
PRESENTATION BRIEF

Cost of Living Inequality beyond the Great Recession

David Argente, Pennsylvania State University

Munseob Lee, University of California, San Diego

Households' economic situation is determined in large part by whether their income grows faster than the prices they pay for goods and services. In other words, real income (income that has been adjusted for inflation) is a better measure of households' standard of living than nominal income (the dollar amount on a pay stub). Keeping this in mind is particularly relevant today given that as the economy recovers from the pandemic, inflation is growing at its fastest pace in 40 years.

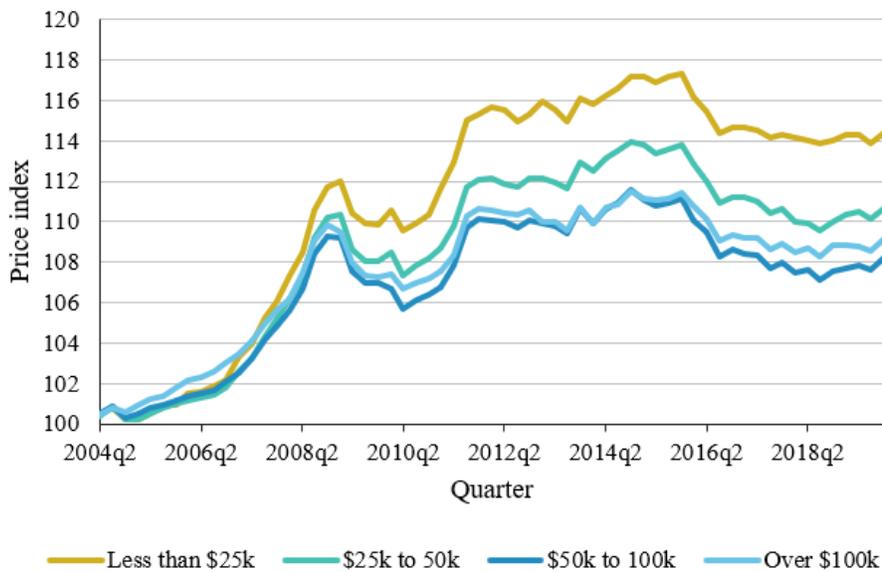
It is often assumed that inflation affects all households in the same way. But recent measurements of inflation inequality show this is far from true. New detailed household-level data sets have allowed researchers to understand how inflation varies across several demographic dimensions, such as income, race, and geography.

For instance, we used detailed data on household purchases of consumer goods to analyze how average prices for those purchases changed for different income groups in the United States. It turns out that in recent years, purchase prices for the lowest-income group have grown faster than purchase prices for the highest-income group. Specifically, the gap across income groups arises at the onset of the Great Recession, grows moderately during the subsequent recovery, and stabilizes after 2014, precisely when variables such as GDP, household income, and employment reached their pre-recession levels.

There are two main reasons that inflation inequality grows during recessions and shrinks during expansions. First, low-income households devote a higher share of their income to purchase necessities, and the prices of these goods tend to increase in recessions more than prices of discretionary or luxury goods. [Recent research](#) finds that a one-percentage-point increase in the unemployment rate is associated with a 1.3 to 1.8 percent increase in the prices of necessity products relative to the prices of discretionary purchases. Second, by shopping more frequently, adjusting the outlet where they make purchases, searching for discounts, and using coupons, households across the income spectrum pay lower prices for identical goods. Before the Great Recession, households in the top quartile of the income distribution paid an average of 2 percent more than households in the bottom quartile for an identical product. By the end of the recession, that difference had disappeared. For example, before the recession, purchases of items on sale and use of coupons were either stable or declining as a share of total expenditures for all income groups. During the recession, the intensity of these shopping activities increased significantly, especially for high-income groups.

To understand the patterns of inflation inequality beyond the Great Recession, we update the calculations in [our 2021 paper](#) with household expenditure data through 2019. Two important patterns become apparent. First, inflation disparities across income groups have been relevant over the last 15 years in the consumer goods sector. Figure 1 compares the price index of each quartile of the distribution of household income in the United States.¹ A price index captures how prices have changed compared with prices at a particular point in time. In this figure, the price index is set to 100 in the first quarter of 2004. The higher the index value, the more prices have increased relative to the base period. The figure shows that the indexes for all income groups closely track each other until the end of 2007, when the price indexes of the bottom quartiles start growing significantly faster than those of the top quartiles. The figure shows that the resulting inequality in inflation has persisted for most of the last 15 years.

Figure 1: Consumer goods price index by household income group, 2004–2019



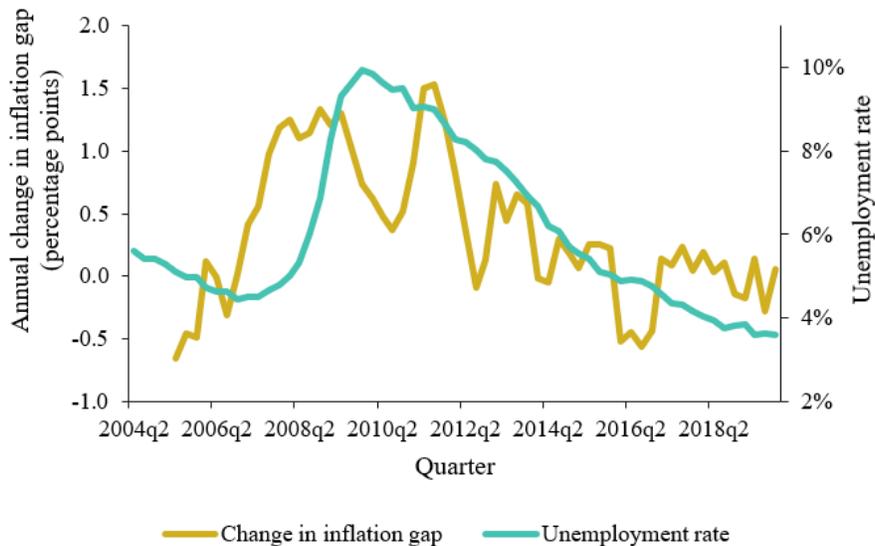
Data is reported quarterly from second quarter of 2004 (2004q2) through fourth quarter of 2019 (2019q4). The income bins roughly correspond to quartiles of the household income distribution.

¹ Specifically, we use the Sato-Vartia price index, which accounts for substitution across products when prices change.

Second, inflation inequality increases during recessions, and although inflation inequality stopped growing in the aftermath of the Great Recession, disparities have not fully reversed. Figure 2 summarizes the gap in percentage points between the price index of the lowest-income (less than \$25,000) and the highest-income (over \$100,000) groups. It shows that the gap moves closely with the unemployment rate in the United States: The gap increases sharply during the Great Recession and stabilizes when the unemployment rate returns to its pre-recession levels. Importantly, in the aftermath of the Great Recession and before the COVID-19 pandemic, low-income households were able to reduce the prices they paid for identical goods relative to prices paid by high-income households through their shopping behavior.

The data make clear that inflation inequality increases during bad times and that the disparities that arise in these periods can take many years to reverse. This is particularly relevant in the current COVID-19 pandemic for two reasons. First, the prices of necessities, such as groceries, have increased. Although expenditures on luxury goods can often be postponed, expenditures on necessities cannot, and they account for a large share of the consumption of low-income households. Second, high-income households are more likely to adjust their shopping behavior by taking advantage of new technologies, such as e-commerce, that enable them to find lower prices.² Both of these patterns can have important implications for inflation inequality going forward.

Figure 2: Inflation inequality and unemployment rate, 2004–2019



Data is reported quarterly from second quarter of 2004 (2004q2) through fourth quarter of 2019 (2019q4). The change in the inflation gap is the year-to-year change in the difference between the price index for the lowest and highest income groups in Figure 1.

² See “[Internet rising, prices falling: Measuring inflation in a world of e-commerce](#)” for a detailed description of how online inflation compares with overall inflation.