Calculating AMI

How Calculation of Area Median Income Affects Housing Policy

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Each year, the US Department of Housing and Urban Development (HUD) calculates the area median income (AMI)[1] for each county or multicounty metro area. AMI is used to calculate income limits on program eligibility and, in some cases, affordable rents for a host of federal and local programs, including the largest affordable housing programs in the United States. In this brief, we detail how HUD calculates AMI and explain how HUD and other agencies and programs use AMI to set income limits that dictate who can access subsidized housing and how much they will pay in rent. We then describe annual changes in AMIs, break down the factors that produce changes in AMIs, and document the accuracy of AMI calculations in five large metropolitan areas. We find that when the inflation rate is higher than the rate of income growth in an area, HUD's AMI calculation will be higher than the actual area median income; conversely, when incomes are increasing faster than inflation, HUD's AMI calculation will be lower than the actual median income. We conclude with areas for additional research and policy review.

Project Overview

The federal government has used HUD's AMI to set income limits since the United States Housing Act of 1937, which established the nation's public housing system. Each year, HUD calculates the AMI for every HUD fair market rent (FMR) area. In 2022, the average AMI of these areas was $80,205.

AMIs are then used to set the income limits used to determine eligibility for many national, state, and local housing and housing finance programs. For example, HUD uses AMI to calculate eligibility for its largest housing programs, including the Housing Choice Voucher program (formerly known as Section 8), public housing, and Section 202 and 811 housing. The US Department of the Treasury uses AMI to set both income limits and rents for properties financed through the Low-Income Housing Tax Credit (LIHTC) program and tax-exempt housing bonds, playing a large role in affordable housing production and subsidies.

Local housing agencies, affordable housing developers, and affordable housing property owners and managers rely on AMI calculations for both financial planning and service provision. However, recent inflation has raised potential concerns with the AMI calculation and its impact on families who rely on affordable housing units. Amazon provided funding to the Urban Institute to examine the reliability of AMI calculations and the implications of using AMI as a method to calculate income limits and rents. Amazon was interested in this analysis as it considers implications for its Housing Equity Fund (HEF), which committed $2 billion dollars to preserve and create affordable housing in three communities: Puget Sound in Washington state; greater Arlington, Virginia, including the District of Columbia; and Nashville, Tennessee. We anticipate that these findings will inform the broader fields of policy and practice, including for public and private entities that use AMI to inform their rent-setting approach.

This work was guided by the following research questions:

- How does HUD calculate median family income?

- How is AMI used to calculate income limits or set rents?

- How much does AMI change year over year?

- What are the ramifications if AMIs are inaccurate (i.e., too high or too low)?

- What are potential alternatives to calculating AMIs?

The team reviewed HUD methodology documents as well as related program documents to understand how AMI is calculated and used to determine income eligibility and rents. To understand AMI calculations and to examine historic AMI trends, we collected data from the following publicly available sources in the first quarter of 2023[2]:

- HUD Income Limits

- HUD Multifamily Tax Subsidy Projects Income Limits

- US Census Bureau American Community Survey (ACS)

- Federal Reserve Bank of Atlanta Wage Growth Tracker

- US Bureau of Labor Statistics Consumer Price Index

In our analysis, we examined both national, overall trends and AMI accuracy in five metropolitan areas: Houston, Texas; Nashville, Tennessee; New Orleans, Louisiana; Seattle, Washington; and

Washington, DC. We selected three of these metro areas—Nashville, Seattle, and Washington—because they have housing projects funded by Amazon HEF and are sites of ongoing research by the Urban Institute. We added Houston and New Orleans to include a broader range of median incomes. All five metro areas have populations of more than 1 million people, which increased the reliability of one-year ACS estimates and ensured greater sample sizes in some exploratory analysis using ACS microdata (not included in this brief).

We use HUD's metropolitan fair market rent areas (HMFAs) for analysis using HUD's median family income estimates and generally use ACS tabulations of HMFAs accessed from the agency's Income Limits Documentation System. ACS standard tabulations are available directly from the Census Bureau for metropolitan statistical areas (MSAs) that correspond to but differ somewhat from HMFAs (table 1). In a few instances, our analysis is limited by the fact that HMFA and MSA definitions differ; in each of these five places, the current MSA definition includes counties that are outside of the HMFA.

TABLE 1

Metropolitan Areas Evaluated

Metropolitan area	HUD FMR area	Metropolitan statistical area	AMI in 2022
Houston, TX	Houston-The Woodlands-Sugar Land, TX HUD Metro FMR Area	Houston-The Woodlands-Sugar Land, TX MSA	$90,100
Nashville, TN	Nashville-Davidson-Murfreesboro-Franklin, TN HUD Metro FMR Area	Nashville-Davidson–Murfreesboro–Franklin, TN MSA	$96,700
New Orleans, LA	New Orleans-Metairie, LA HUD Metro FMR Area	New Orleans-Metairie, LA MSA	$81,900
Seattle, WA	Seattle-Bellevue, WA HUD Metro FMR Area	Seattle-Tacoma-Bellevue, WA MSA	$134,600
Washington, DC	Washington-Arlington-Alexandria, DC-VA-MD HUD Metro FMR Area	Washington-Arlington-Alexandria, DC-VA-MD-WV MSA	$142,300

Source: US Department of Housing and Urban Development income limits data, FY 2022.
Notes: FMR = fair market rent; AMI = area median income.

AMI Calculation and Components

Over the years, HUD has modified its methodology for calculating AMI as better data became available and to accommodate economic outlooks that might affect expected incomes. In this section, we first describe the methodology for calculating the AMI for 2023 and then provide a summary of methodology changes over the last decade.

AMI Calculation for 2023

Calculating AMI involves two primary elements: median family income and the inflation adjustments that bring the median income to the current year.[3] After calculating median family income and adjusting for inflation, the estimate is then rounded to the nearest $100 to create the final AMI.

MEDIAN FAMILY INCOME

Since FY 2011, HUD has based its AMI estimates on the most recent available data from the Census Bureau's American Community Survey (ACS). To estimate FY 2023 AMI, HUD used median family income estimates from special tabulations of the 2021 ACS that match HUD's HMFA definitions for the 50 US states, the District of Columbia, and Puerto Rico. (HMFAs comprise one or more counties or county equivalents in metropolitan areas and individual nonmetropolitan counties.) The Census Bureau provides these median family income estimates directly to HUD, and they are not part of any other Census products.

Census defines a family as a group of two or more people—one of whom is the head of household— related by birth, marriage, or adoption and residing together. Family income, as defined by Census, includes "money income received on a regular basis…before payments for personal income taxes, Social Security, union dues, Medicare deductions, etc." received in the past 12 months. Irregular income, such as gifts or capital gains, and noncash benefits, such as food stamps, health benefits, subsidized housing, and goods produced and consumed on a farm, are not included in family income.[4]

HUD uses the ACS data extracts from Census for the most recent available one-year and five-year estimates. For FY 2023, HUD uses data from the 2021 ACS. The one-year ACS estimates are calculated using survey data collected during a single calendar year, in this case 2021. The five-year estimates are based on data collected over a longer period (here, 2017 to 2021) and therefore are less descriptive of recent economic conditions. The ACS collects survey data monthly and uses the Consumer Price Index (CPI) to adjust incomes for inflation and standardize them to the average CPI level for the year or to the average CPI of the last year of the five-year period.[5]

For each geographic area, HUD determines which ACS estimate is the most reliable, starting with the one-year estimates. The one-year estimates tend to be more reflective of recent local market changes compared with five-year estimates that pool more years of data. However, given the smaller sample sizes, one-year estimates are prone to higher margins of error. HUD deems an estimate reliable when the margin of error is less than half of the estimate and the survey median is based on at least 100 responses.

In cases where one-year ACS estimates are not statistically reliable, HUD will proceed as follows:

1. If they meet the margin of error standard, HUD uses the most recent five-year ACS estimates.

2. When the current year five-year estimates are not reliable, HUD checks the five-year estimates from the two previous years to determine if they meet the margin of error standard. For the FY 2023 AMI calculation, if the 2017–2021 ACS five-year estimate failed to meet the margin of

error standard, HUD would check the 2016–2020 and 2015–2019 five-year estimates for reliability. If both of these estimates meet the margin of error standard, then HUD would average those five-year estimates after inflating the values to the current ACS year using CPI.[6] And if either estimate in the previous two years of the five-year estimates are not reliable, HUD would check for one additional previous year. If two out of the three previous years have minimally reliable estimates, HUD would average those five-year estimates after inflating the values to the current ACS year with Bureau of Labor Statistics (BLS) CPI data.

3. If only one of the previous three years of the five-year estimates are reliable, HUD uses the estimate for the next-largest geography that contains the area lacking a reliable estimate.

INFLATION ADJUSTMENT

Because there is a gap between when ACS data are collected and released, there is a lag between the most recent year of ACS income data available and the fiscal year for which the income limits and AMI are in effect. For FY 2023, HUD multiplied the 2021 ACS estimate of median income by an inflation factor based on aggregated changes in CPI between 2021 and 2023.

For the inflation adjustment for FY 2023, HUD used inflation forecast from the Congressional Budget Office (CBO) in 2023 to bring 2021 income data to 2023 estimates. When calculating the 2023 AMI, the CPI inflation factor is calculated by dividing the CBO–projected 2023 CPI by the 2021 annual actual CPI to measure the cumulative change of dollar income values between 2021 and February 2023.

In total, AMIs are based on survey data that have been adjusted for inflation two or three times. First, the data are adjusted internally by the Census during the tabulation process. If the margin of error is high, HUD inflation-adjusts older ACS estimates and averages them with the most recent estimate. Finally, HUD applies the inflation factor to project the AMIs to the current year

Changes in AMI Methodology between 2013 and 2023

Table 2 presents an overview of the data sources used for calculating AMI between 2013 and 2023. The most important change came in 2023. Between 2015 and 2021, HUD calculated AMIs using three-year-old ACS data and released AMIs and income limits in March or April. For example, the FY 2022 AMIs were prepared in 2022 based on ACS data from 2019, with a three-year inflation adjustment. However, since Census did not release special tabulations of ACS 2020 one-year data because of the impacts of the COVID-19 pandemic on data collection, in 2023, HUD delayed the release of AMIs and income limits to May in order to incorporate one-year tabulations from the 2021 ACS. This reduced the inflation adjustment from three years to two. HUD may continue with the later release and smaller inflation adjustment but has not made an official statement on whether this change will become permanent.

TABLE 2
Data Sources for AMI Calculation between 2013 and 2023

	Base family median income	Inflation adjustment
2023	2021 ACS and PRCS	2023 CBO projection of fiscal year CPI
2022	2019 ACS and PRCS	2022 Bureau of Labor Statistics CPI
2021	2018 ACS and PRCS	2021 CBO projection of fiscal year CPI
2020	2017 ACS and PRCS	2020 CBO projection of fiscal year CPI
2019	2016 ACS and PRCS	2019 CBO projection of fiscal year CPI
2018	2015 ACS and PRCS	2018 CBO projection of fiscal year CPI
2017	2014 ACS and PRCS	2017 CBO projection of fiscal year CPI
2016	2013 ACS and PRCS	2016 CBO projection of fiscal year CPI
2015	2012 ACS and PRCS	2015 CBO projection of fiscal year CPI
2014	2011 ACS and PRCS	December 2012 CPI and a trending factor based on 2006–2011 ACS
2013	2010 ACS and PRCS	December 2011 CPI and a trending factor based on 2005–2010 ACS

Source: Authors' analysis of HUD methodology documents, https://www.huduser.gov/portal/datasets/il.html#2022_documents.
Notes: ACS = American Community Survey. PRCS = Puerto Rico Community Survey. CBO = Congressional Budget Office. CPI = Consumer Price Index.

From 2015 to 2021, the methodology and data sources for calculating AMI largely remained the same. When available, HUD has used the CBO projection of CPI over the fiscal year, which accounts for both prior inflation and inflation through the rest of the year for which the AMI will be in effect. Before 2015, HUD used an inflation trending factor estimated from prior years' inflation data instead. In 2022, HUD used the February CPI published by the BLS because the CBO forecasts were not published in time for the calculation. As a result, the 2022 AMI did not account for the difference between the February CPI and the average CPI for the year.

In recent years, HUD also considered replacing the CBO inflation projections with those developed by the Office of Management and Budget (OMB).[7] However, this change has not been implemented, in part because the OMB forecasts were not available for public release in 2020 and the CBO forecasts were considered more accurate in measuring the economic impacts of the pandemic in 2021.

Program Eligibility and Rules Defined by AMI

Once calculated, AMIs can be used to set program rules or requirements, including determining eligibility by income, setting rents for affordable housing programs, and deciding which geographies should be eligible for certain grant programs.

Using AMI to Set Income Limits for Program Eligibility

Perhaps the most common application of HUD's AMIs is to determine participant eligibility by setting income limits for affordable housing programs—specifically those managed by HUD—as well as a

variety of other federal programs. Income limits are generally set as a percentage of median income. For example, low-income families are defined by law as those with incomes below 80 percent of AMI; very low-income families as those with incomes below 50 percent of AMI; and extremely low-income families as those with incomes either below 30 percent of AMI or the federal poverty level (whichever is higher). Table 3 lists the federal programs that use AMI to set income limits for eligibility and their eligibility requirements.

TABLE 3

Programs that Use AMI to Set Income Eligibility Standards

	Programs	**Income eligibility standard**
US Department of Housing and Urban Development	Housing Choice Vouchers, project-based rental assistance, and public housing	Low-income limits (80 percent AMI), very low-income limits (50 percent AMI), or extremely low-income limits (the higher of 30 percent AMI or the federal poverty line), each of which is subject to additional floors, caps, or other adjustments
	Indian Housing (1996 Act)	"Low income," defined as the greater of 80 percent AMI for the Indian area or of the US national AMI
	Section 202 (elderly), Section 811 (supportive housing for persons with disabilities programs)	Very low-income limit (50 percent AMI) or low-income limit (80 percent AMI), subject to floors, caps, or other adjustments
	Section 236 (rental program)	Low-income limits (80 percent AMI), subject to additional floors, caps, or other adjustments
	Community Planning and Development programs	Very low-income limits (50 percent AMI, subject to additional floors, caps, or other adjustments) or low-income limits (80 percent AMI) for current programs; uncapped 80 percent income limits for selected metropolitan areas and New Jersey (AMI)
	HOME Investment Partnerships Act of 1990	60 percent income limits or 65 percent income limits (AMI) used as income targeting and qualification requirements; both limits are calculated from the very low-income limits created for the programs listed above.
	National Homeownership Trust Act of 1990	95 percent income limits or 115 percent income limits for high-cost areas (AMI)
	Low-Income Housing Preservation and Resident Homeownership Act of 1990	"Moderate income," defined as 80 to 95 percent AMI
US Department of the Treasury	Multifamily Tax Subsidy Projects (LIHTC and tax-exempt Mortgage Revenue Bonds for rental housing)	Section 8 very low-income standard (50 percent AMI) or 120 percent of that definition (i.e., the "60 percent of median" standard) for projects determining income eligibility that have not used income limits before FY 2012 (excludes projects using income limits in FY 2010 or earlier)
	Tax-exempt Mortgage Revenue Bonds for homeownership financing	115 percent income limits (defined as 230 percent of the Section 8 very low-income standard of 50 percent AMI)

	Programs	Income eligibility standard
	"Difficult development area" Designation (LIHTC)	Areas with the worst housing cost problems as measured by the FMR to 60 percent AMI ratio; this designation is awarded to the population-weighted 20 percent of the metro and nonmetro areas with the most severe problems and is recalculated annually
	"Qualified census tract" (LIHTC definition)	Areas where 50 percent of all households have incomes less than 60 percent of AMI, adjusted for household size, or the poverty rate is 25 percent or higher (Decennial Census)
	"Qualified census tract" (Mortgage Revenue Bond program)	Areas where 70 percent of all families have incomes less than 80 percent of the state AMI (Decennial Census)
Federal Home Loan Banks	Rental program funding priorities	Very low-income (60 percent AMI, defined as 120 percent of very low-income), and low-income standards used
	Homeownership funding priorities	115 percent and 140 percent AMI limits are used
Rural Housing and Community Development Service	Rental and ownership assistance programs	Assistance based on HUD Section 8 low-income limits (80 percent AMI) or very low-income limits (50 percent AMI), or income limits tied to these standards
US Department of Veterans Affairs	Eligibility for disability income support payments to veterans	Eligibility for non-service-related income support payments is restricted to families with incomes below the HUD low-income standard (80 percent AMI)
Federal Housing Finance Agency	Federal Home Loan Bank Rental program, homeownership funding program	Income eligibility based on very low-income limit (50 percent), 60 percent income limit, low-income limit (80 percent), 115 percent income limit, and 140 percent income limits
	Income-based housing goals of Freddie Mac and Fannie Mae	Goals for percentages of loans are established for households with incomes at or below specified percentages of the HUD–published median family income for metropolitan and nonmetropolitan areas

Sources: Adapted from US Department of Housing and Urban Development, "Methodology for Calculating FY 2022 Medians: HUD Procedure for Estimating FY 2022 Median Family Incomes" (Washington, DC: HUD, 2022); US Department of Housing and Urban Development, "Assessment of Small Area Median Family Income Estimates" (Washington, DC: HUD, 2018).

Additionally, state and local governments use AMIs to calculate program eligibility. For example, during the COVID-19 pandemic, many cities provided emergency rental assistance to households that had lost income because of the pandemic—including Los Angeles, California; Baltimore, Maryland; and Dallas, Texas—all of which used AMI calculations to determine households that would be eligible.[8,9,10]

Actual income limits may deviate from fixed percentages of AMI from year to year because of floors, caps, and other adjustments designed to address equity concerns or prevent large fluctuations in a single year. For example, the "very low" income limits used for most HUD programs are calculated in six steps:

1. Multiply median family income by 0.5 to get a preliminary income limit.

2. Adjust the income limit upward for high housing costs if 85 percent of the annualized two-bedroom FMR is higher than 35 percent of the preliminary income limit.

3. Adjust the income limit downward for low housing costs if the annualized two-bedroom FMR divided by 30 percent is greater than 80 percent of US median income.

4. Adjust the income limit up if it is less than 50 percent of the state nonmetro median family income.

5. Cap the income limit so it neither declines by more than 5 percent nor increases by more than the larger of 5 percent or twice the national change in median family income measured between the two most recent years of the ACS.

6. Use the adjusted income limit for four-person households and implement family size adjustments for families of one to eight people.[11]

The preliminary extremely low-income limit is set as 60 percent of the very low-income limit; if it is lower than the federal poverty line, it is adjusted up to either the federal poverty line or the very low-income limit, whichever is lower. And, the low-income limit is set at 1.6 times the very low-income limit, reduced to ensure that it is never higher than the national median income and adjusted again (as in steps 2 and 3 above) for high or low housing costs.

The Housing Choice Voucher program is the largest housing assistance program in the country, serving 2.4 million households.[12] Housing agencies that administer the program are not funded enough to provide vouchers to all eligible households and must provide 75 percent of available vouchers to households with incomes below the extremely low-income (30 percent AMI) limit. As a result, the extremely low-income limit is generally the one that affects who is eligible to enter the program. Once households are admitted to the program, housing subsidies are calculated based on the household's income and cost of rent. The subsidies phase out as incomes rise and are generally unaffected by changes in AMI.

When AMI or income limits are set too high, housing assistance programs become less targeted to the households most in need. Since these programs have limited funding, the number of people who can take advantage of the programs does not increase when AMI and income limits grow faster than inflation.

Using AMI to Set Rents

Another common use of AMIs is to determine rents for affordable housing programs. Unlike with income eligibility, which tends to be a defined percentage of AMI, the way AMI is used to determine rent varies widely depending on the program or agency. Generally, for affordable housing development and preservation, rents that use AMI are determined by the unit size or the number of bedrooms and

represent a portion of the targeted tenant's income. Rents and rent increases for programs that use AMI in this way are based on the income limit for the unit rather than tenants' actual income.

LIHTC–financed properties determine eligibility and set rents using income limits published by HUD that are based on the 50 percent very low-income limits that HUD uses for voucher and public housing programs. For example, rent in a LIHTC–financed unit designated for households at the 50 percent AMI level is set so that a family earning exactly as much as the very low-income limit would pay 30 percent of their income toward rent. If the very low-income limit did not have any floors, caps, or adjustments applied, monthly rent would be equal to 1/12 of 30 percent of the 50 percent of AMI (1.25 percent of AMI). Increases or decreases in rent for these units are generally made annually based on changes in the AMI, regardless of a tenant's income.[13]

Other housing assistance programs, including most HUD programs, tend to set payment standards and caps on rents based on the local FMR, which is calculated to approximate the 40th percentile of rent in the area. The tenants' portion of rent is then set as a percentage of their income to minimize rent burden (for example, ensuring that tenants pay no more than 30 percent of their income toward rent). While AMI does factor into a tenant's eligibility, the rent itself is not tied to AMI. And changes to the tenant's portion of the rent are tied not to changes in the market, and by extension their unit, but rather to their own income. In a 2018 report titled *Assessment of Small Area Median Family Income Estimates* (2018), HUD recommends against tying rents to AMI: "Furthermore, HUD contends that using Income Limits to define maximum rental rates is not in the best interest of tenants. Maximum rental rates are calculated at 30% of the maximum monthly income limit for the unit in question. Unless a family is fortunate enough to have income levels just at the level of the controlling income limit, they will pay more than 30 percent." It is important to note that, while LIHTC rules generally require setting rents using AMI, there is an exception for LIHTC units in high housing cost areas that allows basing rents on FMR rather than AMI.

When AMI is used to set rents, increases in AMI can have a significant impact on tenants. Specifically, increases in AMI may lead to proportional increases in rents, making affordable housing less affordable for low-income households.

Other Uses of AMIs in Policymaking

Federal agencies, local governments, and other programs use AMIs in many additional ways. Some use AMIs as an alternative to the federal poverty rate to describe the economic conditions in their community for grant purposes. For example, some programs—such as the New Market Tax Credit—require applicants to demonstrate that their community meets specific economic conditions, such as more than 50 percent of the community having low incomes (or below 80 percent AMI) or that the overall median family income is 80 percent AMI (Latham 2023). AMIs can also be used in programs meant to support new home buyers or incentivize new construction in a community. For example, the cities of Philadelphia, Miami, New Orleans, and Durham all provide assistance for first-time homebuyers using AMI to set eligibility.[14] In another example, St. Paul, Minnesota, gives financial incentives to

apartment owners on the condition that they provide a set ratio of units to families making up to 60 percent AMI.[15]

Analysis of AMI Calculations

To answer our key research questions on national and local AMI trends, we conducted a deeper dive into historical AMI data. We found that, on a national level, AMI changes can vary year by year based on economic condition and outlooks. The amount that AMI changed between 2015 and 2022 varied across local markets, with differences driven by changes in median income three years prior. In the five metro areas we studied further, AMI differed from the actual median income by about 5 percent between 2010 and 2019.

Annual Changes in AMI

We calculated the change in AMI for every HMFA for each year, starting with the change between 2015 and 2016 and ending with the change between 2021 and 2022. The average AMI fell in 2016 (from 2015) and rose every year between 2017 and 2022, going from $62,894 to $72,100 (figure 1). Increases were generally small between 2017 and 2021, topping out at about 5 percent. With expected high inflation, however, national average AMI increased by more than 11 percent in 2022 (figure 1).

FIGURE 1

Percentage Change in AMI (National Average), 2015–2016 to 2021–2022

Percentage change from prior year
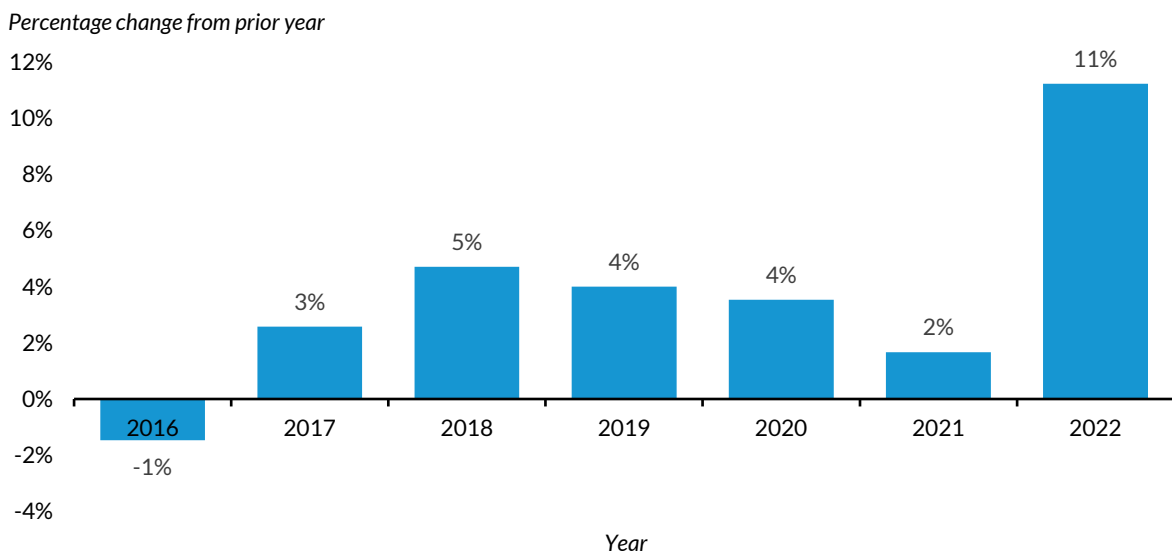
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Source: Authors' calculation using HUD income limits data, FY 2015 to FY 2022.
Notes: Authors calculated year-over-year change as a percentage of the prior year AMI for each HMFA and calculated an unweighted average across HMFAs.

Although a single inflation factor is applied to every county and metro area, the amount that AMI changes in a single year actually varies notably across HMFAs. Differences between HMFAs arise because each AMI forecast is based on a new base-year AMI tabulation from ACS. Table 4 shows how changes in base-year ACS and changes in inflation factor contribute to annual change in AMI. In the DC metro area, for example, the AMI rose from $126,000 in 2020 to $129,000 in 2021—a 2 percent increase. That increase was driven by a 4 percent increase in the actual base-year AMI—from $117,614 in 2017 to $122,111 in 2018—and a 2 percent decline in the inflation factor—from 1.0619 to 1.0454.

TABLE 4

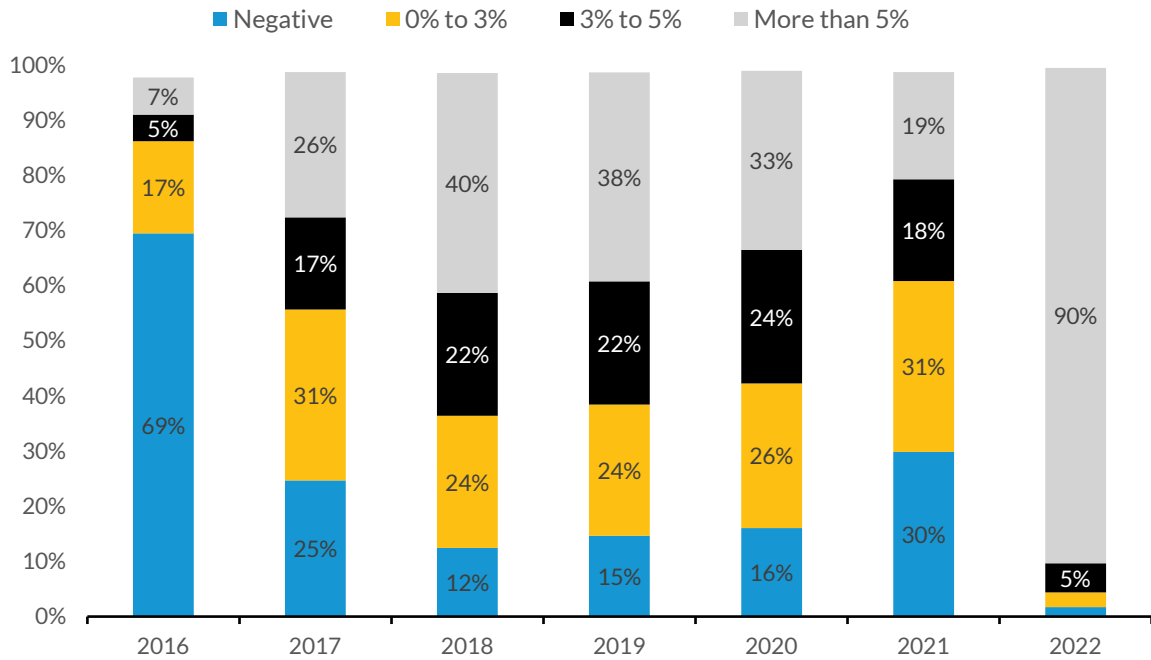**Decomposing Changes in AMI, 2020–2021 and 2021–2022**

Metro FMR area	Change in base-year median income	Inflation Factor	Prior year inflation factor	Change in inflation factor	Change in AMI
2020 to 2021					
Washington-Arlington-Alexandria,	4%	1.0454	1.0619	-2%	2%
Nashville-Davidson-Murfreesboro-Franklin	4%	1.0454	1.0619	-2%	2%
Seattle-Bellevue	4%	1.0454	1.0619	-2%	2%
New Orleans-Metairie	1%	1.0454	1.0619	-2%	0%
Houston-The Woodlands-Sugar Land	2%	1.0454	1.0619	-2%	1%
2021 to 2022					
Washington-Arlington-Alexandria,	4%	1.1116	1.0454	6%	10%
Nashville-Davidson-Murfreesboro-Franklin	8%	1.1116	1.0454	6%	15%
Seattle-Bellevue	9%	1.1116	1.0454	6%	16%
New Orleans-Metairie	10%	1.1116	1.0454	6%	17%
Houston-The Woodlands-Sugar Land	7%	1.1116	1.0454	6%	14%

Sources: HUD Income Limits, FY 2020 to FY 2022; Census American Community Survey one-year estimates special tabulation for HMFA geographies identified on HUD Income Limits documentation.

Looking across all metro areas and counties, annual changes in AMI vary considerably every year. We found that even in 2016, when average AMI fell by 1 percent because of the drop in inflation between 2015 and 2016 and a reduced inflation factor, 320 HMFAs (roughly 7 percent) had AMI increases of more than 5 percent due to the increase in the base-year median income tabulation (figure 2). In 2022, when the inflation factor rose by 6 percent, 90 percent of HMFAs saw an AMI increase of 5 percent or more, but AMIs fell in 2 percent of HMFAs due to a decline in base-year median income.

FIGURE 2
Share of HFMAs with Annual Percent Change in AMI

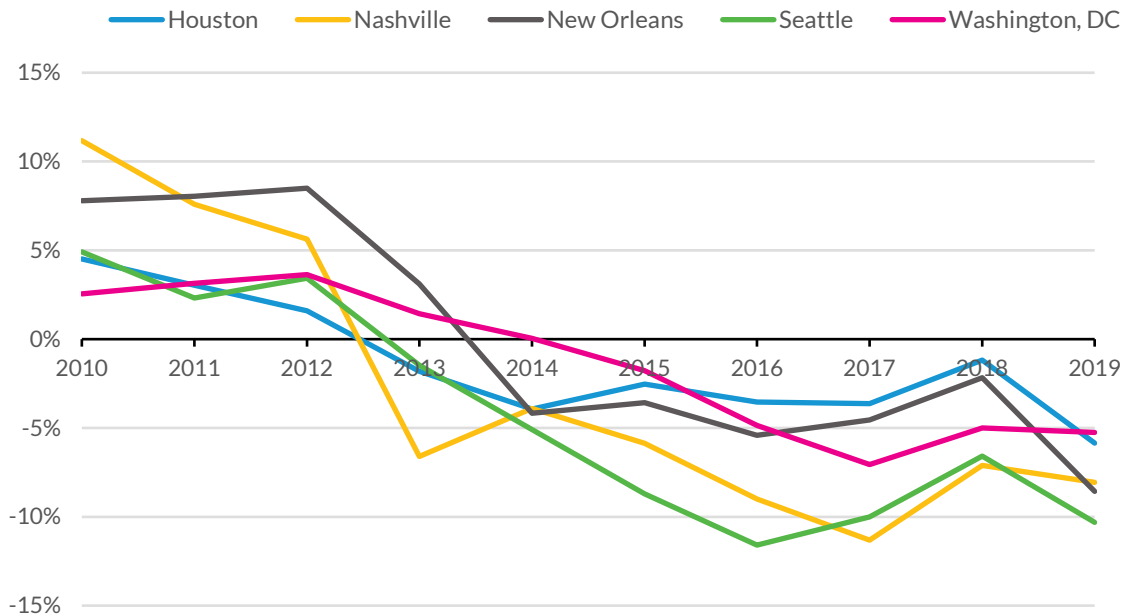**Source:** HUD Income Limits, FY 2015 to FY 2022.

Accuracy of AMIs

In our five metro areas, we compared AMIs between 2010 and 2019, with the actual median income estimates for each HMFA calculated directly from the ACS (figure 3). On average, AMIs differed from the actual median income by about 5 percent. The biggest differences in this sample were Nashville in 2010, when the AMI was 11 percent higher than the actual median income, and Seattle in 2016, where the AMI was 12 percent below the actual median income.

Between 2010 and 2012, AMI was higher than the actual median income in all five metro areas. This coincides with a period of falling real (inflation-adjusted) incomes coming out of the Great Recession. As real incomes began to rise, AMIs fell below actual median incomes and actual median income remained below AMI between 2015 and 2019 in all five metro areas. We expect that the two-year lag between the ACS and the AMI release for 2023 would lead to smaller deviation between actual median income and HUD's AMIs, but data to calculate these differences will not be available for a few years.

Differences Between AMI (HUD) and Median Income (ACS HMFA Tabulation) for Five Metropolitan Areas, 2010–2019

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Source: HUD Income Limits data, FY 2010 to FY 2021; Census American Community Survey 2010 to 2019 one-year estimates and five-year estimates special tabulation for HMFA geographies identified on HUD Income Limits documentation.
**Notes:** The ACS one- year estimate for the Houston metro area in 2013 was not reliable, and HUD used ACS five-year estimates.

DIFFERENCES IN CPI, INCOMES, AND RENTS

Although CPI is used in the AMI calculation to adjust for inflation, median incomes do not necessarily grow at the rate of inflation. CPI measures inflation as a change in consumer prices—in other words, a change in how far a dollar will go for an average household. If the inflation rate (the percentage change in CPI) and the rate at which median incomes are changing diverge, then AMI becomes less accurate. When incomes are rising faster than inflation and real incomes are rising, we should expect AMI, which includes an inflation adjustment, to underestimate median income. When the inflation rate is higher than the rate of income growth and real wages are falling, we should expect AMI to overestimate median income.

Similarly, rents may also change at different pace than that of incomes or the broader CPI. As such, rents based on AMI will not necessarily move in sync with either tenants' incomes, property owners' costs, or the broader market. This may be a positive, as rents set using AMI may remain affordable when rents are rising rapidly in a region. However, when inflation is rising, rents set based on AMI become less affordable at the same time as tenants with low incomes face higher costs elsewhere.

To understand how CPI, incomes, and rents have changed over time, we plotted the annualized change in CPI, the annualized change in the rent component of CPI, and a wage growth index from the Federal Reserve Bank of Atlanta along with the year-over-year change in US median income between 2011 and 2022 (figure 4). CPI inflation was lower than rent inflation, wage growth, and actual changes in median income from the ACS between 2013 and 2020, so we would expect that AMI did not increase fast enough. Figure 4 also shows a decline in median income in 2020, concurrent with the spike in unemployment and data collection concerns with the ACS during the COVID-19 pandemic. In 2021, actual median income rebounded with a year-over-year change that was higher than CPI inflation, changes in wages, and changes in rents. In 2022, CPI inflation peaked above 9 percent, and rent inflation was consistently higher than the wage growth index; the ACS measure of median family income for 2022 has not yet been reported.

Comparison of Consumer Price Index (CPI) Inflation, Rent Index, and Wage Growth, 2015 to 2022
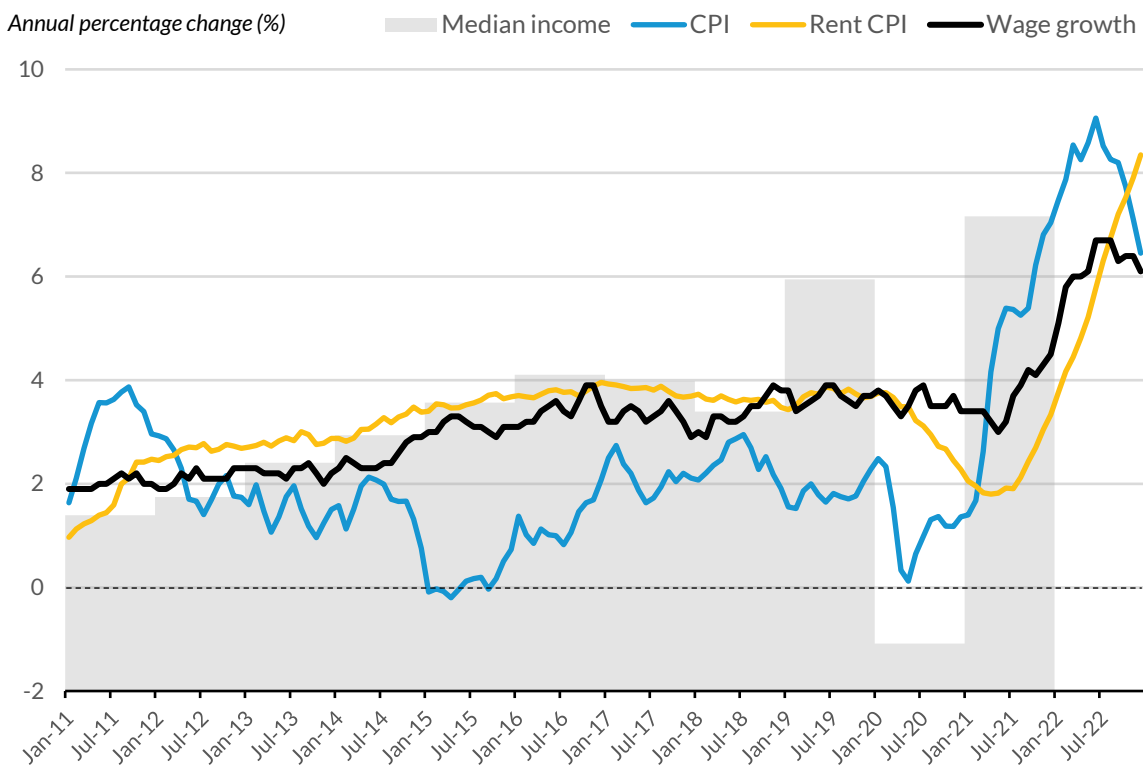
URBAN INSTITUTE

Sources: "Wage Growth Tracker," Federal Reserve Bank of Atlanta; Consumer Price Index for All Urban Consumers: All Items in US City Average, US Bureau of Labor Statistics; Consumer Price Index for All Urban Consumers: Rent of Primary Residence in US City Average, US Bureau of Labor Statistics; Census American Community Survey.

Table 5 displays the change in AMI in Washington, DC, since 2015 and forecasted changes in AMI through 2025. The forecasts use the CPI forecasts from the CBO's *Budget and Economic Outlook: 2022 to 2032* report (CBO 2022). Forecasted median incomes were calculated using the CBO projections for the Employment Cost Index. These estimates are in line with historic patterns shown in figure 4.

Table 5 also shows AMI consistently falling below the actual median income between 2015 and 2021 as growth in median family income outpaced inflation. Between FY 2021 and FY 2022, however, inflation was 8 percent. This led to an increase in the three-year inflation factor from less than 5 percent to more than 11 percent. In turn, AMI in 2022 was more than 10 percent higher than AMI in 2021. In 2023, AMI rose another 7 percent, and we estimate that AMI was higher than the actual median income for the first time in a decade.

Looking forward, if inflation and income gains return to typical levels, we should expect a one-year decline in AMI as the inflation factor falls back to more typical levels. If HUD continues to use two-year-old ACS data and hold the release of AMIs until May, we should expect a decline in AMIs next year. If HUD returns to the methodology used between 2014 and 2021 and releases AMIs sooner, using the 2021 ACS data, we forecast an increase in AMI in 2024 followed by a decline in 2025. In either scenario, assuming incomes rise faster than the rate of inflation over the coming years, we should again expect to see AMIs that are lower than actual median incomes in 2025 and beyond.

TABLE 5

Change in AMI in the Washington-Arlington-Alexandria Metro FMR Area, Actuals from 2015 to 2022 and Forecasts for 2024 to 2025

Year	Base year	Base-year median income	Change in base-year median income	Inflation factor	AMI	Change in AMI	Median income	Change in median income	Difference
2015	2012	$103,730		1.0524	$109,200		$111,178		-$1,978
2016	2013	$105,775	2.0%	1.0264	$108,600	-0.5%	$114,147	2.7%	-$5,547
2017	2014	$106,947	1.1%	1.0315	$110,300	1.6%	$118,676	4.0%	-$8,376
2018	2015	$111,178	4.0%	1.0539	$117,200	6.3%	$123,361	3.9%	-$6,161
2019	2016	$114,147	2.7%	1.0629	$121,300	3.5%	$128,013	3.8%	-$6,713
2020	2017	$118,676	4.0%	1.0619	$126,000	3.9%	$131,790[1]	3.0%[1]	-$5,790[1]
2021	2018	$123,361	3.9%	1.0454	$129,000	2.4%	$135,566	2.9%	-$6,566
2022	2019	$128,013	3.8%	1.1116	$142,300	10.3%	$142,887[2]	5.4%[2]	-$587[2]
2023	2021	$135,566	5.9%	1.1217	$152,100	6.9%	$148,745[2]	4.1%[2]	$3,355[2]
Forecast using 2023 methodology									
2024	2022	$142,887	5.4%	1.0625	$151,800	-0.2%	$154,248	3.7%	-$2,448
2025	2023	$148,745	4.1%	1.0381	$154,400	1.7%	$159,339	3.3%	-$4,939
Forecast using 2014–2021 methodology									
2024	2021	$135,566	N/A	1.1475	$155,600	2.3%	$154,248	3.7%	$1,352
2025	2022	$142,887	5.4%	1.0869	$155,300	-0.2%	$159,339	3.3%	-$4,039

Sources: Authors' calculations using data from HUD Income Limits, the Bureau of Labor Statistics, the US Census Bureau American Community Survey, and forecasts from the Congressional Budget Office.

Notes: Base-year median income data for the Washington-Arlington-Alexandria HMFA retrieved from HUD income limits documentation. Because Census did not release 2020 ACS one-year tabulations, HUD delayed the release of 2023 AMIs and income limits and used 2021 as a base year. Future inflation factors and changes in median income were calculated using CBO forecasts for changes in CPI and Employment Cost Index.

[1] Because Census did not provide tabulations for the 2020 one-year American Community Survey, we estimated 2020 median income as the average of 2019 and 2021 median income.

[2] Estimated using the CBO Employment Cost Index forecast.

Conclusions, Implications, and Recommendations

In calculating AMI, HUD is tasked with projecting the median income for every HMFA in the United States for the current calendar year. The best available income data for counties and metropolitan areas comes from the ACS, but these data are already at least two years out of date by the time they become available. Therefore, HUD needs to be able to adjust AMI to account for changes in incomes over a multiyear period. HUD makes this adjustment using recent and forecasted inflation as measured by CPI. But adjusting median family income from an earlier year to the current fiscal year using CPI may not accurately reflect current-year income if real incomes are rising or falling.

Although annual changes in AMI tend to be small, higher inflation led AMIs to grow by an average of 11 percent in 2022. There is also considerable variation in AMI changes across the country every year.

Even in years with a small increase or decrease in average AMI, some HMFAs saw their AMI rise by 5 percent or more. And even in 2022, when AMIs rose by 11 percent on average, about 2 percent of HMFAs saw a decrease in AMI.

AMIs that are higher than actual median incomes affect housing assistance in two important ways: they expand the number of households eligible for assistance under a variety of housing programs and, because of the way LIHTC and other programs set affordable rents, lead to higher rents on units designated as affordable.

Recommendations

Given that estimated AMIs can be higher or lower than actual median incomes, depending on whether median family income is rising faster or slower than consumer prices, research is needed to explore methods of calculating AMIs that account for income growth rather than price growth. Both existing and new methods should be evaluated for forecast accuracy and impacts on people who benefit from programs that use AMI to set income limits and rents. For example, adjusting AMI using a wage index—such as the Wage Growth Tracker maintained by the Federal Reserve Bank of Atlanta or BLS's Employment Cost Index—or median weekly earnings data might improve AMI calculation accuracy.[16] Beyond inflation factors, HUD could also explore the possibility of a trend factor using methodology similar to that used to calculate of FMRs,[17] which could allow the agency to more accurately forecast changes in median income since the ACS data were collected. The current method of adjusting AMI based on CPI, however, might provide stronger benefits to participants in HUD programs if it helps AMI adjust for large increases in cost of living. Future research should also consider that both the measured forecast errors of alternative methodologies and their impacts on households may vary under different time frames and economic conditions.

If they are not already doing so, state and local governments and philanthropic programs that use AMI to set eligibility thresholds or rents should build in safeguards to prevent sharp changes in rents. HUD already places limits on the amount that income limits can change in a given year, and there are safeguards in place for LIHTC rents in areas deemed "high cost." Additional safeguards or changes to the rules used to set LIHTC rents would require congressional action. Other local and philanthropic sources of financing for affordable housing, such as the Amazon Housing Equity Fund, could develop contracts moving forward that build in rules preventing rents from rising faster than a fixed percentage (for example, 5 percent, or no more than the maximum between the annual inflation rate and annual estimated wage growth).

Programs that set eligibility thresholds or rents based on HUD's AMI—but are not statutorily required to do so—should evaluate whether they would better served making their own inflation adjustments and reevaluate this decision in light of future research or changes to HUD's methodology. HUD releases the numbers that underly its AMI calculations each year. Other programs could collect base-year median family income data and make their own adjustments using a wage index, rent index, or other measure of price or income changes appropriate for their specific program. Census also provides

tabulations of median family income for a variety of geographies, so AMI–based thresholds could be calculated without relying on HUD's release of new income limits and AMIs for HMFAs. More research is needed to help develop specific recommendations as to which programs should make their own inflation adjustments and which should continue to follow HUD.

Finally, Congress should consider whether 30 percent of the targeted income limit is the right basis for affordable rents for federal programs, including in buildings financed with LIHTC. Given the statutory authority to do so, the federal government could task the Treasury with calculating affordable rents for LIHTC properties using their own methods. This could mean developing a separate inflation adjustment for AMIs used for LIHTC eligibility and rents, using tax data to generate new estimates of changes in annual incomes, or deriving rents based on FMRs or other indicators of the rental market. But this might also require Congress to designate funding for new capacity within the Treasury to study options and develop annual calculations. To inform legislative action, future research is needed that explores different options and applies them to historical data.

Notes

[1] HUD uses the term median family income (MFI) rather than AMI; however, the two—AMI and MFI—can generally be used interchangeably, and AMI tends to be used more broadly. In some places, AMI has been used to refer to the set of income limits based on HUD's MFI calculations. We differentiate between AMI and income limits in this brief.

[2] We conducted the majority of our analysis before the release of the 2023 median income and income limits data. Tables 1 and 5 reflect the newly released 2023 income limits data.

[3] For more detail on HUD's methodology for calculating the FY 2022 AMIs, see US Department of Housing and Urban Development, "Methodology for Calculating FY 2022 Medians: HUD Procedure for Estimating FY 2022 Median Family Incomes" (Washington, DC: HUD, 2022).

[4] "About Income," US Census Bureau, December 16, 2021, https://www.census.gov/topics/income-poverty/income/about.html.

[5] David Raglin, "Period Estimates in the American Community Survey," US Census Bureau (blog), March 10, 2022, https://www.census.gov/newsroom/blogs/random-samplings/2022/03/period-estimates-american-community-survey.html.

[6] Specifically, HUD uses Consumer Price Index for All Urban Consumers: All Items in US City Average to estimate AMI. Additional information about the development of CPI can be found at "Consumer Price Index: Calculation," US Bureau of Labor Statistics, updated February 21, 2023, https://www.bls.gov/opub/hom/cpi/calculation.htm#estimation-of-monthly-expenditures-at-the-basic-level.

[7] "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." See US Department of Housing and Urban Development, "Methodology for Calculating FY 2021 Medians" (Washington, DC: HUD, 2021).

8   "L.A. City Emergency Rental Assistance Program (ERAP) Opens Next Week," League of Women Voters of Torrance Area, news release, February 9, 2023, https://my.lwv.org/california/torrance-area/article/la-city-emergency-rental-assistance-program-erap-opens-next-week.

9   "Emergency Rental Assistance Program (ERAP)," Dallas County, accessed February 9, 2023, https://www.dallascounty.org/departments/dchhs/housing-programs/erap.php.

10 "Emergency Rental Assistance Program (ERAP)," Dallas County.

11 "Methodology for Determining Section 8 Income Limits," US Department of Housing and Urban Development, accessed March 13, 2023, https://www.huduser.gov/portal/datasets/il//il22/IncomeLimitsMethodology-FY22.pdf.

12 US Department of Housing and Urban Development, Office of Policy Development and Research, "Dataset—Assisted Housing: National and Local," accessed February 9, 2023, https://www.huduser.gov/portal/datasets/assthsg.html#2009-2022_query.

13 "LIHTC Admissions, Rents, and Grievance Procedures," National Housing Law Project, accessed February 9, 2023, https://www.nhlp.org/resources/lihtc-admissions-rents-grievance-procedures/.

14 "Buy Your First Home," City of Philadelphia, accessed February 9, 2023, https://www.phila.gov/services/property-lots-housing/buy-sell-or-rent-a-property/buy-my-first-home/; "Affordable Housing Homebuyer Loan Program and Single-Family Rehabilitation Program Guidelines," Miami-Dade County, September 1, 2022, https://www.miamidade.gov/housing/library/guidelines/affordable-housing-and-homeownership-program-guidelines.pdf; "Affordable Housing Homebuyer Loan Program and Single-Family Rehabilitation Program Guidelines," Miami-Dade County, updated September 1, 2022, https://www.miamidade.gov/housing/library/guidelines/affordable-housing-and-homeownership-program-guidelines.pdf; "Durham Down Payment Assistance Program," Community Home Trust, accessed February 9, 2023, https://communityhometrust.org/durham-down-payment-assistance-program/.

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16 The Wage Growth Tracker and the BLS median weekly earnings series use data from the Census Current Population Survey. The Employment Cost Index uses data from the National Compensation Survey.

17 See more detail around local trend factor calculation at "Deriving Local Trend Factors for Fair Market Rent Estimation," US Department of Housing and Urban Development, accessed February 9, 2023, https://www.huduser.gov/portal/publications/LocalTrendFactor.html.

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Errata

This brief was revised on September 7, 2023. On page 17, the title for table 5 was corrected to reflect that forecasts are for years 2024 to 2025. The text in the conclusion, also on page 17, was corrected to reflect that the year in which AMIs grew by an average of 11 percent was 2022, not 2023.

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