

What Matters to Individual Investors? Evidence from the Horse's Mouth

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Theories of Investor Motives & Beliefs

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Many ...

Theories of Investor Motives & Beliefs

Many . . .
Ever Multiplying

Testing these Theories is Hard

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- ▶ Finding exogenous variation difficult
- ▶ Identification often relies upon rational expectations
- ▶ Estimates from valid IV designs are local average treatment effects, often in special subpopulations
- ▶ Hard to compare effect sizes across studies
- ▶ Predictions of competing models often similar or identical
- ▶ Fundamental assumptions in some leading models hard to directly test
 - ▶ Long run risk, rare disasters
 - ▶ John Campbell: “dark matter for economists”

Our Paper

We ask 1,098 U.S. individuals in RAND American Life Panel:

- ▶ How well leading academic theories describe their concerns, preferences, and beliefs

Topics:

- ▶ Equity share of portfolio
- ▶ Actively managed mutual funds
- ▶ Cross-section of stock returns

▶ Sample

▶ Design Process

▶ Weights

▶ Limitations

▶ Surveys in Finance

Equity Share

Factor Ratings

Stock market participants

- ▶ How important are the following factors in determining the percentage of your investable financial assets that is currently invested in stocks?

Stock market non-participants

- ▶ How important are the following factors in causing you to not currently own any stocks?

Answer options

- ▶ Not important at all, a little important, moderately important, very important, extremely important

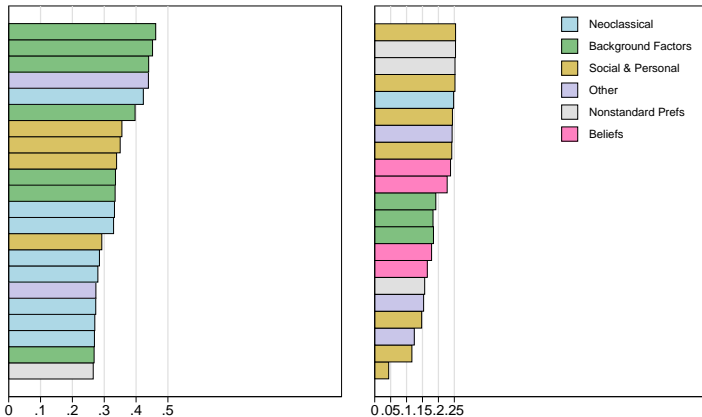
Big Picture

We divide the questions into 6 groups:

- ▶ Neoclassical AP Models
- ▶ Background Risks & Assets
- ▶ Social & Personal
- ▶ Nonstandard Preferences
- ▶ Beliefs
- ▶ Other (Heuristics & Transactional)

Factors Affecting Equity Allocation

Equity Allocation Proportion Responding Very or Extremely Important



* Non-participants only. ** Participants only. *** Employed only. **** Homeowners only.

Neoclassical AP Models

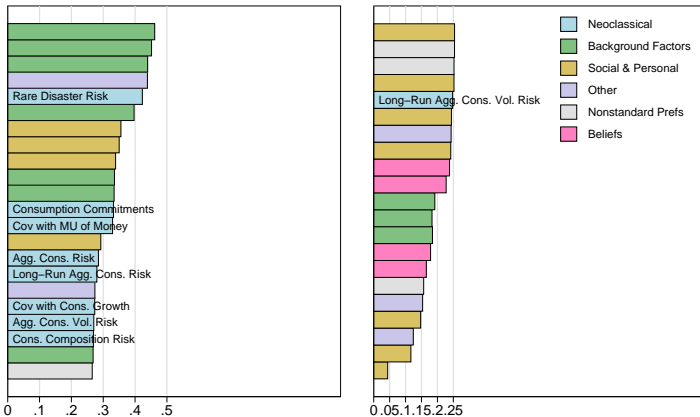
We asked about 9 factors drawn from neoclassical representative agent asset pricing models:

- Return Covariance with Marginal Utility of Money
- Return Covariance with Consumption Growth
- Rare Disaster Risk
- Consumption Composition Risk
- Consumption Commitments
- Risk of Aggregate Consumption over Next Year
- Risk of Long-Run Aggregate Consumption
- Risk of Aggregate Consumption Volatility over Next Year
- Risk of Long-Run Aggregate Consumption Volatility

Factors Affecting Equity Allocation

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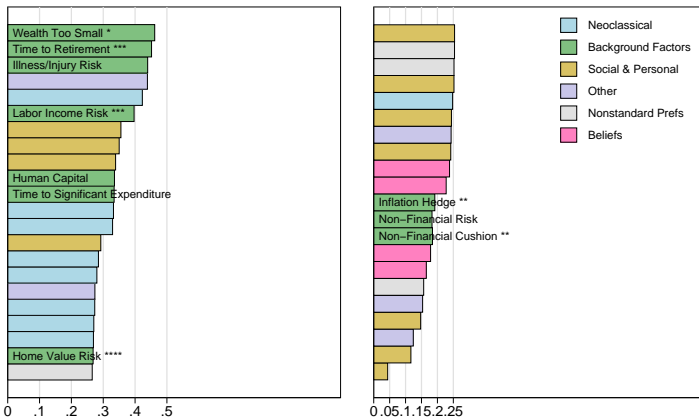
Background Risks & Assets

We asked about the importance of 10 risks and assets outside of the stock market:

- Risk of Illness/Injury
- Labor Income Risk***
- Years until Retirement***
- Human Capital
- Time until Significant Non-Retirement Expense
- Home Value Risk****
- Non-Financial Risk
- Non-Financial Assets Cushion Losses**
- Stocks are an Inflation Hedge**
- Wealth Too Small*

Factors Affecting Equity Allocation

Equity Allocation Proportion Responding Very or Extremely Important

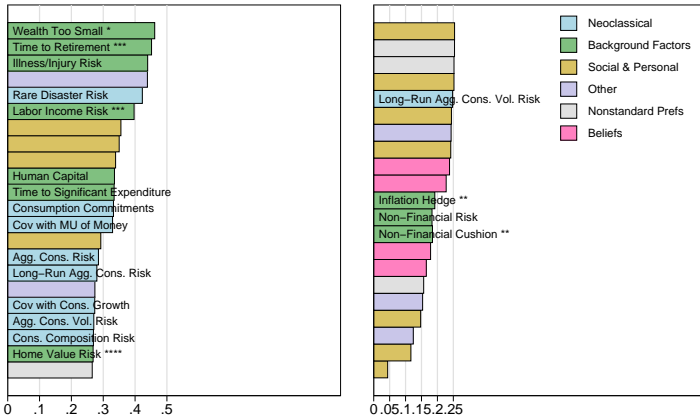


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Factors Affecting Equity Allocation

Equity Allocation

Proportion Responding Very or Extremely Important



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Social & Personal Factors

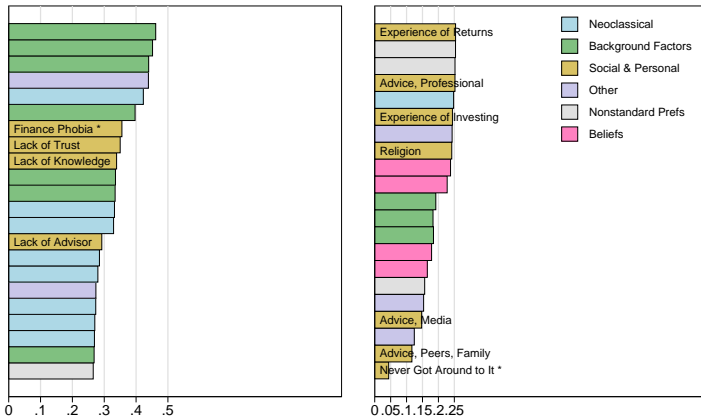
We asked about 11 social & personal factors:

- Low Trust in Market Participants
- Lack of Trustworthy Advisor
- Lack of Knowledge About How to Invest
- Advice from a Professional Financial Advisor
- Advice from Peers or Family
- Advice from Media
- Experience of Living Through Returns
- Personal Experience Investing in Stock Market
- Religion
- Finance Phobia*
- Never Got Around to It*

Factors Affecting Equity Allocation

Equity Allocation

Proportion Responding Very or Extremely Important

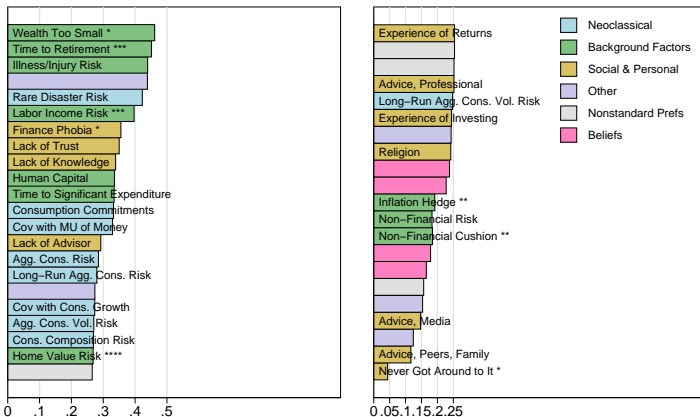


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Factors Affecting Equity Allocation

Equity Allocation

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Other Factors

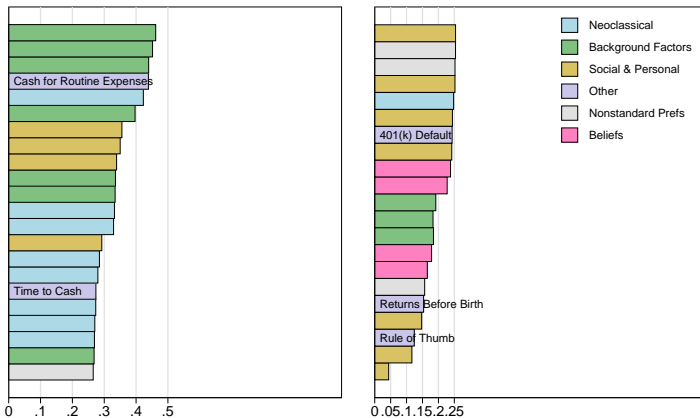
We asked about 5 transactional factors and heuristics:

- Cash for Routine Expenses
- Time to Cash
- 401(k) Default
- Rule of Thumb
- Returns Before Birth

Factors Affecting Equity Allocation

Equity Allocation

Proportion Responding Very or Extremely Important

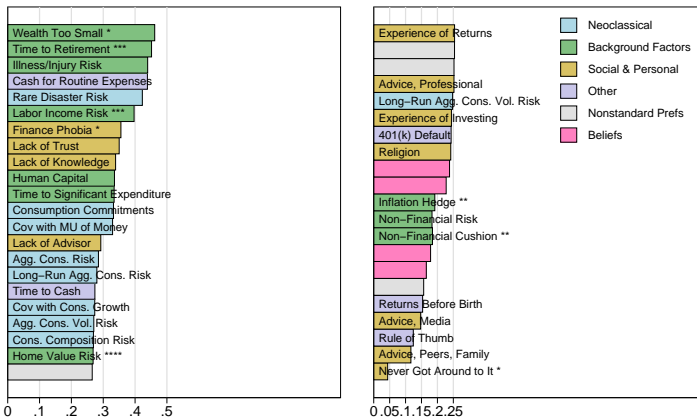


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Factors Affecting Equity Allocation

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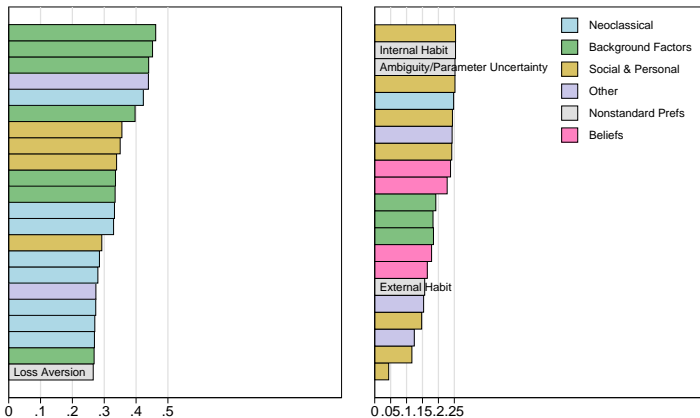
Nonstandard Preferences

We asked about 4 non-standard preference based factors:

- Loss Aversion
- Ambiguity / Parameter Uncertainty
- External Habit
- Internal Habit

Factors Affecting Equity Allocation

Equity Allocation Proportion Responding Very or Extremely Important

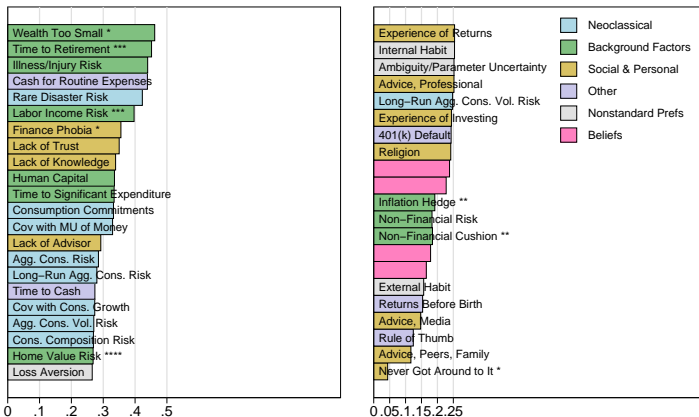


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Factors Affecting Equity Allocation

Equity Allocation

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Expected Return Beliefs

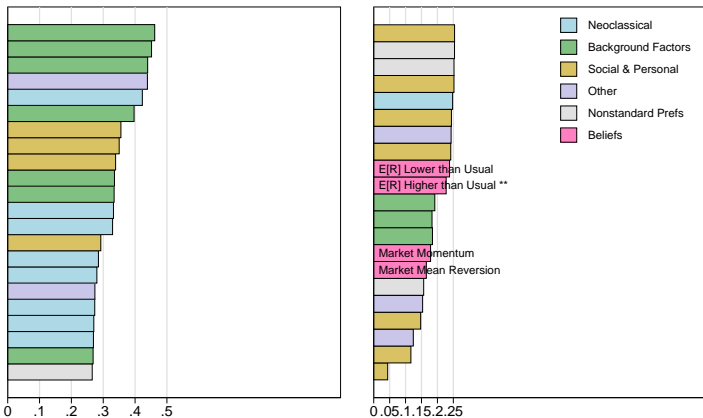
We asked about 4 categories of expected return beliefs:

- Expected Stock Returns Higher than Usual**
- Expected Stock Returns Lower than Usual

- Stock Market Returns Mean-Revert
- Stock Market Returns have Momentum

Factors Affecting Equity Allocation

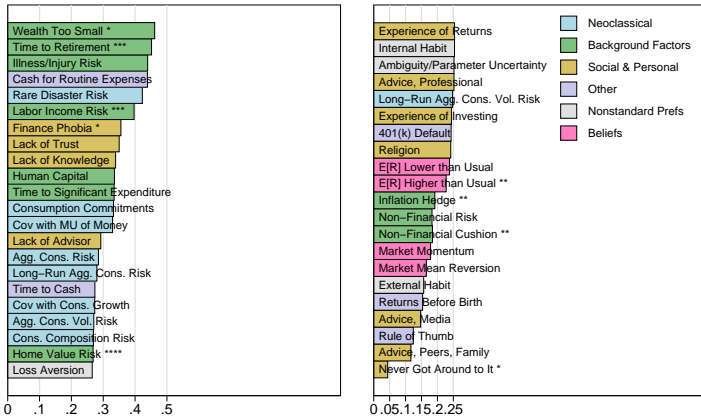
Equity Allocation Proportion Responding Very or Extremely Important



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Factors Affecting Equity Allocation

Equity Allocation Proportion Responding Very or Extremely Important



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Actively Managed Mutual Funds

Why Do People Buy Actively Managed Funds?

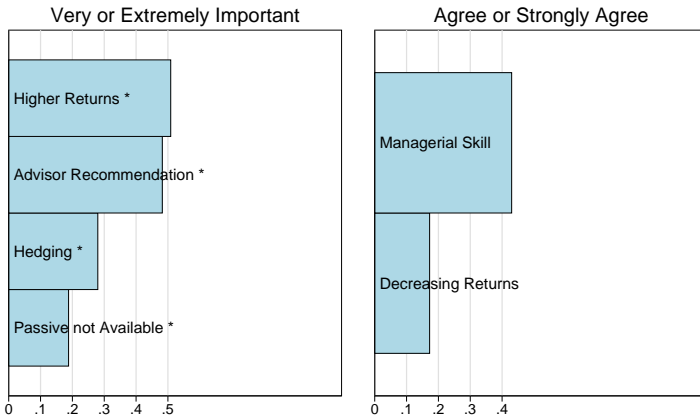
We asked about 4 factors and 2 empirical claims:

- Higher Returns
- Hedging
- Advisor Recommendation
- Passive Not Available
- Decreasing Returns to Scale
- Past Returns are Evidence of Managerial Skill

▶ More

Why Do People Buy Actively Managed Funds?

Actively Managed Stock Mutual Funds Proportion Responding...



* Among respondents who had purchased an actively managed mutual fund at some point in the past.

Conclusion

Equity Share

- ▶ Most of the leading academic theories receive non-trivial support.
- ▶ Particular support for:
 - ▶ Economic disasters
 - ▶ Investment horizon
 - ▶ Background risk (health, labor income)
 - ▶ Need for cash on hand for routine expenses
 - ▶ Fixed costs of stock market participation
 - ▶ Finance phobia

Conclusion

Actively Managed Mutual Funds

Particular support for:

- ▶ A belief in higher returns
- ▶ Advisor recommendations
- ▶ Non-trivial support for hedging demand

Households tend to believe that:

- ▶ Past fund performance is a good signal of stock-picking skill
- ▶ Funds do not suffer from diseconomies of scale

The End

Cross Sectional Factors

Growth Stocks versus Value Stocks

Are you familiar with the terms “growth stock” and “value stock”?

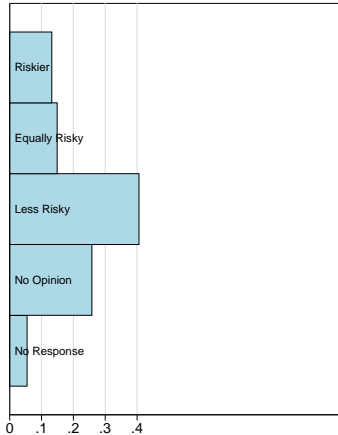
- ▶ 24% were familiar with both
- ▶ 66% were familiar with neither

A value stock is a stock that has a low price relative to its current profits (and other fundamentals). A growth stock is a stock that has a high price relative to its current profits (and other fundamentals).

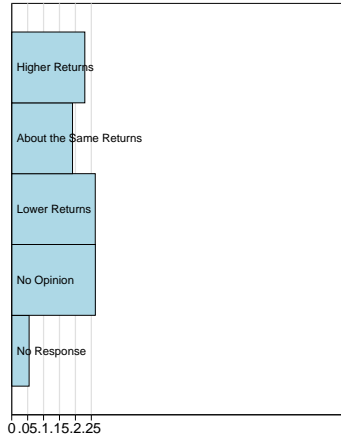
Growth Stocks versus Value Stocks

Compared to Growth Stocks,

Value Stocks are...



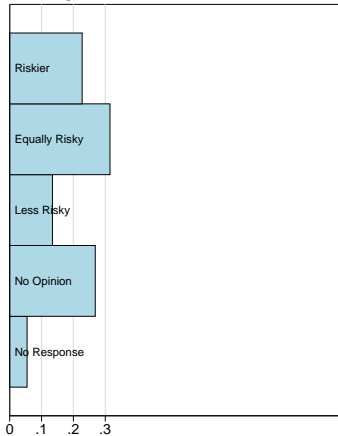
Value Stocks have...



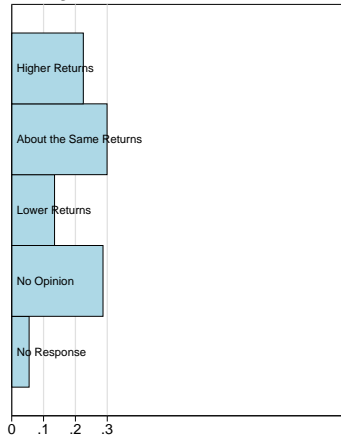
Momentum

Compared to Low Momentum Stocks,

High Momentum Stocks are...



High Momentum Stocks have...



Questions

Rare Disaster Risk

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ Concern that in an economic disaster where the amount that the U.S. economy produces in a year shrinks by more than 10% – like the Great Depression – a dollar I invested in stocks would lose more value than a dollar I put in a bank savings account.

Consumption Commitments

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ My fixed expenses (like mortgage payments, rent, car payments, utility bills, etc.) that are difficult to adjust in the short run.

Return Covariance with Marginal Utility of Money

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ Concern that when I especially need the money, the stock market will tend to drop.

Risk of Aggregate Consumption over Next Year

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ Concern that when bad news arrives about how the U.S.'s material standard of living will change over the next year, the stock market will tend to drop.

Risk of Long-Run Aggregate Consumption

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ Risk of Long-Run Aggregate Consumption Concern that when bad news arrives about how the U.S.'s material standard of living will change over the 5 year period starting 1 year in the future, the stock market will tend to drop.

Return Covariance with Consumption Growth

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ Concern that when I have to cut my spending, the stock market will tend to drop.

Risk of Aggregate Consumption Volatility over Next Year

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ Concern that when uncertainty increases about how the U.S.'s material standard of living will change over the next year, the stock market will tend to drop.

Consumption Composition Risk

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ Concern that when the quality of my physical living situation (how nice my housing is, the safety of my neighborhood, etc.) is dropping faster than the rest of my material quality of life, the stock market will tend to drop.

Risk of Long-Run Aggregate Consumption Volatility

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ Concern that when uncertainty increases about how the U.S.'s material standard of living will change over the 10 year period starting 1 year in the future, the stock market will tend to drop.

Wealth Too Small

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ The amount of money I have available to invest in stocks is too small.

Years until Retirement

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ Years left until retirement The number of years I (and my spouse/partner, if applicable) have left until retirement.

Risk of Illness/Injury

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ The risk of expenses due to illness or injury to me or someone else in my family.

Labor Income Risk

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ Concern that I (or my spouse/partner, if applicable) might become unemployed, receive a pay cut, or not receive an expected pay increase.

Human Capital

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ The difference between how much money I have available to invest right now and all the money I (and my spouse/partner, if applicable) expect to earn in wages over the rest of my life.

Time until Significant Non-Retirement Expense

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ How soon I will have significant expenses (like a car purchase, a down payment on a home, school tuition, etc.).

Home Value Risk

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ Concern that my home value might fall.

Stocks are an Inflation Hedge

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ A belief that stocks are attractive because when my living expenses increase unexpectedly, the stock market will tend to rise.

Non-Financial Assets Cushion Losses

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ A belief that I can afford to take more risks in my financial portfolio because my non-financial assets (such as my home or small business) will cushion me against losses in my financial portfolio.

Non-Financial Risk

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ Concern my non-financial assets other than my home – such as my small business – might lose value.

Loss Aversion

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ The possibility of even small losses on my stock investments makes me worry.

Internal Habit

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ The difference between my current material standard of living and the level I am used to.

Ambiguity / Parameter Uncertainty

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ I don't have a good sense of the average returns and risks of investing in stocks.

External Habit

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ The difference between my current material standard of living and the level everybody else around me has experienced recently.

Expected Returns Lower than Usual

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ A belief that the returns I can expect to earn from investing in stocks right now are lower than usual.

Expected Returns Higher than Usual

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ A belief that the returns I can expect to earn from investing in stocks right now are higher than usual.

Stock Market Returns have Momentum

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ A belief that low stock market returns tend to be followed by more low stock market returns.

Stock Market Returns Mean-Revert

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ A belief that low stock market returns tend to be followed by high stock market returns.

Finance Phobia

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ I don't like to think about my finances.

Low Trust in Market Participants

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ Concern that companies, managers, brokers, or other market participants might cheat me out of my investments.

Lack of Knowledge About How to Invest

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ My lack of knowledge about how to invest.

Lack of Trustworthy Advisor

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ Difficulty in finding a trustworthy advisor.

Experience of Living Through Returns

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ The feelings, attitudes, and beliefs about the stock market I've gotten from living through stock market ups and downs (whether or not I was invested in stocks at the time).

Advice from a Professional Financial Advisor

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ Advice from a professional financial advisor I hired.

Personal Experience Investing in Stock Market

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ The feelings, attitudes, and beliefs about the stock market I've gotten from my personal experiences of investing in the stock market.

Religion

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ My religious beliefs, values, and experiences.

Advice from Peers or Family

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ Advice from a friend, family member, or coworker.

Advice from Media

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ Advice from a book or an article I read, or from somebody on TV, radio, or the internet.

Never Got Around to It

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ I intended to invest in stocks but never got around to it.

Cash for Routine Expenses

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ The amount of cash I need to have on hand to pay routine expenses.

Time to Cash

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ Concern that stock investments will take too long to convert into spendable cash in an emergency.

401(k) Defaults

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ The default investment allocation in my (and/or my spouse/partner's, if applicable) work-based retirement savings plan (for example, 401(k), 403(b), Thrift Savings Plan).

Returns Before Birth

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ What I know about the stock market's returns during the decades before I was born.

Rule of Thumb

How important are the following factors in **determining the percentage of your investable financial assets that is currently invested in stocks?** (causing you to not currently own any stocks?)

- ▶ A rule of thumb (for example, “The percent you invest in stocks should be 100 minus your age” or “Invest one-third in stocks, one-third in bonds, and one-third in real estate”).

Costs of Staying up to Date

How important are the following factors in causing the amount of money you have to be too small to make it worthwhile to invest in stocks?

- ▶ The ongoing time, money, and/or effort it would take to stay up-to-date on the stock market.

Costs of Learning About Stocks

How important are the following factors in causing the amount of money you have to be too small to make it worthwhile to invest in stocks?

- ▶ The amount of time, money, and/or effort it would take to learn about stocks.

Costs of Hiring an Advisor

How important are the following factors in causing the amount of money you have to be too small to make it worthwhile to invest in stocks?

- ▶ The amount of time, money, and/or effort it would take to hire an investment advisor.

Costs of Maintaining Advisor

How important are the following factors in causing the amount of money you have to be too small to make it worthwhile to invest in stocks?

- ▶ The ongoing time, money, and/or effort it would take to maintain a relationship with an investment advisor after hiring him or her.

Costs of Maintaining an Account

How important are the following factors in causing the amount of money you have to be too small to make it worthwhile to invest in stocks?

- ▶ The ongoing time, money, and/or effort it would take to maintain an investment account after setting it up.

Costs of Setting up an Account

How important are the following factors in causing the amount of money you have to be too small to make it worthwhile to invest in stocks?

- ▶ The amount of time, money, and/or effort it would take to set up an investment account.

Tax Complexity

How important are the following factors in causing the amount of money you have to be too small to make it worthwhile to invest in stocks?

- ▶ Stock investments would make my tax returns harder to prepare.

Home

You said you own your home. How important is that in causing you to not have enough money to make it worthwhile to invest in stocks?

Less Money Available Now

How important are the following factors in causing you to not get around to investing in stocks?

- ▶ I have less money available now than when I originally planned on investing in stocks.

Too Costly

How important are the following factors in causing you to not get around to investing in stocks?

- ▶ I discovered that it takes more time, money, and/or effort to invest in stocks than I expected.

Too Busy

How important are the following factors in causing you to not get around to investing in stocks?

- ▶ I was too busy.

Procrastinated

How important are the following factors in causing you to not get around to investing in stocks?

- ▶ I procrastinated for no good reason.

Not Important Enough

How important are the following factors in causing you to not get around to investing in stocks?

- ▶ I decided it wasn't important enough to think about it.

Higher Returns

How important were the following factors in your decision(s) to invest in an actively managed stock mutual fund instead of a passively managed stock mutual fund?

- ▶ A belief that the actively managed stock mutual fund would give me higher returns on average than a passively managed stock mutual fund.

Advisor Recommendation

How important were the following factors in your decision(s) to invest in an actively managed stock mutual fund instead of a passively managed stock mutual fund?

- ▶ The recommendation of an investment advisor I hired.

Hedging

How important were the following factors in your decision(s) to invest in an actively managed stock mutual fund instead of a passively managed stock mutual fund?

- ▶ A belief that even though the actively managed stock mutual fund would have lower returns on average than a passively managed stock mutual fund, the actively managed fund would have higher returns than the passively managed fund when the economy does poorly (for example, during recessions or stock market crashes).

Passive Not Available

How important were the following factors in your decision(s) to invest in an actively managed stock mutual fund instead of a passively managed stock mutual fund?

- ▶ A suitable passively managed stock mutual fund wasn't available in my employer-sponsored retirement savings plan.

Managerial Skill

How much do you agree with the following statements?

- ▶ When an actively managed stock mutual fund has had significantly higher past returns than the overall stock market, this is strong evidence that its manager has good stock-picking skills.

Decreasing Returns to Scale

How much do you agree with the following statements?

- ▶ When an actively managed stock mutual fund gets more money to manage, it becomes harder for it to generate higher returns than the overall stock market.

Growth v Value – Risk

Compared to a growth stock, I expect a value stock to normally be

...

- ▶ Riskier over the next year, on average
- ▶ Equally risky over the next year, on average
- ▶ Less risky over the next year, on average
- ▶ No opinion

Growth v Value – Return

Compared to a growth stock, I expect a value stock to normally have ...

- ▶ Higher returns over the next year, on average
- ▶ About the same returns over the next year, on average
- ▶ Lower returns over the next year, on average
- ▶ No opinion

Momentum – Risk

Compared to a stock whose price fell a lot over the past year, I expect a stock whose price rose a lot over the past year to normally be ...

- ▶ Riskier over the next year, on average
- ▶ Equally risky over the next year, on average
- ▶ Less risky over the next year, on average
- ▶ No opinion

Momentum – Return

Compared to a stock whose price fell a lot over the past year, I expect a stock whose price rose a lot over the past year to normally have ...

- ▶ Higher returns over the next year, on average
- ▶ About the same returns over the next year, on average
- ▶ Lower returns over the next year, on average
- ▶ No opinion

Survey Panel

RAND American Life Panel.

- ▶ Survey completed between Dec. 14 and Dec. 27, 2016.
- ▶ RAND circulated an invitation to 2,148 members
- ▶ 1,255 read informed consent disclosure
- ▶ 1,202 gave consent
- ▶ 1,107 eligible (based on screening questions)
- ▶ 1,098 agreed to answer additional questions

Surveys Design Process

- ▶ Pilot tested questions on MTurk:
 - ▶ Included “I don’t understand” as answer option for every question
 - ▶ Free-response question at end of equity allocation section for additional factors we had not mentioned
- ▶ Solicited feedback from researchers
- ▶ On third round of MTurk pilots:
 - ▶ < 1% “do not understand” responses for 61 of 68 questions
 - ▶ Remaining 7 questions: < 3% “do not understand” responses

Surveys in Finance

- ▶ Most influential work on corporate dividend policy: Lintner (1956) survey
- ▶ More recent survey work in corporate finance seeking to test wide range of theories
 - ▶ Graham and Harvey (2001), Brav et al. (2005), Graham, Harvey, and Rajgopal (2005), Gompers, Kaplan, and Mukharlyamov (2016), and Gompers et al. (2016)
- ▶ More recent survey work of investment professionals to test academic theories
 - ▶ Cheung and Wong (2000), Cheung and Chinn (2001), and Cheung, Chinn, and Marsh (2004)

Limitations of Surveys

- ▶ Measurement Error [▶ More](#)
- ▶ Perceptions v Reality [▶ More](#)
 - ▶ Our survey measures how people perceive themselves to be making decisions
 - ▶ This may not be fully informative for how they *actually* make decisions

[◀ Back](#)

Measurement Error in Surveys

Measurement error can arise from:

- ▶ “Fat fingers”
- ▶ Poor incentives / Low motivation
- ▶ Meaning of response category differs across respondents

BUT if the errors white noise, the ordinal within-respondent ranking is still informative

Perceptions v Reality

Individuals might not know why they really do things

- ▶ Milton Friedman's "as if" argument
 - ▶ "We only care about what individuals do, not what they say or think"

We think perceptions are still important.

▶ Why?

◀ Back

Why We Should Care About Perceptions

- ① Perceptions are unlikely to be entirely unrelated to true decision process, which are useful for predicting behavior
 - ▶ Harris and Keane (1999): Relative to model using only health insurance plan attributes, adding survey responses about importance of attributes doubles predictive power
- ② Perceived decision-making process affects individual's forecast of future actions, which is an input to today's actions
- ③ Perceptions can affect demand for debiasing mechanisms
- ④ It is inherently interesting to know what individuals believe about themselves

Opening Questions

- ▶ What is the value of all your investable financial assets?
 - ▶ Include the value of your bank accounts, brokerage accounts, retirement savings accounts, investment properties, etc., but NOT the value of the home(s) you live in or any private businesses you own.
- ▶ What percentage of your investable financial assets is currently invested in stocks, either directly or through mutual funds?
 - ▶ if > 0 → participant
 - ▶ if $= 0$ → non-participant

Sample Weights

Weight responses to match U.S. adult population on:

- ▶ Gender
- ▶ Age
- ▶ Race/ethnicity
- ▶ Education
- ▶ # household members
- ▶ Household income

Description Complexity & Factor Importance

Is description complexity related to reported factor importance?

$$importance_q = \alpha + \beta * complexity_q + \varepsilon_q$$

where

- ▶ $importance_q \Rightarrow$ fraction responding very or extremely important for factor q
- ▶ $complexity_q \Rightarrow$ complexity of question q , as measured by
 - ▶ the number of words used to describe the factor
 - ▶ the factor description's Fleisch-Kincaid grade level score

▶ Results

◀ Back

Description Complexity & Factor Importance

$$importance_q = \alpha + \beta * complexity_q + \varepsilon_q$$

	(1)	(2)
	Importance	Importance
Word Count	0.13 (0.87)	
Fleisch-Kincaid Score		0.0035 (0.10)

Dependant variable is proportion of respondents describing the factor as very or extremely important.
t-statistics in parenthesis.

Principal Component Analysis

A principal component analysis reveals 6 clusters of factors:

- “Neoclassical asset pricing factors”
- “Consumption needs and human capital”
- “Return predictability and defaults”
- “Discomfort with market”
- “Advice”
- “Personal experience”

Principal Component 1: “Neoclassical asset pricing factors”

- ▶ Risk of Aggregate Consumption over Next Year (0.41)
- ▶ Risk of Aggregate Consumption Volatility over Next Year (0.39)
- ▶ Risk of Long-Run Aggregate Consumption (0.39)
- ▶ Risk of Long-Run Aggregate Consumption Volatility (0.38)
- ▶ Return Covariance with Marginal Utility of Consumption (0.35)
- ▶ Return Covariance with Marginal Utility of Money (0.33)
- ▶ Consumption Composition Risk (0.26)

Principal Component 2: “Consumption needs and human capital”

- ▶ Consumption Commitments (0.45)
- ▶ Time until Significant Non-Retirement Expense (0.43)
- ▶ Internal Habit (0.36)
- ▶ Human Capital (0.34)
- ▶ Risk of Illness/Injury (0.32)
- ▶ External habit (0.30)
- ▶ Cash for Routine Expenses (0.27)

Principal Component 3: “Return predictability and defaults”

- ▶ Stock Market Returns Mean-Revert (0.49)
- ▶ Expected Stock Returns Lower than Usual (0.40)
- ▶ Stock Market Returns have Momentum (0.38)
- ▶ 401(k) Default (0.34)
- ▶ Rule of Thumb (0.26)
- ▶ Religion (0.25)
- ▶ Time to Cash (0.24)

Principal Component 4: “Discomfort with market”

- ▶ Lack of Knowledge About How to Invest (0.50)
- ▶ Ambiguity / Parameter Uncertainty (0.49)
- ▶ Lack of Trustworthy Advisor (0.42)
- ▶ Loss Aversion (0.38)
- ▶ Low Trust in Market Participants (0.29)

Principal Component 5: “Advice”

- ▶ Advice from Media (0.52)
- ▶ Advice from Peers or Family (0.51)
- ▶ External habit (0.31)
- ▶ Rule of Thumb (0.28)
- ▶ Returns Before Birth (0.26)
- ▶ Advice from a Professional Financial Advisor (0.20)

Principal Component 6: “Personal experience”

- ▶ Experience of Living Through Returns (0.65)
- ▶ Personal Experience Investing in Stock Market (0.64)
- ▶ Returns Before Birth (0.20)

Mutual Funds – Overview

- ▶ 52% report knowing what a mutual fund is.
- ▶ 33% have purchased shares in an actively managed mutual fund.

▶ More

◀ Back

Mutual Funds – Details

A mutual fund is a company that brings together money from many people and invests it in stocks, bonds or other assets.

In an actively managed stock mutual fund, the fund manager tries to beat the overall stock market's return by picking stocks to buy. In contrast, a passively managed stock mutual fund (also known as an index fund) holds stocks in order to match the performance of a market benchmark (such as the S&P 500 stock market index) as closely as possible.