Will the Shift to Stocks and Bonds By Households Be Destabilizing?

By Donald P. Morgan

In the last decade, households have tended to shift out of bank deposits and money market funds and into stocks and bonds. Some analysts and journalists worry that the shift could be destabilizing to the economy and financial markets. Consumption spending, it is argued, might fluctuate more because households have invested in riskier stocks and bonds. Financial markets also could be more volatile because households might behave as short-sighted novices who will sell assets in panic at the first dip in the market. In addition, the pension and mutual funds through which households invest tend to trade more actively than households. The increasing role of such heavy traders, it is feared, might increase financial market volatility.

This article contends such concerns, though understandable, are exaggerated. The first section shows that the shift into stocks and bonds primarily indicates aging American workers are saving for retirement. The second section shows that portfolio shifts in the past did not destabilize consumption, and argues that new investors this time around will not destabilize financial markets. Households, for their part, are investing for long-run goals and therefore are likely to ride out short-term bumps in the market. Moreover, the role of institutional investors in the market has been trending up for 30 years without any accompanying trend in the volatility of stock prices.

Donald P. Morgan is a senior economist of the Federal Reserve Bank of Kansas City. Stephen Ravel, a research associate at the bank, helped prepare the article.

THE SHIFT IN HOUSEHOLD PORTFOLIOS

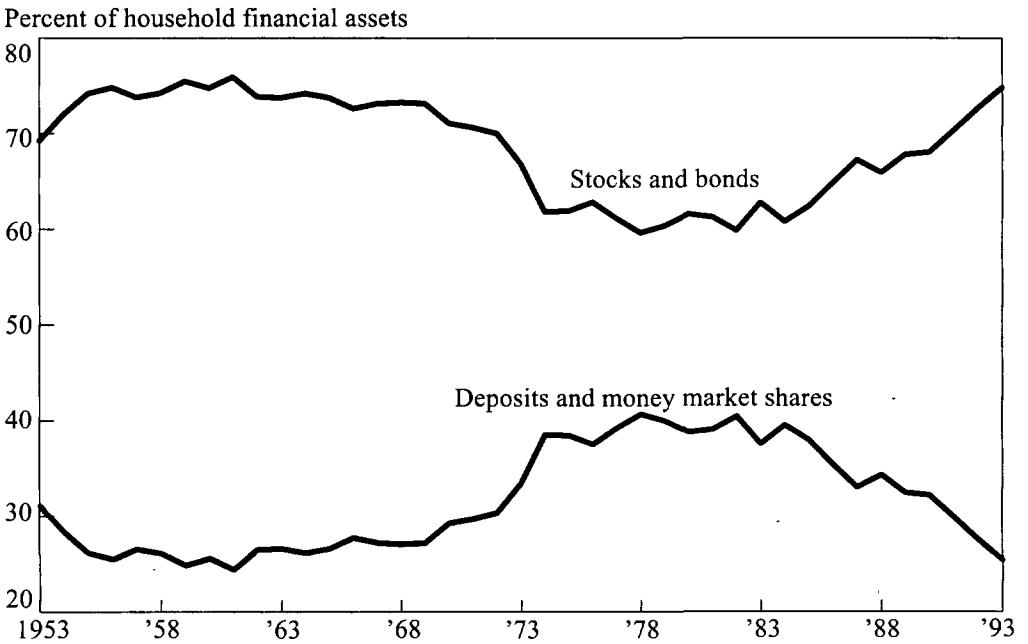
American households own a large portfolio of financial assets divided among safe assets, such as bank deposits and money market shares, and riskier assets, such as stocks and bonds. Over the last decade, some households have assumed riskier portfolios by substituting stocks and bonds for bank deposits and money market shares.

Dimensions of the shift

Even though the shift into stocks and bonds has drawn attention only recently, the trend began in the early 1980s (Chart 1).[1] The share of financial assets invested in stocks and bonds increased from 60 percent in 1982 to about 75 percent in 1993, the highest share since 1961. The share of financial assets invested in deposits and money market shares decreased over that period from 40 percent to 25 percent, the lowest share since 1961.

Chart 1

Households Have Shifted into Stocks and Bonds



Note: Included are direct holdings by households and indirect holdings in mutual funds, pensions, life insurance, and trust funds; see endnote for details.
Source: Flow of Funds Accounts, Federal Reserve System.

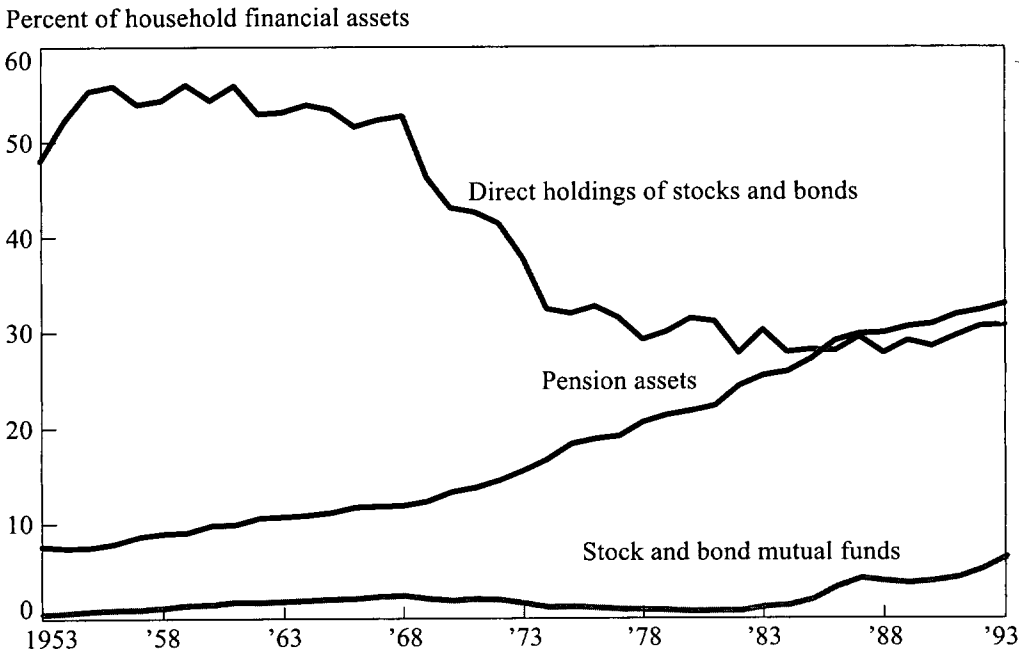
Over the last decade, households have invested mainly through intermediaries, such as pension and mutual funds, rather than buying stocks and bonds directly in the market (Chart 2). Stocks and bonds held in pension funds have increased steadily since the 1950s. Stocks and bonds held in mutual funds, while nearly flat until 1983, have grown dramatically since that time. Direct holdings of stock and bonds, in contrast, were flat over the last decade.

The preference for investing through intermediaries over investing directly is a recent phenomenon. Households in the 1950s and 1960s chose to invest directly in the market, even though stock and bond mutual funds were available. Households now hold about the same share of their financial assets in stocks and bonds as then, but hold a much smaller share directly.

U.S. residents, including households, have also invested more recently in foreign stocks and bonds (Chart 3). Although still a small share of total financial assets, foreign stocks and bonds now represent 4 percent of all household stock and bond holdings, with much of this growth occurring recently. International and global mutual funds are among the fastest growing classes of mutual funds and account for a large share of the spurt in mutual funds in the 1990s (Mutual Fund Fact Book).

Chart 2

Households Have Invested Through Pension and Mutual Funds



Source: Flow of Funds Accounts, Federal Reserve System.

Risks of the shift

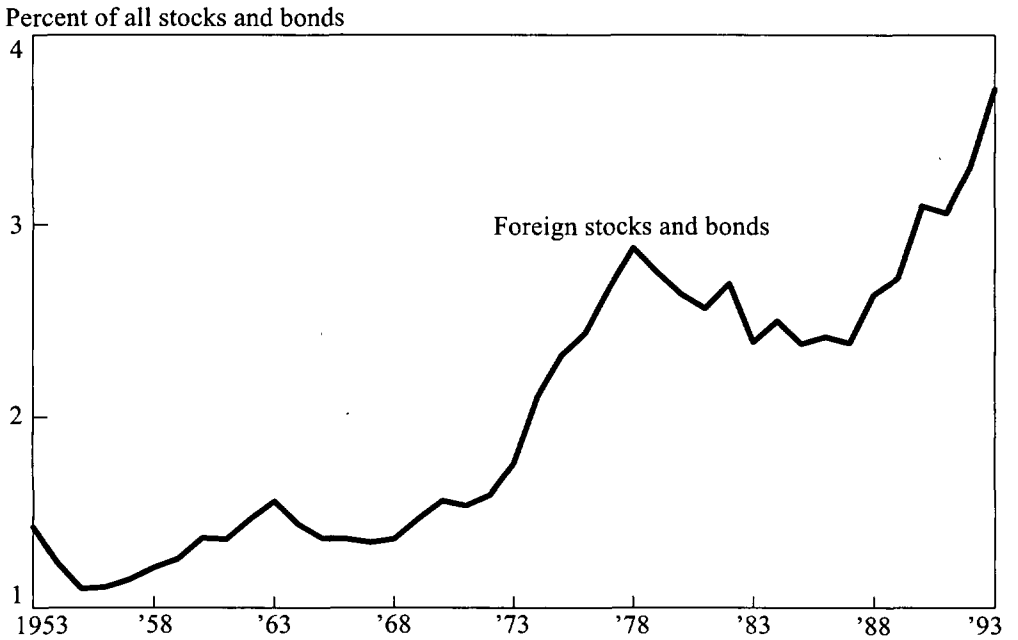
Households substituting stocks and bonds for bank deposits and money market shares have increased the riskiness of their portfolios. Stocks and bonds are inherently riskier than either bank deposits or money market shares. Bank deposits up to $100,000 are perfectly safe because they are federally insured. Larger bank deposits and money market shares, though not insured, are still safer than stocks or bonds.

The recent preference for diversified portfolios of pension and mutual funds mitigates, but does not offset, the increase in risk.[2] By pooling the resources of many investors, these funds enable individuals to invest in many different securities. Investing in many securities is usually safer than investing the same amount in only one of those securities because a fall in one security's price may be mitigated by a rise in the price of another. Still, even a perfectly diversified portfolio of stocks and bonds is riskier than a portfolio of bank deposits and money market shares, which is essentially risk free.

The trend over the last decade to defined contribution pension plans also increases the portfolio risk for some households. The share of all pension assets invested in defined contribu-

Chart 3

U.S. Residents Have Invested in Foreign Stocks and Bonds



Note: U.S. residents include households and corporations.
Source: Flow of Funds Accounts, Federal Reserve System.

tion plans increased from 30 percent in 1982 to about 43 percent in 1990 (Private Pension Plan Bulletin). Under such plans, payments to retirees are determined by the value of assets in the pension. The risk of declining asset prices is thereby borne by the pension holders themselves. Under the alternative of defined benefit plans, in contrast, payments to retirees are independent of the value of pension assets. The company sponsoring the plan, therefore, bears the risk of declining asset prices. This risk is shared by the federal government because defined benefit plans are insured by the Pension Benefit Guaranty Corporation. Given these differences between the two types of plans, the households investing through defined contribution plans are bearing more risk.

Investing abroad might also increase portfolio risk because the prices of foreign stocks and bonds fluctuate more than in the United States. For example, the standard deviations of monthly stock and bond returns in the United States in the 1980s were only 4.8 percent and 3 percent, compared with 6.6 percent and 4.6 percent on average in Japan, Germany, Britain, and Canada (Tesar and Warner).[3] In addition, foreign investments entail exchange rate risk because foreign assets are usually purchased with that country's currency. After selling the asset, U.S. investors must convert the foreign currency to dollars. Depreciation of the foreign currency against the dollar, therefore, could reduce the return on the investment.

Reasons for the shift

Whether the shift into stocks and bonds will be destabilizing depends in part on why households shifted in the first place. If households are investing for short-term gains, the shift may pose risks to the economy and financial markets. Such risks appear more remote, however, if households are investing for the long term. In fact, households appear to have shifted into stocks and bonds primarily because they are saving for retirement as they age. Other possible reasons for the shift—the availability of mutual funds, the steep yield curve, and changes abroad—appear to have been incidental.

Mutual funds. Some suggest that the availability of diversified mutual funds has led households to invest more in stocks and bonds. However, stock and bond funds have been available since the 1920s, so their availability cannot explain the portfolio shift over the last decade (Mutual Fund Fact Book). Households' demand for stocks and bonds increased in the early 1980s for some other reason, which in turn increased their demand for mutual funds.[4] To reverse the story places the cart before the horse.

Steep yield curve. Another possible reason for the shift into stocks and bonds is the unusually large spread between long-term bond yields and short-term interest rates in the 1990s (Chart 4). The spread was negative on average in 1989 and then steepened dramatically until it peaked at a record of 3.5 percentage points in 1992.[5] During that period, short-term interest rates fell relative to long-term rates as the Federal Reserve eased its monetary policy.[6] Relative yields influence investors, of course, so the steep yield curve is an obvious possible explanation for the shift into longer term stocks and bonds.

The steep yield is only a partial explanation, however, for two reasons. First, although stock and bond holdings began increasing about the same time the yield curve began steepening in the early 1980s, stock and bond holdings continued increasing even when the yield curve flattened over 1986-89. Second, this explanation takes the high yield on long-term assets as given. Doing so is fine when explaining why an individual is demanding long-term assets because relative yields are not affected by an individual's demand. Taking yields as given is unsatisfactory in explaining aggregate portfolio shifts, however, because such shifts do affect yields.[7] A more fundamental reason is needed to explain why households have been demanding stocks and bonds.

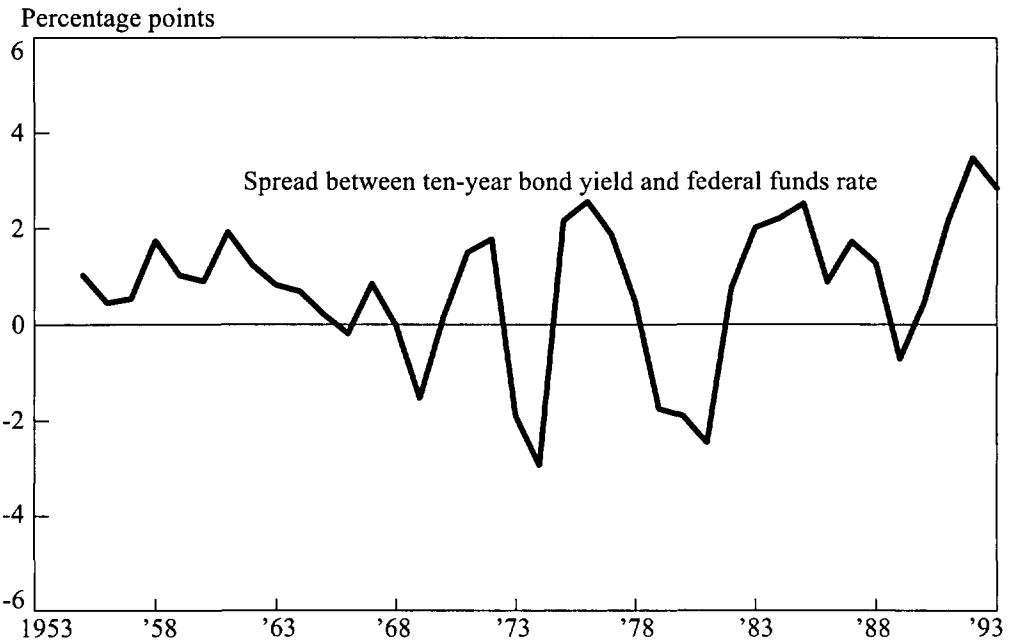
Changes abroad. Deregulation, rapid economic growth, and political and economic reform abroad have increased U.S. investors' demand for foreign assets. Developed countries around the world deregulated financial markets in the 1980s by lifting ceilings on interest rates and relaxing controls on foreign ownership and exchange rates (Maxwell and others). Rapid economic growth in the newly developed countries along the Pacific Rim also attracted U.S. investors. And, political and economic reforms in Latin America in the late 1980s and early 1990s, together with the resolution of the debt crisis, have encouraged U.S. foreign investment.

All these fundamental changes increased U.S. households' demand for foreign stocks and bonds. Nevertheless, such assets still comprise too small a share of all stocks and bonds to explain the overall portfolio shift into stocks and bonds.

Aging population. Demographic shifts are another explanation for portfolio shifts. As young workers in their 20s and early 30s enter the labor force, they are at the stage in their life when they are starting families and are borrowing to buy and furnish houses. To the extent such young households save at all, they are inclined to hold very safe, short-term assets, such as bank deposits, which are readily convertible to cash and then into goods. But as workers age and begin to contemplate retiring, they save more and their investment horizon stretches. With longer horizons, they are willing to accept greater short-run volatility in exchange for long-term returns, and so shift toward stocks and bonds.

Chart 4

The Yield Curve Steepened in the 1990s



Source: Board of Governors, Federal Reserve System.

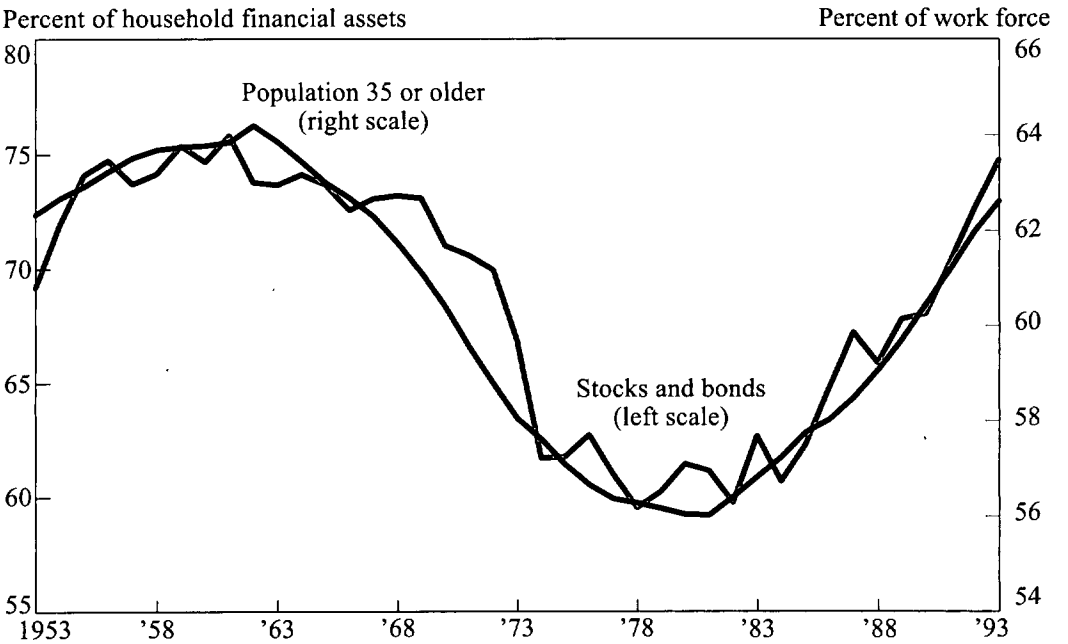
In fact, the share of household assets in stocks and bonds follows very closely the share of workers aged 35 or older (Chart 5). Both shares peaked in the early 1960s and began declining as the first wave of baby boomers entered the labor force. The shift out of stocks and bonds accelerated in the early 1970s as high energy prices and inflation squeezed business profits and dividends. The portfolio shift would have continued regardless, however, as baby boomers continued to throng the labor force in the 1970s. By the early 1980s, most baby boomers had turned "30 something" and so began migrating from liquid deposits into higher risk, but higher yielding, stocks and bonds.

Demographic shifts, by themselves, explain most of the portfolio shifts both over the last 40 years and since 1982. More precisely, 91 percent of the yearly changes in the share of household financial assets in stocks and bonds can be explained by statistically regressing that share against the share of workers 35 or older. Plotting each share in each year against the regression line estimated over 1953-93 reveals that holdings of stocks and bonds have risen as expected from 1983 to 1993, given the aging work force (Chart 6). This close fit indicates that demographic shifts were the primary reason for the portfolio shift. Other possible reasons—the availability of mutual funds, the steep yield curve, and changes abroad—appear to have been incidental at most.[8]

Despite the long-run investment goals of households, some analysts and journalists have

Chart 5

Portfolio Shifts Track Demographic Shifts



Source: Flow of Funds Accounts, Federal Reserve System; U.S. Census Bureau.

conjured alarming scenarios about the destabilizing impact of the portfolio shift. With so much wealth invested in stocks and bonds, they worry, a dip in the market could stagger consumption and the aggregate economy (Kaufman; Hale; Bleakley). The new investors could also destabilize financial markets by selling assets in panic when the market dips, turning the dip into a crash (Koretz; Kuhn; Wayne).

IMPLICATIONS FOR STABILITY

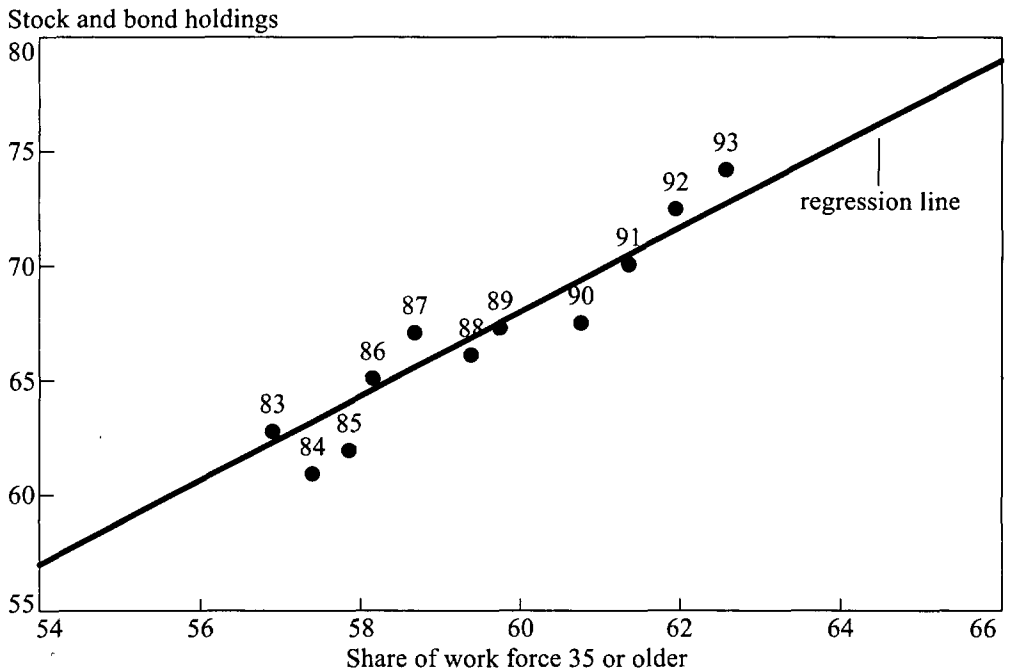
Concerns about increased volatility of consumption and financial markets seem exaggerated. Portfolio shifts in the past did not destabilize consumption and new investors are not likely to destabilize financial markets. Moreover, households' foreign investments, by diversifying risks abroad, could help stabilize consumption.

Portfolio shifts and consumption

The portfolio shift over the last decade is not the first such shift, only the most recent. Households also began a shift into stocks and bonds in 1953, and by 1955 had invested more of their financial wealth in stocks and bonds than they have today. For the next 15 years households invested about as much of their financial wealth in stocks and bonds as they have currently. In the early 1970s,

Chart 6

Stock and Bond Holdings Have Risen as Expected, Given the Aging Work Force
Percent of household financial assets



Note: The regression line was estimated over 1952-93.
Source: Flow of Funds Accounts, Federal Reserve System, Author's calculation.

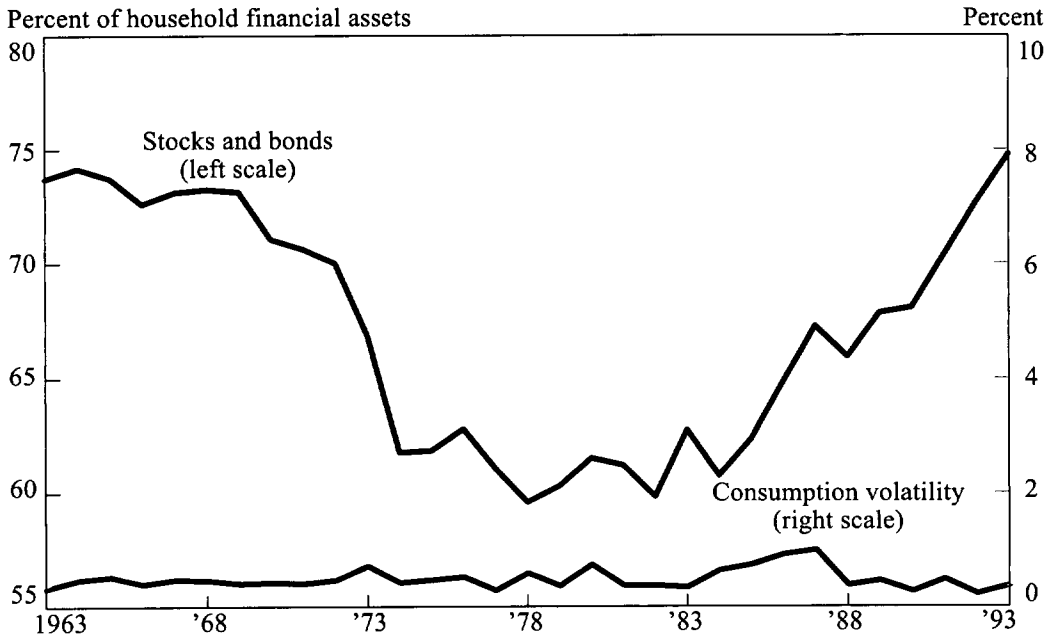
households began shifting out of stocks and bonds, and they invested only a small share in stocks and bonds until they shifted back in the early 1980s. These past portfolio shifts allow a simple test of whether consumption spending fluctuates more when households invest heavily in stocks and bonds.

The volatility of consumption is found to be unrelated to the share of financial assets invested in stocks and bonds over the last three decades (Chart 7). Consumption growth was actually a bit less volatile over 1963-72 when the share was high than over 1973-82 when the share was low. And while volatility increased a little in the mid-1980s after households began shifting back into stocks and bonds, it has since declined to its historical average.[9] The stability of consumption during past portfolio shifts into stocks and bonds should assuage fears that the recent shift will destabilize consumption spending.

One possible reason why shifts into stocks and bonds have not destabilized consumption is that consumption is not very sensitive to changes in wealth. Researchers estimate that, as a rule, households reduce their current consumption by only about 5 cents for every dollar decline in their wealth (Brayton and Mauskopf).[10] Consistent with this rule, Garner estimates consumption fell by only about $40 billion after the stock market crashed in 1987, which cost households about $750 billion in wealth.[11] Because households now own more stock than in 1987, a proportionate drop

Chart 7

Portfolio Shifts Have Not Destabilized Consumption



Note: Consumption volatility is the standard deviation of monthly growth rate of real personal consumption expenditures.
Source: Flow of Funds Accounts, Federal Reserve System, Author's calculation.

in the market today would cost households about $1.3 trillion in wealth. In this event, according to the rule, consumption would fall by only about $66 billion, or about 1 percent of GDP.

Another possible reason why shifts to stocks and bonds do not increase the volatility of aggregate consumption is that such shifts seem to merely reallocate risk among households. Except for foreigners' small share, U.S. households collectively own all the businesses in the economy and so must ultimately bear the aggregate risk of all those businesses. The type of financial claims households have against businesses—stocks, bonds, or deposits—merely allocates that risk across households. Stockholders bear the most risk, bondholders bear less risk, and deposit holders bear the least risk.

Substituting one claim for another seems to merely reallocate risk across households without increasing the amount of risk in aggregate.[12] Suppose one household uses its bank deposit to buy newly issued stock in a firm. That household now shares risk with the firm's previous shareholders, whose share of risk declines when the firm repays its bank loan with the proceeds from stock sales—the loan funded with the first household's deposit.

Similarly, the shift out of federally insured bank deposits and defined contribution pension plans tends to reallocate risk across households because households ultimately pay the liabilities of the government with taxes. The shift out of insured assets reduces the liabilities of the agencies

that insure those assets, which in turn reduces the risk that taxpayers must bail out those agencies. Such risks are real and substantial, as illustrated by the savings and loan bailout and by the current deficit of the Pension Benefit Guaranty Corporation (Becketti).

This reasoning, and the evidence before it, suggests the recent portfolio shift merely reallocates risk to new investors. This reallocation itself might increase aggregate risk if, however, new investors destabilize financial markets.

Will new investors destabilize financial markets?

Some analysts and journalists are concerned that the households now investing in stocks and bonds will destabilize financial markets. Others worry that pensions and mutual funds will increase volatility because these institutions trade more heavily than households.

Household investors. Some observers portray new household investors as short-sighted novices who are misinformed about the risks they face. The image of new investors as short-sighted speculators possibly comes from the suspicion that households began buying stocks and bonds recently because of the steep yield curve and booming stock market. This suspicion breeds another: the recent investors are novices because they have not yet experienced a normal market correction. Seeming to support the suspicion that new investors are novices is a survey finding that two of every ten people who purchased a stock or bond mutual fund between July 1991 and July 1993 were first-time buyers.[13] These novices may even be misinformed because, if they purchased stock and bond funds from a bank, they may think the mutual fund is federally insured.

This profile of new household investors seems distorted for several reasons. First, households appear to have shifted to stocks and bonds to save for retirement, not because they are short-sighted speculators. The long-term investment goal of households suggests they are prepared to ride out short-term drops in the market. Second, the new investors are not necessarily novices. Because households began shifting their portfolios back in 1982, the 1987 stock market crash taught them the risks involved. Moreover, the fraction of first-time buyers in recent years may be no higher than in the 1950s and 1960s.[14] Recent investors are certainly not young or uneducated: the survey of recent stock and bond fund investors found their median age was 44 and over half had college degrees. Third, only a small fraction of recent investors could mistakenly believe their stock and bond funds were federally insured. The same survey found less than 10 percent of recent investors purchased such funds from a bank, and presumably only a fraction of those investors were misinformed.[15]

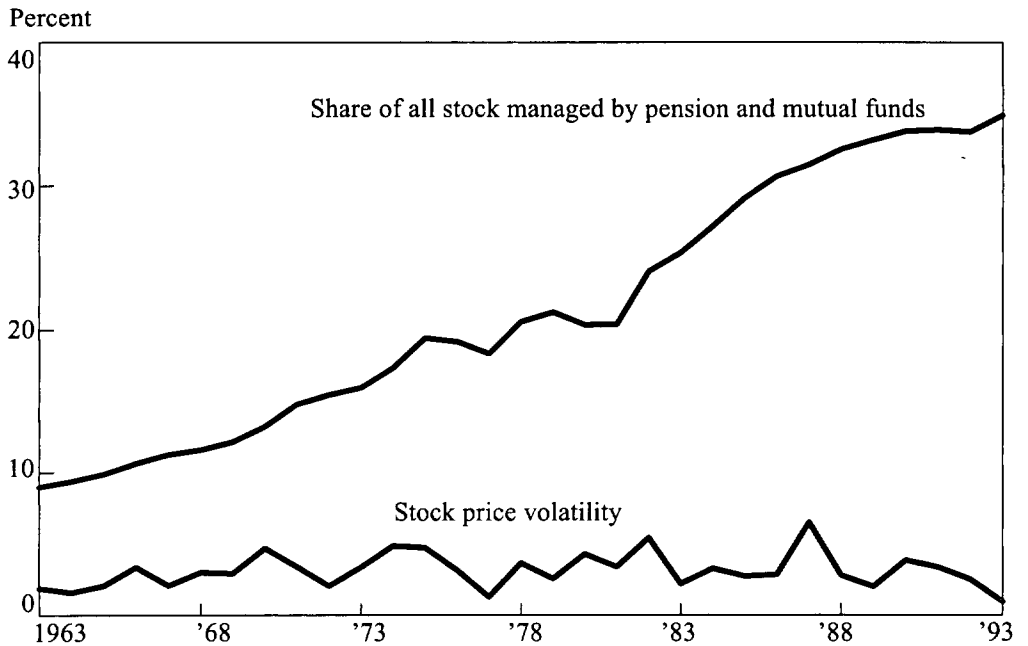
For these reasons, a more accurate profile suggests the new household investors are middle-aged, well-educated investors pursuing a long-term investment goal. Such investors seem unlikely to behave in a manner that would destabilize financial markets.

Institutional investors. Some analysts also worry that pensions and mutual funds could increase market volatility because these increasingly prominent institutions trade more actively than households. Institutional investors do indeed trade, or turn over, their assets more often than households (Froot, Perold, and Stein). At the rate households traded in the 12 months ending in 1990, for example, they would take almost five years to turnover their portfolios. Pensions and mutual funds, in contrast, would have turned over their portfolios in about two years at the rate they traded over that period. The more prominent market role of such heavy traders could therefore increase trading volume.

The role of institutional traders has been trending up for 30 years, however, without noticeably increasing the volatility of stock prices (Chart 8). The standard deviation of the real growth rate

Chart 8

Institutional Investors Have Not Destabilized Stock Prices



Note: Stock price volatility is the standard deviation of the real, monthly growth rate of the S&P 500.
Source: Flow of Funds Accounts, Federal Reserve System, Author's calculation.

of stock prices every month, measured by the S&P index, has cycled up and down over this period without any trend. This simple fact should help dispel fears that institutional investors will destabilize financial markets.

Foreign diversification and consumption

The substitution of foreign for domestic stocks and bonds could potentially stabilize consumption. This claim seems paradoxical, given the greater volatility and the exchange rate risk entailed by foreign investments. Despite those risks, investing abroad can stabilize consumption if fluctuations abroad mitigate fluctuations here.

The benefit of diversifying abroad depends on the degree of correlation between markets in the United States and abroad. A negative correlation is most beneficial because increases abroad tend to cancel decreases here. Foreign diversification is still beneficial, however, as long as markets are not perfectly correlated—which they are not. The average correlation of real, quarterly stock returns over 1975-92 in the United States, Japan, Britain, France, Germany, and Canada was only one-half—which means that a dollar decline in the U.S. market is associated with only a 50 cent decline on average in those foreign markets (French and Poterba). The stock market crash in 1987 illustrates this low correlation. The Standard and Poor's index fell 23 percent over the fourth

quarter of 1987, while the Morgan Stanley foreign index fell only 11 percent, about half as much.[16]

Because of this low correlation, researchers agree that foreign diversification can stabilize wealth despite the additional exchange rate risk (Obstfeld). Tesar and Warner calculate that investing in the United States, Japan, Britain, Germany, and Canada—with each country weighted according to its market share of all markets—was safer over the 1980s than investing in just U.S. stocks or bonds, notwithstanding exchange rate risk. Moreover, investors can hedge against exchange rate fluctuations with a futures contract that guarantees a certain exchange rate, as many mutual funds do.

CONCLUSION

Concerns that the shift into stocks and bonds by households will destabilize aggregate consumption or financial markets seem exaggerated. Consumption remained stable in the 1950s and 1960s when households had as much invested in stocks and bonds as they do today. In addition, new investors are not likely to destabilize financial markets. Households seem to be investing for retirement and therefore are likely to ride out short-run bumps in the market. And the role of institutional investors in the market has been trending up for 30 years without any accompanying trend in the volatility of stock prices.

ENDNOTES

[1] The Federal Reserve's Flow of Funds measures bonds at book value and stocks at market value. Bonds include all credit market instruments held by households. Holdings of each type of asset (stocks and bonds versus deposits and money market shares) include direct and, as best as possible, indirect holdings through mutual funds, life insurance companies, pensions, and bank trusts. Holdings through private pensions, state and local pensions, and bank trusts were decomposed into each type of asset using tables L123, L124, and L133 from the Flow of Funds Tables, September 1993. It was not possible, however, to decompose holdings through mutual funds, life insurance companies, and federal pensions so those holdings were assumed to be invested only in stocks and bonds; that assumption is reasonable because those institutions hold relatively small amounts of deposits and money market shares. Holdings of each type of asset are expressed as a percentage of household financial assets excluding security credit, miscellaneous assets (direct and indirect), and noncorporate equity.

[2] Some analysts claim that the shift from direct stock and bond holdings to domestic mutual funds will stabilize aggregate consumption because mutual funds are better diversified. This argument is a fallacy of composition; individuals' consumption may be more stable following such a shift, but aggregate consumption is unaffected because variations in individuals' consumption cancel in aggregate.

[3] These are the standard deviations of excess returns: the monthly return on stocks or bonds less the holding period return on a 30-day Treasury bill or Eurorate.

[4] The growing popularity of mutual funds over direct investment could reflect several factors. Households may better understand the benefits of diversification now. Mack discusses several other possible reasons. Increased advertising by mutual funds after the SEC adopted rule 12b-1 in 1980, which permits mutual funds to pay for advertising with their assets, may have increased their market share. The introduction of IRA and Keogh accounts in 1982 may also have favored mutual funds to the extent mutual funds are more convenient for opening such accounts. The popularity of mutual funds cannot reflect declining costs, however; from 1982 to 1992 expenses of domestic stock funds rose from 1.08 percent of assets to 1.49 percent, while expenses of bond funds remained constant at about 0.9 percent of assets (Mack).

[5] These figures are annual averages.

[6] Among short-term assets, bank deposits were especially low during the 1990s as banks seemed to lower their rates relative to other short-term rates in response to weak loan demand, reduced competition from the struggling thrift industry, and new capital requirements.

[7] A third reason for not using the steep yield curve to explain the portfolio shift is that it assumes investors allocate their

wealth in response to current yields rather than expected future yields.

[8] In particular, the spread between the ten-year bond rate and the federal funds rate—current, lagged, or both—was insignificant in explaining yearly changes in the share of assets held in stocks and bonds, given the share of workers 35 or older. Alternatively, the increased share of wealth in stocks and bonds could reflect capital gains on existing holdings, rather than new inflows. However, that explanation begs the question: after enjoying capital gains, why didn't households re-balance their portfolios by shifting into safer deposits? Perhaps because households were aging and therefore desired a larger share of wealth invested in stocks and bonds. In any case, demographic shifts remain highly significant in explaining portfolio shifts even when the regression includes the annual market return on the S&P 500—current, lagged, or both; regardless of the specification, the demographic variable has a t-statistic between 30 and 40. These regression results are available from the author.

[9] The standard deviation of consumption growth was 0.47 percent over 1963-72 and 0.52 percent over 1973-82. The standard deviation was 0.76 percent over 1983-87 and 0.41 percent over 1988-93. These figures are the average over the period of the data plotted in Chart 7. Those data are the standard deviation each year of the monthly growth rate of personal consumption expenditures. Although monthly data seem to provide a more meaningful measure of volatility, using quarterly consumption growth leads to the same conclusion: the volatility of quarterly consumption growth—total or just durables—is unrelated to the share of financial assets invested in stocks and bonds.

[10] This small estimated impact of changes in wealth on consumption accords with the life-cycle theory of consumption, which holds that households will reduce their spending gradually over their entire lifetime rather than all at once when their wealth falls (Modigliani and Brumberg).

[11] According to the rule, consumption would fall $37.5 billion = .05 x $75. Consumption actually declined by only $1 billion over the fourth quarter of 1987 because income and other factors changed. Garner held these other factors constant to isolate the impact of the crash on consumption.

[12] The reallocation might have a small, or second-order, effect on aggregate business risk if the firms' managers were inclined to pursue riskier investment projects as a result of the changes in claims against it.

[13] The survey of 1,000 people was commissioned by The Investment Company Institute, a mutual fund trade association.

[14] That new investors over the last decade are investing through mutual funds, rather than directly in the market, suggests investors are more sophisticated than their counterparts in the 1950s and 1960s. Households then were much more likely to buy directly in the market than to invest through mutual funds, which is puzzling. Middle-class investors tried to lower their risk by investing in relatively safe public utilities and, to a lesser extent, mutual funds (Crockett and Friend).

[15] It is implausible that investors who purchased stock and bond mutual funds through brokers and directly from mutual funds would believe such purchases were insured.

[16] The Morgan Stanley index of stock markets in 24 countries is denominated in dollars and so includes exchange rate risk.

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