



July 14, 2022

Housing and the Consumer Price Index

Over much of 2021 and 2022, inflation in the United States has been high. Housing costs carry a relatively large weight in the calculation of overall price increases across many measures, notably in the Consumer Price Index (CPI) measure of consumer inflation. Given how much housing costs affect headline inflation numbers, accurate measurement of housing costs and their changes is crucial for accurately portraying inflation. Additionally, house prices are an important indicator of the health of housing markets and home affordability, so to the extent that housing inflation is used as an indicator of the housing market, accurate measurement is also important. However, recent readings have caused some confusion as CPI inflation in the overall housing category, and in the rental housing and owner-occupied housing subcategories, have been consistently lower than overall inflation, while certain measures of house price (such as purchase or list prices) increases have shown rates well above overall inflation.

This In Focus examines how the price of housing is measured in the CPI, the way this measurement differs from other measures of housing prices, and what this measure does and does not indicate. Of note, this In Focus does not discuss trends in home affordability. For more information on those trends and relevant policy considerations, see CRS In Focus IF12048, *High Home Prices: Contributing Factors and Policy Considerations*, by Mark P. Keightley and Lida R. Weinstock.

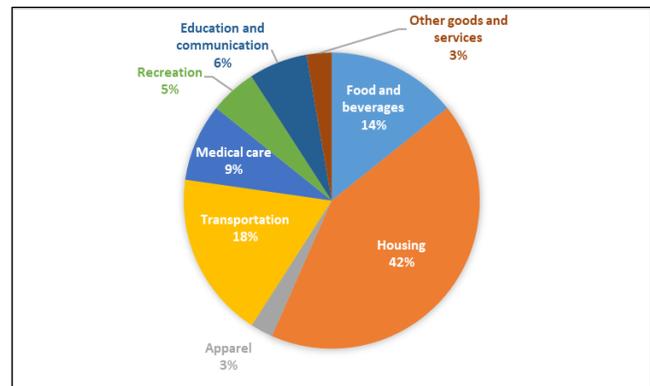
Housing in the Consumer Price Index

The Bureau of Labor Statistics (BLS) produces a widely cited measure of consumer inflation called the CPI. The CPI measures price changes in a “basket” of commonly consumed household goods and services on a monthly basis and weights the items in the basket based on how consumers distribute their expenditures on them. The housing category of expenditure typically accounts for over 40% of total expenditures in the CPI, as can be seen in **Figure 1**—more than twice as large as the next largest category (transportation). Of note, this housing category includes many subcategories, such as shelter (rented and owner-occupied), fuels and utilities, and household furnishings and operations, among others.

Despite the heft of the housing category in the calculation of the CPI, BLS does not include housing units (i.e., the actual buildings) in the CPI market basket. Similarly to many other economic series, housing units are considered to be capital (investment) goods as opposed to consumption items in the CPI. In other words, the purchase price of a home, renovation costs, or other improvements are not considered in the CPI as these are all “investments” that a homeowner will either recoup, realize a return on, or take a loss on in the future. Likewise, CPI does not include

mortgage payments because these are payments toward the ownership of the house as an asset. However, BLS does consider the shelter portion of housing—the roof over one’s head—to be a consumable and, therefore, the relevant price to capture. In this case, the “price” in question is rent, or in the case of owner-occupied houses, the rent that the owners would have to pay if they were renting their houses. This imputed rent is known as owners’ equivalent rent (OER).

Figure 1. CPI Expenditure Weights
2019-2020 Weights



Source: Bureau of Labor Statistics.

Note: This chart represents only one way to categorize expenditure groups in the CPI.

Owners’ Equivalent Rent

A challenge with measuring OER is that nobody actually pays it—an owner-occupier typically pays a mortgage—so it cannot be directly observed. In order to determine OER, BLS surveys comparable rental units and, based on the actual rent information gleaned, determines the imputed rent on the owner-occupied unit in question. BLS asks about prices of most items in the CPI on a monthly basis. However, it asks about rent only once every six months. Most renters have leases that span several months to several years, with rent fixed during that period. Therefore, in order to determine how rent changes over time, BLS surveys a unit every six months in order to allow time for leases to change. Practically, this involves surveying one group of rental units in January and July, the next group in February and August, and so on. Because the CPI is published on a monthly basis, BLS takes the sixth root of the six-month changes in any given month to determine an estimated single-month price change.

Some economists and policymakers have pointed out potential problems with this methodology. First, owner-occupied markets and rental markets may be fairly different within the same localities. For example, a neighborhood made up largely of relatively expensive single family

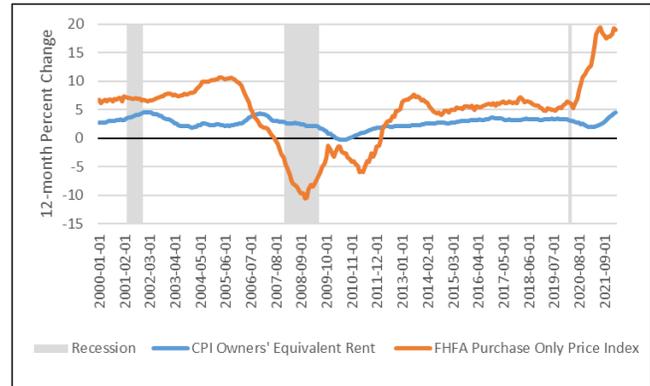
homes may not be accurately captured by the few rental units in the same neighborhood. Second, the methodology for OER may overstate the expenditure weight for owner-occupied housing. Another consumer inflation measure, the Personal Consumption Expenditures (PCE) Price Index, produced by the Bureau of Economic Analysis, uses a different methodology than BLS to calculate expenditure weights. Under this differing methodology, OER has a weight of about 11% as compared to 23% under the CPI, suggesting that the PCE underestimates or the CPI overestimates this weight, or both. Third, owner-occupied and rental housing would not necessarily be expected to respond the same to all economic conditions. For example, mortgage rates directly affect the cost of owning a home (via monthly payments) but may only indirectly affect renting insofar as the owner of the rental unit can decide whether to pass the cost of mortgage payments along to the renter. Moreover, demand for buying versus renting can change based on changes in mortgage rates. Since OER is based on rental units and does not include mortgage payments, it may not fully capture the change in cost to owning a home from a change in rates.

How Do Housing Prices and Inflation Compare?

Ultimately, housing inflation and the change in list price or purchase price of houses are two different measurements that provide different information. While OER inflation may provide some information as to how expensive it is to live in a house over time, it is not necessarily helpful in determining how expensive it is to buy a house. Depending on what information is relevant, it may be helpful to look at one measure or the other or both.

Figure 2 compares changes in one prominent measure of house prices, the Federal Housing Finance Agency’s (FHFA) House Price Index[®], an index that “measures average price changes in repeat sales or refinancings on the same properties” with OER inflation. The FHFA index shows much more volatility. During large upswings or downswings in house prices OER inflation tends to move in the same direction, although notably less so and, at times, with a lag. This suggests that in the past two decades, the increase in shelter costs for homeowners has remained fairly stable relative to the increase in purchase price of homes.

Figure 2. House Prices vs. OER Inflation
January 2020 to March 2022



Source: FHFA and BLS.

Both house prices and OER inflation have risen since the COVID-19 pandemic began. As noted, the spike in sales prices of houses was more significant than the spike in OER inflation. Nonetheless, OER inflation rose significantly in 2021 and 2022, reaching rates not seen since the 1990s. However, OER inflation has been lower than overall inflation, raising concerns that if OER inflation is underestimated, then overall inflation is also underestimated. Despite this relatively high rate, some have been speculating as to why current rent and OER inflation do not seem to be “matching reality.” In part, this is because average rents, which the CPI measures, will take time to catch up to listed rents/prices. While house prices and rent prices have been increasing substantially in the past few years, this does not necessarily automatically mean that existing renters and homeowners are facing those higher prices. It takes time for leases to expire and rents to rise, leading to higher average costs with somewhat of a lag. A note published by the National Bureau of Economic Research suggests that housing inflation will be 6.5% to 7% in 2022. As of May 2022, OER inflation was 5.1% and total housing inflation was 6.9%.

Alternative Methodologies

OER is not the only possible methodology to measure inflation in owner-occupied housing. There are several other approaches taken by other countries—and even BLS prior to its adoption of OER in 1983.

1. **The acquisitions approach** considers the purchase price of houses, as well as costs associated with maintenance and repair, property taxes, and insurance.
2. **The user-cost approach** considers the costs of owning a home minus expected capital gains from the sale of the home. The theory here is that the return on investment of selling a house should equal the opportunity cost of investing in the house. Therefore, the difference between the cost of owning a home and the expected capital gains should equal housing services.
3. **The payments approach** considers the expenditures required to live in a house, such as mortgage payments, maintenance and repair, property taxes, and homeowners insurance. This is the method employed by BLS until the 1980s,

4. when it switched to the current flow of services approach. Specifically, BLS focused on mortgage rates.

There is not one approach that is the most correct. Each has its advantages and drawbacks. BLS originally changed its methodology owing to difficulties in obtaining data and a desire to remove the investment aspect of homeownership

from the series. While there may not be the same data adequacy issues today as in the 1980s, the investment versus consumption aspects of homeownership continues to be a reason that BLS uses OER.

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IF12164

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