FEDERAL RESERVE BANK OF NEW YORK

CURRENT ISSUES IN ECONOMICS AND FINANCE

April 1999 Volume 5 Number 5

Are Stocks Overtaking Real Estate in Household Portfolios?

Joseph Tracy, Henry Schneider, and Sewin Chan

The rapid growth of the stock market since 1990 has encouraged the view that corporate equity holdings are becoming the primary asset for a broad spectrum of American households. A closer look at the evidence, however, reveals that real estate continues to eclipse stocks as a share of most households' portfolios.

A recent *Newsweek* article entitled "Why We're Married to the Market" observed: "Seldom, if ever, has Main Street been so enthralled with Wall Street. We have become a nation of stock junkies—splurging on mutual funds, scouring market tables, and studying personal-finance columns" (Samuelson 1998). Journalists, policymakers, and observers from all walks of life have been taking note of the increasing popularity of stocks. To be sure, the commentators include doomsayers as well as optimists, but both groups readily agree that stocks have been booming. According to data published by the Board of Governors of the Federal Reserve System (1998), corporate equity recently surpassed real estate as the largest asset for the household sector. This striking finding might lead one to conclude that the typical American household now has 2.2 children, a TV in every room, *and* a stock portfolio.

But does stock ownership figure much more importantly in the household portfolios of most Americans than it did in the past? In this edition of *Current Issues* we explore this question by looking at evidence from two sources of data on household wealth, the Flow of Funds Accounts and the Survey of Consumer Finances, both compiled by the Federal Reserve Board.

We find that stock ownership still lags far behind housing as a share of most households' portfolios. Most corporate equity is held by the wealthiest 10 percent of the population, while more than half of all households hold no corporate equity through any channel. In contrast, a large majority of households own real estate, which represents roughly two-thirds of their overall assets. The importance of housing varies over the life cycle of the individual, but real estate remains the cornerstone of most household asset portfolios.

In the article's closing sections, we consider why real estate so dominates other assets. We suggest that the current system of housing finance essentially precludes any limited investment in housing. Noting that this system leaves some homeowners exposed to adverse income and house price shocks, we look at some financing options that might help households to achieve more balanced portfolios.

Strong Stock Growth for the Household Sector

There is little question that the popularity of corporate equity as an investment tool has increased.[1] Many first-time investors have been attracted by the extraordinary growth in the stock market. Since the current bull market began in 1990, the Dow Jones Industrial Average has tripled in value. As might be expected, this growth has coincided with a steady increase in the number of households that own corporate equity. According to the Survey of Consumer Finances, the proportion of households that own equity rose from 32 percent in 1989 to 42 percent in 1995.

The growing appeal of indirect equity ownership through retirement plans and mutual funds has furthered the spread of equity ownership. The Flow of Funds Accounts show that the amount of corporate equity held by households through direct contribution private pension funds has increased at an annual rate of 18 percent since 1989, and the amount held through mutual funds has increased at an annual rate of 25 percent.[2] In comparison, direct holdings of corporate equity over the same period have grown at an annual rate of 13 percent. Although the level of direct ownership is still greater than the level of indirect ownership, the gap is closing.

As a result of the extraordinary bull market and the spread of both direct and indirect equity ownership, the value of corporate equity held by households has surpassed that of real estate (Table 1). The Flow of Funds Accounts show that household equity holdings rose to $9.4 billion in the second quarter of 1998, while household real estate holdings reached only $9.1 billion. As a share of total household assets, equity holdings, at 28 percent, exceeded real estate holdings by 1 percentage point.

A look at the historical trends in these asset categories suggests that this development is indeed remarkable (Chart 1). In 1984, real estate's share of total household assets was almost four times that of equity. Over the next thirteen years, equity's share of total household assets climbed rapidly, overtaking real estate and reaching a postwar high in late 1997. In the last fifty years, the equity share has exceeded the real estate share on only one other occasion—in 1968, again following an exceptionally robust bull market.

Table 1
Assets of U.S. Households
Second-Quarter 1998

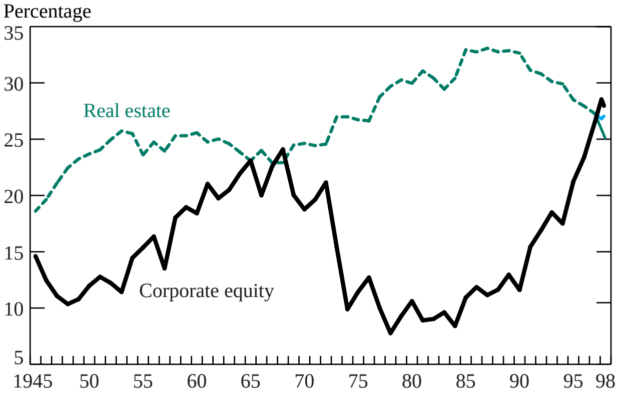
	Value in Billions of Dollars	Percentage of Total Assets
Total assets	33,490	100.0
Tangible assets	11,567	34.5
Real estate	9,054	27.0
Consumer durable goods	2,513	7.5
Financial assets	21,923	65.5
Deposits	3,853	11.5
Credit market instruments	1,520	4.5
Equity shares at market value	9,366	28.0
Other[a]	7,184	21.5

Source: Flow of Funds Accounts, Tables B.100, B.100.e, L.100.a, and L.119.b.

Note: We deduct financial assets of nonprofit organizations from the data by assuming that they make up the same percentage of the total as they did in 1994—the last year for which separate household and nonprofit data were available.

[a] Includes assets in defined benefit plans.

Chart 1
Portion of Household Assets in Corporate Equity and Real Estate, 1945-98



Source: Flow of Funds Accounts.

Exercising Care in Interpretation

Before too much is made of the increase in equity ownership, however, we should consider how the source of these very dramatic statistics—the Flow of Funds Accounts—is computed and what the statistics actually tell us. The Flow of Funds numbers are aggregate figures: the equity share reported is calculated by dividing total corporate equity in the household sector by total assets in the household sector. The same ratio can be constructed by calculating each individual household's ratio of equity to total assets, assigning a weight to that ratio that reflects the household's fraction of total household sector assets, and then summing these weighted values. What is notable about this procedure is that it gives a much larger weight to the equity ratio of a wealthy household than to the equity ratio of a household with average assets. Thus, the aggregate equity ratio is most representative of households at the upper end of the wealth distribution and bears little relationship to the equity ratio for a typical household.

The aggregate equity share does, however, measure the exposure of the entire household sector to the stock market. Suppose, for example, that the stock market declined sharply—losing, say, 30 percent of its value as it did in mid-October 1987. Since the household sector as a whole holds 28 percent of its assets as equity, it would lose about 9 percent of its assets. Although this contraction is quite large, the aggregate data do not reveal how the losses would be distributed among different households.

Another Perspective on Household Wealth

A second source of data on household wealth, the Survey of Consumer Finances, provides a useful offset to the Flow of Funds Accounts. The survey, generally regarded as the most authoritative source on household financial characteristics, gathers information from a cross section of about 4,300 households representing the U.S. population as a whole. The household-level statistics it presents allow us to evaluate the asset portfolio of a typical household—here defined as the household at the midpoint of the survey sample's wealth distribution.[3] Interestingly, the picture of household wealth that emerges when we look at the typical household is very different from the one given by the aggregate statistics in the Flow of Funds Accounts.

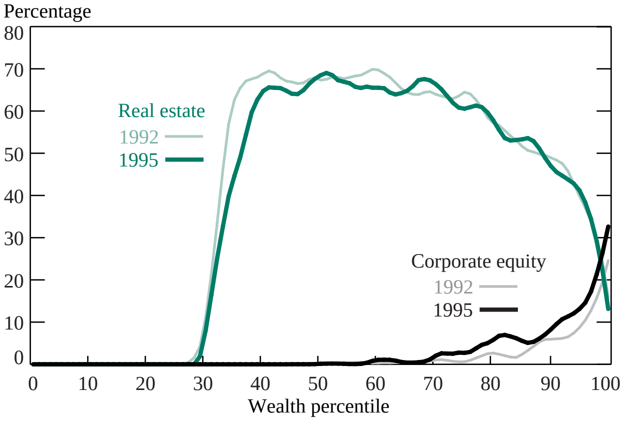
Drawing on the results of the most recent survey, we find that the typical household in 1995 had 66 percent of its total assets in real estate and *no* portion of its assets in corporate equity.[4] If we compare these shares with those reported in the 1995 Flow of Funds Accounts, we see that the typical household's real estate share far exceeds the 29 percent share attributed to real estate in the aggregate data, while its equity share—zero—is dramatically lower than the aggregate equity share of 21 percent.

When we focus on the asset portfolio of the typical household, we also obtain a very different picture of household exposure to stock market volatility. Since the typical household in the survey holds no stocks, its finances would not be directly affected by sharp declines in the stock market.

The marked variation in equity and real estate shares across the wealth distribution is evident in Chart 2.[5] At the bottom of the distribution are poor households that own little real estate or corporate equity. In the middle two-thirds of the distribution are households that hold a disproportionate share of their wealth in real estate. Finally, at the very top are wealthy households whose asset portfolios contain more balanced holdings of housing and corporate equity. Although differences in the assets of the three groups are quite apparent, housing completely dominates corporate equity in the portfolios of all but the wealthiest households. In fact, the chart confirms that the aggregate equity and real estate shares reported in the Flow of Funds Accounts are more characteristic of a household at the 95th percentile than a household at the midpoint of the wealth distribution.

Chart 2

Portion of Household Assets in Corporate Equity and Real Estate by Wealth Percentile, 1992 and 1995



Source: Survey of Consumer Finances.

Variation in the Importance of Housing

A closer examination of the data in the Survey of Consumer Finances reveals more about the importance of housing across groups and over time. The very high percentage of the typical household's assets devoted to real estate suggests that when a family makes the transition from renting a house to owning a house, it is placing most of its financial "eggs" in one basket.

Once this transition is made, however, we would expect to see the dominance of housing gradually decline over time. Homeowners should have a high real estate share and a low equity share early in the life cycle as they establish themselves financially. Then, as they age and begin to save for retirement, their real estate share should fall and their equity share should rise. These expectations are partially borne out by the 1995 survey data. The median real estate share declines with age, dropping from 66 percent at age forty to 57 percent at age fifty-five (Chart 3).[6]

Nevertheless, at all points in the life cycle, the median real estate share is well above the median equity share. The equity share increases only slightly over time, rising from zero for the twenty-five-year-old homeowner to 3.5 percent for the homeowner at age fifty-five. In addition, as Chart 3 shows, the median real estate share remains relatively constant for homeowners from their mid-twenties to their early forties, dipping below 65 percent only for homeowners aged forty-four or older.

What accounts for the persistence of the high real estate share during this span of nearly twenty years? The survey data show that the median real estate share does decline very steadily as the length of time a household has occupied its current home increases. For a household living in the same home for twenty years, the real estate share drops from about 70 percent to 55 percent. Such an extended period of residence, however, is only characteristic of households later in life.

Households generally own three to four homes over their lifetime, and they tend to make most of their moves early on. With each move, the household is likely to be purchasing a larger, more expensive home. Thus, the relatively constant real estate share observed for homeowners between their mid-twenties and early forties is probably due to the trading up process: higher mortgage payments effectively cancel out the income gains that might be expected to reduce the real estate share of a homeowner's portfolio in these prime working years.

Extrapolating to 1998

We have suggested that the Survey of Consumer Finances provides a more balanced view of the composition of household wealth than the Flow of Funds Accounts. One drawback of the survey, however, is the lack of very recent data. While the Flow of Funds Accounts, compiled quarterly, offer up-to-date information on the assets of the household sector, the latest findings available from the Survey of Consumer Finances are from the end of 1995.

Still, despite our reliance on the 1995 data, we can be reasonably confident that most households' equity and real estate ownership patterns have not changed greatly over the past three to four years. First, the flow of funds data suggest considerable continuity in aggregate equity trends in the 1992-95 and 1995-98 periods. From the fourth quarter of 1992 through the fourth quarter of 1995, the total value of corporate equity held by households rose 50 percent. From the fourth quarter of 1995 through the second quarter of 1998, the value of household corporate equity rose 70 percent, a roughly proportional increase. In addition, the value of corporate equity held by households through mutual funds and defined contribution retirement accounts (the primary investment vehicles for those not in the top wealth percentiles) grew at roughly the same rate during the two three-year periods.

Although the gain in the value of corporate equity in each of these periods seems very large, we know that between 1992 and 1995, the portion of household assets in corporate equity and in real estate at most wealth levels changed relatively little. In Chart 2, the lines representing the corporate equity shares for 1992 and 1995 track each other extremely closely, and the same is true of the lines representing the real estate share in 1992 and 1995. If the gain in the value of corporate equity in the earlier period is indicative of the gain in the later period—as the flow of funds data suggest—then, for most households, it is unlikely that the portion of assets in corporate equity grew much larger in the later period.

Additional evidence that the shares of equity and real estate in most household portfolios have followed their earlier trends is provided by home ownership patterns. According to the flow of funds data, the portion of total household-sector assets in real estate declined at the same modest rate during both periods, from 31 percent to 29 percent in 1992-95, and from 29 percent to 27 percent in 1995-98. The Freddie Mac Conventional Home-Price Index increased 10 percent in each of the two periods. In recent years, a factor that has probably moderated the growth of the equity share is the increase in the percentage of households that own homes. With a record 67 percent of households owning homes in the third quarter of 1998 (U.S. Bureau of the Census 1998), proportionately fewer families would have substantial capital to spare for stock purchases.

All of these facts reinforce the conclusion that the fundamental balance between real estate and equity in most household portfolios has probably not changed significantly since 1995. It would take an enormous change in asset ownership behavior to significantly narrow the prominent gap between the equity and real estate shares. In all likelihood, real estate still dominates the typical portfolio, the median equity share remains near zero,[7] and households in the upper half of the wealth distribution—especially the top few percentiles—continue to enjoy nearly all of the gains in corporate equity value.

Reconsidering the Imbalance in Household Portfolios

Our analysis of the asset composition of household portfolios raises an interesting question: Why is the real estate share so high for most households? The answer appears to lie in the current system of housing finance, which effectively rules out any limited investment in

Chart 3

Portion of Homeowners' Assets in Real Estate over the Life Cycle, 1995

Source: Survey of Consumer Finances.

housing. If a family wishes to live in a $250,000 house and to enjoy the flow of services associated with it—the schools, the neighborhood, the resources of the community—it must buy the entire house. Currently, there is no financing option that would allow the household to live in a house it only partially owns.[8] As a result, households are compelled to commit a disproportionate amount of their funds to the purchase of a house, leaving little capital for other kinds of investment.

Attendant Risks

The investment in housing carries a number of risks. The sheer magnitude of a house purchase, combined with the high leverage used to finance it, leaves the household with a nondiversified portfolio that is highly exposed to regional house price declines. To be sure, housing has generally appreciated in value over the past twenty-five years, but steep regional house price declines have occurred in Texas, New England, and California. A household caught in one of these housing market contractions can quickly lose most or all of its equity in the house. When this happens, the household can have a difficult time refinancing the mortgage (Caplin, Freeman, and Tracy 1997) or moving (Chan 1998) since both require the household to pay off its current mortgage. The household is also likely to have few other financial assets that it can draw upon to pay off a negative equity position in the mortgage. Thus, it can become locked into the existing mortgage and house.

Evidence of the risks created by households' disproportionate investment in housing can be found in data from the 1995 Survey of Consumer Finances. A significant number of the households surveyed appear to experience financial distress related to their mortgages. To identify these households, we draw on the underwriting guidelines used by lenders in assessing the ability of a household to meet its mortgage obligations.[9]

Briefly, these guidelines require that the household make a down payment of at least 20 percent on the purchase of the house, so that the initial *loan-to-value (LTV) ratio* of the mortgage is no more than 80 percent. In addition, the household must demonstrate that it has sufficient income to support the monthly mortgage payments. To establish income adequacy, lenders add the principal and interest payments on the mortgage to taxes and insurance on the house as well as any recurring loan payments and then divide this sum by monthly income. The resulting *back-end PITI ratio* (where PITI stands for principal, interest, taxes, and insurance) is not supposed to exceed 36 percent.

Adapting these guidelines to our purposes, we compute the current LTV ratio and back-end PITI ratio for all households in the survey sample that had resided in their current house for ten years or less (Table 2).[10] We then tally those households whose ratios deviate conspicuously from the standards described above—specifically, households with an LTV of 100 percent or more (a negative equity position) and households with a PITI ratio of 50 percent or more (severe cash flow problems). We find that while only 3 percent of the households have negative equity problems, a much larger group—26 percent—experience severe cash flow problems. This exercise suggests that households that satisfy lending requirements when they purchase their homes are often unable to meet their mortgage obligations comfortably as time progresses. Thus, the housing investment may expose home buyers to greater risk than is often recognized.

Table 2

Percentage of Households Experiencing Mortgage-Related Financial Stress, 1995

	LTV Less Than 100%[a]	LTV Greater Than or Equal to 100%	Row Totals
Back-end PITI Less Than 50%[b]	72.0	2.1	74.1
Back-end PITI Greater Than or Equal to 50%	24.7	1.2	25.9
Column totals	96.7	3.3	100.0

Source: Survey of Consumer Finances, 1995.

Notes: Each number reported in the table represents the percentage of households with a particular combination of LTV and PITI values. The sample is restricted to households that have been in their current home for ten years or less.

[a] The LTV ratio is the dollar amount of the mortgage divided by the value of the property.

[b] The back-end PITI ratio is the sum of the principal and interest payments on a mortgage plus taxes and insurance on the house and any recurring monthly payments divided by monthly income.

Possible Remedies

Proposals to change the system of housing finance are largely speculative at present. Nevertheless, some interesting new strategies for easing the burden on home buyers have recently been advanced. Shiller and Weiss (forthcoming) recommend that trading on metropolitan house price indexes be established, so that households can hedge the risk associated with local housing market price declines. Caplin, Chan, Freeman, and Tracy (1997) propose the formation of "housing partnerships," a financing arrangement that would allow a household to share ownership of its home with outside investors. Such partnerships would significantly reduce the up-front costs and the monthly carrying costs of owning a house, enabling families to devote more of their income to other investments.

Conclusion

Evidence from the Survey of Consumer Finances suggests that the typical household today is still likely to own little if any equity. Most families remain heavily invested in housing, tying up a full two-thirds of their assets in real estate. In the years ahead, innovations in housing finance may lead to more balanced household portfolios, but for the present, the spectacular returns in the stock market appear to have had little effect on the composition of most families' assets.

Notes

1. In this article, corporate equity ownership is interpreted as the direct or indirect ownership of publicly traded and closely held shares.

2. The flow of funds data combine the holdings of households with the holdings of nonprofit organizations. In all of our calculations using these data, we subtract nonprofit holdings from the household category.

3. More specifically, we define the typical household as one that holds the median real estate share and the median equity share for households in the fiftieth percentile of the wealth distribution. The median share is the middle value, above and below which lie an equal number of other values.

4. We consider gross real estate assets since we are interested in risk exposure. For the same reason, we include in corporate equity the value of defined contribution pensions and other quasi-liquid retirement assets such as IRAs and 401(k) plans. The future value of social security and any defined benefit pensions is omitted, however. Although these assets tend to be important for older households and those with lower income, we have no data that would allow us to value them.

5. To construct the chart, we first sort the 4.300 households examined in the 1995 Survey of Consumer Finances into 100 wealth percentiles, each reflecting a higher level of assets than the preceding percentile. Next we sort the forty-three households in each percentile by the size of their real estate and equity shares. We then calculate the median real estate and equity shares in each percentile—that is, the shares lying between an equal number of higher and lower values. Finally, we plot these median shares across wealth percentiles by averaging each share with shares in neighboring percentiles to reduce the error associated with small samples.

6. The variable plotted in the chart was constructed by calculating the median ratio for each age.

7. Starr-McCluer (1998) reports that, in 1997, 35.4 percent of respondents to the Michigan Survey of Consumers indicated that they owned some equity. This survey collected information from 1,500 respondents from July to September of 1997.

8. Reverse mortgages and similar products allow a household to take equity out of its house but do not reduce the owner's exposure to house price declines.

9. Fannie Mae (Federal National Mortgage Association) sets these guidelines. Mortgage loans that meet these guidelines constitute more than 90 percent of the market.

10. Homeowners in this group are particularly susceptible to adverse income and house price shocks since they had less time to build up equity in their houses.

References

Antoniewicz, Rochelle L. 1996. "A Comparison of the Household Sector from the Flow of Funds Accounts and the Survey of Consumer Finances." Board of Governors of the Federal Reserve System Finance and Economics Discussion Series, no. 96-26, July.

Board of Governors of the Federal Reserve System. 1998. Flow of Funds Accounts of the United States, Second Quarter 1998.

Caplin, Andrew, Sewin Chan, Charles Freeman, and Joseph Tracy. 1997. *Housing Partnerships*. Cambridge: MIT Press.

Caplin, Andrew, Charles Freeman, and Joseph Tracy. 1997. "Collateral Damage: Refinancing Constraints and Regional Recessions." *Journal of Money, Credit, and Banking* 29, no. 4, Part 1: 496-516.

Chan, Sewin. 1998. "Spatial Lock-In." Rutgers University Working Paper no. 9816.

Samuelson, Robert. 1998. "Why We're Married to the Market." *Newsweek*, April 27, 47-50.

Shiller, Robert J., and Allan N. Weiss. Forthcoming. "Home Equity Insurance." *Journal of Real Estate Finance and Economics*.

Starr-McCluer, Martha. 1998. "Stock Market Wealth and Consumer Spending." Board of Governors of the Federal Reserve System, Divisions of Research and Statistics and Monetary Affairs, Working Paper no. 1998-20, April.

U.S. Bureau of the Census. 1998. Current Housing Reports, "Housing Vacancies and Homeownership."

About the Authors

Joseph Tracy is an assistant vice president and Henry Schneider an assistant economist in the Domestic Research Function of the Research and Market Analysis Group. Sewin Chan is an assistant professor in the Department of Economics at Rutgers University.

Current Issues in Economics and Finance is published by the Research and Market Analysis Group of the Federal Reserve Bank of New York. Dorothy Meadow Sobol is the editor.