

## **Factors Related to Making Investment Mistakes in a Down Market**

### **Postprint.**

#### **For published article see:**

**Lei, S. & Yao, R. (2015). Factors related to making investment mistakes in a down market. *Journal of Personal Finance*, 14(2), 34-42.**

### **Abstract**

Using data from the 2008 FPA-Ameriprise Financial Value of Financial Planning Research Study, this study identifies the factors related to making investment mistakes by moving assets into more of a cash position in a down market while having an adequate level of emergency funds. The results show that investors who are male, Asian, wealthier, overconfident, loss-averse, and reported an understanding of financial risks are more likely to make such investment mistakes during a down market. These findings have important implications for investors, their advisors, and financial planning professionals in general.

*Keywords:* Behavioral bias, down market, investment behavior, recession

## Introduction

Classic economics theory assumes individuals are completely informed and rational when making decisions. However, in reality, decision makers go through both a rational and an emotional process. In some situations, emotional elements dominate the decision-making process (James, 2011; Ozmete & Hira, 2011; Tilson, 2005). Emotionally driven investment behaviors could lead to the unnecessary realization of financial losses, which are obviously not optimal considering the investors' financial situations. These behaviors can impede investors' ability to accumulate wealth and jeopardize their financial goal achievement. Understanding factors that affect investors' decision-making processes is the first step into the solution to help them overcome behavior biases and avoid investment mistakes.

It is natural for human beings to make mistakes; however, mistakes have consequences. The direct impact of investment mistakes is the loss of wealth. According to Calvet, Campbell, and Sodini (2006), 5% of the Swedish population suffers losses that equal more than 5% of their financial wealth per year and 1% of Swedish investors lose nearly 10% of their financial wealth per year, due to underdiversification. Cocco (2005) predicted a welfare loss of nearly 2% of annual consumption due to investors making the non-participation mistake. In addition, sub-optimal investment decisions also lead to portfolio inefficiency, as reflected by low Sharpe Ratios (Calvet et al., 2006).

If an investor moves to more of a cash position that is not due to a consumption need, a need to reallocate the portfolio, or a need to take advantage of taxes, then the move is likely to be an investment mistake. Investors who make this mistake will fall farther behind in reaching their financial goals. They will end up with portfolio losses that will take them a longer time and more effort to get back to where they were before and then move forward.

In today's economic environment, people are assuming more risks in preparing for their retirement, which is one of their most important goals, and while doing so they are expecting lower payouts from Social Security and defined benefit pension plans when they retire. This makes investment mistakes something they cannot afford to do.

During the past recession, almost all investors saw their portfolio balance go south (Smeeding, 2012). How did they react to this external economic change? Did they follow the standard investment rule of "buy low, sell high" or did they panic and sell low? Who moved to cash? What factors affected this investment behavior? Answers to all of these questions provide important implications to investors, their financial advisors, and financial professionals in general. Findings herein also provide insights on how to help these investors overcome behavioral biases and avoid investment mistakes. This paper empirically examines the characteristics of investors who made investment mistakes during the past recession in a down market, which is when most investment mistakes are likely to happen.

### **Literature Review**

Underdiversification and non-participation in risky assets are two common investment mistakes made by investors. Underdiversification refers to investing in only a small subset of investable assets. Calvet et al. (2006) measured underdiversification by comparing the Sharpe Ratio of a household portfolio to the ratio's benchmark index. They chose a currency-hedged world index as the benchmark in their research. Underdiversification leads to higher investment risks, which means an increased probability of financial losses. Loss-averse investors are more likely to make investment mistakes in a down market. Non-participation in risky assets is an investment mistake that leads to lower portfolio risks and lower portfolio returns. Most investors do not realize that non-participation gives up not only the downside investment risks but also the

upside investment gains. Therefore, this leads to opportunity costs that hinder investors' wealth accumulation (Calvet et al., 2006; Calvet, Campbell, & Sodini, 2009). Results from prior research shows that investors' psychological factors, as well as demographic and economic characteristics, affected investment decisions such as non-participation (Agarwal, Gabaix, Driscoll, & Laibson, 2009; Barber & Odean, 2001; Goetzmann & Kumar, 2008). Warren Buffett once stated: "Investing is not a game where the guy with the 160 IQ beats the guy with the 130 IQ.... Once you have ordinary intelligence, what you need is the temperament to control the urges that get other people into trouble in investing" (Ro, 2014; Stone, 1999).

### **The Effects of Demographic and Economic Characteristics**

**Demographic characteristics.** Past research found that men were more likely to be overconfident (Mittal & Vyas, 2011) and trade more frequently than women (Barber & Odean, 2001). "Greater overconfidence leads to greater trading and to lower expected utility." This suggested that trading excessively was an investment mistake. Because of excessive trading, men achieved lower net returns than women (Barber & Odean, 2001). Past research did not agree on the effect of age on investment decision-making. Compared to older people, younger people tended to have financial portfolios that were underdiversified, and they tended to not invest in risky assets (Bertaut & Starr, 2000; Goetzmann & Kumar, 2008; King & Leape, 1987). For those who did invest in risky assets, their portfolios ran inefficiently (Calvet et al., 2006).

In contrast, Korniotis and Kumar (2011) conducted research on the effect of age on investment decisions using the data collected from a large brokerage house. The authors showed that older investors had more diversified portfolios, traded less, and were less prone to have a behavior bias. They also found that aging caused the deterioration of cognitive abilities and had a negative effect on their investment skills.

This result was consistent with the study conducted by Agarwal, Gabaix, Driscoll, and Laibson (2009), which showed that due to the decline of cognitive abilities among older adults, they were more likely to make financial mistakes.

Prior research found that investors with a higher level of education and finance literacy were less prone to investment mistakes during the recession. Winchester, Huston, and Finke (2011) found that education had a positive effect on investors' prudent behavior, defined as conducting a portfolio-rebalancing strategy without increasing the cash holdings. Bucher-Koenen and Ziegelmeyer (2011) stated that households with lower financial literacy were more likely to sell assets and realize losses, which reduced their total financial wealth. Klapper, Lusardi, and Panos (2013) analyzed the Russian households' investment behavior during a recession and found that people with higher financial literacy were more capable of withstanding macroeconomic and income shocks. Goetzmann and Kumar (2008) found that less-educated investors tended to have underdiversified portfolios. Calvet, Campbell, and Sodini (2008) found that investors with more advanced education were more likely to buy and less likely to sell risky assets in down markets. According to Calvet et al. (2006; 2009), investors with a lower education level were more likely to make the nonparticipation investment mistake. Furthermore, for those who owned some risky assets, their portfolios were more likely to be underdiversified.

**Economic characteristics.** Past research found that investors with more wealth and more income were less likely to make the non-participation investment mistakes (Calvet et al., 2009). This negative relationship between the possibility of making investment mistakes and wealth and income was confirmed by Goetzmann and Kumar (2008) and Calvet et al. (2006). By analyzing the portfolio adjustment behavior of Sweden households between 1999 to 2002, Calvet et al. (2008) found that investors rebalanced their portfolio based on its return. Investors with a higher

income and higher wealth had a more aggressive investment strategy and more diversified portfolios and therefore they were more likely to buy and less likely to sell risky assets in down markets.

A lot of research has examined the determinants of portfolio diversification and risky asset holdings. Younger investors with a low income and low wealth were more likely to have an underdiversified portfolio (Goetzmann & Kumar, 2008). Results from the studies conducted by Anderson (2013), Goetzmann, and Kumar (2008), and Roche, Tompaidis, and Yang (2013) confirmed the positive relationship between income and the level of portfolio diversification. Prior research also showed that wealthier investors tended to have more diversified portfolios (Goetzmann & Kumar, 2008; Roche, Tompaidis, & Yang, 2013).

### **The Effect of Psychological Factors**

**Overconfidence.** After analyzing portfolio data from a large brokerage house for six years, Goetzmann and Kumar (2008) found that, other than investors' demographic and economic characteristics such as income, age, and education, psychological factors played an important role in explaining their underdiversified portfolios.

One of the main factors was overconfidence. The authors found that overconfident investors tended to have underdiversified portfolios. Park et al. (2010) studied investors in South Korea and found that the portfolios of overconfident investors performed worse. Trinugroho and Sembel (2011) conducted an experimental study to examine the effect of overconfidence on investment performance. They compared the trading frequency and returns between people with a high overconfidence level (as shown by a high miscalibration level) and a low overconfidence level. The results showed people with a high overconfidence level traded more aggressively and

excessively than those with a low overconfidence level. This result suggests that overconfidence led to excessive trading and a poorer portfolio performance.

**Loss aversion.** Past research found that loss aversion was related to non-participation in risky assets. According to Hofschire et al. (2013), investors in general “allocated less capital” in equities because of the past recession and they have continued to focus their investment on bonds.

Due to loss aversion and the tendency to evaluate portfolios frequently, investors tended to trade excessively (Benartzi & Thaler, 1993; Shalev, 2000). After examining individual retirement saving decisions, Benartzi and Thaler (2007) concluded that one common behavior was to buy high and sell low. The authors argued that the underlying reason for this behavior was an overreaction to short-term losses. Bucher-Koenen and Ziegelmeyer (2011) showed that if moving to cash resulted from myopia and loss aversion, it would be harmful to investors’ financial wealth.

**Other psychological factors.** Despite these aforementioned factors, prior research found that trend-following bias (Goetzmann & Kumar, 2008), confirmation bias (Park et al., 2010), regret aversion, and mental accounting (Beach & Rose, 2005) were related to making investment mistakes such as underdiversification and nonparticipation. Investors expecting an “extraordinary idiosyncratic gain” were found to focus on certain companies’ stocks and committed the underdiversification mistake (Polkovnichenko, 2003). Investors with behavioral biases were more likely to make investment mistakes such as underdiversification, nonparticipation, and “buy high” and/or “sell low.” These mistakes can severely impede investors’ ability to accumulate wealth, which delays the realization of their financial goals.

### **Conceptual Framework**

Based on economic theory, most people prefer a smooth consumption pattern versus an irregular one. One major purpose of saving and investing is to smooth lifecycle consumption. Economic theory assumes that individuals are completely informed and rational when making decisions. Empirical evidence and anecdotal observations, however, show that some investors moved to cash or other safer assets during the past economic recession (Financial Planning Association & Ameriprise, 2010). If moving into more of a cash position was not driven by a consumption need or a need to reallocate the portfolio or take advantage of taxes, then it was a mistake. Past research found a relationship between this irrational reaction and several factors.

According to prospect theory, loss-averse investors are more likely to overreact to financial losses than to gains (Kahneman & Tversky, 1979). Their loss function is convex to the origin with a steeper slope, while their gain function is concave to the origin with a slope that is less steep. This means the magnitude of their utility decrease when they experience a financial loss is larger than the magnitude of their utility increase when they experience a financial gain. That said, loss-averse investors are then likely to sell in down markets.

Overconfidence is one factor that affects investment behavior. Overconfidence refers to a decision-making bias that overestimates one's abilities to accomplish certain task (Lichtenstein & Fischhoff, 1977). Overconfidence prevails in many domains. Brick (2014) reported that over 90% of drivers believed that they had above-average driving skills. Experimental studies by Hamermesh (1985) showed that participants were overconfident about their life expectancy. Montier (2006) found that 74% of the sample fund managers believed that their performance was above average. Glaser and Weber (2007) concluded that overconfidence coincided with higher trading volumes and might be more severe in certain groups of people.

Based on the above conceptual framework, we explored the following hypotheses:

1. Loss aversion positively affects the likelihood of making investment mistakes.
2. Overconfidence positively affects the likelihood of making investment mistakes.

### **Methodology**

#### **Data**

This study used data from the 2008 FPA-Ameriprise Financial Value of Financial Planning Research Study. The data were collected online by an independent market research firm between June 27, 2008 and July 18, 2008. The total sample size was 3,022. According to the National Bureau of Economic Research's Business Cycle Dating Committee, the recession was from December 2007 to June 2009. Thus, the respondents took part in the survey at least six months into the Great Recession.

The data provided information related to the demographic and economic characteristics of the respondents and their households, as well as information about respondents' subjective attitude, such as self-confidence towards the future, self-reported financial knowledgeable level, and self-claimed understanding of risks. Most importantly, that study focused on factors related to making investment mistakes in a down market and the data included information about investors' reaction to the Great Recession. Therefore, the data were particularly appropriate for this study.

#### **Variables**

The dependent variable was whether respondents made an investment mistake during the down market (1=Yes, 0=No). In this study, the mistake is moving assets into more of a cash position in a down market while having an adequate level in an emergency fund. The survey asked respondents their reaction to the market changes during the past year: "Since the market has changed over the past year, what actions, if any, have you taken?" "Moving assets into more

of a cash position” was one of the choices. As previously stated, if cashing out of the market was not done due to a consumption need, then this non-participation behavior would be an investment mistake that led to the realization of financial losses and a reduction of total wealth (Calvet et al., 2006).

Based on the conceptual framework and the literature review, this study selected independent variables to be included in the analyses. This study used “travel less than previously anticipated” (1=Yes, 0=No) and “work during retirement” (1=Yes, 0=No) as proxies for the relative degree of loss aversion and used “confidence compared to five years ago” (less, the same, and more) as a proxy for overconfidence. This survey was conducted in 2008 during the Great Recession when investment values were highly volatile and declining quickly, and it compared that time with 2003, which was somewhat better in the financial markets (Smeeding, 2012). Investors expressing more confidence were likely to be overconfident. The question in the survey asked how the economic situation at that time (during the great recession) negatively affected respondents’ expectations about the future. Selecting “travel less than anticipated” and/or “work during retirement” as an answer indicated that those respondents were unhappier than those who did not choose this answer. It also suggested that these investors reacted to the down market. Since more loss-averse investors are more likely to react in a down market (Hofschire et al., 2013), those who chose these items as answers were considered to be more loss-averse investors.

Other independent variables that serve as control variables are in four categories: 1) demographic characteristics of the respondents, 2) economic characteristics of the respondents’ households, 3) the respondents’ risk management, and 4) the respondent’s financial knowledge. Demographic variables included ages (younger than 35, 35–44, 45–54, 55–64, and 65 or older); gender (1=female, 0=male); education (high school or lower, some college and college degree or

above); and race (non-Hispanic white, black/African-American, Asian, Hispanic, and others). Economic characteristics included business ownership (1=Yes, 0=No), household income (less than \$50,000, \$50,000–\$99,999, \$100,000–\$149,999, \$150,000–\$249,999, and \$250,000 or more), and household investable assets (less than \$25,000, \$25,000–\$99,999, \$100,000–\$499,999, \$500,000–\$999,999, and \$1,000,000 or more), debt ownership (short-term only, long-term only, both short- and long-term, and no debt). Short-term debt included credit-card debt, payday loans, personal loans, and medical bills. Long-term debt included student loans, car loans or leases, a primary mortgage, and a home equity loan or a line of credit.

Risk management variables included ownership of the following insurance products: 1) employer provided life insurance, 2) other life insurance, 3) disability insurance, 4) health insurance, 5) long-term care insurance, 6) personal liability insurance, 7) and property and casualty insurance. Financial knowledge variables included an understanding of financial-related issues (do not understand, not sure, and understand) and an understanding of financial risks (do not understand, not sure, and understand).

### **Method of Analysis**

This study aimed to examine the factors related to making investment mistakes in down markets. The 2008 FPA-Ameriprise Financial Value of Financial Planning Research Study research team provided weights to adjust for differential nonresponses from the online responses and to correct the error estimation. Missing values accounted for 7.6% of the total sample. This study excluded respondents with missing values. This practice should not lead to a bias in statistical analysis (Bennett, 2001; Schafer, 1999). As a result, the total sample size in this study was 2,792.

This study conducted descriptive analysis to present sample characteristics overall and broken down by whether respondents made investment mistakes. After controlling for other variables, this study employed weights in the descriptive analysis and conducted a logistic regression analysis to examine factors related to making mistakes. The logistic regression did not use weights. This study also employed correlation analysis to examine correlations among independent variables.

## **Results**

### **Sample Characteristics and Descriptive Results**

Table 1 shows the sample characteristics both in general and broken down by whether the respondents made investment mistakes. Overall, 11.2% of the total sample made investment mistakes by moving their assets into more of a cash position without a consumption need. The percentages for making a mistake were higher for older respondents (percentage ranging from 9.2% for the two youngest groups to 15.3% for the oldest group). More than half (59.1%) of the respondents were males, among whom 12.3% made this mistake. Among 40.9% of the total sample who were females, 9.7% made this mistake. Asians accounted for 2.6% of the sample. Among Asians, 26.9% made this mistake during the past recession, which is the highest among all race groups.

The majority of the respondents did not own a business (88.4%). Among those who did, 16.4% made this investment mistake. Most (59.1%) of the respondents reported having a household income of between \$50,000 and \$100,000, while 6.2% reported earning more than \$250,000. However, the percentage of making mistakes was generally higher for higher-income groups with a slight drop from the third (12.5%) to the second highest (11.9%) income groups. About two-thirds (64.9%) of the respondents reported household investable assets as being

below \$100,000. The percentage of people making mistakes was generally higher for higher-investable asset groups with a slight drop from the third (15.3%) to the second highest (13.4%) asset groups. Nearly half of the respondents owned both short- and long-term debts (49.6%). Those who did not have any debts had the highest percentage (15.6%) of making the investment mistake.

Most respondents had employer-provided life insurance (55.6%), health insurance (82.8%), and property and casualty insurance (58.1%). A higher percentage of those who had a health insurance, long-term care insurance, personal liability insurance, and property and casualty insurance policy made the investment mistake, compared to those who did not have such insurance coverage (percentages were 11.9%, 14.8%, 18.9%, and 13.4%, respectively).

Almost half of the respondents (48.2%) reported a lower level of confidence about their financial future than five years ago. Among those who reported more confidence, 12.8% made the investment mistake—the highest among all confidence groups. Most respondents reported that they understood financial-related issues (64.8%) and financial risks (74.0%). Among these respondents, about one-eighth made the investment mistake (percentages were 12.8% and 12.5%, respectively). Because of the market performance, some respondents anticipated traveling less in the future (35.6%) and working during retirement (14.0%). Among those who expected to travel less, 13.3% made the investment mistake.

### **Logistic Results**

Logistic results showed that respondents who were more loss averse were also more likely to make investment mistakes. This is consistent with the first hypothesis and prior research findings. Respondents who anticipated traveling less in the future because of the market performance during the recession were 1.4 times as likely to make investment mistakes as those

who did not have such an expectation. Similarly, respondents who anticipated working during retirement because of the market performance during the recession were 1.5 times as likely to make investment mistakes as those who did not have such an expectation. Consistent with the second hypothesis and findings from prior literature, the logistic results showed that respondents who were overconfident were more likely to make investment mistakes. Compared with respondents who had the same level of confidence at present versus five years ago, those who expressed more confidence were 1.4 times as likely to make investment mistakes.

After controlling for other variables in the model, females were found to be less likely than males (odds ratio=0.726) to make the financial mistake of cashing out of the stock market during the recession (Table 2). Asians were 2.4 times as likely as non-Hispanic Whites to make such mistakes. Business owners were 1.3 times as likely to make the investment mistakes as respondents who did not own a business. Household investable assets had a positive relationship with the likelihood of making investment mistakes. Compared to respondents with total household investable assets of less than \$25,000, those with a higher level of investable assets were more likely to make these investment mistakes. The odds ratio was 2:1 for the \$25,000–\$99,999 group and the \$100,000–\$499,999 group, 2.3 for the \$500,000–\$999,999 group, and 2.4 for the \$1,000,000 or more group. Compared with respondents with no household debt, those who had long-term debts were 74.3% as likely and those who had both short- and long-term debts were 59.4% as likely to make investment mistakes.

Respondents who had personal liability insurance were 1.3 times as likely to make investment mistakes as those who did not have such insurance coverage. Respondents who reported that they understood financial risks were 1.8 times as likely to make investment mistakes as those who were not sure.

### **Discussion and Implications**

Using data collected from the 2008 FPA-Ameriprise Financial Value of Financial Planning Research Study, this study examined factors related to making investment mistakes in the Great Recession. The mistakes referred to moving to more of a cash position while having an adequate level of emergency funds. Results showed that being a male, an Asian, a business owner, having investable assets more than \$25,000, having personal liability insurance, and reporting an understanding about financial risks were associated with a higher likelihood of making investment mistakes. Having long-term debts was associated to a lower likelihood of making investment mistakes. This study allocated particular attention to how being more loss averse and overconfident affected the likelihood of making investment mistakes. Our results confirmed both hypotheses in that higher degrees of loss aversion and overconfidence were associated with higher likelihoods of making investment mistakes.

It is likely that an overconfidence bias affected the respondents who reported a higher level of confidence for their financial future in a recession than five years ago. Respondents who anticipated travelling less in the future and working during retirement were likely to be more loss averse. If moving to more of a cash position in a downturn was not due to a consumption need, a need to reallocate the portfolio, or a need to take advantage of taxes, then it is likely to be an investment mistake and inconsistent with the standard investment rule of “buy low, sell high.” The consequences of making this mistake are an unnecessary realization of portfolio losses, lower accumulated wealth, and falling behind in reaching one’s financial goals.

This study is among the first to examine the factors related to making investment mistakes in a down market. The implications of this work are potentially far reaching in the financial planning arena. In today’s economic environment as employers continue to switch from

defined benefit plans to defined contribution plans, Social Security's future payouts become questionable as individuals' longevity becomes longer, and so individuals and households are more responsible than ever for their financial future.

Making investment mistakes is something they cannot afford to do. This requires that individuals and households thoroughly understand the economic environment they face and their financial responsibilities, and they must make rational decisions about what they should do in order to have a successful financial future.

Although it is not easy for investors to overcome emotional urges, it is important to recognize their existence and understand how they affect investment decision-making. It is very important that financial educators and financial practitioners help investors better understand the challenges they face and overcome a projection bias in order to reduce the likelihood of making investment mistakes such as cashing out in a down market with adequate emergency funds.

The objective of financial advisors and financial planning professionals, in general, should be to make sure that individuals and households truly understand the risks and returns of financial products, the risks of their investment portfolio, and how that portfolio should perform over time not only during up markets but also during down markets. Moreover, it is important for financial advisors to understand their clients' risk attitudes in both the gain domain and the loss domain. For those who are likely to suffer from behavioral biases such as overconfidence and loss aversion, it is important for financial advisors to explore investment products that will help their clients overcome the effects of such behavioral biases and prevent them from making investment mistakes such as moving into a cash position in a down market without a good reason.

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Table 1

*Making Investment Mistakes by Sample Characteristics*

Sample Characteristics	Making Investment Mistakes		
	Overall	Yes	No
Overall		11.2	88.8
<i>Demographic Characteristics</i>			
Age			
< 35	29.2	9.2	90.8
35-44	18.3	9.2	90.8
45-54	19.2	10.1	89.9
55-64	18.1	14.3	85.7
≥ 65	15.3	15.3	84.7
Gender			
Male	59.1	12.3	87.7
Female	40.9	9.7	90.3
Education			
High school diploma or less	10.5	8.1	91.9
Some college	48.3	10.3	89.7
College degree or above	41.2	13.1	86.9
Race			
Non-Hispanic White	81.4	10.7	89.3
Black/African American	6.0	14.4	85.6
Asian	2.6	26.9	73.1
Hispanic	7.0	8.4	91.6
Other	3.0	12.2	87.8
<i>Economic Situations</i>			

Sample Characteristics	Making Investment Mistakes		
	Overall	Yes	No
<b>Business Ownership</b>			
No	88.4	10.6	89.5
Yes	11.6	16.4	83.6
<b>Household income</b>			
< \$50,000	4.6	7.9	92.2
\$50,000-100,000	59.1	9.8	90.2
\$100,000-150,000	20.5	12.5	87.5
\$150,000-250,000	9.7	11.9	88.1
≥ \$250,000	6.2	22.3	77.7
<b>Household investable assets</b>			
< \$25,000	33.9	5.6	94.4
\$25,000-99,999	31.0	13.0	87.0
\$100,000-499,999	24.7	15.3	84.7
\$500,000-999,999	5.8	13.4	86.6
≥ \$1,000,000	4.6	16.2	83.8
<b>Debt ownership</b>			
Short-term debt only	7.5	9.4	90.6
Short-term and long-term debt	49.6	9.7	90.3
Long-term debt only	27.8	12.1	87.9
No debt	15.1	15.6	84.4
<i>Risk Management</i>			
<b>Employer provided life insurance</b>			
No	44.4	12.7	87.3
Yes	55.6	10.0	90.0
<b>Other life insurance</b>			

Sample Characteristics	Making Investment Mistakes		
	Overall	Yes	No
No	54.6	10.3	89.7
Yes	45.4	12.3	87.7
Disability insurance			
No	68.3	11.1	88.9
Yes	31.7	11.4	88.6
Health insurance			
No	17.2	8.1	92.0
Yes	82.8	11.9	88.1
Long-term care insurance			
No	82.6	10.5	89.5
Yes	17.4	14.8	85.2
Personal liability insurance			
No	73.1	8.4	91.6
Yes	26.9	18.9	81.1
Property and casualty insurance			
No	41.9	8.2	91.8
Yes	58.1	13.4	86.6
Respondents' Expectations			
Confidence compared to 5 years ago			
More	21.6	12.8	87.2
Same	30.2	10.4	89.6
Less	48.2	11.1	88.9
Understand financial-related issues			
Do not understand	12.6	9.2	90.8
Not sure	22.6	7.8	92.2
Understand	64.8	12.8	87.2

Sample Characteristics	Making Investment Mistakes		
	Overall	Yes	No
Understand financial risks			
Do not understand	10.2	9.2	90.9
Not sure	15.8	6.7	93.3
Understand	74.0	12.5	87.5
Travel less than previously anticipated			
No	64.4	10.1	89.9
Yes	35.6	13.3	86.7
Work during retirement			
No	86.0	11.3	88.7
Yes	14.0	11.0	89.0

*Note:* Analysis of the 2008 FPA-Ameriprise Financial Value of Financial Planning Research Study; weighted results; sample size=2,792. Numbers are in percentages. Column 1 shows the frequencies for each variable. Column 2 and column 3 show the frequencies of who did and did not make investment mistakes among each demographic characteristic, respectively.

Table 2

*Logistic Analysis of Factors Related to Making Investment Mistakes in a Down Market*

Parameter	Coefficient	Odds Ratio
Intercept	-4.506***	
<i>Proxy of being more loss averse</i>		
Travel less than previously anticipated	0.323**	1.381
Work during retirement	0.395*	1.484
<i>Proxy of being overconfident</i>		
Confidence compared to 5 years ago (reference: same)		
More	0.315*	1.370
Less	0.244	1.277
<i>Demographic Characteristics</i>		
Age (reference: ≤ 35)		
35-44	0.301	1.351
45-54	0.184	1.201
55-64	0.249	1.283
≥ 65	0.396	1.486
Female (reference: Male)	-0.320**	0.726
Education (reference: high school diploma or less)		
Some college	0.356	1.428
College degree or above	0.401	1.494
Race (reference: White non-Hispanic)		
Black/African American	0.576	1.780
Asian	0.876***	2.402
Hispanic	0.283	1.326
Other	0.055	1.057

Parameter	Coefficient	Odds Ratio
<i>Economic Characteristics</i>		
Business ownership	0.268*	1.307
Household income (reference: < \$50,000)		
\$50,000-99,999	0.444	1.558
\$100,000-149,999	0.286	1.330
\$150,000-249,999	0.502	1.652
≥ \$250,000	0.618	1.855
Household investable assets ( reference: < \$25,000)		
\$25,000-99,999	0.735**	2.086
\$100,000-499,999	0.758***	2.134
\$500,000-999,999	0.842***	2.320
≥ \$1,000,000	0.888***	2.430
Debt ownership (reference: no debt)		
Short-term debt only	-0.208	0.812
Short-term and long-term debt	-0.522***	0.594
Long-term debt only	-0.298*	0.743
<i>Risk Management</i>		
Employer provided life insurance	-0.047	0.954
Other life insurance	-0.018	0.982
Disability Insurance	-0.062	0.940
Health insurance	0.048	1.049
Long-term care insurance	0.133	1.142
Personal liability insurance	0.247*	1.280
Property and casualty insurance	0.235	1.265
<i>Financial Knowledge</i>		
Understand financial-related issues (reference: Not sure)		
Do not understand	-0.309	0.735

Parameter	Coefficient	Odds Ratio
Understand	0.304	1.355
Understand financial risks (reference: Not sure)		
Do not understand	0.460	1.584
Understand	0.612*	1.844

*Note:* Analysis of the 2008 FPA-Ameriprise Financial Value of Financial Planning Research Study; unweight results;  
 \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .