Section 8 Existing Housing Program: Contract Rent Annual Adjustment Factors and Fair Market Rent Indexation [1]

1. Overview

Section 8 of the U.S. Housing Act of 1937 provides for annual rent adjustments for housing units assisted under this section. The Department of Housing and Urban Development develops the rent adjustment factors, called Annual Adjustment Factors (AAFs), on the basis of Consumer Price Index (CPI) data on changes in residential rent and utility costs, and data obtained from annual Random Digit Dialing (RDD) rent-change surveys of the HUD regions.

HUD publishes the AAFs annually in the Federal Register, usually in November or December.

HUD uses several related measures of rent indexation to run its Section 8 Housing Assistance Payments Program:

(1) Annual Adjustment Factors (AAFs) are used to adjust the annual payments provided to Section 8 landlords for incumbent tenants under an existing Housing Assistance Payment (HAP) contract.

(2) A second set of rent indices is used to adjust the Fair Market Rents for Section 8 units that turn over, for areas in which no area-specific data are available.[2]

Specific details about how AAFs are applied can be found in notices published by HUD's Offices of Housing and of Public and Indian Housing; this paper concentrates on the rent indices used to update FMRs.

The rent indices are updated annually, in time for the publication of proposed FMRs ("Fair Market Rents for the Section 8 Housing Assistance Payments Program"), usually at the beginning of May. AAFs for existing HAP contracts are also published in the Federal Register ("Section 8 Housing Assistance Payments Program Contract Rent Annual Adjustment Factors; Final Rule"; 24 CFR Part 888). The AAFs are usually issued some time after October 1, the beginning of the fiscal year, and are effective immediately.

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1 Prepared by Alan Fox and Raymond Kahn, Economic and Market Analysis Division, Office of Policy Development and Research, Department of Housing and Urban Development. Portions were derived from earlier descriptions issued in 1981 and 1991. This document is intended primarily for internal HUD technical use.

2 FMRs are determined for many of the larger areas on the basis of quadrennial American Housing Surveys or, on an ad-hoc basis, by random digit dialing (RDD) telephone surveys. Rent indexes are used to update FMRs for these areas in subsequent years, until another survey is used to benchmark the FMR.

HUD's published AAFs are shown in two schedules, one for adjusting the rent of units where the highest-cost utility (usually heating)[3] is included in the contract rent (termed “Highest Utility Included” in the tables) and the other for units where the tenant pays for the highest-cost utility (“Highest Utility Excluded”).

Separate AAF schedules are published for areas covered by the Bureau of Labor Statistics Consumer Price Index (CPI) survey and for the metropolitan and nonmetropolitan parts of the 10 HUD regions.

2. CPI-Based Rent Indices

2.1 Summary

Consumer Price Index data on changes in residential rents and fuel and other utilities are available for a total of 99 HUD-defined metropolitan AAF areas, which are the same as Fair Market Rent areas.[4 5] For each area,

1. The change in the residential rent and utilities components are taken from the most recent CPI annual average change data;

2. A shelter rent factor is calculated by eliminating the effect of the heating costs included in the rent of many CPI survey units; and

3 A landlord who pays for heat or air conditioning (where the latter is the highest-cost utility) gets an adjustment listed as "Highest Utility Included;" this adjustment is based on a gross rent concept. Where tenants pay for their own heat (or air conditioning), the AAF is listed under the column "Highest Utility Excluded;" the landlord in this case gets a rent adjustment based on a shelter rent concept.

4 Separate CPI surveys are actually only available for 29 CPI areas, which are generally Consolidated Metropolitan Statistical Areas (CMSAs) consisting of several Primary Metropolitan Statistical Areas each); these are applied to the AAF areas within them, of which there are 99. For example, the same CPI for rent is used for San Francisco as for Oakland because both are in the San Francisco-Oakland-San Jose, CA CMSA.

5 With some exceptions, these are OMB-defined metropolitan statistical areas (MSAs) or Primary MSAs (PMSAs), or nonmetropolitan counties. The exceptions are for certain large metropolitan areas, where HUD considers the area covered by the OMB definition to be larger than appropriate for use as a housing market area definition. At this time, the following areas are affected: Chicago, Cincinnati, Dallas, Flagstaff, New Orleans, and Washington DC.

3. A gross rent factor is calculated by weighting the shelter rent and utility components with the corresponding components from the 1990 Census, updated as shown later in this paper.

2.2 Detailed Description

2.2.1 The CPI Survey

The Consumer Price Index survey is conducted monthly by the Bureau of Labor Statistics, and made available in early-February of each year, covering the previous year.[6] The residential rent component of the CPI is based on a sample of about 37,000 rental units in urban areas throughout the country. The cost index for fuel and other utilities is taken from the homeowners who also participate in the survey in each CPI area, because utility data are not collected from renters; the change in these amounts are about the same regardless of tenure.

2.2.2 CPI and HUD Geography

The CPI survey is conducted at the Metropolitan Statistical Area (MSA) or Consolidated MSA (CMSA) level. HUD uses these data for all AAF areas (which are the same as FMR areas) within each CMSA. Thus, from the 29 MSAs and CMSAs in the CPI survey, HUD gets data for a total of 82 MSAs or PMSAs, plus 17 “metropolitan counties” counties that HUD considers to be separate housing market areas even though OMB includes them in MSAs or PMSAs. Several examples are shown later in this paper.

2.2.3 **Shelter Rent Increase** (Tenant Pays For Utilities)

The Residential Rent CPI index is a mixture of units with and without separate utility bills. For indexing purposes HUD first calculates a *Shelter Rent* CPI for each of the 99 CPI areas, which excludes the cost of heating, starting with the following weighted-average-type formula:

6Thus, in February 1997 HUD processed 1995 and 1996 CPI data. These data are available from the BLS Worldwide Web site http://stats.bls.gov, series SEHA (residential rent) and SAH2 (fuel and other utilities.) Before 1998 these series were known as SE2101 and SA22, respectively.

$$I = A[C\mathbf{R} + DU] + B(\mathbf{R})]$$

$$= A[C\mathbf{R}+(1-C)U]+(1-A)\mathbf{R}$$

Where:

I CPI *Residential Rent Increase* factor. Source: BLS CPI survey series SE2101.

A Proportion of CPI sample where tenant pays separately for heating. Source: CPI survey. This is different in each year, for each CPI area.

B Proportion of CPI sample where heating is included in the rent; B=1-A

C Ratio of Shelter Rent to Gross Rent. Basic source: 1990 Census, ratio of medians for this area; this is updated annually using the ratio created in the AAF process. See the numerical example, below.

D Ratio of Utilities to Gross Rent; D=1-C.

R ***Shelter Rent*** *increase factor (what is solved for)*

U CPI Utility increase factor for fuel and other utilities. Source: CPI survey, Series SA22.

2.2.4 Gross Rent Increase Factor (Landlord Pays For Utilities)

For units where the landlord supplies utilities as part of the rent, a gross rent increase factor is calculated. Using the same variables as above, and the calculated value of the shelter rent increase factor (R), the ***gross rent increase*** *factor* is:

$$G = C*R + (1-C)\,U \qquad \textbf{\textit{OR:}}$$

$$= \text{Gross Rent}_{\text{this year}}/\text{Gross Rent}_{\text{last year}}$$

The gross rent factor is used to update the FMR (see below.)

2.2.5 Numerical Examples

Variables: Table 1 presents numerical examples for the FY 1997 FMR calculations based on CPI data. The letters at the top correspond to the factors used in the two formulas above. Below that are asterisks (**) indicating which items are supplied by the *CPI survey*, including:

1. The proportion of tenants that pays separately for heating (A). This proportion is used even in areas where central heating is rare, such as Honolulu.

2. The CPI Residential Rent indices for the area for 1994 and 1995 (I).

3. The CPI Fuel and Other Utilities index for the area in 1994 and 1995, based on the reported utility expenditures of homeowners in those areas (U).

Columns headed by double-plus signs (++) are at least indirectly based on the *1990 Census.* These are the gross rent levels and renter utility expenditures for each area, updated annually using AAF factors for all previous years (the last 4 columns of this spreadsheet show the values that have been updated to 1997, which were subsequently used for the 1998 AAFs.) The allocation between gross rents (column 10) and utilities (column 11) originated with a set of special tabulations of the 1990 Census tabulations done by Census Bureau staff. In subsequent years, however, the level of gross rents, also known as the Fair Market Rent, can be altered by other surveys and public comments; the allocation between gross rents and utilities is affected in post-Census years by changes in the CPI for rent and utilities, except in years where RDD surveys are used to re-benchmark the FMR.

Computations: Using these input fields and the two formulas described above, the spreadsheet computes separate factors for "Shelter Rent" (applicable to units where the tenant pays for the highest-cost utility, shown in the published AAF tables as "Highest Cost Utility Excluded") and "Gross Rent" (where the landlord pays for the highest-cost utility; shown as "Highest Cost Utility Included".) Because utility prices stabilized or, in a few cases, decreased in 1994-95, Gross Rent changes are below Shelter Rent changes in some cases.

Finally, the Shelter Rent changes (factor “R”) and Gross Rent changes (factor “G”) are applied to the 1996 Gross Rent and Utilities dollar amounts, respectively, to arrive at the 1997 Proposed FMR and the utility ratios that will be used as inputs to the 1998 FMR calculation.

Numerical Example: Anchorage

Years: For the 1997 FMR, use CPI changes 1994-95 (the most currently available years)

Variable A: 61.5 percent of tenants paid for their own heat in 1996.
Source: special tabulation of CPI survey supplied by BLS.

Variable C: The previous year's ratio of shelter rent to gross rent
= (Gross Rent - Utilities)/Gross Rent = (740-103)/740 = .861
Source: last year's calculations.

Variable U: Utility change = 141.0/142.1 = .9923.
Source: 1994-95 CPI, Series SA22 (SAH2 starting in 1998).

Variable I: Residential rent change = 115.3/113.6 = 1.015.
Source: 1994-95 CPI, Series SE2101 (SEHA starting in 1998).

<u>Shelter Rent Factor (R)</u>

I = A(CR + (1-C)U) + (1-A)R
1.015 = .615(.861R + .139*.9923) + .385R
R = 1.0172 ➔ Shelter rent increases by 1.72%

<u>Gross Rent Factor (G)</u>

G = CR + (1-C)U
= .861*1.0172 + .139*.9923
= 1.0137 ➔ Gross rent increases by 1.37%

<u>1997 Gross Rent and FMR</u>

Gross $rent_{1997}$ = Gross $rent_{1996}$ * Gross Rent Factor
= $740 * 1.0137
= $750 ➔ 1997 FMR and next year's column 10

$Utilities_{1997}$ = $Utilities_{1996}$ * Utility Factor
= $103 * .9923
= $102 ➔ Used for next year's column 11

Shelter/Gross = Gross $rent_{1997}$ - $Utilities_{1997}$)/Gross $rent_{1997}$
= (750 - 102)/750
= 0.8638 ➔ Used for next year's column 12 (variable C)

Utilities/Gross = 1 - Shelter/Gross
= 1 - 0.8638
= .1362 ➔ Used for next year's column 13 (variable 1-C)

Geography: Table 1 illustrates various aspects of HUD's FMR and AAF geography.

1. *Anchorage* is an MSA that is surveyed in the CPI.

2. The three *San Francisco* Bay Area PMSAs were in a single CPI survey that covered the entire CMSA. Therefore the same factors are used for all of the CPI survey-based factors. However, they are applied to different rent and utility amounts which were originally supplied by the 1990 Census; these amounts affect the utility/gross rent ratio used for the isolation of the Shelter Rent AAF factor. The same is true for the *Denver*-area PMSAs.

3. The example for the *Chicago* area illustrates the use by HUD of "metropolitan counties," counties which were judged not to belong in the same housing market as the OMB-defined MSAs or PMSAs.

4. *Honolulu* is included to illustrate the fact that hardly anybody living there uses and pays for heat. This heating factor (*A* in the equations) is, nevertheless, used to split up the total utility bill for the AAF factors.

3. RDD Survey-Based FMR Changes

3.1 Summary

For areas that are not covered by CPI surveys or RDD area surveys, AAFs are based on a set of nationwide surveys conducted annually by a HUD contractor. Twenty different surveys are conducted each year, one for the nonmetropolitan and metropolitan7 parts of each of the 10 HUD regions. Using Random Digit Dialing (RDD) technology, a sample of telephone numbers is called to determine eligibility for the survey. If eligible (which is true for only a small proportion of randomly-chosen telephone numbers), a short series of questions is asked, focusing on the respondent's monthly rent and what utilities the respondent pays for separately. That sample is re-interviewed one year later and its current rent levels determined. The AAF is the average of the ratios of gross rent for this year and the previous year for each of the sample units.

This method, used since Fiscal Year 1993, replaces HUD's previous use of Census CPI factors for the 4 Census regions. The previously-used factor had the disadvantage of being accurate only for very large areas of the country which, in many cases, are not homogeneous with respect to rent changes.

7 Excluding the metropolitan areas covered by CPI surveys.

3.2 Detailed Description

3.2.1 Sample Design

HUD uses a combined random and longitudinal ("rotating panel") sample to compute rent changes for the following reasons:

1. Estimating rent changes from two completely *separate random samples* (sample *A* for year 1, sample *B* for year 2) would correctly capture rent changes in the entire rental market but, because each survey has its own associated sampling error (about 4 percent), the ratio of the averages of the two surveys could be wrong by as much as 8 percent. This error would in many cases be greater than the actual changes in rent levels (which are expected to be in the zero to 5 percent annual range.)

2. A purely *longitudinal survey*, where each sample case is interviewed year after year, would have far less sampling variability but would not capture changes in the composition of the housing market (for example, it would miss new high-rent units that are being added to the inventory), nor would it reflect rent increases that often occur only when units are marketed to new tenants. Finally, it would induce interviewee fatigue and non-cooperation.

For these reasons, HUD uses a two-part, rotating panel sample:

1. The first part analyzes rent changes among tenants who remain in their units and agree to be interviewed in 2 subsequent years; for them, the rents they report for the current and previous year are used. From approximately 800 interviewed in the previous year, about 240 are expected to be living in the same units and be willing to participate again in the current year.

2. The second part is a randomly-drawn sample which captures the recent-mover component of the existing and new rental inventory.8 The latter sample consists of about 360 persons who have been living in their current unit for at least one year and whose rents from the previous year are asked in a retrospective question.

Thus, the AAF is based on approximately 600 cases, using 240 current rent pairs (rents reported in this and last year's surveys) for the reinterview sample, and 360 current-and-retrospective rent pairs for the new sample.

3.2.2 Telephone Surveys

For the randomly-drawn sample (#2, above), a list-assisted random digit dialing (RDD)

8 This group also refreshes the sample, as sample members remain in the survey only for three consecutive years.

method is used. The sample list consists of telephone numbers created by randomizing the last two digits of blocks of 100 numbers where at least 2 numbers are listed in published telephone directories. This list is then purged of numbers that are listed as businesses. The list is supplied by a firm that specializes in such sample generation. Twenty lists are produced, one for the nonmetropolitan part of each of the 10 HUD regions, plus one for the metropolitan part of each HUD region other than areas that are covered by CPI surveys.

Each number is dialed and, if answered by a person (i.e., not busy, not-in-service, FAX/modem, or answering machine) it is switched to an interviewer who administers a simple questionnaire.9

A similar process is used to reach and interview those who were interviewed in the previous year. In this case, however, the list of phone numbers is not random and a high interviewing rate can be expected. (Some reinterviews are conducted by mail; see below.)

3.2.3 Followup Mail Surveys

One disadvantage of telephone-based surveys is that they fail to include rental units that were in the survey in one year but get new tenants (and therefore new phone numbers) before the following year's survey. It is precisely these units that would yield the most up-to-date information about current changes in rent levels. Furthermore, telephone surveys are inherently expensive because of the large number of calls that must be made to reach eligible respondents at home. For these reasons, starting with the 1994 surveys, respondents have been asked to supply their mailing addresses and, starting in 1995, questionnaires have been mailed to those addresses.10 After two mailings (the initial mailing and a postcard reminder), those that have not responded are assigned to the telephone-based system. In cases of multiple response; the first response received (mail or phone) is used.

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9 This variant of "computer-assisted telephone interviewing" (CATI) is called "predictive autodialing," and is the latest in a series of productivity enhancements to be used in this industry.

10An earlier experiment--obtaining addresses through "reverse match" directories--was not very successful because renters tend to be so mobile that many never stay in the same place long enough to be included in a current reverse-match directory. Furthermore, reverse-match directories are of widely varying quality and timeliness.

3.2.4 Questionnaire

Regardless of the sample group, the questionnaire is quite simple. A series of screening questions determines whether the respondent is eligible for the survey (residential, renter, 1 or 2 bedrooms, not a farm, not public housing, not built within the past 2 years, and a few other screens.) If eligible for the survey, a series of questions about the current and previous year's rents plus utility usage is asked. For respondents receiving housing assistance (but not living in public housing), the rent that would be paid in the absence of subsidy is ascertained. These interviews are very short. On average, for a telephone number that is eligible for the survey, the total interview time is about 4 minutes; numbers that are screened out take only about 30 seconds each. Up to 10 attempts are made, on different days and at different times of the day, to reach and interview each number in the sample.

For recontacted sample members the current and recalled (last year's) rents and utility usage are used for the analysis. This removes any variability caused by different respondents in the same household answering the survey in different years.11

To screen out unusual rent changes, interviewers are instructed to verify all rents that are more than 20 percent different than those recorded for the previous year. Units with rent extreme rent changes that resulted from changes in the characteristics of the unit (such as adding a bedroom) are excluded from the sample. Because these extreme rent levels and changes are virtually eliminated by this method, the average of rent ratios is used to compute the adjustment factor rather than the ratio of median rents. The average of rent ratios has the added advantage of lower variance than the ratio of medians, and hence the resulting rent-change factors can be used with greater confidence.

5 Data Processing

Utility Amounts: Neither telephone nor mail surveys ask respondents for the amounts they spent on utilities, just what utilities they paid for (natural gas, bottled gas, electricity, fuel oil, water, sewage, and trash), and for what purpose (space heating, water heating, cooking, air conditioning). The utility amounts are assigned to each unit, based on utility amounts asked during the first two years of the survey (1993 and 1994), converted by HUD and the Census Bureau into a utility grid by the type of fuel used for heating. Since then, this utility amount grid has been updated annually with Consumer Price Index survey factors for homeownership units.12 These utility amounts are for 2 bedroom units; for 1 bedroom units the utility amount is multiplied by .85.

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11 However, if the respondent doesn't remember last year's rent, the rent reported in last year's survey is used.

12 The CPI factors are available only for the urban areas of the four Census Regions; these are applied to the 10 HUD Regions as accurately as possible (some Census regions contain states that are included in two HUD regions), and are the same for metropolitan and non-metropolitan regions. Separate CPI factors are applied to Natural Gas (CPI Series SE2602; SEHF02 now), Electricity (SE2601; SEHF01 now) and Fuel Oil (SE2501; SEHE01 now); Bottled/GAS (LPG) and Other Fuels are both taken from Series SE27 (now SEHE02). Water, Sewerage, and Trash were not asked for in the original RDD surveys and are ignored; this combination is now available as Series SEHG (previously it was available as two separate series).

Bedroom Conversion Factors: Both 1 and 2 bedroom units are eligible for the survey. Based on national data from the 1990 census, a differential of 0.85 is applied to 1 bedroom units to make their contract rents equivalent to 2 bedroom units (that is, the 1 bedroom rents are divided by 0.85).13 As stated above, utility expenditures for 1 bedroom units are 85% of the allowances for 2 bedroom units.

Gross Rents: Gross rents for both years are calculated based on the 2 bedroom equivalent gross rent (contract rent plus utility allowance, both adjusted to 2 bedroom equivalents.)

Rent Ratios to Update FMRs: For each rental unit in the survey the ratio of gross rents is calculated (gross rent this year divided by gross rent last year.) The average of these rent ratios, for all sample units, is used to update FMRs.14

Rent Ratios for AAFs: For AAF purposes these ratios are further divided into shelter rent AAFs and utility AAFs, as follows: The mean utility expenditure for units paying for both their space heating and electricity for lighting and refrigeration is calculated. This is subtracted from the mean gross rent, leaving a estimate of the mean shelter rent. This process is repeated for both years, and the ratio of the two mean shelter rents is the shelter rent AAF.

4. How Rent Ratios Are Used

4.1 Fair Market Rents

For each FMR area that is covered by a CPI survey, the CPI-based gross rent change factor (Variable G in Table 1) is applied to this year's Final FMR to get next year's Proposed FMR. For an area that is not covered by a CPI survey, the gross rent index calculated from the 20 regional RDD surveys is applied to the current year's Final FMR to produce the Proposed FMR for next year.

Surveys of individual FMR areas, whether done by the metropolitan American Housing Survey or individual RDDs15, supersede the ratio-trended FMRs. For these areas in subsequent years the gross rent index is applied, as described in the previous paragraph.

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13 There is fairly wide variability in the actual rent conversion factors by region and metropolitan status, ranging from .74 to .89. Partly as a result of this, starting in FY 1998 HUD has used two-bedroom units only, whose rents and utility amounts don't require conversion. Starting in that year, the sample was augmented to yield about 600 2-bedroom units.

14 Within each HUD region there can be widely differing rent levels. What is desired is the proportionate change in rents, not the absolute change. For this reason, the FMR updating factor is the average of the rent ratios across all sample cases, not the ratio of the average rents in the two years.

15 For a detailed description of the RDD process applicable to individual FMR areas, see HUD's publication *"Random Digit Dialing Surveys: A Guide to Assist Larger Housing Agencies in Preparing Fair Market Rent Comments."*

4.2 Annual Adjustment Factors

For each of the 20 "regions" (10 HUD regions, nonmetropolitan and metropolitan other than CPI-covered areas), AAFs are published for Gross Rents (titled "Highest Cost Utility Included" in the *Federal Register* table) and Shelter Rents ("Highest Cost Utility Excluded.") These are further subdivided by whether the unit has turned over since the last HAP contract was executed; for non-turnover units the AAF has recently been set, by law, at 1 percent less than for turnover units. Separate AAFs are also published for the CPI-covered areas.

4.3 Relationship Between AAFs and Proposed FMRs

Each year's Proposed FMR contains data implicit in the same year's AAF. For example, the increase from the 1995 Final FMR to the 1996 Proposed FMR is the same as the factor found in the AAF publication applicable to the same fiscal year in Table 1 "Highest Cost Utility Included."

For example, for Spokane, Washington (Northwest/Alaska region, Metropolitan), the FMR increased from $504 to $526 between 1995 Final and 1996 Proposed. This ratio, 1.045, is the same as the Fiscal Year 1996 AAF for rental units with turnover in that region/metro, "Highest Cost Utility Included." For Jackson County, Georgia (Southeast region, Nonmetropolitan), the FMR increased by 1.5 percent, identical to the AAF factor of 1.015.

Where an American Housing Survey, area-specific RDD survey, or other survey has been used to determine the FMR, that figure supersedes the AAF-based FMR. For subsequent years without specific surveys, the regular increase factors are applied.

Table 1: CPI-Based FMR Updating: Computational Elements for 1997 FMRs and Input to 1998 Calculations

Spreadsheet Column:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Formula Variables:		A	(1-A)			I			U			C	(1-C)	G	R				
CPI Survey Data:		**	**	**	**		**	**											
1990 Census Data:										++	++								

	Do Tenants Pay for Heat?		CPI Survey Index Levels						1996 Rent and Utilities				Change Factors		1997 FMR & Factors for 1998 FMRs			
			Residential Rent			Fuel & Other Utilities			[1996 FMR]						[1997 FMR]			
FMR Area	Yes	No	1994	1995	Rchange	1994	1995	Uchange	Gross Rent	Utilities	Shelter Rent/ Gross	Utilities/ Gross	Gross Rent	Shelter Rent	Gross Rent	Utilities	Shelter Rent/ Gross	Utilities/ Gross
Anchorage MSA	0.615	0.385	113.6	115.3	1.0150	142.1	141.0	0.9923	$740	$103	0.861	0.139	1.0136	1.0171	$750	$102	0.8638	0.1362
Oakland PMSA	0.105	0.895	167.5	170.0	1.0149	142.8	148.1	1.0371	$781	$59	0.925	0.075	1.0164	1.0147	$794	$61	0.9231	0.0769
San Francisco PMSA	0.105	0.895	167.5	170.0	1.0149	142.8	148.1	1.0371	$950	$56	0.941	0.059	1.0161	1.0148	$965	$58	0.9399	0.0601
Santa Rosa PMSA	0.105	0.895	167.5	170.0	1.0149	142.8	148.1	1.0371	$753	$68	0.910	0.090	1.0167	1.0147	$766	$70	0.9080	0.0920
Denver PMSA	0.261	0.740	129.6	136.0	1.0494	121.3	121.0	0.9975	$579	$74	0.873	0.127	1.0443	1.0512	$605	$74	0.8784	0.1216
Boulder-Longmont PMSA	0.261	0.740	129.6	136.0	1.0494	121.3	121.0	0.9975	$667	$69	0.897	0.103	1.0453	1.0508	$697	$68	0.9018	0.0982
Chicago PMSA	0.476	0.524	163.9	170.7	1.0415	110.7	113.1	1.0217	$704	$85	0.879	0.121	1.0402	1.0427	$732	$87	0.8815	0.1185
De Kalb [Metro] County	0.476	0.524	163.9	170.7	1.0415	110.7	113.1	1.0217	$563	$88	0.843	0.157	1.0397	1.0431	$585	$90	0.8461	0.1539
Gary PMSA	0.476	0.524	163.9	170.7	1.0415	110.7	113.1	1.0217	$513	$111	0.783	0.217	1.0390	1.0438	$533	$114	0.7869	0.2131
Honolulu MSA	0.004	0.996	185.9	187.0	1.0059	121.3	128.4	1.0585	$973	$65	0.933	0.067	1.0094	1.0059	$982	$69	0.9297	0.0703
New York PMSA	0.584	0.416	168.9	173.4	1.0266	112.4	113.2	1.0071	$817	$67	0.918	0.082	1.0259	1.0276	$838	$67	0.9200	0.0800
Westchester County	0.584	0.416	168.3	173.4	1.0303	112.4	113.2	1.0071	$983	$73	0.926	0.074	1.0296	1.0314	$1,012	$73	0.9274	0.0726