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Cyclical Transactions and Wealth Inequality

Jung Sakong

Wealth is distributed more unevenly than income, even below the top 1%. One reason might be that the rate of return on wealth increases in wealth. If that is the case, poorer households could earn a lower return in two ways: (1) They participate less in risky assets that yield higher returns, or (2) they consistently participate at the “wrong” times—when prices are high and expected returns are low.

In this paper, I use the US housing market to study this second channel. Constructing a new dataset, I estimate the trading patterns of households across wealth levels. Lower-wealth households do indeed consistently purchase housing when prices are high, and they sell when prices are low. I find that this “buy-high-sell-low” channel has a significant impact on wealth accumulation: the interquartile range of annual returns across wealth levels is 60 basis points.

Housing, especially ownership of a primary residence, is often seen as a vehicle for accumulating wealth by middle- and lower-wealth households. Partly to encourage wealth accumulation by the middle class, government policies have also encouraged and incentivized homeownership at least since the 1930s. My findings caution government policies that encourage buying a home, however. If such policies disproportionately incentivize home purchases when prices are high, they can backfire by impeding wealth accumulation and worsening wealth inequality.

Before describing the empirical exercise, I first formalize what is meant by poorer households “buying high and selling low.” Given any data series, there will always be households who trade at the “wrong” times ex post. In order to have a lasting impact on wealth accumulation, poorer households must consistently buy when expected returns are low and sell when expected returns are high. If expected returns were constant, poorer households might be unlucky in some periods, but this outcome would balance out in other periods when they are lucky.

When expected returns are time-varying and predictable, however, households who consistently buy high and sell low will earn lower expected returns in a way that can be anticipated. Whether

any household will regularly buy high and sell low is theoretically ambiguous, and some standard examples give opposite predictions. For instance, if mortgage availability increases when prices are high, poorer households might be more likely to buy because at other times they are rationed out of the credit market. On the other hand, if prices rise in economic booms because investors perceive overly-optimistic returns, richer households might be more likely to buy when prices are high because they have better capacity to take advantage of the higher expected returns. This theoretical ambiguity justifies constructing a dataset and estimating who “buys high and sells low.”

To precisely measure who engages in what kind of trading behavior, a dataset that contains both identifying information and observed actual quantities traded is needed. This is because even within a broad asset class such as housing or stocks, there are actual assets that differ in how their prices behave. Therefore, even if I find that poorer households’ housing wealth rises more, I cannot conclude that they bought more housing units, because they may just own houses whose prices rise more. Luckily for housing, all trades are publicly observable from deeds records. Because private information beyond names and residential addresses is missing, the wealth of home buyers and sellers needs to be imputed.

My empirical solution is to use the house ownership data and attribute wealth levels to surnames. Surnames are passed down through generations. Wealth levels can be estimated by surname using the 1940 full-count Census, which was the first Census to ask about income and is the last Census that is publicly available in full detail, because the Census Bureau only releases a full Census after 72 years. In my concurrent work with a co-author, we find that the income averaged at the surname level from the 1940 Census is a strong predictor of those surnames’ average-wealth levels today, constructed from individual-ownership-level data.

Sorting surnames into percentiles using their historical income from the 1940 Census, I find that poorer households buy more housing (in quantity units) than rich households when prices increase. In other words, lower income households have a higher sensitivity, or “beta”, in their choices of housing quantity to price.

Based on this negative relationship between the betas and my proxies for wealth levels, I wish to know how much dispersion in return on housing is generated by the timing of trades. To convert the estimated betas into interpretable differences in returns along the wealth distribution, I make two sets of transformations: First, I map the wealth-proxies to the present-day percentiles in the wealth distribution, and second, I map the betas to returns on housing. After conducting these transformations, I find that returns on housing go up 60 basis points per year between the interquartile range of the wealth distribution.

I further calculate that the estimated 60-basis-point return differential explains roughly 20% of the observed wealth inequality between the interquartile range in the US above the part attributable to income inequality.

Beyond explaining part of wealth inequality in the aggregate, the “buy-high-sell-low” channel has a cross-sectional prediction: Geographies with larger time-variation in expected returns in the housing market should have greater wealth inequality, over and above income inequality. This is because in those areas, even the same beta-differences will generate a greater dispersion in wealth returns between rich and poor households. And the greater dispersion in wealth returns persists in the geographical area, because households typically own housing assets near where they live even for investment homes and because families are reluctant to move once settled. I test and confirm this cross-sectional implication of the channel.

To test this cross-sectional implication, I first sort US counties by historical business-cycle cyclicality, which itself predicts how much expected housing returns would vary. Using a new set of imputed inequality measures and controlling for labor income inequality, I indeed find that current wealth inequality is greater in those areas with higher historical cyclicality.