

What Separates Sophisticated Investors? Risk Literacy and Investment Decision-Making

Key Takeaways

Only 18 percent of investors demonstrate advanced investment literacy, which involves possessing multifaceted risk-related knowledge.

Investors with lower investment literacy are far more likely to rely on informal sources, like friends, family, and social media.

Willingness to invest in a fraud-like opportunity peaks among investors with basic investment literacy rather than those with the lowest literacy levels, suggesting confidence may outpace real risk understanding.

Advanced investment literacy is linked to healthier finances, including a higher likelihood of retirement planning and lower likelihood of engaging in behaviors tied to costly credit card debt.

Authors

Andrea Sticha, PhD
Stanford Graduate School of Business

Gary Mottola, PhD
FINRA Foundation

Olivia Valdes, PhD
FINRA Foundation

Annamaria Lusardi, PhD
Stanford Graduate School of Business

About a third of U.S. households invest outside of workplace retirement plans,¹ a process which increasingly involves navigating an expansive menu of products, information sources, and trading platforms while often seeking little to no involvement from financial professionals. To better understand and support these investors, we use the FINRA Investor Education Foundation's 2024 National Financial Capability Study (NFCS) to build a new measure of investment literacy for this population. We find that risk-related knowledge is a defining feature of advanced investment literacy, the segment that distinguishes the most sophisticated investors.

Despite the fact that our sample consists entirely of non-retirement investment account owners,² only 18 percent demonstrate advanced investment literacy and correctly answer questions that predominantly feature the evaluation of risk and complex investment products. Investors with lower investment literacy rely more heavily on informal sources of information, including friends, family, and social media. Moreover, those with advanced investment literacy are more likely to report better financial outcomes, including retirement planning, precautionary savings, and less reliance on costly credit card debt.

One finding stands out. Willingness to invest in an investment "opportunity" that has the hallmarks of investment fraud does not decline as investment literacy increases. Though investors with advanced investment literacy are the least likely to show a willingness to invest in the "opportunity," it is those with basic-only investment literacy, not the lowest literacy, who are most likely to say they would invest in such an opportunity. These findings point to a need for investor education that goes well beyond the basics, is tailored to an investor's existing knowledge level, and treats fraud recognition as its own subject rather than an assumed byproduct of financial knowledge.

¹ FINRA Investor Education Foundation, *2024 National Financial Capability Study: State-by-State NFCS Survey and NFCS Investor Survey*.

² A majority of the sample also reported owning retirement accounts.

WHY THIS MATTERS

A substantial share of Americans manage investments outside employer-sponsored retirement plans. The assets available to these investors range from individual stocks and bonds to mutual funds and options and crypto. Navigating this landscape places a real responsibility on individual investors to evaluate risk, compare alternatives, and separate credible information from fraudulent or irrelevant information, a responsibility once handled primarily by financial professionals.

Financial literacy, meaning a person's grasp of basic financial concepts such as interest, inflation, and risk diversification, has long been linked to better financial decision-making. But less is known about what distinguishes investors from one another once they are already in the market. Do investors who understand what a stock or a bond is make meaningfully different decisions from those who also have a grasp of more advanced concepts, such as how leverage or bond pricing works? And does that additional knowledge actually protect investors when they are confronted with a fraudulent pitch?

These questions matter because a large share of U.S. households now own not just an individual retirement account, but also a brokerage account, or other non-retirement investments, and the consequences of poor investment decisions—whether from misunderstanding risk or becoming a victim of a fraud—fall disproportionately on households with fewer resources to absorb a loss. Understanding where knowledge gaps exist, and who is most affected by them, is a necessary first step toward closing them.

WHAT WE DID

We analyzed data from the 2024 National Financial Capability Study (NFCS), a survey the FINRA Investor Education Foundation has fielded every three years since 2009.³ The NFCS includes a large, nationally representative State-by-State Survey of more than 25,000 U.S. adults, along with a smaller Investor Survey administered to the subset of respondents who report owning investments, such as individual stocks, bonds, or mutual funds, outside a retirement plan. The 2024 Investor Survey included 2,861 respondents.

Because our focus is on investors making independent investment decisions, our sample excludes people whose only exposure to investing comes through an employer-sponsored retirement plan, such as a 401(k). Our results therefore only describe investors who hold non-retirement investments, not the broader U.S. public.

To measure investment literacy, we initially drew on seventeen knowledge questions covering topics from foundational concepts, such as the definition of a stock or bond, to more advanced material, such as how buying on margin or short selling works. Using Item Response Theory, a statistical technique that identifies which questions best distinguish investors with different levels of knowledge, we narrowed the set to thirteen questions that reliably measure investors' knowledge across a range of literacy levels. Based on the responses to these questions, we classified investors into three mutually exclusive groups: low, basic-only, and advanced investment literacy. We then examined how investors in each group make investment decisions and how they differ on financial outcomes such as retirement planning and debt.

WHAT WE FOUND

Advanced investment literacy is predominantly about understanding risk

When we examined which questions best separated the most knowledgeable investors from others, a clear pattern emerged: many of the eight questions that define advanced investment literacy are related to risk and how risk affects investment outcomes. These questions cover how diversification reduces portfolio volatility, how leverage amplifies both gains and losses, how bond prices respond to changes in interest rates, how an option's payoff depends on the underlying

³ The State-by-State Study was started in 2009 but the Investor Study was not started until 2015.

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security’s price, and which claims are paid first if a company goes bankrupt. Advanced investment literacy, in other words, is not primarily about knowing more financial concepts, but about understanding risk from multiple angles—volatility, leverage, interest-rate sensitivity, and exposure to adverse scenarios.

The five basic investment literacy questions, by contrast, cover more foundational ground: knowing what a stock or bond is, and understanding interest and inflation (see Table 1 and the Appendix for question wording).

Table 1. Investment Literacy Topics by Level

Basic Investment Literacy Questions	Advanced Investment Literacy Questions
[interest] Interest	[bond_pricing] Bond pricing (interest rate risk)
[inflation] Inflation	[risk] Risk diversification
[mortgage] Interest tradeoff (15 vs. 30-year mortgage)	[bankruptcy] Securities most at risk in case of bankruptcy
[stock] Definition of stocks	[municipal] Tax advantages of municipal bonds
[bond] Definition of bonds	[margin] Buying on margin (leverage risk)
	[short] Definition of short selling
	[index_fund] Index funds vs. actively managed funds
	[option] Option expiration value (payoff risk)

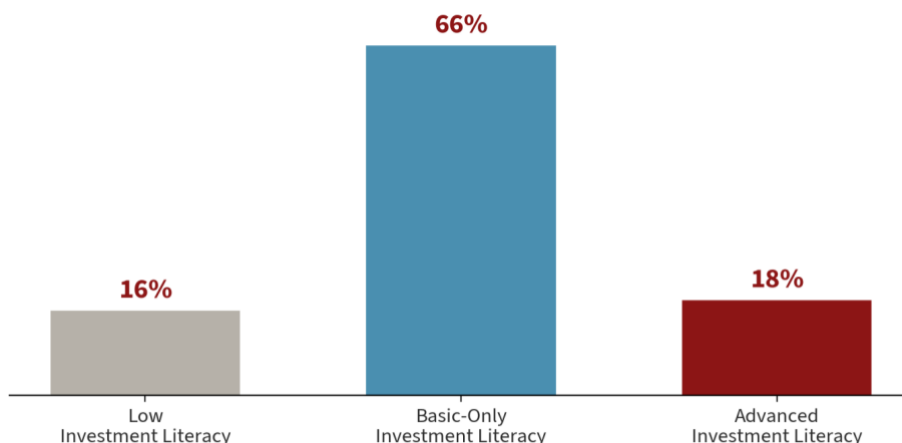
Source: 2024 FINRA Foundation’s National Financial Capability Study.

Table 2. Categorization of Low, Basic-Only, and Advanced Investment Literacy

Low Investment Literacy	Basic-Only Investment Literacy	Advanced Investment Literacy
Half or fewer of basic questions answered correctly	More than half of basic questions answered correctly	More than half of basic questions answered correctly
AND	AND	AND
Half or fewer of advanced questions answered correctly	Half or fewer of advanced questions answered correctly	More than half of advanced questions answered correctly

Few investors demonstrate advanced investment literacy

To translate performance on these questions into literacy categories, we classify investors according to whether they correctly answer more than half of the questions in each set (see Table 2). Most investors clear the basic bar. Eighty-four percent correctly answer at least three of the five basic investment literacy questions, and this group includes everyone who also clears the advanced bar. Performance drops off sharply once we turn to the advanced, risk-focused questions: only 18 percent of investors answer at least five of the eight advanced questions correctly. To build three mutually exclusive groups for our analysis (Figure 1), we classify investors who fall short of the basic bar as having **low investment literacy** (16 percent); investors who clear the basic bar but not the advanced bar as having **basic-only investment literacy** (66 percent); and investors who clear the advanced bar, and therefore the basic bar as well, as having **advanced investment literacy** (18 percent). Investors with basic-only investment literacy, in other words, understand the fundamentals but not the concepts that define advanced literacy, which relate mostly to risk.

Figure 1. Distribution of Investment Literacy Among Investors

Source: Authors' calculations using the 2024 NFCS Investor Survey. Notes: All statistics are weighted using the NFCS 2024 Investor Survey weights to be representative of the U.S. investor population.

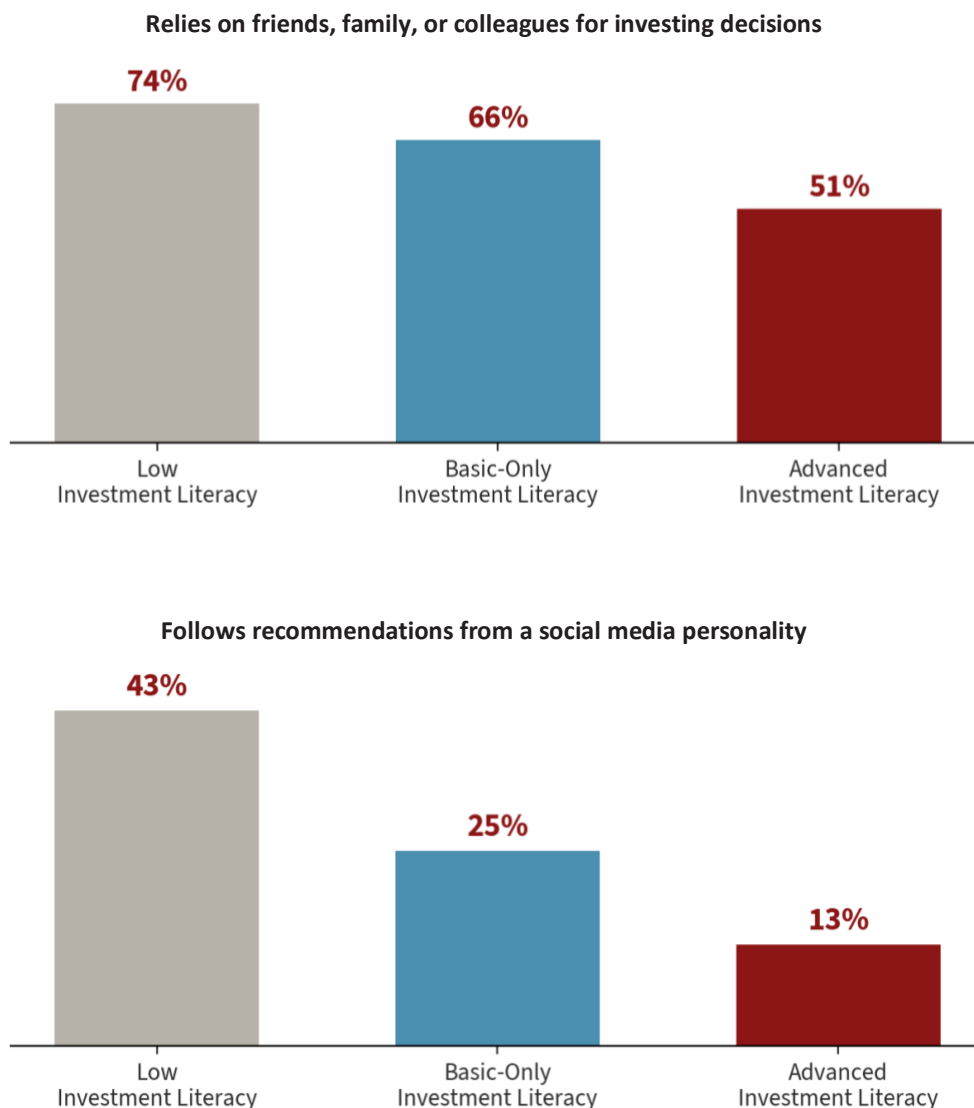
Despite being active participants in financial markets, fewer than one in five investors are classified as having advanced investment literacy, demonstrating a strong grasp of risk.

Investment literacy, which may be shaped by a range of factors,⁴ is also unevenly distributed across demographic groups. Investors with low investment literacy are disproportionately younger, have lower incomes, less educational attainment, and are more likely to be women or to identify as Black or Hispanic. Investors with advanced investment literacy, by contrast, tend to be older, have higher educational attainment, and substantially more investing experience: 78 percent have invested for more than ten years, compared with 31 percent of investors with low investment literacy.

Where investors get their information is tied to how much they know

Investment literacy is closely tied to where investors turn for information. Investors with advanced investment literacy report greater reliance on institutional and research-based sources, such as business and finance articles and research tools from brokerage firms. Investors with lower investment literacy rely far more heavily on informal and socially mediated sources (Figure 2).

⁴ Feldman, R., Benoliel, P. Cultural Determinants of Cross-National Variation in Adolescents' Financial Literacy: Evidence from PISA 2022. *Soc Indic Res* 184, 26 (2026).

Figure 2. Reliance on Informal Information Sources, by Investment Literacy

Source: Authors' calculations using the 2024 NFCS Investor Survey. Notes: All statistics are weighted using the NFCS 2024 Investor Survey weights to be representative of the U.S. investor population.

Nearly three-quarters of investors with low investment literacy (74 percent) say they rely on friends, family, or colleagues when deciding what to invest in, compared with just over half of investors with advanced investment literacy. The gap is even wider for social media: 43 percent of investors with low investment literacy say they follow recommendations from a social media personality, compared with just 13 percent of investors with advanced investment literacy.

One source runs counter to this pattern. Reliance on recommendations from financial professionals is actually highest among investors with low investment literacy (75 percent) and lowest among investors with advanced investment literacy (63 percent). This pattern is worth noting, though it should be interpreted with some caution, a point we return to below.

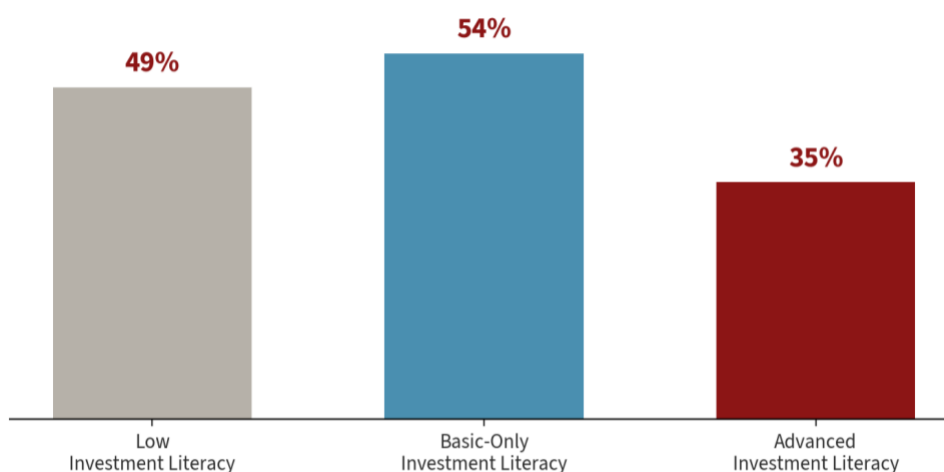
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More knowledge means less worry about fraud, but not necessarily less susceptibility to it

Investors with more investment literacy report substantially less worry about losing money to fraud. Fifty-five percent of investors with low investment literacy say they are worried about losing money to investment fraud, compared with 36 percent of investors with basic-only investment literacy and just 24 percent of investors with advanced investment literacy.

But worry and actual vulnerability are not the same. We asked investors whether they would invest in a hypothetical opportunity promising a guaranteed, risk-free 25 percent annual return every year for five years, a scenario built entirely out of classic investment fraud warning signs. If investment literacy simply made investors more cautious, willingness to invest in this scheme would be expected to fall steadily as literacy rises. Instead, willingness to invest peaks among investors with basic-only investment literacy.

Figure 3. Share Willing to Invest in a “Guaranteed 25% Return” Opportunity, by Investment Literacy

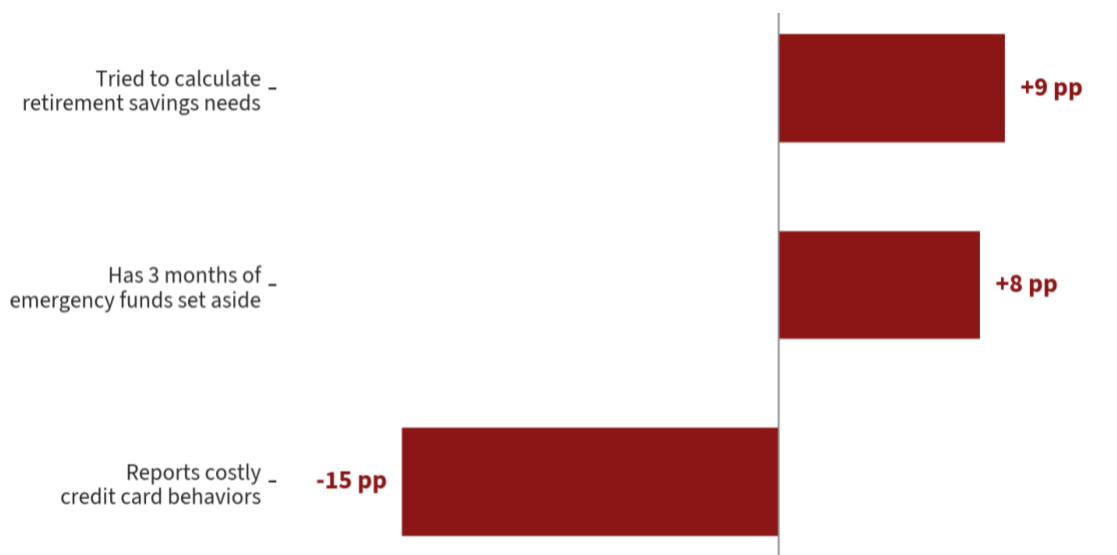


Source: Authors' calculations using the 2024 NFCS Investor Survey. Notes: All statistics are weighted using the NFCS 2024 Investor Survey weights to be representative of the U.S. investor population.

Fifty-four percent of investors with basic-only investment literacy say they would invest, more than either investors with low investment literacy (49 percent) or investors with advanced investment literacy (35 percent) (Figure 3). Two things stand out here. First, even among the most knowledgeable investors, more than a third say they would invest in this very questionable opportunity. Second, and more surprising, investors with just enough knowledge to potentially feel confident, but not enough to fully understand risk, are the most susceptible group, not the least literate ones.

Advanced investment literacy is linked to healthier finances

Beyond how investors gather information and respond to risk, investment literacy is tied to concrete measures of financial well-being. After accounting for differences in age, income, education, and other demographic characteristics, investors with advanced investment literacy are 9 percentage points more likely to have tried to calculate how much they need to save for retirement, and 8 percentage points more likely to have three months of emergency savings set aside, relative to investors with low investment literacy (Figure 4). They are also 15 percentage points less likely to report costly credit card behaviors, such as carrying a balance or paying late fees.

Figure 4. Advanced vs. Low Investment Literacy: Difference in Financial Outcomes

Source: Authors' calculations using the 2024 NFCS Investor Survey. Notes: Estimates are from weighted OLS regressions, adjusted for demographic characteristics and weighted to be representative of the U.S. investor population.

The financial benefits associated with investment literacy in our data appear concentrated among investors with advanced, risk-related knowledge, rather than building up gradually as literacy improves from low to basic. Notably, investors with basic-only investment literacy show no statistically significant differences from investors with low investment literacy on any of these outcomes.

WHAT CAN WE DO?

These findings point to several ways to strengthen investor education.

Move education beyond the basics. Because advanced investment literacy is largely defined by risk-related concepts, educational content should place far greater emphasis on risk and risk management, not just foundational definitions of what a stock or bond is. Resources such as the SEC's [Investor.gov](https://www.investor.gov) website and FINRA's [investor resources](https://www.finra.org/investor-resources) already provide this kind of content and can serve as models.

Meet investors where they already are. Younger investors, lower-income investors, and Black and Hispanic investors are disproportionately represented among those with low investment literacy, and these same groups rely most heavily on informal channels such as social media and trading apps for investment information. Delivering education through these channels, rather than assuming investors will seek out separate materials, is likely more effective. FINRA's ["Get Your Head in the Trade"](https://www.finra.org/get-your-head-in-the-trade) campaign, which delivers investor education directly on social media, is one example of this approach. Providing financial education in high school and college is another way in which we can reach young investors.

Match content to starting knowledge, not just delivery channel. One-size-fits-all education is unlikely to work. Investors starting from low, basic-only, or advanced investment literacy have different needs. A short self-assessment, administered before an education program begins, could route investors toward content that extends their investment knowledge, building, for example, foundational concepts for those with low literacy and risk-related concepts for those with basic-only literacy.

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Enlist financial professionals as education partners. Investors with low and basic-only investment literacy report relying on financial professionals “somewhat” more than advanced investors do, which may point to an existing channel for reaching these investors. This pattern deserves a cautious reading, however, as it may partly reflect how investors interpret the term “financial professional,” and access to professional advice is not distributed equally. Investors with the lowest literacy also tend to have fewer investable assets, a gap worth keeping in mind when designing outreach.

Teach fraud recognition as its own subject. The finding that investors with basic-only investment literacy, not the lowest level of literacy, are the most willing to invest in a likely investment scam suggests that confidence and identity as an investor can outpace actual risk knowledge. Fraud-specific content, including how to recognize common warning signs such as guaranteed returns or manufactured urgency, should be built into investor education programs explicitly, rather than assumed to follow naturally from general financial or risk education.

ABOUT THE DATA

This brief summarizes findings from a working paper titled “Investment Literacy, Risk Understanding, and Investment Decision-Making” by Andrea Sticha (Stanford Graduate School of Business), Gary Mottola and Olivia Valdes (FINRA Investor Education Foundation), and Annamaria Lusardi (Stanford Graduate School of Business), using data from the FINRA Investor Education Foundation’s 2024 National Financial Capability Study.

The analysis combines the NFCS State-by-State Survey (25,539 respondents, nationally representative of U.S. adults) with the NFCS Investor Survey (2,861 respondents who report owning non-retirement investments). All estimates are weighted to be representative of investors with non-retirement investment accounts. Investment literacy categories were constructed using Item Response Theory applied to thirteen knowledge questions; investors are classified as having low, basic-only, or advanced investment literacy based on the share of basic and advanced questions they answer correctly. Differences reported for financial outcomes and decision-making measures are drawn from weighted regression models that control for demographic characteristics, including age, gender, race and ethnicity, income, education, employment status, marital status, and homeownership.

APPENDIX

Correct answers highlighted in gray.

Basic Investment Literacy

[interest] Suppose you had \$100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?

- More than \$102
- Exactly \$102
- Less than \$102
- Don't know

[inflation] Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?

- More than today
- Exactly the same
- Less than today
- Don't know

[mortgage] A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage, but the total interest paid over the life of the loan will be less.

- True
- False
- Don't know

[stock] If you buy a company's stock...

- You own a part of the company
- You have lent money to the company
- You are liable for the company's debts
- The company will return your original investment to you with interest
- Don't know

[bond] If you buy a company's bond...

- You own a part of the company
- You have lent money to the company
- You are liable for the company's debts
- You can vote on shareholder resolutions
- Don't know

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Advanced Investment Literacy

[bond_pricing] If interest rates rise, what will typically happen to bond prices?

- They will rise
- They will fall
- They will stay the same
- There is no relationship between bond prices and interest rates
- Don't know

[risk] Buying a single company's stock usually provides a safer return than a stock mutual fund.

- True
- False
- Don't know

[bankruptcy] If a company files for bankruptcy, which of the following securities is most at risk of becoming virtually worthless?

- The company's preferred stock
- The company's common stock
- The company's bonds
- Don't know

[municipal] Which of the following best explains why many municipal bonds pay lower yields than other government bonds?

- Municipal bonds are lower risk
- There is a greater demand for municipal bonds
- Municipal bonds can be tax-free
- Don't know

[margin] You invest \$500 to buy \$1,000 worth of stock on margin. The value of the stock drops by 50%. You sell it. Approximately how much of your original \$500 investment are you left with in the end?

- \$500
- \$250
- \$0
- Don't know

[short] Which is the best definition of "selling short"?

- Selling shares of a stock shortly after buying it
- Selling shares of a stock before it has reached its peak
- Selling shares of a stock at a loss
- Selling borrowed shares of a stock
- Don't know

[index_fund] What is the main advantage that index funds have when compared to actively managed funds?

- Index funds are generally less risky in the short term
- Index funds generally have lower fees and expenses
- Index funds are generally less likely to decline in value
- Don't know

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[option] If you own a call option with a strike price of \$50 on a security that is priced at \$40, and the option is expiring today, which of the following is closest to the value of that option?

- \$10
- \$0
- -\$10
- Don't know

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