Methodology for Calculating FY 2019 Medians

Overview

HUD calculates median incomes as the basis of its income limits that are used to determine eligibility for various HUD programs. Medians are not directly used in HUD programs and are calculated at the family level only, not the per person level as is done for income limits. The average family size is over 3, so, by convention, HUD equates the median family income for an area with a four-person family for the purposes of calculating income limits.

HUD uses the Section 8 program's Fair Market Rent (FMR) area definitions for its median incomes, which means that medians are developed for each metropolitan area, parts of some metropolitan areas, and each non-metropolitan county. For FY 2019, there are two changes to the geographic area definitions used last year. First, the two counties (islands) that comprise the Kahului-Wailuku-Lahaina, HI will no longer have medians calculated separately by county; the names of these areas will change from the island names (Kalawao and Maui County) to the metropolitan in FY 2019. Second, Enid, OK is a new metropolitan area, formed out of nonmetropolitan Garfield County.

HUD uses median family income data (as opposed to median household income data) from the American Community Survey (ACS) for all areas in the United States. For Puerto Rico an annual survey is also conducted and is called the Puerto Rico Community Survey (PRCS). The FY2019 median incomes use survey data from the 2016 ACS and PRCS. The 2016 data are inflated using a Consumer Price Index (CPI) forecast from the Congressional Budget Office (CBO) through the midpoint of FY 2019. Island areas (Guam, American Samoa, Northern Marianna Islands, and the Virgin Islands) use income data from a census conducted in 2010 of the previous year's (2009) income data, augmented by the change in the national income between 2009 and 2016 (from the ACS). The same CBO forecast is then applied from mid-2016 to the mid-point of the fiscal year, April 2019.

ACS Data and its Use in the Production of Median Family Incomes

As mentioned above, the FY 2019 median incomes incorporate the 2016 ACS data into the calculation process. Specifically, for each metropolitan area, subarea of a metropolitan area, and non-metropolitan county, HUD determines if a statistically valid one-year ACS income estimate is available. If one-year data is not available, then statistically valid five-year ACS data (data collected from 2012 through 2016) is used. There are cases where statistically valid five-year ACS data is not available. In those cases, an average of at least two of the past three years of income estimates is used. If at least two years of statistically valid income data are not available, the one-year state nonmetro median is used[1].

[1] For metropolitan subareas without statistically significant five-year ACS data there is no averaging with past years; the larger metropolitan area is used, which is one-year ACS data.

Statistically Valid Estimate

For the FY 2019 median incomes, HUD requires that the margin of error be less than half of the estimate **and** that the survey median is based on at least 100 responses (as identified by a count indicator value of 4 or more in HUD's special tabulations of ACS data). If the current year estimate does not meet both conditions, the previous years' estimates must meet the margin of error condition to be used in averaging.

CPI Inflation and Trend Factor

HUD uses a CPI forecast from CBO to inflate the 2016 ACS data to the mid-point of FY 2019. The CBO projection of fiscal year CPI, published in January 2019, is used to inflate the 2016 data.

Median Calculations

Median family incomes start with the development of median incomes for the nation (with national metropolitan and nonmetropolitan median incomes), for each state and territory (again including national metropolitan and nonmetropolitan median incomes), and for each metropolitan area and nonmetropolitan area using the FMR area definitions for the United State and its territories.

The major steps for calculating medians[2] are detailed below:

HUD uses 2016 ACS or PRCS median family incomes as the basis for FY 2019 medians for all areas designated as Fair Market Rent areas in the US and Puerto Rico. In areas where there is a statistically valid survey estimate using 2016 one-year ACS or PRCS data, that is used. If not, statistically valid 2016 five-year data is used. Where statistically valid five-year data is not available, HUD will average the valid income estimates from the previous three years of ACS or PRCS data or for two of these three years. This data from the current 2016 five-year data will be considered valid if the margin of error of the estimate is less than one-half of the estimate.

This same test will be applied to the 2015 five-year data and the 2014 five-year data, which will be inflated to 2016 using the change in national CPI calculated between 2014 or 2015 and 2016.

Metropolitan subareas, HUD Metro FMR Areas (HMFAs), do not use averaged data from the current and two previous years (adjusted to the current year) if the five-year data is not statistically valid. These subareas use the 2016 ACS data for the larger metropolitan area.

[2] Family refers to the Census definition of a family, which is a householder with one or more other persons living in the same household who are related to the householder by birth, marriage, or adoption. The definition of family excludes one-person households and multi-person households of unrelated individuals.

For all places in the US and Puerto Rico:

All estimates (using either one-year data or five-year data) are then trended from 2016 to April 2016, the midpoint of FY 2019.

For the non-Puerto Rico Insular Areas of the United States,[3] which currently lack the annual survey of ACS or PRCS, 2010 Decennial Census data were used for the first time in the FY 2016 medians and income limits. This continues to be the basis of the FY 2019 medians and income limits. National ACS income changes are used to update 2010 Decennial Census data to 2016 and then the same CPI forecast trend factor is applied to bring the data forward to the midpoint of FY 2019.

Attachment 1 shows the distribution of changes in median incomes between FY 2018 and FY 2019 for each state and the United States, overall. The distribution of changes is also shown separately for metropolitan and nonmetropolitan portions of each state and the United States.

Attachment 2 shows the median incomes by state and for the United States and the State Metropolitan median incomes and the State Nonmetropolitan medians.

[3] The areas without ACS coverage are the U.S. Virgin Islands, Guam, American Samoa, and the Northern Marianas Islands. Puerto Rico is covered by the ACS-equivalent Puerto Rico Community Survey.

ATTACHMENT 1

FY 2018 - 2019 Distribution of changes in Area Median Income

(100 Percent = FY 2018 Income Level)

	Percent Change											
STATE	less	80% to	85% to	90% to	95	100%	105.1%	110.1%	115.1%	120.1%	125.1%	Median
					2	4	1					105
AK			1	1	6	13	3	2	2			102
AL				2	6	25	16	3	2			105
AR					8	43	10	4		1		103
AZ				1	1	6	4	1			1	105
CA				1	5	20	14	7	2	1	1	105
CO		1		1	14	30	5	3	1			103
CT					1	6	2	2	1			104
DE				1		1						99
FL				4	8	27	11	1		1		103
GA		1		7	14	45	23	13	3	2	2	104
GU						1						105
HI					1	3						103
IA					10	57	18	5				104
ID				1	5	18	12	2	1			104
IL					13	53	13	2				103
IN				1	4	41	16	5	1			104
KS				2	7	60	17	4	1			103
KY		1	1	3	16	45	19	6	2	1		103
LA		1	1	3	11	19	8	1				102
MA					1	5	4	3		1		106
MD				1	2	8	2	1				103
ME					2	13	4					104
MI				2	4	49	14	3	3			103
MN					1	52	16	1				104
MO				3	13	58	19	3	1			103
MS				4	12	35	17	3			1	103
MT				1	7	24	15	6		1	1	104
NC				1	9	50	18	3	1			103
ND				2	4	28	14	2	1	1		103
NE				1	6	51	22	8				104
NH				1	1	5	2	1				104
NJ						1	3					107
NM				1	3	20	4	2				102
NV					1	8	5	2				105
NY				2	2	31	10	2				103
OH				1	7	41	15	3	1			103
OK					6	47	11	1	1		1	103
OR				2	1	16	7	3	1	1		104
PA					5	31	12	3				104
PR						4	4	2	2	1	1	110
RI						4			2			103
SC			1	1	3	20	4	5	1		1	104
SD			1	1	10	28	15	4	1		1	103
TN			1	1	10	40	14	7	2			103
TX	1			5	34	111	42	18	2	2		104
UT					7	12	4	1	2			103
VA			1		10	29	19	2	2			104
VI						3						105
VT					1	9	2					103
WA			1	2	1	13	10	6				105
WI			1	1	2	43	14	1				103
WV				2	9	23	6	2	1	1		103
WY					5	15	3					102
US	1	4	9	63	311	1444	543	159	40	14	10	103

ATTACHMENT 1A

FY 2018 - 2019 Distribution of changes in Area Median Income

(100 Percent = FY 2018 Income Level)

Metropolitan Areas

STATE	Percent Change											
	less	80% to	85% to	90% to	95	100%	105.1%	110.1%	115.1%	120.1%	125.1%	Median
						2	1					105
AK					1	2						101
AL					3	4	6	2	1			106
AR					2	5	3	1				104
AZ				1		2	3	1				106
CA					2	10	11	4	2		1	106
CO					2	4	1		1			104
CT					1	5	2	2	1			104
DE				1		1						99
FL				1	3	17	6	1		1		104
GA					2	13	4	3	2		1	105
HI						2						103
IA						4	4	4				108
ID				1	1	2	2		1			105
IL					3	13	3					102
IN					2	11	5	1	1			104
KS				1		2	1	1	1			107
KY					1	3	3	3				107
LA		1		2	6	6						99
MA					1	4	3	2		1		106
MD				1	1	3	2	1				102
ME					1	7						103
MI				1	2	7	5	2	1			105
MN						7	3					105
MO					2	11	2					103
MS					1	3	3					105
MT						2		1			1	108
NC					4	16	6	2				103
ND				1		2	2					103
NE						5	3					105
NH					1	1	1					102
NJ						1	3					107
NM						2		2				107
NV						1	1	1				106
NY				2	1	12	8					104
OH				1	4	11	2					102
OK						6	2		1			104
OR				1		3	1	3				106
PA					3	9	7	2				105
PR						4	3	2	2	1	1	110
RI						4			2			103
SC					2	7	2	4			1	104
SD					1	1	2					106
TN				1	1	12	4	3	1			105
TX	1			2	8	22	7	3				103
UT						5	2					103
VA					3	8	6	1	1			104
VT					1							99
WA						7	5	3				107
WI			1		1	7	6	1				103
WV					2	5		2		1		103
WY					1	1						99
US	1	1	1	17	70	304	146	58	18	4	5	104

ATTACHMENT 1B

FY 2018 - 2019 Distribution of changes in Area Median Income

(100 Percent = FY 2018 Income Level)

Non-metropolitan Areas

STATE	Percent Change											
	less	80% to	85% to	90% to	95	100%	105.1%	110.1%	115.1%	120.1%	125.1%	Median
					2	2						102
AK			1	1	5	11	3	2	2			102
AL				2	3	21	10	1	1			104
AR					6	38	7	3		1		103
AZ					1	4	1				1	101
CA				1	3	10	3	3		1		103
CO		1		1	12	26	4	3				102
CT						1						104
FL				3	5	10	5					102
GA		1		7	12	32	19	10	1	2	1	104
GU						1						105
HI					1	1						99
IA					10	53	14	1				103
ID					4	16	10	2				104
IL					10	40	10	2				103
IN				1	2	30	11	4				104
KS				1	7	58	16	3				103
KY		1	1	3	15	42	16	3	2	1		103
LA			1	1	5	13	8	1				102
MA						1	1	1				106
MD					1	5						104
ME					1	6	4					105
MI				1	2	42	9	1	2			103
MN					1	45	13	1				104
MO				3	11	47	17	3	1			103
MS				4	11	32	14	3			1	103
MT				1	7	22	15	5		1		104
NC				1	5	34	12	1	1			103
ND				1	4	26	12	2	1	1		104
NE				1	6	46	19	8				104
NH				1		4	1	1				105
NM				1	3	18	4					102
NV					1	7	4	1				103
NY					1	19	2	2				103
OH					3	30	13	3	1			104
OK					6	41	9	1			1	103
OR				1	1	13	6		1	1		104
PA					2	22	5	1				104
PR							1					106
SC			1	1	1	13	2	1	1			102
SD			1	1	9	27	13	4	1		1	103
TN			1		9	28	10	4	1			103
TX				3	26	89	35	15	2	2		104
UT					7	7	2	1	2			103
VA			1		7	21	13	1	1			105
VI						3						105
VT						9	2					103
WA			1	2	1	6	5	3				104
WI				1	1	36	8					103
WV				2	7	18	6		1			102
WY					4	14	3					104
US		3	8	46	241	1140	397	101	22	10	5	103

ATTACHMENT 2

FY 2019 Median Family Incomes for States, Metropolitan and Nonmetropolitan Portions of States

	FY 2019		
	TOTAL	METRO	NONMETRO
Alabama	63500	68100	51500
Alaska	94200	99700	83400
Arizona	67900	69100	49700
Arkansas	59000	64400	52100
California	82200	82800	64800
Colorado	85800	88300	68100
Connecticut	100400	100300	100900
Delaware	78900	78900	60600*
District of Columbia	104700	104700	60600*
Florida	65100	65500	51700
Georgia	69100	73600	52100
Hawaii	92200	97300	74600
Idaho	67200	70100	62100
Illinois	81800	85000	66300
Indiana	70200	72300	64500
Iowa	76900	83700	69400
Kansas	75200	83700	61500
Kentucky	62700	72700	51200
Louisiana	61100	63900	50900
Maine	72600	78200	64800
Maryland	101300	102300	68400
Massachusetts	101200	101400	91500
Michigan	71600	74800	61100
Minnesota	88600	95000	72400
Mississippi	56000	64300	49500
Missouri	69100	75000	55200
Montana	70500	74300	68700
Nebraska	78100	84600	70000
Nevada	69500	69500	69700
New Hampshire	92100	101100	81600
New Jersey	100500	100500	60600*
New Mexico	60400	63700	53100
New York	82200	84300	66200
North Carolina	66200	70100	55200
North Dakota	84500	86400	81900
Ohio	70900	72900	65400
Oklahoma	65500	70000	57000
Oregon	75400	79400	57500
Pennsylvania	76900	79300	63200
Rhode Island	82800	82800	60600*
South Carolina	65400	68400	52300
South Dakota	75300	79900	70600
Tennessee	64500	69300	52500
Texas	71200	73300	58700
Utah	78800	80200	68800
Vermont	79500	91600	73600
Virginia	88500	95300	57400
Washington	86300	89100	64300
West Virginia	60300	64700	54200
Wisconsin	77500	81900	68400
Wyoming	78200	76400	79700
US	75500	77900	60600

* US non-metropolitan median