Methodology for Calculating FY 2021 Medians

Overview

HUD calculates median family 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 family incomes, which means that medians are developed for each metropolitan area, parts of some metropolitan areas, and each nonmetropolitan county. For FY 2021, the geographic definitions incorporate all changes published by the Office of Management and Budget through the April 10, 2018 bulletin. A new metropolitan area was formed in 2018, Twin Falls, ID MSA, which means that the two nonmetropolitan counties in this MSA (Jerome County and Twin Falls County) are now metropolitan counties and identified by HUD as HUD Metro FMR Areas (HMFAs).

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 Census also conducts an annual survey called the Puerto Rico Community Survey (PRCS). To compute the FY 2021 median incomes, HUD uses survey data from the 2018 ACS and PRCS. HUD inflates the 2018 data using a Consumer Price Index (CPI) forecast from the Congressional Budget Office (CBO) through the midpoint of FY 2021. For the U.S. Virgin Islands and Guam, American Samoa, and the Northern Marianas (the Pacific Islands), HUD bases the median family incomes and income limits on 2010 Decennial Census data which is the most current information available. The decennial data for the U.S. Virgin Islands and the Pacific Islands reports 2009 median family incomes. HUD trends these incomes forward using the change in national median family incomes between 2009 and 2018 (from the ACS). HUD then applies the same CBO forecast from 2018 to the mid-point of the fiscal year, April 2021.

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

As mentioned above, for the FY 2021 median family incomes HUD incorporates the 2018 ACS data into the calculation process. Specifically, for each metropolitan area, subarea of a metropolitan area, and nonmetropolitan county, HUD determines if a statistically valid one-year ACS income estimate is available. If one-year data is not available, then HUD users statistically valid five-year ACS data (data collected from 2014 through 2018. There are cases where statistically valid five-year ACS data is not available. In those cases, HUD uses an average of at least two of the past three years of income estimates. If at least two years of statistically valid income data are not available, HUD uses the one-year state nonmetro median.

Statistically Valid Estimate

For the FY 2021 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 current and previous years' estimates must meet the margin of error condition for HUD to use them in averaging. In the few cases where the statistical confidence interval for the 5-year ACS estimate of median family income is greater than half the estimate for more than one of the three years HUD uses in averaging (the current year and the two previous years), HUD assigns the state nonmetropolitan median.

CPI Inflation and Trend Factor

HUD uses a CPI forecast from CBO to inflate the 2018 ACS data to the mid-point of FY 2021. HUD uses CBO projection of fiscal year CPI, published in February 2021, to inflate the 2018 data.

Last year HUD discussed considering a change that would replace the CBO forecast with the economic forecast of the Office of Management and Budget (OMB), beginning with the calculation of the FY 2021 Medians. This OMB forecast would have matched the economic assumptions used in the calculation of HUD median family income estimates with assumptions used in the formulation of the Administration's Budget and with the economic assumptions used in the calculation of Fair Market Rents (FMRs). However, HUD did not use the OMB economic assumptions in the calculation of the FY 2021 FMRs. HUD uses CBO forecast assumptions because they were based on more recent economic data that measured early economic impacts of the pandemic. HUD will still consider using OMB forecasts instead of CBO forecasts next year.

Median Calculations

HUD starts Median family income estimates with the development of median family incomes for the nation (with national metropolitan and nonmetropolitan median incomes), for each state and territory (again including national metropolitan and nonmetropolitan median family incomes), and for each metropolitan area and nonmetropolitan area using the FMR area definitions for the United States and its territories. The major steps for calculating medians[1] are detailed below:

HUD uses 2018 ACS or PRCS median family incomes as the basis for FY 2021 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 2018 one-year ACS or PRCS data, HUD uses these. If not, HUD uses statistically valid 2018 five-year data. Where statistically valid five-year data is not available, HUD averages the valid income estimates from the current (where there is valid margin of error of the estimate) and two previous years of ACS or PRCS data or for at least two of these three years.

HUD considers the 2017 five-year data and the 2016 five-year data valid if the margin of error of the estimate is less than one-half of the estimate. These are inflated to 2018 using the change in national CPI calculated between 2016 or 2017and 2018.

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[1] 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 metropolitan subareas, HUD Metro FMR Areas (HMFAs), HUD does 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. For these subareas HUD uses the 2018 ACS data for the larger metropolitan area.

For all places in the US and Puerto Rico:

HUD trends all estimates (using either one-year data or five-year data) 2018 to April 2021 using the CPI forecast produced by CBO.

For the non-Puerto Rico Insular Areas of the United States,[2] which currently lack the annual survey of ACS or PRCS, HUD used 2010 Decennial Census data for the first time in the FY 2016 median family incomes and income limits. The 2010 Decennial Census data continue to be the basis of the FY 2021 median family incomes and income limits. HUD uses national ACS median family income changes to update 2010 Decennial Census data (which is 2009 median family income data) to 2018 and then applies the same CBO forecast trend factor to bring the data forward to the midpoint of FY 2021.

Attachment 1 shows the distribution of changes in median family incomes between FY 2020 and FY 2021 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 metropolitan and nonmetropolitan median family incomes for each state and for the United States.

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[2] 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 2020 - 2021 Distribution of changes in Area Median Income
(100 Percent = FY 2020 Income Level)

STATE	less than 80%	80% to 84.9%	85% to 89.9%	90% to 94.9%	95 to 99.9	100% to 105%	105.1% to 110%	110.1% to 115%	115.1% to 120%	120.1% to 125	125.1% or more	Median
				1	1	3	2					102
AK				2	5	18	3					102
AL				2	7	34	9	2				103
AR				3	12	37	7	5	2			102
AZ				2	3	9						100
CA			1	4	10	27	8				1	102
CO			3	3	9	27	11	2				102
CT				1	3	6	2					100
DE					1	1						100
FL				1	9	25	7	6	1	1	2	103
GA			4	6	18	53	16	8	2	2	1	103
GU						1						102
HI				1	1	2						101
IA		1		2	16	55	16					102
ID				1	12	15	10	1				102
IL		1		1	17	50	11	1				101
IN			1	3	11	42	11					102
KS			2	4	23	51	6	4	1			101
KY		1	1		18	60	11	2		1		102
LA			1	5	13	17	4	4				100
MA				1	1	8	2	2				104
MD					3	9	1	1				101
ME			1	1	2	14	1					101
MI			1	1	8	49	12	3		1		103
MN				1	15	49	5					102
MO				1	18	55	18	5				102
MS	1		2	8	8	32	16	3	1		1	103
MT	1	1	2	1	19	19	10	2				101
NC			5	3	17	38	15	1	2	1		103
ND				6	13	25	8					101
NE				4	16	52	15	1				102
NH				1	2	5	2					104
NJ					3	1						99
NM		1	1	4	8	11	2	2	1			100
NV			1	2	3	8	2					102
NY				6	6	23	10	2				102
OH			2	2	11	43	8	2				103
OK				3	16	41	5	1	1			101
OR				1	4	14	8	4				104
PA				4	7	35	1	3	1			102
PR				1	2	4	4	1	1	1		105
RI		1			1	3	1					102
SC			1	3	6	17	8	1				103
SD			4	4	16	26	7	4				101
TN				4	9	38	18	6				103
TX	2	1	3	20	53	87	33	13	1	1	1	101
UT			1		7	13	4	1				101
VA			2	4	8	38	9	2				101
VI						3						102
VT					1	10	1					103
WA				3	4	19	4	1	1	1		102
WI				1	10	45	4	2				103
WV			1	3	8	23	8	1				101
WY			1	1	6	11	2	1			1	101
US	4	7	41	136	500	1401	378	100	15	9	7	102

ATTACHMENT 1A
FY 2020 - 2021 Distribution of changes in Area Median Income
(100 Percent = FY 2020 Income Level)
Metropolitan Areas

STATE	less than 80%	80% to 84.9%	85% to 89.9%	90% to 94.9%	95 to 99.9	100% to 105%	105.1% to 110%	110.1% to 115%	115.1% to 120%	120.1% to 125	125.1% or more	Median
				1		1	1					102
AK					1	1	1					100
AL				1	4	10	1					102
AR				1	3	5		2				101
AZ				1	1	5						100
CA			1	1	4	17	6				1	103
CO					2	5	1					101
CT				1	3	5	2					101
DE					1	1						100
FL				1	4	16	3	3	1	1		103
GA				2	4	9	5	3	2			105
HI					1	1						101
IA		1		1	3	6	1					101
ID				1	4	2	2					99
IL		1		1	5	9	3					101
IN				2	5	10	3					102
KS					2	3		1				101
KY			1		2	4	2	1				101
LA				1	2	8	1	3				102
MA				1	1	5	2	2				104
MD					3	3	1	1				100
ME				1	1	5	1					100
MI			1		5	10	1	1				102
MN				1	3	6						101
MO				1	4	5	5					101
MS				2		3	2					103
MT	1	1			1	1						90
NC			2	2	7	10	6		1			101
ND				1	1	2	1					102
NE						7	1					101
NH					1	1	1					104
NJ					3	1						99
NM					4							97
NV						3						102
NY				2	2	13	6					103
OH				1	6	5	6					103
OK					2	5	2					103
OR					1	4	1	2				105
PA				3	4	9	1	3	1			102
PR				1	2	4	3	1	1	1		103
RI		1			1	3	1					102
SC				3	2	5	6					103
SD					2	1	1					99
TN				3	3	10	4	2				102
TX	1	1		4	11	15	7	3			1	101
UT					2	4	1					103
VA				3	2	12	2					102
VT							1					107
WA				1	2	10	2					103
WI				1	5	8	1	1				101
WV				2	1	4	3					102
WY						1		1				105
US	2	5	5	48	133	293	101	30	6	2	2	102

ATTACHMENT 1B
FY 2020 - 2021 Distribution of changes in Area Median Income
(100 Percent = FY 2020 Income Level)
Nonmetropolitan Areas

STATE	less than 80%	80% to 84.9%	85% to 89.9%	90% to 94.9%	95 to 99.9	100% to 105%	105.1% to 110%	110.1% to 115%	115.1% to 120%	120.1% to 125	125.1% or more	Median
					1	2	1					102
AK				2	4	17	2					102
AL				1	3	24	8	2				103
AR				2	9	32	7	3	2			103
AZ				1	2	4						101
CA				3	6	10	2					101
CO			3	3	7	22	10	2				102
CT						1						100
FL					5	9	4	3			2	104
GA			4	4	14	44	11	5		2	1	102
GU						1						102
HI				1		1						98
IA				1	13	49	15					102
ID					8	13	8	1				102
IL					12	41	8	1				101
IN			1	1	6	32	8					103
KS			2	4	21	48	6	3	1			101
KY		1			16	56	9	1		1		102
LA			1	4	11	9	3	1				99
MA						3						104
MD						6						101
ME			1		1	9						102
MI				1	3	39	11	2		1		103
MN					12	43	5					102
MO					14	50	13	5				102
MS	1		2	6	8	29	14	3	1		1	103
MT			2	1	18	18	10	2				101
NC			3	1	10	28	9	1	1	1		103
ND				5	12	23	7					101
NE				4	16	45	14	1				102
NH				1	1	4	1					103
NM		1	1	4	4	11	2	2	1			102
NV			1	2	3	5	2					102
NY				4	4	10	4	2				101
OH			2	1	5	38	2	2				103
OK				3	14	36	3	1	1			101
OR				1	3	10	7	2				103
PA				1	3	26						101
PR							1					106
SC			1		4	12	2	1				103
SD			4	4	14	25	6	4				101
TN				1	6	28	14	4				104
TX	1		3	16	42	72	26	10	1	1		102
UT			1		5	9	3	1				100
VA			2	1	6	26	7	2				101
VI						3						102
VT					1	10						103
WA				2	2	9	2	1	1	1		102
WI					5	37	3	1				103
WV			1	1	7	19	5	1				101
WY			1	1	6	10	2				1	101
US	2	2	36	88	367	1108	277	70	9	7	5	102

ATTACHMENT 2
FY 2021 Median Family Incomes for States,
Metropolitan and Nonmetropolitan Portions of States

	-------- FY 2021 --------		
	TOTAL	METRO	NONMETRO
Alabama	66700	70400	55100
Alaska	93900	99500	80600
Arizona	73200	74300	51900
Arkansas	60700	66900	54100
California	90100	90600	69700
Colorado	93000	96500	73500
Connecticut	102600	102500	102900
Delaware	83000	83000	63400*
District of Columbia	123100	123100	63400*
Florida	70000	70600	55400
Georgia	74700	79700	54900
Hawaii	99800	104700	81100
Idaho	69000	72500	59500
Illinois	85000	88400	67900
Indiana	73300	75300	66800
Iowa	79500	85400	71800
Kansas	77400	85200	65100
Kentucky	65100	74400	54300
Louisiana	64700	68300	48400
Maine	75700	85100	63600
Maryland	106000	107000	72000
Massachusetts	106200	106500	84100
Michigan	75300	78500	64500
Minnesota	93100	99600	74500
Mississippi	60000	68200	53100
Missouri	72300	78900	56300
Montana	72100	73800	71000
Nebraska	79400	85600	70300
Nevada	75100	74500	80100
New Hampshire	98200	106200	85300
New Jersey	106000	106000	63400*
New Mexico	61400	64500	54600
New York	87100	89500	69400
North Carolina	70900	75000	58500
North Dakota	90100	93000	85800
Ohio	75300	78200	66300
Oklahoma	67000	71400	59300
Oregon	81200	85000	65800
Pennsylvania	81000	83800	65100
Rhode Island	88000	88000	63400*
South Carolina	68700	71300	53600
South Dakota	75500	82000	70100
Tennessee	68600	72800	56400
Texas	75100	77400	60900
Utah	85300	86500	74100
Vermont	84100	95900	78800
Virginia	93000	99500	59700
Washington	91600	95200	71300
West Virginia	60300	63800	54800
Wisconsin	80300	84400	71800
Wyoming	81900	83200	81000
US	79900	82800	63400

* US nonmetropolitan median