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Quality Adjustment in the CPI

The CPI is calculated using prices for a fixed basket of goods and services through time. While the basket is periodically revised to reflect changing consumer expenditures, some items being priced in the sample come and go from the marketplace, making collection of these prices from month to month difficult. When an item is no longer available in the marketplace, a similar replacement item is selected. Often there are no similar items from which to choose, and as a result, a less comparable item is selected, potentially introducing quality change and an associated price differential into the index.

The hedonic quality adjustment method removes any price differential attributed to a change in quality by adding or subtracting the estimated value of that change from the price of the old item. Hedonic quality adjustments for rent and owners equivalent rent are used primarily to adjust for the age of a rental unit, and for utility adjustments.

More information on hedonic quality adjustment may be found on our page containing responses to [frequently asked questions](#).

Publications, Research and Other Documentation

- Information on age bias adjustments for shelter can be found in [Updating the Housing Age-Bias Regression Model in the CPI \(PDF\)](#).
- Information on shelter utility quality adjustments can be found in [How the CPI measures price change for Owner's equivalent rent of primary residence \(OER\) and Rent of primary residence \(Rent\)](#).
- Information on both age bias and utility quality adjustments can be found in [Updating the rent sample for the CPI housing survey](#).
- Information on hedonic research in the CPI and PPI can be found in [A Review of Hedonic Price Adjustment Techniques for Products Experiencing Rapid and Complex Quality Change](#).

Display records

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Quality Adjustment Methodology List

| ELI | Entry Level Item (ELI) Title | Quality Adjustment Method |
|-------|---|---------------------------|
| AA011 | Men's suits | Hedonic adjustments |
| AA012 | Men's sport coats and tailored jackets | Hedonic adjustments |
| AA013 | Men's outerwear | Hedonic adjustments |
| AA021 | Men's underwear, hosiery, nightwear, and swimwear | none |
| AA022 | Men's accessories | none |
| AA023 | Men's active sportswear | none |
| AA033 | Men's shirts, sweaters, and vests | Hedonic adjustments |
| AA041 | Men's pants and shorts | Hedonic adjustments |
| AB011 | Boys' outerwear | Hedonic adjustments |
| AB012 | Boys' shirts and sweaters | Hedonic adjustments |

| ELI | Entry Level Item (ELI) Title | Quality Adjustment Method |
|------------|--|----------------------------------|
| AB013 | Boys' underwear, nightwear, hosiery, accessories, & swimwear | none |
| AB014 | Boys' suits, sport coats, and pants | Hedonic adjustments |
| AB015 | Boys' active sportswear | none |
| AC011 | Women's outerwear | Hedonic adjustments |
| AC021 | Women's dresses | Hedonic adjustments |
| AC031 | Women's tops | Hedonic adjustments |
| AC032 | Women's skirts, pants, and shorts | Hedonic adjustments |
| AC033 | Women's suits and suit coordinates | Hedonic adjustments |
| AC041 | Women's undergarments, nightwear, shapewear, and swimwear | none |
| AC042 | Women's hosiery and accessories | none |
| AC043 | Women's active sportswear | none |
| AD011 | Girls' outerwear | Hedonic adjustments |
| AD012 | Girls' dresses | Hedonic adjustments |
| AD013 | Girls' tops | Hedonic adjustments |
| AD014 | Girls' skirts, pants, and shorts | Hedonic adjustments |
| AD015 | Girls' active sportswear | none |
| AD016 | Girls' underwear, nightwear, hosiery, accessories, & swimwear | none |
| AE011 | Men's footwear | Hedonic adjustments |
| AE021 | Boys' footwear | Hedonic adjustments |
| AE022 | Girls' footwear | Hedonic adjustments |
| AE031 | Women's footwear | Hedonic adjustments |
| AF011 | Infants' & toddlers' outer/play/dress/sleep wear & accessories | none |
| AF012 | Infants' & toddlers' underwear & diapers | none |
| AG011 | Watches | none |
| AG021 | Jewelry | none |
| EA011 | College textbooks | none |
| EA012 | Elementary and high school books and supplies | none |
| EA013 | Encyclopedias and other sets of reference books | none |
| EB011 | College tuition and fixed fees | none |
| EB021 | Elementary and high school tuition and fixed fees | none |
| EB031 | Day care and preschool | none |
| EB041 | Technical and business school tuition and fixed fees | none |
| EC011 | Postage | none |
| EC021 | Delivery services | none |

| ELI | Entry Level Item (ELI) Title | Quality Adjustment Method |
|------------|--|----------------------------------|
| ED031 | Wireless phone service | Hedonic adjustments |
| ED041 | Land-line telephone services | Hedonic adjustments |
| EE011 | Personal computers and peripheral equipment | Cost based adjustments |
| EE021 | Computer software and blank media | none |
| EE031 | Internet access and other information services | Hedonic adjustments |
| EE041 | Phones, accessories, and smartwatches | Hedonic adjustments |
| EE042 | Calculators, typewriters, & other information processing equipment | none |
| FA011 | Flour and prepared flour mixes | none |
| FA021 | Breakfast cereal & cereal bars | none |
| FA031 | Rice, pasta, cornmeal | none |
| FB011 | Bread | none |
| FB021 | Fresh biscuits, rolls, and muffins | none |
| FB031 | Cakes and cupcakes (excluding frozen) | none |
| FB032 | Cookies | none |
| FB041 | Crackers and bread & cracker products | none |
| FB042 | Sweetrolls, coffee cake and doughnuts(excluding frozen) | none |
| FB043 | Frozen bakery products and frozen/refrigerated doughs and batters | none |
| FB044 | Pies, tarts, turnovers (excluding frozen) | none |
| FC011 | Uncooked ground beef | none |
| FC021 | Uncooked beef roasts | none |
| FC031 | Uncooked beef steaks | none |
| FC041 | Uncooked other beef and veal | none |
| FD011 | Bacon, breakfast sausage and related products | none |
| FD021 | Ham | none |
| FD031 | Pork chops | none |
| FD041 | Other pork including roasts, steaks, and ribs | none |
| FE011 | Frankfurters | none |
| FE012 | Lunchmeats | none |
| FE013 | Lamb, organ meats, and game | none |
| FF011 | Chicken | none |
| FF021 | Other poultry including turkey | none |
| FG011 | Fresh fish and seafood | none |
| FG021 | Processed fish and seafood | none |
| FH011 | Eggs | none |

| ELI | Entry Level Item (ELI) Title | Quality Adjustment Method |
|------------|--|----------------------------------|
| FJ011 | Milk | none |
| FJ021 | Cheese and cheese products | none |
| FJ031 | Ice cream and related products | none |
| FJ041 | Other dairy and related products | none |
| FK011 | Apples | none |
| FK021 | Bananas | none |
| FK031 | Citrus fruits | none |
| FK041 | Other fresh fruits | none |
| FL011 | Potatoes | none |
| FL021 | Lettuce | none |
| FL031 | Tomatoes | none |
| FL041 | Other fresh vegetables including fresh herbs | none |
| FM011 | Canned fruits and vegetables | none |
| FM021 | Frozen fruits and vegetables | none |
| FM031 | Dried fruits and vegetables | none |
| FN011 | Carbonated drinks | none |
| FN021 | Frozen noncarbonated juices and drinks | none |
| FN031 | Non-frozen noncarbonated juices and drinks | none |
| FP011 | Coffee | none |
| FP021 | Tea | none |
| FP022 | Other beverage materials | none |
| FR011 | Sugar and artificial sweeteners | none |
| FR021 | Candy and chewing gum | none |
| FR031 | Other sweets | none |
| FS011 | Butter and margarine | none |
| FS021 | Mayonnaise, salad dressing, and sandwich spreads | none |
| FS031 | Peanut butter and other nut butters | none |
| FS032 | Other fats and oils | none |
| FT011 | Soups and soup bases | none |
| FT021 | Frozen prepared foods | none |
| FT031 | Snacks | none |
| FT041 | Salt and other seasonings and spices | none |
| FT042 | Olives, pickles, relishes | none |
| FT043 | Sauces and gravies | none |

| ELI | Entry Level Item (ELI) Title | Quality Adjustment Method |
|------------|---|--|
| FT044 | Other condiments(excluding olives, pickles, relishes) | none |
| FT051 | Baby food | none |
| FT061 | Prepared salads | none |
| FT062 | Other miscellaneous foods | none |
| FV011 | Full service meals and snacks | none |
| FV021 | Limited service meals and snacks | none |
| FV031 | Food at employee sites and schools | none |
| FV041 | Food from vending machines and mobile vendors | none |
| FV051 | Board, catered events and other food away from home | none |
| FW011 | Beer, ale and other malt beverages at home | none |
| FW021 | Distilled spirits at home | none |
| FW031 | Wine at home | none |
| FX011 | Alcoholic beverages away from home | none |
| GA011 | Cigarettes | none |
| GA021 | Tobacco products other than cigarettes | none |
| GB011 | Products for the hair | none |
| GB012 | Dental and shaving products, including nonelectric articles | none |
| GB013 | Deodorant, suntan, sanitary & foot care products | none |
| GB014 | Electric personal care appliances | none |
| GB021 | Cosmetics/perfume/bath/nail preparations and implements | none |
| GC011 | Haircuts and other personal care services | none |
| GD011 | Legal services | none |
| GD021 | Funeral expenses | none |
| GD031 | Laundry and dry cleaning services | none |
| GD041 | Shoe repair and other shoe services | none |
| GD042 | Clothing, alterations, rentals and repairs | none |
| GD043 | Watch and jewelry repair | none |
| GD051 | Checking account and other bank services | none |
| GD052 | Tax return preparation and other accounting fees | none |
| GE011 | Stationery, stationery supplies, gift wrap | none |
| GE012 | Luggage | none |
| GE013 | Infants' equipment | none |
| HA011 | Rent of primary residence | Age bias, structural change, Facility adjustments for parking and A/C units, Analyst adjustments |
| HB011 | Lodging while at school | none |

| ELI | Entry Level Item (ELI) Title | Quality Adjustment Method |
|------------|---|--|
| HB021 | Rental of lodging away from home | none |
| HC011 | Owners' equivalent rent of primary residence | Age bias, structural change, Removal of the cost of landlord-provided utilities (cost of utilities) for the calculation of pure rents, Facility adjustments for parking and A/C units, Analyst adjustments |
| HD011 | Tenants' and household insurance | none |
| HE011 | Fuel oil | none |
| HE021 | Other household fuels | none |
| HF011 | Electricity | none |
| HF021 | Utility (piped) gas service | none |
| HG011 | Residential water and sewerage service | none |
| HG021 | Garbage and trash collection | none |
| HH011 | Floor coverings | none |
| HH021 | Curtains and drapes | none |
| HH022 | Window coverings | none |
| HH031 | Bathroom linens | none |
| HH032 | Bedroom linens | none |
| HH033 | Kitchen and dining room linens | none |
| HJ011 | Mattresses and foundations | none |
| HJ012 | Bedroom furniture other than mattresses and springs | none |
| HJ021 | Sofas, sofa sleepers, furniture covers and decorative pillows | none |
| HJ022 | Living room chairs | none |
| HJ023 | Living room tables | none |
| HJ024 | Kitchen and dining room furniture | none |
| HJ031 | Infants furniture | none |
| HJ032 | Outdoor furniture | none |
| HJ033 | Occasional furniture | none |
| HK011 | Refrigerators and freezers | Hedonic adjustments |
| HK012 | Washers and dryers | Hedonic adjustments |
| HK013 | Ranges and cooktops | Hedonic adjustments |
| HK014 | Microwave ovens | Hedonic adjustments |
| HK021 | Floor cleaning equipment | none |
| HK022 | Small electric kitchen appliances | none |
| HK023 | Other electric appliances | none |
| HL011 | Lamps and lighting fixtures | none |
| HL012 | Household decorative items and clocks | none |
| HL021 | Indoor plants and fresh cut flowers | none |

| ELI | Entry Level Item (ELI) Title | Quality Adjustment Method |
|------------|--|----------------------------------|
| HL031 | Dishes | none |
| HL032 | Flatware | none |
| HL041 | Nonelectric cookware | none |
| HL042 | Nonelectric kitchenware | none |
| HM011 | Paint, wallpaper tools and supplies | none |
| HM012 | Power tools | none |
| HM013 | Miscellaneous hardware, supplies and equipment | none |
| HM014 | Non-powered hand tools | none |
| HM021 | Lawn and garden and outdoor equipment and grills | none |
| HM022 | Lawn & garden materials, other decorative items & pesticides | none |
| HN011 | Laundry and cleaning products | none |
| HN012 | Laundry and cleaning equipment | none |
| HN021 | Household paper products | none |
| HN031 | Miscellaneous household products | none |
| HP011 | Domestic services | none |
| HP021 | Gardening and lawn care services | none |
| HP031 | Moving, freight, and storage expenses | none |
| HP041 | Appliance repair | none |
| HP042 | Reupholstery of furniture | none |
| HP043 | Inside home maintenance and repair services | none |
| MC011 | Physicians' services | none |
| MC021 | Dental services | none |
| MC031 | Eyeglasses and eye care | none |
| MC041 | Services by other medical professionals | none |
| MD011 | Hospital services | none |
| MD021 | Nursing and convalescent home care | none |
| MD022 | Adult day care | none |
| MD031 | Care of invalids, the elderly, and convalescents in the home | none |
| MF011 | Prescription drugs | none |
| MF021 | Nonprescription drugs | none |
| MG011 | Dressings and first aid kits | none |
| MG012 | Medical equipment for general use | none |
| MG013 | Supportive and convalescent medical equipment | none |
| RA011 | Televisions | Hedonic adjustments |

| ELI | Entry Level Item (ELI) Title | Quality Adjustment Method |
|------------|--|----------------------------------|
| RA021 | Cable and satellite television service | Hedonic adjustments |
| RA031 | Other video equipment | Hedonic adjustments |
| RA041 | Prerecorded video discs/digital files/downloads and other media | none |
| RA042 | Rental of video discs and other media | none |
| RA051 | Audio media players, recorders, systems, and other equipment | none |
| RA061 | Recorded music and music subscriptions | none |
| RB011 | Pet food | none |
| RB012 | Purchase of pets, pet supplies, accessories | none |
| RB021 | Pet services | none |
| RB022 | Veterinarian services | none |
| RC011 | Outboard motors and powered sports vehicles | none |
| RC012 | Unpowered boats and trailers | none |
| RC013 | Bicycles and accessories | none |
| RC021 | General sports equipment excluding water | none |
| RC022 | Water sports equipment | none |
| RC023 | Hunting, fishing and camping gear | none |
| RD011 | Film and photographic supplies | none |
| RD012 | Photographic equipment | Hedonic adjustments |
| RD021 | Photographer's fees | none |
| RD022 | Photo processing | none |
| RE011 | Toys, games, hobbies, and playground equipment | none |
| RE012 | Video game consoles, software, and accessories | none |
| RE021 | Sewing items | none |
| RE031 | Music instruments and accessories | none |
| RF011 | Club dues and fees for participant sports/group exercises | none |
| RF021 | Admission to movies, theaters, concerts & other recurring events | none |
| RF022 | Admission to sporting events | none |
| RF031 | Fees for lessons or instructions | none |
| RG011 | Single copy newspapers and magazines | none |
| RG012 | Subscriptions to newspapers and magazines | none |
| RG021 | Books purchased through book clubs | none |
| RG022 | Books purchased at retail outlets other than book clubs | none |
| TA011 | New car and truck purchase | Cost based adjustments |
| TA012 | New motorcycles | none |

| ELI | Entry Level Item (ELI) Title | Quality Adjustment Method |
|------------|---|----------------------------------|
| TA021 | Used cars and trucks | Cost based adjustments |
| TA031 | Vehicle leasing | Cost based adjustments |
| TA041 | Automobile and truck rental | none |
| TB011 | Regular unleaded gasoline | none |
| TB012 | Mid-grade unleaded gasoline | none |
| TB013 | Premium unleaded gasoline | none |
| TB021 | Automotive diesel fuel | none |
| TB022 | Alternative motor fuels | none |
| TC011 | Tires | none |
| TC021 | Vehicle parts and equipment other than tires | none |
| TC022 | Motor oil, coolant and fluids | none |
| TD011 | Motor vehicle body work | none |
| TD021 | Motor vehicle maintenance and servicing | none |
| TD031 | Motor vehicle repair | none |
| TE011 | Motor vehicle insurance | none |
| TF011 | State vehicle registration and driver's license | none |
| TF031 | Parking fees and tolls | none |
| TF032 | Automobile service clubs | none |
| TG011 | Airline fares | none |
| TG021 | Intercity bus fares | none |
| TG022 | Intercity train fares | none |
| TG023 | Ship fares | none |
| TG031 | Intracity mass transit | none |
| TG032 | Taxi fares | none |
| TG033 | Car and van pools | none |

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- [CPI Quality Adjustment Methodology List \(XLSX\)](#)

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