

§ 591.219

simple average for each item based on the average prices from each DC survey area. On an item-by-item basis, OPM divides the COLA survey area average price by the DC average price and produces a price index.

§ 591.219 How does OPM compute shelter price indexes?

(a) In addition to rental and rental equivalence prices and/or estimates, OPM obtains for each unit surveyed information about the important characteristics of the unit, such as size, number of bathrooms, and other amenities that reflect the quality of the unit.

(b) OPM then uses these characteristics and rental prices and/or estimates in hedonic regressions (a type of multiple regression) to compute for each COLA survey area the price index for rental and/or rental equivalent units of comparable quality and size between the COLA survey area and the Washington, DC, area.

[67 FR 22340, May 3, 2002, as amended at 69 FR 59763, Oct. 6, 2004]

§ 591.220 How does OPM calculate energy utility cost indexes?

(a) OPM calculates energy utility cost indexes based on the relative cost of maintaining a standard size dwelling in each area at a given ambient temperature and the cost of other energy uses. Although the dwelling size may vary from one COLA survey area to another, OPM compares the utility cost for the same size dwelling in the COLA survey area and the Washington, DC, area.

(b) OPM applies the following six-step process to compute a cost index(es) for heating and cooling a standard home to a given ambient temperature and to combine the cost index(es) by energy type (e.g., electricity and natural gas) with cost indexes for other energy uses.

(1) *Step 1.* OPM obtains technical information about the requirements by major energy type for heating and cooling a standard size dwelling, built according to current local building practices and codes in each area, given local climatic conditions (e.g., seasonal temperature and humidity). OPM also obtains similar information for use of energy types in other household oper-

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ations (e.g., hot water, cooking, cleaning, recreation).

(2) *Step 2.* OPM obtains from the shelter survey, a survey of Federal employees, or other appropriate sources, information on dwelling size and the types and prevalence of heating and cooling equipment and energy types (e.g., electricity, gas, and oil) in each area.

(3) *Step 3.* OPM computes estimates of total home energy requirements by energy type attributable to heating and cooling plus all other household energy uses for the COLA survey area and the Washington, DC, area.

(4) *Step 4.* OPM surveys utility prices for each major energy type appropriate to the area.

(5) *Step 5.* OPM combines the above data to produce for each COLA survey area the cost of maintaining the standard size dwelling at a given ambient temperature and the cost of other household energy uses.

(6) *Step 6.* OPM compares the COLA survey area cost with the DC area cost to produce a price index.

§ 591.221 How does OPM compute the consumer expenditure weights it uses to combine price indexes?

OPM uses the following ten-step process to compute consumer expenditure weights:

(a) *Step 1.* OPM obtains the latest BLS tabulated CES data nationwide and for the Washington, DC, area.

(b) *Step 2.* In both the nationwide and DC area tabulated data, OPM replaces the homeowners' expenditures for shelter with estimated rental values of owned homes that are available elsewhere in tabulated CES data. Note: These replacements are consistent with the rental equivalence approach described in § 591.219.

(c) *Step 3.* OPM selects the central income groups in the nationwide CES tabulation.

(d) *Step 4.* OPM calculates the expenditure shares (*i.e.*, percentages) for each central income group by dividing each of its DEC expenditures by total expenditures for the income group. OPM also calculates expenditure shares for total nationwide expenditures by dividing each nationwide DEC expenditure by total nationwide expenditures.

(e) *Step 5.* OPM computes a democratic distribution of expenditure shares by averaging the central income groups' shares at each DEC and higher level of aggregation.

(f) *Step 6.* OPM computes a set of ratios by dividing each expenditure share of the nationwide democratic distribution by the corresponding expenditure share of the total national distribution.

(g) *Step 7.* OPM computes estimated expenditures for Washington DC for each DC DEC and higher level of aggregation that BLS reported by multiplying the reported expenditure by the corresponding ratio derived in Step 6.

(h) *Step 8.* For each DC DEC and higher level of aggregation that BLS did not report, OPM computes expenditures for DC by distributing the DC expenditure calculated in step 7 using the distribution of expenditure shares derived in step 5.

(i) *Step 9.* As described in § 591.211(c), OPM classifies each DEC and aggregate into PEGs.

(j) *Step 10.* OPM computes expenditure weights by dividing each DEC or aggregate by the total expenditure derived from the DC expenditure computed in step 8. Therefore, the sum of the MEGs, PEGs, and DECs, will separately total 100, *i.e.*, so that all consumer expenditures in the original tabulation are accounted for.

§ 591.222 How does OPM use the expenditure weights to combine price indexes?

OPM uses a three-step process to combine price indexes.

(a) *Step 1.* For each DEC represented by one or more items for which OPM could make valid price comparisons (e.g., OPM was able to collect representative prices in both the COLA and DC areas), OPM computes the unweighted geometric average (the *n*th root of the product of *n* numbers) of the price index(es) of all item(s) representing the DEC.

(b) *Step 2.* OPM multiplies the price index for each DEC by its expenditure weight, sums the cross products, and divides by the sum of the weights used in the calculation. This produces a price index for the level of aggregation

(e.g., PEG or sub-PEG) in which the DEC is categorized.

(c) *Step 3.* OPM repeats the process described in Step 2 at each level of aggregation within the PEG to produce a price index for the PEG, at the PEG level to produce an index for the MEG, and at the MEG level to produce the overall price index for the COLA area.

[67 FR 22340, May 3, 2002, as amended at 69 FR 59763, Oct. 6, 2004]

§ 591.223 When does OPM conduct COLA surveys?

(a) OPM conducts a survey in each COLA area once every 3 years on a rotational basis and surveys the Washington, DC, area concurrently with each COLA area survey. The order of the COLA area surveys is as follows:

(1) *Year 1.* All COLA areas in the Commonwealth of Puerto Rico and the U.S. Virgin Islands.

(2) *Year 2.* All COLA areas in the State of Alaska, except as provided in paragraph (b)(2) of this section.

(3) *Year 3.* All COLA areas in the State of Hawaii and the Territory of Guam and CNMI.

(b) *Exceptions:*

(1) Nothing in this subpart precludes OPM from conducting interim surveys or implementing some other change in response to conditions caused by a natural disaster or similar emergency, provided OPM publishes a notice or rule in the FEDERAL REGISTER explaining the change and the reason(s) for it.

(2) As provided in § 591.215(c), OPM does not conduct surveys in the Rest of the State of Alaska COLA area unless COLA rate reductions appear warranted.

§ 591.224 How does OPM adjust price indexes between surveys?

(a) OPM adjusts price indexes between the triennial surveys in each COLA area that is not surveyed in that year. To do this, OPM uses the annual or biennial change in the Consumer Price Index (CPI) for the COLA area relative to the annual or biennial change in the CPI for the Washington, DC, area. OPM uses the annual change for those areas surveyed the preceding year. OPM uses the biennial change for those areas surveyed 2 years before.