

Understanding the Recent Evolution of Auto Loans by Income Level

[Juan M. Sánchez](#), Senior Economic Policy Advisor
[Masataka Mori](#), Research Associate

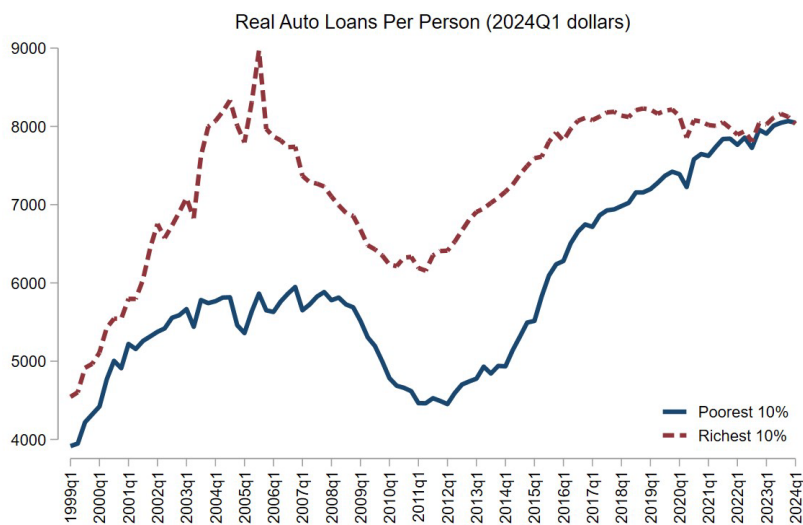
The region in which individuals live in the U.S. affects the financial distress and consumption patterns of households. For example, according to [Athreya, Mather, Mustre-del-Rio, and Sánchez \(2019\)](#), the past two recessions more adversely affected the consumption of residents in poorer regions. In this essay, we delve into the recent evolution of per capita auto loans in regions with different income levels.

Using the Federal Reserve Bank of New York/Equifax Consumer Credit Panel, we estimate the amount of auto loans per person aged 20 to 64 in each quarter. We adjust this variable for inflation using personal consumption expenditures price index data from the U.S. Bureau of Labor Statistics, such that the numbers correspond to dollars in the first quarter of 2024. We divide U.S. zip codes into 10 quantiles based on per capita aggregate gross income in 2019, using IRS individual income tax zip code data from [SOI Tax Stats - Individual Income Tax Statistics - ZIP Code](#)

[Data \(SOI\)](#). We then compare and contrast statistics from the richest and poorest 10% of zip codes.

Figure 1 shows per-person, inflation-adjusted auto loans in the richest 10% and poorest 10% of zip codes. The two income groups had similar trends from 1999 to 2016; however, the trends have varied since then. The per-person auto loan in the richest 10% of zip codes stayed constant at around \$8,000 for more than seven years (2016-24). Meanwhile, per-person auto loans in the poorest 10% of zip codes have climbed since 2011, reaching the same level as the richest 10% in the most-recent quarter (first quarter 2024). We found the differences in these patterns puzzling. Why did per capita auto loans stay constant over the past few years in richer zip codes while surging in poorer zip codes? To address this question, we disentangle the changes into two margins: the *extensive margin*, which measures the share of people in debt, and the *intensive margin*, which captures the amount of debt per debtor.

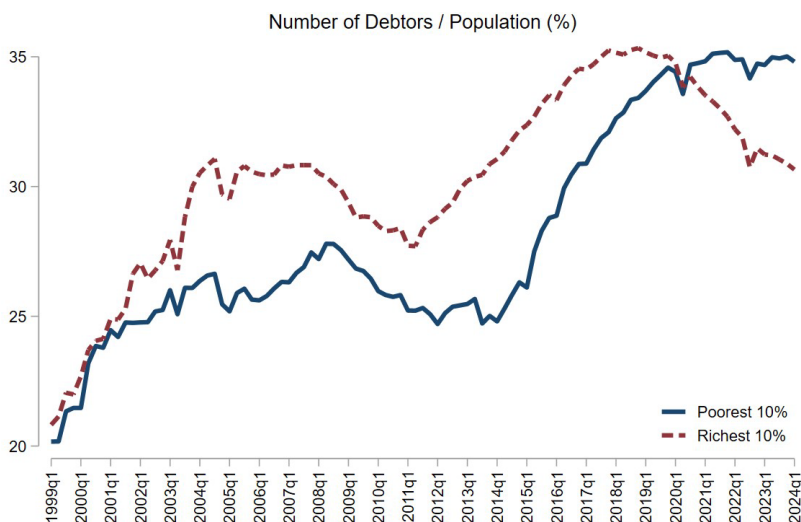
Figure 1
Evolution of Inflation-Adjusted Auto Loans Per Person



NOTE: The original data are a nationally representative 5% random, anonymous sample of all individuals with a social security number and a credit report.

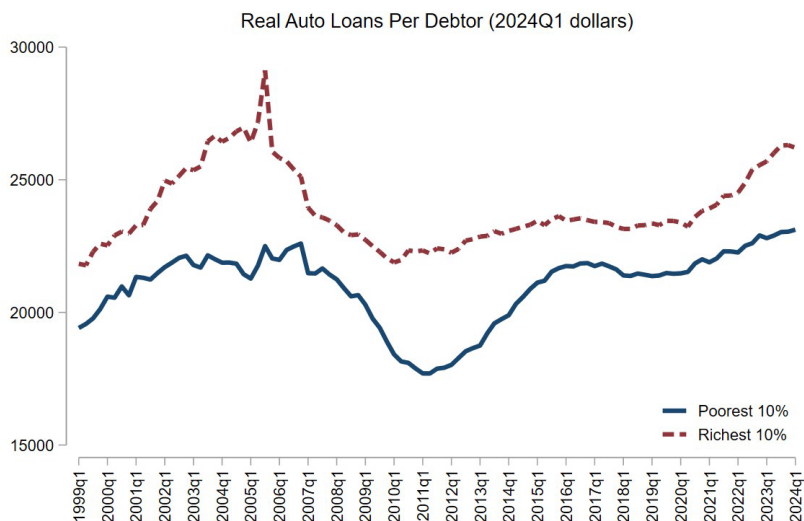
SOURCE: Federal Reserve Bank of New York/Equifax Consumer Credit Panel and authors' calculations.

Figure 2
Evolution of the Percent of People with Auto Loans



NOTE: The original data are a nationally representative 5% random, anonymous sample of all individuals with a social security number and a credit report.
 SOURCE: Federal Reserve Bank of New York/Equifax Consumer Credit Panel and authors' calculations.

Figure 3
Evolution of Inflation-Adjusted Auto Loans Per Debtor



NOTE: The original data are a nationally representative 5% random, anonymous sample of all individuals with a social security number and a credit report.
 SOURCE: Federal Reserve Bank of New York/Equifax Consumer Credit Panel and authors' calculations.

Consider the evolution of the percentage of individuals who have auto loans for each group. Figure 2 indicates that these shares had substantially different trends in rich and poor zip codes. In the poorest 10% of zip codes, the ratio of people with auto loans rose steadily from 2017 to 2019 and then stayed constant during the pandemic. Meanwhile, the richest 10% of zip codes had a substantially different

path: This ratio stayed constant during the pre-pandemic period and then sharply declined during COVID-19. Thus, it's possible the pattern in Figure 1 is mostly driven by this extensive margin.

Figure 3 shows a measure capturing the intensive margin—the inflation-adjusted auto loans *per debtor*; that is, the amount of auto loans in each income group per person

with an auto loan. We observe that the richest 10% of zip codes have a trend similar to the poorest 10% of zip codes in real auto loans per debtor from 1999.¹ In each period, a borrower in the richest zip codes has about 10% higher debt than a borrower in the poorest zip codes. Thus, we conclude that the differences in per capita auto loans in Figure 1 are not coming from the intensive margin.

Although the extensive margin (Figure 2) accounts for disparities in the evolution of auto loans per person between rich and poor regions (Figure 1), we have yet to analyze the causes of these shifts. It's worth noting that the percentage of people with auto loans in the poorest zip codes has stayed relatively stable since 2019. Thus, it's possible to interpret Figure 2 as showing a common trend toward a decline in the percentage of borrowers with auto loans, which is more severe in the richest areas. One possibility is that, as interest rates on auto loans rise, richer households avoid auto loans in favor of drawing down on their own savings or using other types of loans. In any case, additional research is needed to shed light on these recent developments in the auto loan market. ■

Note

¹ Also note that in the first quarter of 2024, the level of auto loans per person is much lower (\$8,033) than per debtor (\$26,206).