

Summary: Wealth Effects and the Changing Economy¹

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Background

The effect of wealth on consumption is an issue of longstanding interest to economists. The booms and busts in U.S. stock and home prices over the last fifteen years have made the issue particularly important from a policy perspective. Indeed, based on the observed aggregate relationship between wealth and consumption, many forecasters have argued that declines in stock and home prices substantially deepened the recent recession and now are inhibiting the recovery.

A central question is whether the correlation between wealth and consumption in the aggregate reflects changes in asset prices directly influencing spending as opposed to mere predicting changes in spending because they signal changes in future income. Proponents of the latter channel point out that many changes in measured wealth do not actually make households richer. Some increases in stock prices reflect productivity-driven upward revisions to expected future dividends while others reflect reductions in the rate at which future dividends are discounted. The former provide additional future resources for spending, but the latter may not raise spending because the discounted value of planned future consumption is also revised up. Relatedly, when home prices rise, the present discounted value of future housing services is also higher, so (unless the household plans to downsize in the future) there are no additional future resources to put toward other types of consumption.

The direct link between wealth and consumption will also depend on who is affected. Older households might be expected to raise their consumption more in the face of a given increase in wealth because they are annuitizing the gain over fewer years. Homeowners that have been constrained from consuming at an optimal level because of a lack of collateral against which to borrow might be expected to have an outsized response to home value appreciation—a response that may have grown over time because of credit-market innovations that have facilitated borrowing against home equity.

This paper builds on a literature that explores whether the consumption of households that hold a given type of asset—in particular, stocks and housing—is more closely correlated with asset prices than that of households that do not own the asset. Positive findings suggest a meaningful direct link between wealth and consumption. For stock market wealth, earlier studies have documented a stronger link between stock prices and the consumption of stockholders than that of non-stockholders in the 1980s and 1990s

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(see, for example, Dynan and Maki, 2001). Results have been more mixed for studies of housing wealth effects (based on U.K. data through about 2000), with Campbell and Cocco (2007) estimating that homeowners are more responsive than renters to home price movements but Attanasio, Blow, Hamilton, and Leicester (2009) finding little difference across the two groups.

This paper extends the literature in two ways. First, I apply the same framework to both stocks and homes, so I can readily compare the results. Second, I use a sample that includes much more recent data. I use the 1983 through 2008 waves of the U.S. *Consumer Expenditure Survey* (CE). The CE has highly comprehensive information about household spending and provides information on a quarterly basis, so that I can explore changes that correspond more closely to the timing of the observed aggregate wealth effect than is feasible using other surveys of U.S. households.

Approach

My empirical approach related the growth in each household's consumption between their first and fourth (final) interviews to contemporaneous and lagged changes in asset prices, with separate results estimated for households that own the asset and those that do not. I classified households as stockholders, if they responded "yes" to the question "Did you (or any members of your [consumer unit]) own any securities, such as stocks, mutual funds, private bonds, government bonds, or Treasury notes on the last day of last month?" The vagueness of this question represents one limitation to the stock market analysis—it does not isolate holdings of stocks from other financial assets and is unclear as to whether households should include the value of stocks held through defined contribution pension plans. In contrast, for the housing part of the analysis, it was straightforward to classify households as homeowners and renters.

The CE does not have useful high-quality information about changes in the value of households' stockholdings and homes. Thus, I examined correlations between consumption growth and aggregate asset price movements. For stocks, I merged in information about changes the Wilshire 5000 index of stock prices. For homes, I merged in state-level home indexes from First American CoreLogic—beginning with the 1994 CE wave, the first for which information about state of residence is provided in the public-use data set. My measure of consumption includes spending on all nondurables and services except for housing and health care (where expenditures do not correspond well to consumption of these items). I followed earlier literature in selecting the sample and choosing which control variables are included.

Results

My analysis of stock market wealth effects corroborated earlier findings that contemporaneous and lagged movements in stock market wealth were far more relevant for the consumption of stockholders than for the consumption of non-stockholders in the 1980s and 1990s. The timing of the estimated relationship was consistent with the timing found in many studies of the aggregate wealth effect, with the impact of wealth on

consumption being largest in the first couple of years and trailing off after that. This gradual influence of wealth on consumption could be evidence that households exhibit habit formation or adjust consumption infrequently. For non-stockholders, consumption appeared to have no relationship to aggregate stock prices in the 1980s and 1990s.

However, adding more recent data—the 1999 through 2008 waves of the CE—to the analysis dramatically weakened the estimated link between consumption and stock prices dramatically. The coefficients on contemporaneous and lagged stock price growth remained positive for stockholders (and larger than their counterparts for non-stockholders), but they were much smaller than when the sample was restricted to data from the 1980s and 1990s and generally not statistically significant.

For housing wealth, my analysis focused on the years 1994-2008 (as that is the period for which the CE public-use data sets have state-level identifiers). In general, I found little evidence that the non-housing non-durable consumption of homeowners was more closely correlated with home prices than that of renters over this period—both in the baseline specification and in a number of alternative specifications. The exception was in specifications that divided households into age groups. For young renters, I found a (marginally significant) negative coefficient on home prices—possibly indicating that households hoping to buy a home in the future reduce their consumption when the amount they expect to have to pay rises (and vice versa).

Interpretation

To summarize, I found that the consumption of stockholders had a strong positive correlation with current and lagged changes in stock prices in the 1980s and 1990s, whereas the consumption of non-stockholders did not. However, augmenting the sample with more recent data considerably weakened the result. My analysis of housing wealth effects for the years 1994-2008 suggested no near-term link between growth in house prices and growth in homeowners' consumption of nondurables apart from housing itself.

At face value, the stock market results imply a change in household behavior over time. It would appear that changes in stock market wealth had larger direct effects on spending—at least in the first couple of years—in earlier decades, than they have more recently. What could have induced such a change in behavior? One possibility would be that the bursting of the late-1990s stock-market bubble made households less likely to accept the permanence of any given move in stock prices. Alternatively, the weaker linker may reflect another trend—the broadening of stock ownership. While one does not typically expect less-affluent households to be less responsive to changes in their resources, their stockholdings are more concentrated in their retirement plans, and thus may be viewed as “off limit” from a mental accounting perspective. Results in Choi, Laibson, Madrian, and Metrick (2009) suggest an even bigger divergence between the behavior of retirement plan holders and the predictions of conventional models—they find that 401(k) investors tend to *raise* their contributions after experiencing particularly good returns on their savings. More work needs to be done to explore these explanations and to understand the implications of the results for macroeconomic dynamics.

Future work will expand on the housing wealth analysis as well. The most straightforward interpretation of my results is that housing capital gains do not directly boost non-housing nondurable consumption for the average household (at least over the first few years following the gain)—consistent with the view that the observed aggregate correlation between home prices and consumption is driven by common factors that influence both series. However, there are other interpretations as well. For example, the response to housing capital gains may occur mainly through components of consumption that I do not capture. Alternatively, there may be too little variation in home price growth across states and over my sample to identify a relationship. While the results thus far raise more questions than they answer, at the very least, they increase the uncertainty surrounding the degree to which past declines in home prices should be expected to restrain economic activity as the recovery proceeds.

References

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