source: U.S. Bureau of Labor Statistics.

A review of changes in expenditures patterns across broad categories of consumer spending shows a drop in budget allocation for both the CPI-U and CPI-W consumer to basics such as groceries, energy, transportation, clothing, and miscellaneous goods and services. Conversely, consumers spend a greater portion of their budget on housing, medical care, and recreation. A much larger portion of the budget is spent on services, while the allocation to commodities has sharply declined.

We now examine changes in a select set of more specific categories of consumer spending. One prominent change is the decline in smoking and alcohol consumption as a proportion of the budget for both populations. The CPI-W population still spends more of its budget on smoking than does the CPI-U population, while the CPI-U population now spends more of its budget on alcohol consumption than does the CPI-W population (unlike in

1984). But both populations now spend less of their budget on both tobacco and alcohol (which does not necessarily mean there has been an absolute decline in dollars spent on their consumption).

Tobacco is a component of other goods and services. Personal care is the other main category within other goods and services).⁹ Personal care includes products for hair, dental, shaving, toiletry, and cosmetic purposes, as well as services such as haircuts and beauty parlor services. In 2015, personal care also included miscellaneous items such as legal services, funeral expenses, dry cleaning, and financial services. These miscellaneous items account for the increase in the personal care budget for the CPI-U and CPI-W populations. While personal care products and services have declined as a percentage of the consumer budget, the overall personal care budget has increased due to the inclusion of legal services, funeral expenses, and other miscellaneous personal services (and miscellaneous personal goods). The CPI-U population saw an increase in personal care from 1.9 percent in 1984 to 2.5 percent in 2015. The CPI-W population saw an increase in personal care from 1.9 percent in 1984 to 2.4 percent in 2015.

As already noted, expenditures on medical care have seen an overall increase by both populations. Within medical care, expenditures on medical care commodities by the CPI-U population have risen from about 1 percent of the budget in 1984 to 1.8 percent in 2015; a similar increase by the CPI-W population saw expenditures on medical care commodities rise from about 0.9 percent of the budget in 1984 to 1.5 percent in 2015. Medical care services expenditures expanded from 5.2 percent of the budget in 1984 to 6.6 percent of the budget in 2015 for the CPI-U population, and from 4.6 percent in 1984 to 5.5 percent in 2015 for the CPI-W population. This increase in the two largest subcategories of medical care corresponds with a general rise in life expectancy and a general rise in healthcare expenditures related at least in part to the growth in importance of the health care industry in the contemporary economy.

Finally, another change that has affected the consumer budget is the increase in recreation spending. In 1984, the major group category "entertainment" included reading materials, sporting goods, toys, pet products, photography, hobbies, admissions, fees for participant sports, and other entertainment services. Televisions were included in household furnishings and operations in 1984, but were included in "recreation" in 2015. (For purposes of this article, recreation is treated as conceptually the same as the category called entertainment in 1984.) In 2015, recreation also included reading materials, sporting goods, toys, pet products, and photography. But recreation also included televisions; cable and satellite; video discs and other media; audio equipment; and audio discs, tapes, and other media. As already noted in table 1, the typical urban consumer increased his or her budget allocation to recreation from 4.2 percent to 5.7 percent, while the typical blue-collar urban consumer saw his or her budget allocation increase from 3.9 to 5.3 percent. An important part of this increase can be attributed to the inclusion of cable and satellite television and radio services, which, in 2015, constituted 1.5 percent of the CPI-U budget and 1.7 percent of the CPI-W budget. Admission fees also had allocation increases, while other categories such as reading materials and sporting goods had declines.

Summary

The composition of the consumer budget has noticeable changes over the last 30 years. This article has highlighted the changes at broad levels and a selective set of detailed categories such as tobacco, alcohol, and personal care. Both the typical urban consumer and the typical blue-collar urban consumer have dramatically decreased their budget allocations to food and beverages, apparel, transportation, and other goods and services while increasing the share of their budget to housing, medical care, and recreation. For both the CPI-U and CPI-W

populations, the percentage of the budget allocated to food and energy has declined significantly. Both the CPI-U and CPI-W populations dramatically reallocated their budget from commodities to services. Moreover, the CPI-U and CPI-W populations have witnessed substantial increases in their allocation to owners' equivalent rent; this is not surprising given the rise in homeownership rates over the last 30 years. But the rise for the CPI-U population was much larger than for the CPI-W population. Moreover, blue-collar consumers have seen their allocation to rent almost double, compared with a much smaller increase in the share to rent for the typical urban consumer. In 1984, the CPI-U population spent approximately 13 cents out of every dollar on grocery items, while the CPI-W population spent approximately 14 cents. In 2015, those numbers had declined to roughly 8 cents and 9 cents on the dollar for the CPI-U and CPI-W populations, respectively.

Moreover, there has been a noticeable decline in the budget allocated to smoking and alcohol consumption for both populations. The CPI-W population still spends a greater proportion of its expenditures more on smoking than does the CPI-U population, while the CPI-U population now spends more on alcohol consumption than does the CPI-W population. But both populations have seen tobacco and alcohol decline as a proportion of their total budget. While personal care products and services have declined as a percentage of the consumer budget, the overall personal care budget has increased due to the inclusion of legal services, funeral expenses, and other miscellaneous personal services. Finally, the portion of the consumer budget spent on recreational pursuits has risen over the last 30 years for both the CPI-U and CPI-W consumer.

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NOTES

¹ For more information on the Consumer Price Index for all urban consumers (CPI-U) and urban wage earners and clerical workers (CPI-W), see Part I. Overview of the CPI, in *BLS Handbook of Methods* (U.S. Bureau of Labor Statistics), p.2, <https://www.bls.gov/opub/hom/pdf/homch17.pdf>.

For more information on an experimental index for the elderly, which is unpublished but available upon request please contact the CPI information office by email: cpi_info@bls.gov or telephone (202) 691-7000.

² Ibid.

For more information on buying habits, see CPI FAQs, "Whose buying habits does the CPI reflect"? (U.S. Bureau of Statistics), https://www.bls.gov/cpi/questions-and-answers.htm#Question_6.

³ Ibid.

⁴ The data reflect relative importance tables produced each December and updated every 2 years based on new expenditure data.

⁵ For more information on how consumers spent their money in 2015, see table 1, Relative importance of components in the Consumer Price Indexes: U.S. city average, December 2015 (U.S. Bureau of Labor Statistics), <https://www.bls.gov/cpi/tables/relative-importance/2015.txt>.

For a complete portrait of the consumer budget in 1984, contact the author for a listing of the relative importance data in 1984.

⁶ "Life expectancy at birth, total (years)," The World Bank, <http://data.worldbank.org/indicator/SP.DYN.LE00.IN?locations=US>.

Also see, "2010 Census shows nation's population is aging" (U.S. Census Bureau, May 2011), https://www.census.gov/newsroom/releases/archives/2010_census/cb11-cn147.html.

⁷ In January 1998, a CPI revision was introduced whereby the index for "entertainment" was discontinued and two new indexes were created: "education and communication" and "recreation." In this article, "recreation" and "entertainment" are treated as conceptually equivalent. However, while the categories overlap in their scope, recreation in 2015 is a more expansive category. In 1984, the entertainment index consisted generally of reading material, sporting goods, toys, photographic supplies and equipment, and pet expenses. In 2015, the recreation index consisted generally of the categories included in entertainment in 1984, as well as certain video and audio products like cable and satellite television.

⁸ The index for owners' equivalent rent is a measure of change in the rent that a homeowner would receive if he or she rented out his home. It is a measure of change in the price of shelter services provided by his or her home. For more information on owners' equivalent measure, see Part II. Construction of the CPI, in *BLS Handbook of Methods* (U.S. Bureau of Labor Statistics), p.21, <https://www.bls.gov/opub/hom/pdf/homch17.pdf>.

⁹ In 1984, other goods and services also included categories in education such as college tuition and school supplies; in 1998, these items were moved to a new major group category called education and communication.

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