

HOUSEHOLD INVESTMENT ASSET VARIATION AND WEALTH

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ABSTRACT

Frequent shifting of household portfolio composition may erode wealth due to poor market timing and transaction costs. If household preferences are stable, the optimal wealth maximizing strategy is periodically rebalancing to maintain a relatively constant ratio of investment assets to wealth from year to year. However, some households may fail to rebalance, or may change their preference for broad asset classes because of inexperience or behavioral biases. This research tests the impact of variation in the capital accumulation ratio (CAR), a commonly used ratio of investment assets to net worth, on changes in wealth using quantile regression. Using quantile regression, we find that having a high standard deviation of CAR results in the greatest losses among those with the lowest change in wealth between 1994 and 2004.

JEL: D14; G11; H31

KEYWORDS: Investment variation, portfolio choice, capital accumulation

INTRODUCTION

Portfolio choice theory suggests that households vary portfolio allocation for a number of reasons including reallocation, changes in perception, changing allocation objectives, meeting liquidity needs, and realizing tax losses (Odean, 1999). Excessive portfolio trading, however, can have a negative impact on portfolio performance (Barber & Odean, 1998; Malkiel, 1995; Odean, 1999).

Poor market timing and inefficient portfolio composition have led to poor investment performance among individual investors. Individuals tend to trade too much and maintain undiversified portfolios, and there is evidence that individuals unsuccessfully attempt to follow investing trends (Bange, 2000; De Bondt, 1993). Many investors appear to trade too frequently within investment accounts and are overconfident in their abilities (Barber & Odean, 2002). On the aggregate, individual investors tend to pour wealth into funds that are overvalued and pull wealth from funds that have recently underperformed, leading to investment underperformance (Frazzini, 2006).

Optimal portfolio allocation among asset categories is determined by current financial wealth and expectations regarding future returns and wage uncertainty (Bodie, Merton, and Samuelson, 1992). While current wealth and expected wages vary little over time for most households, expected asset returns may change rapidly if, for example, individual investors focus on recent returns resulting from noise trading. According to Viceira (2001), the optimal portfolio allocation between broad asset categories should not be highly sensitive to changes in life cycle stage and should remain relatively constant over the lifetime of the individual. Many early academic models argue that the decision to retire along with other exogenous variables are irrelevant to portfolio choice if opportunities to invest are level and one's human capital is portable (Merton, 1971; Samuelson, 1969). In other words, unless relative risk aversion is significantly changing across time, a household will continually rebalance to the same proportion of stocks and bonds independent of time horizon. Based on this premise one would then suggest a household should have a constant amount invested in risky assets throughout the life cycle. Recent

literature has sought to address the allocation puzzle. Viceria's (2001) work assumes households only have two tradable assets risky and riskless asset. This article shows that the optimal allocation between risk and riskless assets varies little over short time periods until relative risk aversion is very low. Although this work supports recent literature – households should invest larger amount in stocks during earlier periods of the life cycle rather than during retirement, thus having long run variation of portfolio allocation – the short run optimality of deviation between risky and riskless assets is minute.

The remainder of the paper is organized as follows. Section 2 discusses the relevant, current literature. Section 3 describes the data, variables used, and methodology. Empirical models and results are described in Section 4 and the conclusion is presented in Section 5.

LITERATURE REVIEW

Within a household portfolio, assets may be broadly categorized by their intended use. Liquid assets provide the ability to meet immediate liquidity needs at the expense of lower expected return, tangible (or use) assets provide a service flow of utility from consumption in addition to possible appreciation or depreciation over time, and investment assets are held to transfer consumption to future time periods. The capital accumulation ratio (CAR) measures the ratio of investment assets to household net worth. CAR has been used to assess financial strength over time (Garman & Fogue, 2000), relative household financial well-being (DeVaney, 1993) , retirement adequacy (Yao, Hanna, & Montalto, 2003), and changes in wealth across time (Harness, Finke, & Chatterjee, 2009).

Investment asset holdings are greater among households with the following qualities: more financial resources, a longer planning horizon, a growth-oriented savings motive, more education, and those who are white (Zhong & Xiao, 1995); a higher level of income, ownership of credit cards, home ownership, and other financial assets (Xiao, 1995); older in age (Poterba & Samwick, 1997), higher marginal tax rates (Poterba & Samwick, 1999) and higher non-tradable income (human capital) (Klos & Weber, 2006); and higher cognitive ability (Benjamin & Shapiro, 2005). Guiso, Haliassos, and Jappelli (2002) find that in the United States the fraction of investors with direct or indirect stockholdings rises from 4.4 percent in the lowest quartile of wealth to 86.7 percent in the highest quartile of wealth.

While frequent trading has a negative impact on household portfolio performance, shifts in preference appear to motivate household to trade more frequently than rational expectations theory would suggest (Agnew, Balduzzi, & Sunden, 2003). Persistent overconfidence can bias perceptions of expected gains from rebalancing toward preferred asset classes (Gervais & Odean, 2001). Factors that drive excessive trading include prior performance (Grinblatt, Titman, & Wermers, 1995), male gender (Barber & Odean, 2001), higher incomes, higher self-reported investment experience, and confidence (Barber & Odean, 2002). Calvet, Campbell, and Sodini (2007) find that households that have greater education, wealth, income, and better diversified portfolios tend to rebalance their portfolios more aggressively. Consistent rebalancing will lead to less variation in capital accumulation ratios over time.

While variation in demographic preferences will impact optimal portfolio allocation, prior research on household portfolio allocation emphasizes the role of rate of time preference and relative risk aversion (Gomes & Michaelides, 2005). Neither is likely to change significantly over time. Expectations of asset returns and preference for broad asset categories that have achieved strong recent returns or media exposure (Cooper, Gulen & Rau, 2005), for example shifts away from mutual fund investments and toward residential real estate (tangible) and money market (liquid) assets during the 2000s, will lead to greater variation in the ratio of financial assets to net worth and may also lead to wealth erosion over time due to transaction costs and poor market timing.

Preferences for assets can change over time, and for some households, this appears to impact their ownership of investment assets across time. Research suggests that trading has a negative impact on household portfolio performance (Agnew et al., 2003), yet many households continue to chase returns. Financial theory suggests that household's trade for a number of rational reasons (Merton, 1971), but literature that is more recent suggests overconfidence plays an important role in the excessive trading of household portfolios (Gervis & Odean, 2001). Recent declines in barriers to entry have thrown gasoline on the proverbial fire of trading propensity. Reduction in transactions costs and information asymmetry have provided avenues for median households to increase activity within their portfolios. It is this preference for assets that drives household portfolio allocations, but excess trading within these classes ultimately affects a household's wealth.

DATA AND METHODOLOGY

This research uses the National Longitudinal Survey of Youth 1979 cohort (NLSY79), a nationally representative panel data set comprised of youth who were between the ages of 14 and 21 on December 31, 1979. The NLSY79 has surveyed the same households between 1979 and 2004 comprising 21 waves of this panel, with a 90 percent retention rate in subsequent years. This cohort of individuals is considered part of the young baby boom generation.

Not all participants were used in this research. The data was limited to those who were willing or able to estimate their net worth in both 1994 and 2004 (N = 2,903). The years 1994 to 2004 were chosen due to availability of wealth data in the earliest and most recent NLSY surveys. During these years only 1994, 1996, 1998, 2000, and 2004 captured relevant financial data. Financial information was not collected during the year 2002 because of funding cuts. It should also be noted that the time period represents a period in which households have entered the accumulation stage of their life cycle (early 30s in 1994 and early 40s in 2004).

Variables

The dependent variable is change in net worth between 1994 and 2004. Net worth is measured using an identical self-reported net worth question asked in each sample year. The respondent is asked: "How much would you have left over after all debts are paid from selling all assets?" Wealth in 1994 and 2004 is transformed using a natural log. These two logged wealth variables are then subtracted from each other to create a change in log from 1994 to 2004. This log transformation eliminates distortions caused by extreme observations and the non-normal distribution of wealth. As a measure of robustness other transformations were performed. An inverse hyperbolic sine transformation with a scale parameter (θ) of 0.0001 used, producing similar results.

The independent variables included control for household demographic, financial, and socioeconomic characteristics that impact portfolio preference. Other control variables include those who felt in control, rate of time preference, and job risk tolerance. The standard deviation of the CAR is calculated by dividing investment assets by net worth in each period (1994, 1996, 1998, 2000, and 2004) and calculating a standard deviation, which is subsequently logged to normalize the distribution. Investment assets are calculated using the actual reported value of all investment assets reported by the participants. These assets include the value of IRA, Keogh, 401k, 403b, pre-tax annuities, stocks, bonds, mutual funds, CD, other nonresidential real estate, business and professional interests, value of farming operation, and personal loans to others. Wealth is calculated using all self-reported assets minus all liabilities.

Several demographic variables are also included in the analysis to control for factors that either can cause households to shift assets (asset preferences) or can predict changes in net worth. Age is limited by the nature of the sample, but it is included as a variable because of the slight (7-year) age difference in the

panel. Race is coded into the categories of white, black, Hispanic, Asian, and Native American. Number of children is also included to proxy increased preference for present consumption (Uhler & Cragg, 1971). Education is coded as a categorical variable of educational attainment due to the non-linear relation between education and asset holdings. Marital status can affect both preference for assets and total wealth, as can marital dissolution. A variable is included and coded as one if a household was ever divorced or widowed between 1994 and 2004.

Financial control variables included whether the respondent declared bankruptcy between 1979 and 2004, received an inheritance, owned a business, and homeownership by region. Households that had declared bankruptcy from 1979 to 2004 were dummy coded to control for shocks that affect net worth (Budria, Diaz-Gimenez, Quadrini, & Rios-Rull, 2002). Entrepreneurship is included because of the effect on both wealth (Hurst & Lusardi, 2004) and preference for assets (Heaton & Lucas, 2000). An interaction variable of region of residence by home ownership is included to proxy possible regional differences in real estate appreciation (Haurin, Wachter, & Hendershott, 1996) and preferences for other risky assets (Cocco, 2005).

Socioeconomic variables include log sum of total income 1994 to 2004, log standard deviation of income, log standard deviation of wealth 1994 to 2004, and log net worth in 1994. Both total income and net worth 1994 are used as controls for change in net worth given the effect of income and current net worth on changes in net worth. Standard deviation of income is included to capture the possible effect of income dispersion on preferences for assets and as a proxy for risk. Standard deviation of net worth is included to control for the denominator of the CAR.

Rate of time preference is included using a scale of behaviors that include smoking status, obesity status, drug use, exercise status, and nutrition label use. Rate of time preference has been linked to lower permanent income and lower wealth (Lawrance, 1991). Control is tested using a combined variable of Pearlman Mastery and Rotter locus of control scales included in the PSID to account for perceived control of forces that significantly affect their lives and belief that they have control over their lives through self-motivation or self-determination (In Control). This control is included to proxy for the overconfidence which leads to underperformance (Barber & Odean, 2000). A proxy for risk aversion is constructed from a question that asks respondents:

Suppose that you are the only income earner in the family, and you have a good job guaranteed to give you your current (family) income every year for life. You are given the opportunity to take a new and equally good job, with a 50-50 chance that it will double your (family) income and a 50-50 chance that it will cut your (family) income by a third. Would you take the new job?

We investigate the relationship between the standard deviation of CAR and changes in wealth using quantile regression, which is represented by the following:

$$Q_H[\tau|C_i, Y_i, W_i, D_i] = \alpha_\tau + \beta_\tau C_i + \delta_\tau Y_i + \gamma_\tau W_i + \Gamma_\tau X_i + \Phi_\tau T_i + \lambda_\tau D_i + \epsilon \quad (1)$$

where C_i is the log standard deviation of CAR; Y_i is the log standard deviation of total income 1994 to 2004; W_i is the log standard deviation of net worth 1994 to 2004; X_i is the log sum of income from 1994 to 2004; T_i is the log of net worth 1994; and D_i is a vector of household characteristics affecting preference for current consumption.

EMPIRICAL RESULTS

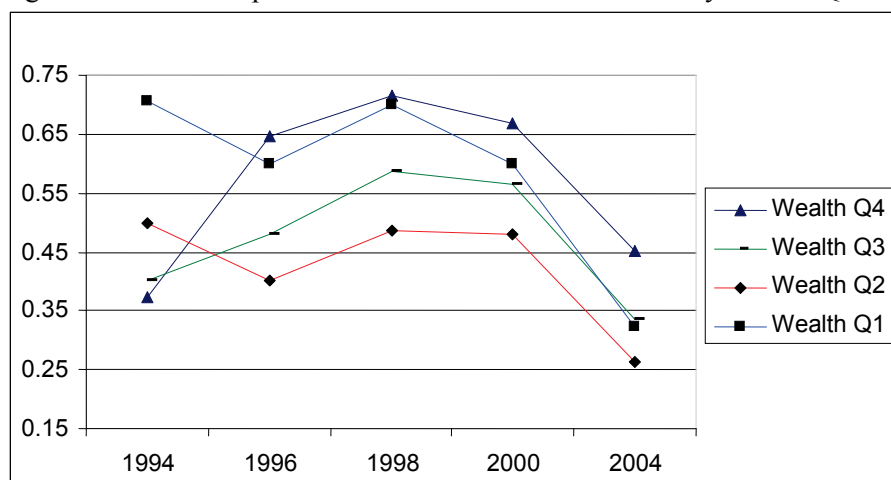
Figure 1 shows the median CAR from 1994 to 2004 by wealth quartile. Unfortunately, the NLSY was not conducted in 2002; however, the drop between 2000 and 2004 appears to directly correspond with the

fall of equity prices and subsequent flows of investor wealth away from equity funds. Total return on the S&P 500 from the beginning of 2000 to the beginning of 2004 was -24.31 percent, while the median CAR for the full sample over this period dropped -48.57 percent, possibly indicating that households attempted to pull their money out of investment assets in an attempt to time the market or cut their losses.

The median standard deviation of the CAR (Table 1) decreases from 213 percent to 87 percent across each quartile of wealth from 1994 to 2004. A greater proportion of white households experience large increases in net worth (ranging from 20.88 percent in quartile one to 30.23 percent in quartile four), while 41 percent of blacks are in the lowest change in wealth quartile. Hispanics and Native Americans are evenly distributed across changes in wealth quartiles, and a large proportion of Asians (53.8%) are in the highest quartile of changes in wealth. Those with higher education experience the largest wealth increase between 1994 and 2004. Of those who completed graduate school, 43.56 percent are in the highest change in wealth quartile. A greater proportion of married households are in the highest change in net worth quartile, and divorced/widowed households fill the lowest wealth change quartiles.

Homeowners, particularly those in the West and Northeast, see large increases in net worth between 1994 and 2004. However, homeowners in the south (22.9 percent of the sample), are more frequently in the lowest net worth change quartiles. Receipt of inheritance pushes households toward the top wealth change quartiles, and bankruptcy has the opposite effect. Almost forty percent of those who are business owners are in the highest quartile of changes in wealth.

Figure 1: Median Capital Accumulation Ratio 1994-2004 by Wealth Quartile



This figure shows the median capital accumulation ratio for each wealth quartile for the years 1994, 1996, 1998, 2000, and 2004. The capital accumulation ratio has the greatest decline across all wealth quartiles from 2000 to 2004, corresponding with the fall in equity prices and flow of funds over this period.

Quantile Regression

In order to focus on the tails of a distribution rather than the mean, we employ a quantile regression technique. Quantile regression has some unique characteristics that complement mean regression methods, adding robustness in non-Gaussian distribution settings (Buhai, 2005). OLS uses the conditional mean of variable Y , given variable x_i , to determine $E[Y | x_i]$. Quantile regression allows the researcher to test this relationship at any quantile (τ) of the conditional distribution function, focusing on the interrelationships between a dependent variable and the explanatory variable for a given quantile.

Quantile regression provides parameter estimates for other conditional distributions of the dependent variable. Figure 2 shows that having a high standard deviation of CAR results in a lower change in

wealth, especially in the lower percentiles of the change in wealth. The quantile estimated coefficient is the highest (-6.1%) for the 25th percentile and lowest (-4.3%) for the 75th percentile. In all cases the estimated coefficients are statistically different from zero at $P < 0.01$.

Table 1: Means of Sample and Frequencies by Quartile Changes in Wealth Descriptive Statistics

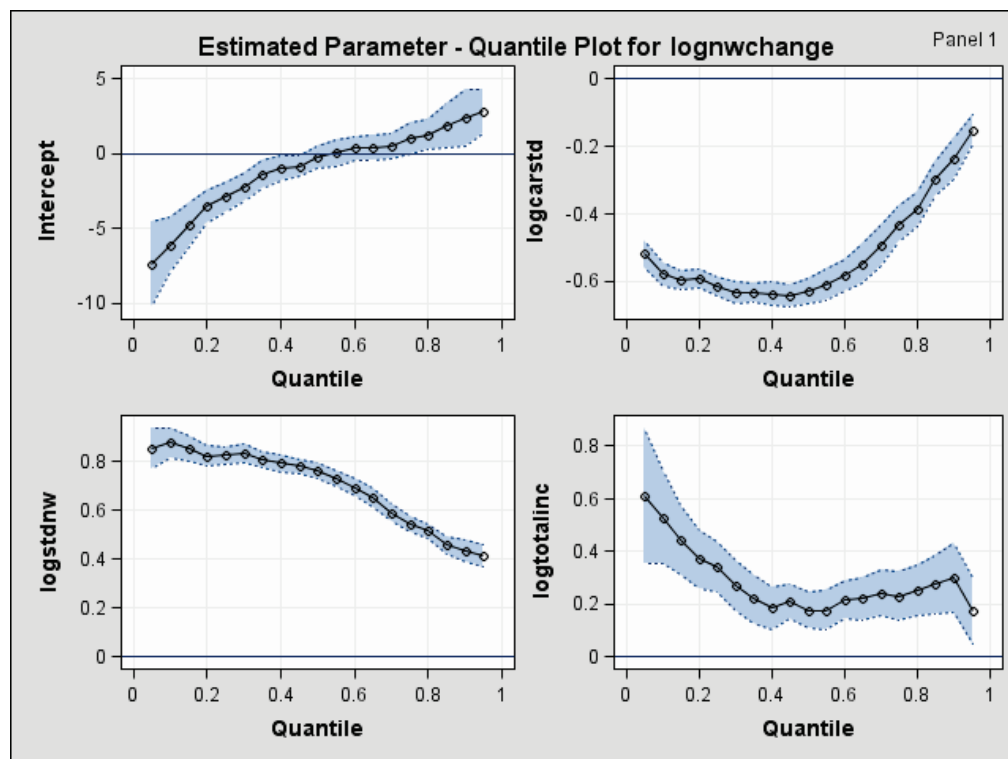
Variable	Sample Mean	Frequency by Change in Wealth Quartiles			
		Quartile One	Quartile Two	Quartile Three	Quartile Four
(N = 2,903)					
White	59.49	20.88	23.10	25.79	30.23
Black	17.20	41.49	31.12	18.05	9.34
Hispanic	14.28	26.00	28.00	26.00	20.00
Native American	5.53	22.58	27.74	25.81	23.87
Asian	0.93	15.38	7.69	23.08	53.85
High school and below	44.64	31.96	28.55	23.99	15.50
Some College	26.49	26.40	26.40	25.23	21.98
College	15.50	14.22	19.78	24.00	42.00
Graduate School	13.37	12.89	17.27	26.29	43.56
Married	69.79	20.19	23.74	26.46	29.62
Ever Widowed/Divorced 94 to 04	18.46	32.65	28.92	19.96	18.47
HO * West	12.46	17.48	19.48	24.07	38.97
HO * North Central	20.41	21.50	21.50	30.59	26.40
HO * South	22.91	26.17	26.64	24.61	22.59
HO * North East	9.14	15.23	15.63	25.78	43.36
Female	48.26	25.91	26.70	22.84	24.55
Inheritance	31.73	18.35	20.85	24.65	36.16
Bankruptcy	10.78	40.89	30.35	17.89	10.86
Business Owner	4.03	12.39	20.35	27.43	39.82
In Control	6.21	42.53	27.59	17.82	12.07
	Mean	Mean by Quartile			
Age	42.85	42.88	42.60	42.87	43.04
Number of Children	2.00	1.98	1.87	1.77	1.87
RoTP	8.00	8.49	8.50	8.09	7.52
	Median	Median by Quartile			
STD CAR 94 – 04	1.21	2.13	1.51	1.16	0.87
STD Net worth 94 – 04	139,861	45,960	62,962	157,486	427,359
Sum of Income 94 to 04	296,676	217,500	239,469	321,300	463,950
STD Income 94 – 04	16,884	13,496	14,107	17,378	27,304
Net Worth 1994	25,000	20,000	10,000	25,000	60,000

This table presents descriptive statistics for the sample. The frequencies for each variable by quartile changes in wealth are presented in the top portion of the table. The latter half of the table presents means and medians across the quartile changes in wealth for continuous variables.

At every level of the conditional distribution of wealth, black households have lower changes in wealth, however; the quantile estimated coefficient is highest (-28.0%) for the 25th percentile and lowest (-13.8%) for the 75th percentile. As expected, age does not have a significant impact on change in wealth, except for the 75th percentile. At the median, higher education is associated with a greater change in wealth. This relationship is largest at the highest conditional distributions of changes in wealth. Those who completed graduate school have a 4.2% increase in change of net worth compared to those who only attained a high school education. For those who attended graduate school, the quantile estimated coefficient is the highest (16.8%) for the 75th percentile and lowest (5.7%) for the 25th percentile. Marriage has a significant and positive relationship with changes in wealth only at the 25th percentile.

Compared to those in the western part of the United States, at the median, those in the northeast (10.86%) see a greater positive change in net worth. At the 75th percentile, those who are homeowners in the north central (-11.0%) and southern (-16.6%) U.S. experience lower changes in net worth. At the median gender does not have a significant relationship to changes in net worth; however, at the 25th percentile the females' coefficient was -.0768. Having received an inheritance has a positive and significant effect on changes in wealth at both the median and 75th percentile of the conditional distribution. Bankruptcy has a consistently negative impact on changes in wealth. At the median, those who declared bankruptcy have an 11.6 percent lower change in wealth. Business ownership has a positive impact at all levels of the conditional distribution of changes in wealth; at the median, those who are business owners have 21.6 percent greater change in wealth. This relationship is greatest at the 75th percentile change in wealth, where business ownership has a 34.8 percent positive impact on changes in wealth.

Figure 2: Quantile Plot of the Effects of Explanatory Variables on the Change in Wealth



This figure shows the quantile plots of the log standard deviation of the capital accumulation ratio, log standard deviation of net worth, and log of total income across the percentile of changes in wealth. Results show that the effect of standard deviation of the capital accumulation ratio is greatest in the lowest wealth change distributions.

Results of a quantile regression (Table 2) were run for the 25th, median, and 75th percentiles of changes in wealth. The log standard deviation of net worth (from 1994 to 2004) is positively related to change in wealth (7.6% median), perhaps not surprising since the wealthiest also saw the largest increases in net worth. It is also not surprising that total income between 1994 and 2004 is positively related to change in wealth. At the median, a 10 percent increase in the sum of income increases the change in wealth by 1.8 percent. The log standard deviation of income is insignificant at the median and 75th percentile of the conditional distribution of change in wealth; however, at the 25th percentile the parameter estimate is -.096.

Table 2: Log Standard Deviation of CAR Quantile Regression Results for Log Change in Wealth

Independent Variable	25th Percentile		Median Regression		75th Percentile				
	Parameter Estimate	Standard Error	Parameter Estimate	Standard Error	Parameter Estimate	Standard Error			
	Intercept	-2.9334	0.5247	***	-0.2750	0.3737		1.0049	0.5127
Log STD CAR 94 - 04	-0.6136	0.0139	***	-0.6287	0.0194	***	-0.4319	0.0270	***
Log STD Net worth 94 - 04	0.8240	0.0179	***	0.7596	0.0154	***	0.5443	0.0165	***
Log Sum of Income 94 to 04	0.3428	0.0476	***	0.1775	0.0354	***	0.2317	0.0472	***
Log STD Income 94 - 04	-0.0956	0.0244	***	-0.0004	0.0193		0.0352	0.0265	
Log Net worth 1994	-0.9109	0.0187	***	-0.9245	0.0119	***	-0.9187	0.0161	***
Race (Reference category: White)									
Black	-0.2800	0.0829	***	-0.1988	0.0485	***	-0.1382	0.0764	*
Hispanic	-0.0038	0.0564		0.0085	0.0374		-0.0133	0.0518	
Native American	0.0745	0.0739		0.0050	0.0610		0.0065	0.0856	
Asian	0.2755	0.1203	**	0.1494	0.1143		0.0597	0.2996	
Age	0.0016	0.0084		-0.0012	0.0053		0.0145	0.0083	*
Education (Reference category: High school)									
Some College	0.0806	0.0510		0.0823	0.0330	**	0.1515	0.0425	***
College	0.0903	0.0465	*	0.0841	0.0323	***	0.1452	0.0505	***
Graduate School	0.0573	0.0460		0.0414	0.0360	***	0.1684	0.0537	***
Married	0.0737	0.0545	**	-0.0093	0.0354		-0.0069	0.0618	
Ever Widowed/Divorced 94 to 04	0.0305	0.0552		-0.0229	0.0356		0.0578	0.0645	
Region of Residence * Home ownership (Reference category: West)									
HO * North Central	0.1132	0.0426	***	0.0435	0.0307		-0.1096	0.0505	**
HO * South	0.0639	0.0482		-0.0289	0.0286		-0.1656	0.0472	***
HO * North East	0.1710	0.0491	***	0.1086	0.0390	***	-0.0014	0.0539	
Number of Children	-0.0114	0.0149		-0.0031	0.0099		-0.0130	0.0138	
Gender (Reference category: Male)									
Female	-0.0768	0.0333	**	-0.0242	0.0262		0.0125	0.0324	
Inheritance	0.0351	0.0323		0.0809	0.0228	***	0.1360	0.0388	***
Bankruptcy ever	-0.1813	0.0676	***	-0.1163	0.0541	**	-0.2398	0.0631	***
Business Owner	0.1964	0.0808	**	0.2163	0.0568	***	0.3475	0.0713	***
Job Risk	-0.0483	0.0374		-0.0213	0.0267		0.0165	0.0336	
In Control	-0.0024	0.0690		0.0126	0.0611		-0.0090	0.1026	
RoTP	-0.0176	0.0095	*	-0.0179	0.0051	***	-0.0247	0.0085	***

*This table shows the quantile regression estimates of the equation $QH[\tau|Ci, Yi, Wi, Di] = \alpha + \beta\tau Ci + \delta\tau Yi + \gamma\tau Wi + \Gamma\tau Xi + \Phi\tau Ti + \lambda\tau Di + \epsilon$, where Ci is the log standard deviation of CAR; Yi is the log standard deviation of total income 1994 to 2004; Wi is the log standard deviation of net worth 1994 to 2004; Xi is the log sum of income from 1994 to 2004; Ti is the log of net worth 1994; and Di is a vector of household characteristics affecting preference for current consumption. Results for each independent variable are presented across the 25th, median, and 75th quantiles. ***, **, and * indicate significance at the 1, 5 and 10 percent levels respectively. *p < .10, ** p < .05, ***p < .01*

CONCLUSION

This study finds that a greater standard deviation of investment assets to net worth in a panel study conducted between 1994 and 2004 is associated with a lower change in net worth. Households whose capital accumulation ratio varies more between sample years are less successful at accumulating wealth over time. The impact of the standard deviation of CAR is greater at the lower conditional distributions of changes in wealth, indicating that the wealth erosion effect of varying investment assets to net worth is strongest among households who see the smallest increase in wealth.

These findings are consistent with prior work that indicates shifting assets over a short time period negatively impacts performance (Agnew, et al., 2003; Barber & Odean, 2000). The greatest variation in CAR occurred between 2000 and 2004, suggesting that this drop in CAR was influenced by households moving money away from investment assets and towards liquid and tangible assets (including housing).

Changes in household composition, particularly among this late baby boom cohort entering its peak asset accumulation phase, cannot explain the dramatic household portfolio shift away from investment assets between 2000 and 2004. One can only assume that preference for assets, perhaps colored by recency bias resulting from high returns on investments achieved during the late 1990s, led to wealth eroding market timing documented in Frazzini and Lamont (2005) among individual investors.

Those who see the smallest change in wealth between 1994 and 2004 are most adversely affected by investment asset variation. Education and income are strongly associated with an increase in net worth during this period. This result is consistent with Calvet, Campbell, and Sodini (2007), who find that the more educated and wealthy are most likely to consistently rebalance their portfolio to maintain an optimal allocation of assets. It is likely that the deleterious effect of frequent asset shifting is most acute among those who are least able to withstand a negative wealth shock.

The cohort sampled is the largest limitation of this research. Although the cohort followed in the research panel represents a significant portion of those in the United States, their preferences and thus propensity to trade could be different from earlier and later generations. It appears that upcoming generations are much more likely to accept equities into their portfolios and have the ability to more actively trade at a lower cost. Future research should address the potential problems facing later cohorts who have a greater ability, if not propensity, to deviate their investment assets.

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