Annotation Scheme and Survey Instructions for "Explanations"

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This additional Online Appendix contains details about our annotation of explanations, as well as full survey instructions.

Annotation of explanations

Our annotation starts from transcripts generated by Phonic using Amazon Transcribe. Notably, these transcripts preserve disfluencies or hesitation markers like "um" or "eh" that are typically removed by speech-to-text software. We then annotate these transcripts using a combination of human coding by a team of RAs and machine coding by a Large Language Model (LLM). For the latter, we use the state-of-the-art OpenAI GPT-4, with a temperature set to 0 for reproducibility.

We annotate four different dimensions of explanations. First, we categorize explanations into broad categories, e.g., to distinguish restatements of the answer from non-substantive or substantive argumentation. Second, we identify a large set of 31 features in the explanations, e.g., the word count, the number of uncertainty markers or of analogical arguments. Third, we rate the general richness of explanations using a pre-registered definition. Fourth, we identify the different arguments appearing in each task and tag their presence in each explanation.

Explanation categorization

We first categorize speeches into general categories to acquire a broad overview of the different types of explanations. For that, we asked a team of RAs to identify whether an explanation fell into one of the following categories: *Only Restatement*, *Any Uncertainty*, *Non-Substantive Expla-*

nation, *Substantive Explanation*, *Correct Explanation*, *Incorrect Explanation*, *Unclear Explanation*, *Invalid Explanation* (see Table H14 for a detailed overview). They are not necessarily mutually exclusive.

To benchmark our fully manual categorization, we then performed the same categorization with GPT-4. When the human coder identified one of the categories, GPT-4 did so too in 79% of cases; when the human coder did not identify one of the categories, GPT-4 did so too in 82% of cases. Cohen's κ is at 0.53, indicating 'moderate agreement'. These statistics are higher for the more specific categories we rely on in our analyses, e.g., they stand at 56%, 96% and 0.55 for the *Only Restatement* category. Aggregate frequencies also seem more stable, e.g., with human coder finding 13.1% of explanations to be Only Restatements while GPT-4 identifies a close 11.1%.

Feature identification

We identify 31 text features in explanations, which are domain-general and were largely taken from the vast existing research on text analysis and natural language data. We extract 25 features in five categories: language markers, disfluencies, certainty markers, reasoning content and addresses to the Receiver. Some features potentially overlap, e.g., we simultaneously extract high confidence markers, low confidence markers and any confidence markers.

We instruct GPT-4 to identify all instances of each feature and return them as a JSON dictionary of lists. The annotation can then easily be audited, and appears sensible upon inspection. Instances are then counted, and counts are then standardized (intensive margin) or turned into dummies equal to 1 if any instance has been detected (extensive margin).

We generate 6 simple textual & speech features via direct computation. To investigate which features explain richness in Figure B7, we additionally generate 19 more advanced features, notably based on the distribution of words, part-of-speech tagging, named entity recognition and syntactic structure identification. Table H15 provides an overview of all features.

Richness rating

To assess the richness of explanations, we provide GPT-4 with the following, pre-registered definition of richness: *A rich explanation is detailed, comprehensive, logically structured, nuanced, and tailors the argument to fit the context. A sparse explanation is basic, narrow, unclear or disorganized, presents only surface-level understanding, lacks depth or specific details and fails to clearly relate to the context.* We instruct GPT-4 to rate each speech's richness individually on a numerical

scale from 0 to 10 (both inclusive).

Argument identification

Section 5.1.1 describes the argument identification and annotation scheme. It also provides statistics on inter-rater-reliability, from a second blind human annotation and from an annotation via GPT-4, all showing substantial agreement. Table H17 shows all arguments appearing in the final scheme. Each has a title used to denote it in Figures and a detailed description used in the annotation.

Table H16 further shows the four types of argument we have identified. Section 5.2.1 describes how each speech is then associated with a specific argument category based on the strongest type of argument it contains.

Appendix Table H14: Overview of explanation categories

Category	Description	Example
Only Restatement	The explanation is purely a restatement of the answer, without any arguments or elaborations.	"I think it's number one."
Any Uncertainty	The explanation contains any expressions of (un)certainty in the answer or arguments presented.	"Um, this one is more tricky. I think it's, um, I think it would be that they do not outperform passively managed ones. Um, I'm not really sure of an exact explanation because to be honest, I don't have any idea. Um, sorry"
Non-Substantive Explanation	The explanation only contains non-substantive justifications: appeals to authority, appeals to emotion, etc.	"I believe that passively managed funds perform better. And I'm gonna say that as uh uh as I remember Warren Buffett uh during an interview [...]"
Substantive Explanation	The explanation contains any substantive justification, e.g., any form of argument.	"If active funds outperformed, passive funds wouldn't exist."; "A fund is just like a plant, if you take more care of it, it will grow better."
Correct Explanation	The explanation is correct in meaning.	"I believe that actively managed funds do not outperform passively managed ones, the account for fees is too high when constantly monitoring an actively managed account."
Incorrect Explanation	The explanation is incorrect in meaning.	"Actively managed funds, do outperform, passive ones because you're actively making decisions about it and doing what makes you the most money."
Unclear Explanation	The explanation is very unclear or non-sensical.	"Passively managed funds, outperform, actively managed funds. And this is why hedge funds have a very short life spans. So question number two."
Invalid Explanation	The explanation is empty or entirely incomprehensible due to transcription errors.	'Yes, I conquer, actively managed form. I perform passively managed forms. Every time, every time I really conquer, I good choice."

Appendix Table H15: Explanation features annotated via GPT-4 or computed directly

Feature	Description
Language Markers	
Modal verbs	Verbs indicating possibility, probability, or necessity. Example: “might”, “could”, “would”.
Certainty adverbs	Adverbs indicating certainty or doubt. Example: “possibly”, “probably”, “likely”.
Hedging language	Phrases indicating hedged claims. Example: “it seems”, “appears to be”, “to the best of our knowledge”.
Relative language	Words indicating qualifiers or comparisons. Example: “almost”, “nearly”, “more or less”.
Absolute language	Words indicating absolutes or superlatives. Example: “Always”, “Best”.
Epistemic stance markers	Phrases indicating subjective judgment. Example: “I believe”, “we assume”, “in my opinion”.
Conditional statements	Sentences indicating “If-Then” constructs. Example: “If we don’t act now, then”, “Assuming X, then Y”.
Interrogation markers	Words indicating questions or uncertainty. Example: “who”, “what”, “where”, “when”.
Numerical expressions	Phrases indicating quantitative or probabilistic information. Example: “more than 100 banks”, “95% chance that”.
Disfluencies	
Filled pauses	Instances of filled pauses. Example: “um”, “ah”, “er”.
False starts	Sentences starting but not completed. Example: “If you look at - I believe that”.
Repetitions	Instances of word or phrase repetition. Example: “I I mean”, “this is, this is wrong”.
Repairs	Instances where the speaker corrects themselves. Example: “I have two- three dogs”.
Certainty Markers	
Certainty markers	Statements indicating overall confidence. Example: “Without a doubt”, “I am certain that”.
High certainty markers	Statements indicating high confidence. Example: “I am certain that”, “I am sure that”.
Low certainty markers	Statements indicating low confidence. Example: “It might”, “I’m not sure but”.
Reasoning Content	
Indications of origin	Statements indicating information origin. Example: “According to”, “My grandmother has always said that”.
Personal experience args.	Arguments based on personal experience. Example: “I have often found that”.
External authority args.	Arguments based on external authority. Example: “My girlfriend works at a bank and said”.
Empirical args.	Arguments based on empirical facts. Example: “I remember reading a newspaper article saying”.
Analogical args.	Arguments based on analogies. Example: “Investments funds are like babies”.
Logical reasoning args.	Arguments based on logical reasoning. Example: “Since active managers put in more research”.
Normative args.	Arguments based on ethical considerations. Example: “It would not be fair if”.
Addresses to Receiver	
Directive addresses	Directives to the listener. Example: “You should definitely say that”.
Apologetic or humble addresses	Apologetic or humble addresses. Example: “I apologize for not knowing more”.
Simple Computed Features	
Word count	Total number of words.
Word length	Average length of words.
Words per minute	Average number of words per minute.
Sentence count	Total number of sentences.
Sentence length	Average length of sentences.
Language complexity	Flesch-Kincaid readability grade.
Lexical Metrics	
Lexical Diversity	Ratio of unique words to total number of words.
Entropy of Words	Entropy of distribution of words.
Hapax Legomena Ratio	Percentage of words that appear only once.
Share of long words	Percentage of words that have more than 10 letters.
Additional Readability Metrics	
Gunning Fog Index	Years of education required to understand the text, based on sentence length and percentage of complex words.
SMOG Index	Years of education required to understand the text, based on polysyllabic word counts.
Automated Readability Index	Years of education required to understand the text, based on characters per word and words per sentence.
Cohesion Metrics	
Referential Cohesion	Mean word overlap between sentence and following sentence.
Syntactic Complexity Metrics	
Part-of-Speech Tag Entropy	Entropy of parts of speech (e.g., nouns, verbs, adjectives) in the text.
Mean Length of T-units	Average length of T-units, i.e., a main clause plus any subordinate clauses.
Subordination Index	Ratio of subordinate clauses to main clauses.
Clause Density	Average number of clauses per sentence.
Named Entity Recognition	
Entity Count / Words	Ratio of number of named entities (e.g., people, organizations, locations) to total number of words.
Entity Type Count / Words	Number of different types of named entities (e.g., person, organization, location) to total number of words.
Sentence Structure and Syntax Metrics	
Number of Clauses	Total number of clauses.
Syntactic Tree Depth	Maximum depth of the syntactic dependency tree.
Syntactic Tree Branching	Average number of branches per node in the syntactic tree.
Noun Phrase Density	Ratio of number of noun phrases to total number of words.
Verb Phrase Density	Ratio of number of verb phrases to total number of words.

Appendix Table H16: Overview of argument types

Type	Description	Example
Sound Argument	An argument that has correct premises and where the conclusion follows from the premises. The premises might not quite be sufficient for the conclusion.	"I believe that actively managed funds do not outperform passively managed ones, the account for fees is too high when constantly monitoring an actively managed account." (Active funds charge fees)
Fallacious Argument	An argument that is relevant to the question or its answer, but where one or more of the premises are false, or the conclusion is not valid given the premises.	"Actively managed funds will outperform passively managed ones because actively managed funds make more strategic decisions. While passively managed ones are kind of just going with the flow of the market. But actively managed funds can predict what the market is gonna do and make a decision based on that. So the answer is actively managed funds outperform, passively managed ones." (Active funds managed by experts)
Irrelevant Argument	An argument whose premises are unrelated to the question or its answer.	"Actively managed funds, outperform, passively managed ones because they are being actively managed. Whereas passively managed ones are being managed passively and actively sounds better than passively."
No Argument	No argument given at all.	"Um, actively managed funds outperform passively managed ones most times probably."

Appendix Table H17: Arguments Table

Argument	Description	Category
Task: Actively managed funds		
Active funds monitor & react to market	Actively managed funds can monitor and quickly adapt to market changes.	Fallacious
Impossible to predict stock market	Human inability to predict market movements, performance pressure, errors or overconfidence limit the effectiveness of active management.	Sound
Active funds managed by experts	Expertise in active management can lead to better investment decisions.	Fallacious
Active managers paid for performance	Active managers get paid because clients expect them to bring higher results than passive funds.	Fallacious
Active funds overperformed historically	References to historical data showing active management's performance.	Fallacious
Passive funds overperformed historically	References to historical data showing passive management's performance.	Fallacious
Passive funds more stable, less risky	Passively managed funds maintain stability by not frequently changing investments, while actively managed funds are risky investments.	Sound
Passive funds more diversified	Passive management benefits from diversification across a broad market index.	Sound
Active funds charge fees	Investment fees of actively managed funds are higher than for passive management. They reduce net returns and negate potential gains.	Sound
Passive funds target long term	Passively managed funds tack market trends over the longer term, so that they are better at delivering long-term growth.	Fallacious
Passive funds track markets efficiently	Passively managed funds can achieve long-term growth by following market trends. Passive management is efficient in tracking market performance with minimal intervention.	Sound
Other substantive argument	Any other substantive argument not part of the other categories.	Other
Irrelevant argument	Argument unrelated to the question; or no answer is implied by the argument.	Irrelevant
Task: Bid ask spread		
Spread between bid & ask	Stocks have a bid and an ask price, and one can only buy the stock at the ask price which is always higher than the midpoint.	Sound
Buying stocks incurs fees	Buying stock through an online broker incurs additional fees, leading to a cost higher than the stock's listed price.	Sound
Quoted price is exact price	The cost of purchasing a stock is exactly the listed trading price if no fees are applied.	Fallacious
Taxes increase cost of stock	The cost of purchasing the stock is higher because of taxes.	Fallacious
Price has not changed since	Since the price hasn't changed since it was quoted, the stock can be bought at this exact price.	Fallacious
Other substantive argument	Any other substantive argument not part of the other categories.	Other
Irrelevant argument	Argument unrelated to the question; or no answer is implied by the argument.	Irrelevant

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Argument	Description	Category
Task: Crypto mining		
Resource intensity challenging for small miners	Bitcoin mining requires significant energy and resources, making it difficult for small miners. Large miners have an economic advantage in Bitcoin mining due to their scale and resources. Mining may not be profitable for small miners.	Sound
Mining by individuals still possible	Despite challenges, mining Bitcoin by individuals on a small scale is still possible, so that small miners dominate.	Fallacious
Decentralization different from equal distribution	Decentralization means that everyone can mine, but not that everyone mines equally, so that in practice larrge miners dominate.	Sound
Decentralization leads to small miners	Decentralization means there is no central planner, so that it leads to a diversity of miners, in which small miners dominate.	Fallacious
Shift from small to larger miners over time	There has been a historical shift from small miners to large mining operations over time.	Sound
Other substantive argument	Any other substantive argument not part of the other categories.	Other
Irrelevant argument	Argument unrelated to the question; or no answer is implied by the argument.	Irrelevant
Task: Disposition effect		
Sell depreciated stock for tax loss harvesting	Selling a stock that has lost value can be beneficial for tax purposes, allowing for tax loss harvesting.	Sound
Realizing loss means missing future gains	A stock that has lost value may have the potential to increase in value in the future, making it unwise to sell. Avoid selling stocks at a loss to prevent realizing the loss and potentially missing out on future gains.	Fallacious
Realizing gains of appreciated stock beneficial	Selling a stock that has gained value realizes the profit, ensuring a positive return on investment.	Fallacious
Stock will keep upward/downward momentum	One should keep the stock that has gone up and sell the stock that has gone down, because these trends can be expected to continue in the future.	Fallacious
Current gains or losses not predictive	Stock values fluctuate, so current losses or gains do not reflect future performance.	Sound
Higher value stock also more liquid	The stock with the highest value will also be more liquid, one should therefore sell that one.	Fallacious
Other substantive argument	Any other substantive argument not part of the other categories.	Other
Irrelevant argument	Argument unrelated to the question; or no answer is implied by the argument.	Irrelevant
Task: Diversification		
Individual loss offset by other assets	Investing in multiple assets prevents total loss if one specific investment fails, akin to not putting all eggs in one basket.	Sound
Different assets respond differently to market	Different assets respond differently to market changes, so spreading investments can mitigate losses due to geopolitical or macroeconomic events.	Fallacious
Different assets respond similarly to market	Different assets usually respond similarly to market changes, so that it does not change much to invest in multiple assets instead of a single one.	Fallacious

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Argument	Description	Category
Each asset is a chance to lose	Each asset is a chance to lose, so investing in multiple assets increases the chances of losing money.	Fallacious
Other substantive argument	Any other substantive argument not part of the other categories.	Other
Irrelevant argument	Argument unrelated to the question; or no answer is implied by the argument.	Irrelevant
Task: Exponential growth bias		
Interest payments compound	The total amount in the savings account increases due to compound interest, where interest is earned on both the initial principal and the accumulated interest from previous periods.	Sound
Compute years times interest	A simple calculation of 2% interest per year on the initial $100, leading to a total of $110 after five years without considering compound interest.	Fallacious
Other substantive argument	Any other substantive argument not part of the other categories.	Other
Irrelevant argument	Argument unrelated to the question; or no answer is implied by the argument.	Irrelevant
Task: Good company heuristic		
Higher growth brings higher returns	Investing in the firm with higher growth prospects will yield higher returns due to its potential for growth.	Fallacious
Growth speculative & not guaranteed	Growth prospects are speculative and not a guaranteed indicator of future success, thus more information is needed.	Fallacious
More information needed	More information is needed to make a decision because the provided details are insufficient.	Sound
Other substantive argument	Any other substantive argument not part of the other categories.	Other
Irrelevant argument	Argument unrelated to the question; or no answer is implied by the argument.	Irrelevant
Task: Herding		
Future performance unpredictable	Past performance of cryptocurrencies does not guarantee future results. Timing the market correctly when investing in cryptocurrencies is not possible.	Sound
Own research necessary	It is important to conduct one's own research before investing in cryptocurrencies.	Fallacious
Risk of crypto requires caution	High volatility, risk of scams, lack of backing and other risks associated with cryptocurrencies are a reason for caution.	Fallacious
Friends may lack expertise	Friends providing advice may lack expertise in financial markets or cryptocurrencies.	Sound
Anecdotal evidence unreliable	Anecdotal evidence from friends is not a reliable basis for investment decisions, can be coincidence, luck etc.	Sound
Investments depend on individual circumstances	Investment decisions should be based on individual circumstances and not influenced by others. Cryptocurrencies may not be suitable for all investors.	Sound
Crypto potential for significant gains	Cryptocurrencies have the potential for significant gains from investing.	Fallacious
Other substantive argument	Any other substantive argument not part of the other categories.	Other
Irrelevant argument	Argument unrelated to the question; or no answer is implied by the argument.	Irrelevant

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Argument	Description	Category
Task: Historical stock returns		
Effect of inflation	Arguments that consider the impact of inflation on the average annual return.	Other
Relationship between volatility & returns	Arguments about how economic volatility affects the stock market's performance.	Other
Optimism about stock market	Arguments expressing a general optimism about the stock market's performance and long-term growth.	Other
Effect of general economic conditions	Arguments considering the general economic conditions and their impact on the stock market.	Other
Effect of specific historical events	Arguments considering the impact of specific historical economic events on the stock market, such as COVID-19 pandemic, recessions and subsequent recoveries etc.	Other
Anchoring on return during specific episode	Arguments where some remembrance of a specific or general stock returns is used as an anchor for the average return of the S&P 500.	Other
Known for high performance	The S&P500 is known for its high performance, which is why it has a historical average return above 10%.	Other
Known for being conservative	The S&P500 is known for being a popular, steady and conservative investment, which is why it has a historical return below 10%.	Other
10% would be too high	Arguments based on the idea that a historical return above 10% seems too high. This can also involve the idea that, if that were true, everybody would be investing in the S&P500, which is not true and/or would reduce the return.	Other
Other substantive argument	Any other substantive argument not part of the other categories.	Other
Irrelevant argument	Argument unrelated to the question; or no answer is implied by the argument.	Irrelevant
Task: Home bias		
Company location irrelevant	The location of a company's headquarters does not impact its investment value.	Sound
Support local economy	Investing in a company headquartered in one's home state supports the local economy and community. This can also happen via taxes being paid in one's home state.	Fallacious
Local monitoring & access is easier	Investing in a company in one's home state allows for easier monitoring and access to the company.	Fallacious
Favorable tax implications	The choice between investing in a home state or out-of-state company may be influenced by different tax implications.	Fallacious
Preference for local company	A preference or bias towards investing in companies headquartered in one's home state.	Fallacious
Investments are identical other than location	Both investment options are considered equally good due to the companies being identical except for location.	Sound
Other substantive argument	Any other substantive argument not part of the other categories.	Other
Irrelevant argument	Argument unrelated to the question; or no answer is implied by the argument.	Irrelevant
Task: Interest rates and bond prices		

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Argument	Description	Category
Inverse relationship between rate & price	Since there is an inverse relationship between interest rates and bond prices, bond prices will increase when the interest rate falls.	Sound
Increasing relationship between rate & price	Since there is a relationship in the same direction between interest rates and bond prices, bond prices will fall when the interest rate falls.	Fallacious
Fall in rates lowers demand	A fall in the interest rate leads to less demand and therefore a higher price of bonds.	Fallacious
Bond rates & prices unrelated	Bond prices remain stable and are not influenced by fluctuations in interest rates.	Fallacious
Lower rates mean lower coupons	Since the interest rate determines the interest payment that bondholders get from holding the bond, the bond's value will go down if the interest rate goes down.	Fallacious
Other substantive argument	Any other substantive argument not part of the other categories.	Other
Irrelevant argument	Argument unrelated to the question; or no answer is implied by the argument.	Irrelevant
Task: Interest rates and stock prices		
Inverse relationship between rate & price	Since there is an inverse relationship between interest rates and stock prices, stock prices will increase when the interest rate falls.	Sound
Increasing relationship between rate & price	Since there is a relationship in the same direction between interest rates and stock prices, stock prices will fall when the interest rate falls.	Fallacious
Fall in rates lowers demand	A fall in the interest rate leads to less demand and therefore a lower price of stocks.	Fallacious
Higher company borrowing cost reduces stock price	Higher interest rates increase borrowing costs for companies, reducing their profitability and negatively affecting stock prices.	Sound
Bonds & savings accounts become more attractive	Higher interest rates make bonds and savings accounts more attractive compared to stocks, leading investors to shift their investments.	Fallacious
Reduced consumer spending reduces profits	Higher interest rates reduce consumer spending (e.g. due to borrowing constraints), negatively affecting company profits and stock prices.	Sound
Raised cost of investments for investors	Interest rate increases raise the cost of investments, making it more expensive for investors and negatively affecting stock prices.	Fallacious
Rate hikes induce anxiety, reducing prices	Interest rate hikes make market participants uncertain and anxious, which reduces stock prices.	Fallacious
Other substantive argument	Any other substantive argument not part of the other categories.	Other
Irrelevant argument	Argument unrelated to the question; or no answer is implied by the argument.	Irrelevant
Task: Nominal illusion		
Comparison between inflation & interest rate	Since the inflation rate is higher than the interest rate, one would be able to buy less tomorrow than today. This argument is distinct from PurchasingPowerDecrease because it displays no understanding of the mechanisms behind inflation and interest, and is based solely on a comparison of numbers.	Sound

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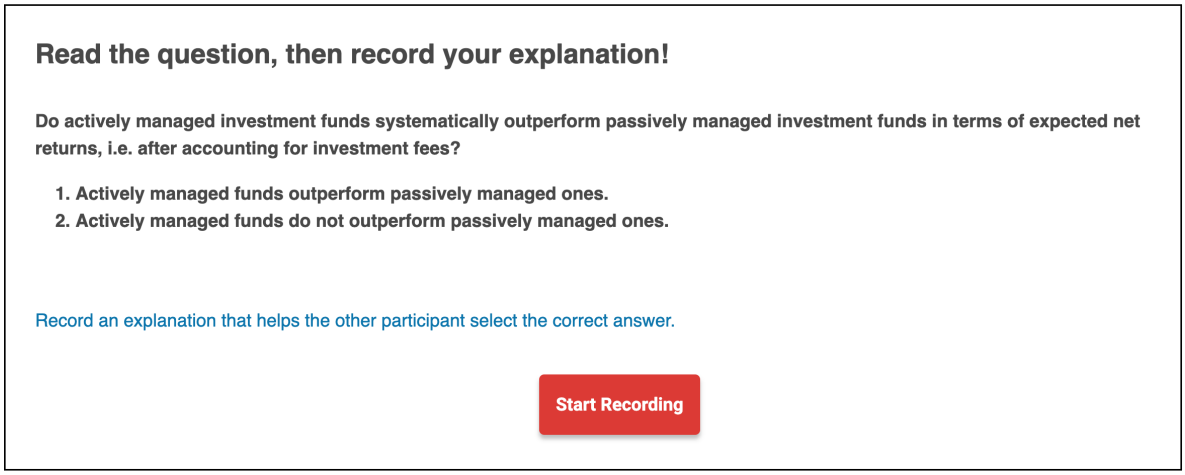
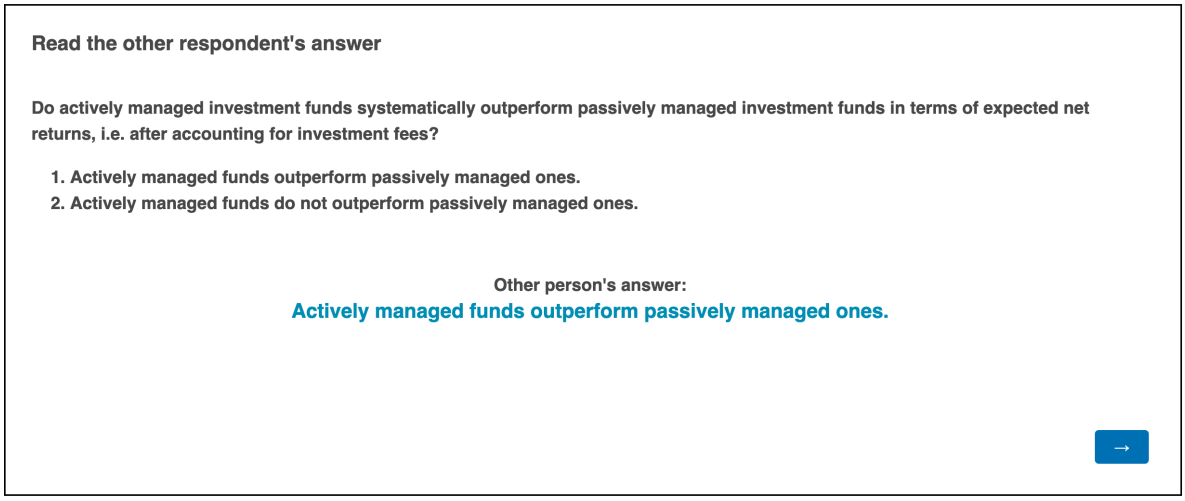
Argument	Description	Category
Purchasing power decreases	Even though the amount of money in a savings account has increased thanks to the interest rate, the price at which one needs to buy goods and services will have increased more because of the comparatively higher inflation, so that the net effect on real purchasing power is higher. This argument is distinct from NumericalComparison because it displays an understanding of the mechanisms behind inflation and interest, not just a comparison of numbers.	Sound
Nominal spending higher thanks to interest	Because the amount of money in the savings account has increased thanks to the interest rate, one would be able to spend more than today.	Fallacious
Interest & inflation cancel each other out	Because the interest rate and inflation rate both cancel out, one would be able to buy exactly as much tomorrow as today.	Fallacious
Other substantive argument	Any other substantive argument not part of the other categories.	Other
Irrelevant argument	Argument unrelated to the question; or no answer is implied by the argument.	Irrelevant
Task: Stock picking		
Everybody would do it	If it was possible to outperform the stock market by reading free online news, everybody would be doing it.	Sound
Markets are efficient	All publicly available information is already factored into stock prices, so that markets will already have adjusted to stale news.	Sound
News articles contain misinfo or bias	News articles can contain misinformation or bias, leading to poor investment decisions.	Sound
Market inherently unpredictable	The stock market is inherently volatile and unpredictable, making systematic outperformance difficult.	Sound
News insufficient, need expertise or intelligence	News are not enough for everyday people to outperform the stock market, since, for example, they also need to be specially smart, to have financial expertise and/or to have access to other sources of information.	Fallacious
Any kind of effort or information pays	Any kind of effort, research or information will help to outperform the stock market.	Fallacious
Other substantive argument	Any other substantive argument not part of the other categories.	Other
Irrelevant argument	Argument unrelated to the question; or no answer is implied by the argument.	Irrelevant
Task: Value of call option		
Increases value because more upside potential	Higher volatility in a stock increases the potential for larger price movements, which can be advantageous for call option holders seeking to profit from upward stock movements.	Sound
Decreases value because more risk	Higher volatility is seen as increasing risk, making the call option less attractive and decreasing its value due to the unpredictability of stock price movements.	Fallacious
Option value determined by other factors	The volatility of a stock has no direct effect on the value of a call option because the call option's value is determined by other factors, not just the stock's volatility.	Fallacious
Other substantive argument	Argument unrelated to the question; or no answer is implied by the argument.	Other
Irrelevant argument	Any other substantive argument not part of the other categories.	Irrelevant

Survey screens

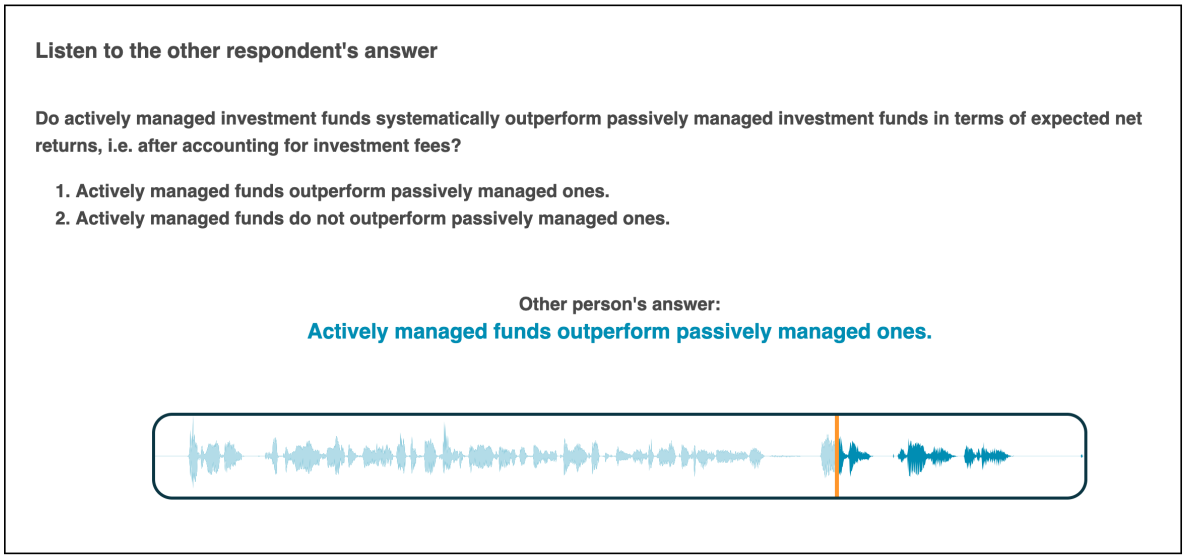


Appendix Figure H30: Recording screen from the Orator experiment.

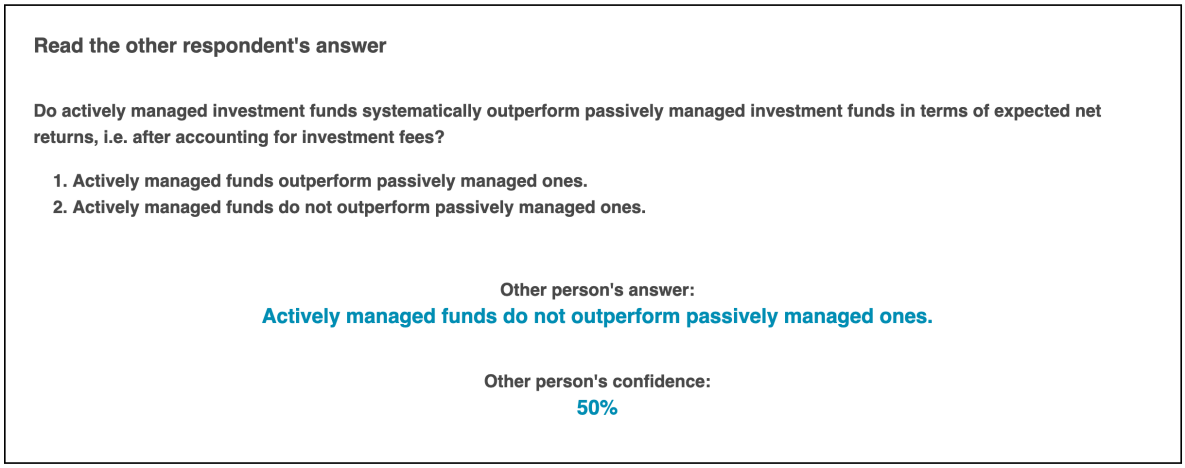
(a) *Choice Only* treatment



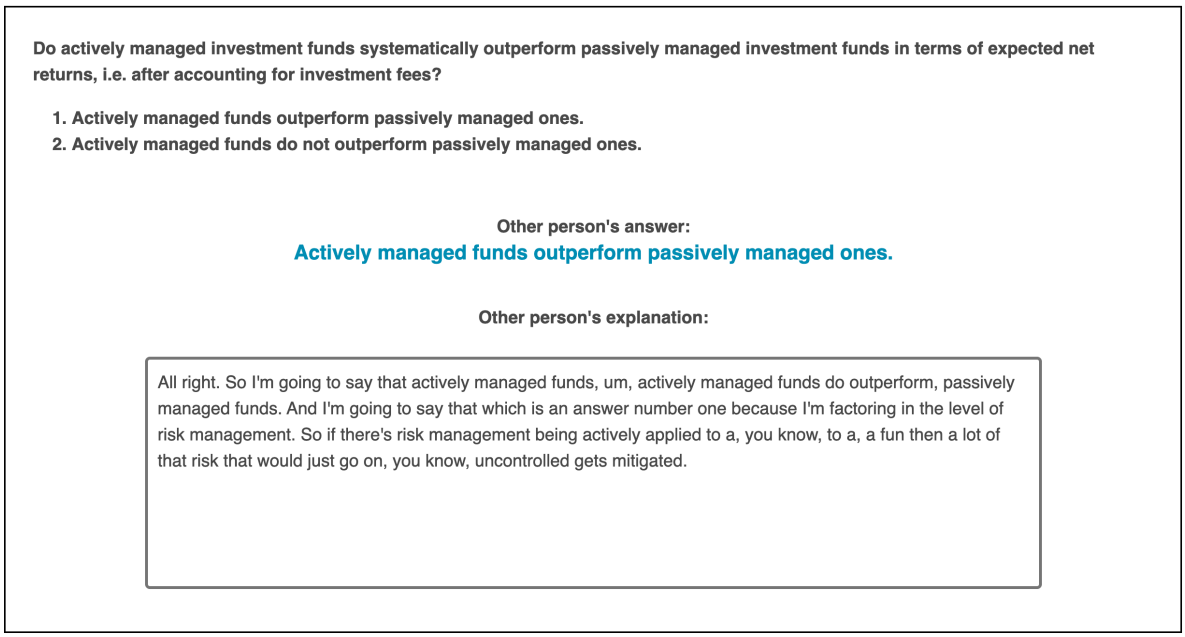
(b) *Explanation* treatment



Appendix Figure H31: Observation screens from the Receiver experiment.



Appendix Figure H32: *Choice & Confidence* treatment screen from the Receiver experiment in Section 4.2.



Appendix Figure H33: *Transcript* treatment screen from the Receiver experiment in Section 4.3.

Orator experiment

Survey Overview

In this survey, we will ask you to record voice messages to answer different questions. The study is designed for computer (PC or Mac) users only (desktop, laptop, etc.).

Please make sure you are in a quiet environment. You will only receive your completion payment if your voice is clearly recorded.

You are eligible for a bonus of $10 for one of your recordings! The details of how you might receive a bonus will be explained on the following pages.

For each question, your recording will actually be played to another respondent. The other respondent will have to answer the same question as you after listening to your recording.

Privacy & Anonymity

All voice messages are treated strictly anonymously. They will never be linked to your person and will never be published anywhere. This data will be used solely for academic research. You can therefore talk freely and informally in each voice message. The other respondent who will listen to your voice recording will not be given any more information about you: your anonymity will be preserved.

Test Your Microphone

Use the recorder below to test your microphone. Click “Record”, say the sentence “The dog runs in the park.”, then click “Stop Recording & Submit”. You may have to give your browser permission to access the microphone after you click “Record”. After a recording, it might take the website a few seconds to upload your recording: please be patient.

Trial Question

This trial question is an attention check. To be eligible to participate in this study, we simply ask you to record a voice message that lasts at least 20 seconds on your thoughts about this topic. There is no correct answer, and it does not matter what you say, as long as you record a message that lasts at least 20 seconds.

On how many days in 2024 will the average temperature recorded across all of the U.S. be below 65°F?

General Instructions

Thanks for recording your first voice message! This study will take approximately 30 minutes to complete. You will earn a reward of $6.00 for completing the survey. To complete the study, you will need to read all instructions carefully and correctly answer the comprehension questions.

Survey Structure

In this study, you will be asked to answer 15 questions on various topics. Questions will have two or three possible options. Exactly one of the options is the correct answer. For each question, you will be asked to record yourself once to give advice on the question and explain your reasoning.

We are interested in how you would give advice in an informal conversation:

- You should share an explanation behind your response.
- Your recording will be played to a few other participants who will have to respond to the same question.
- Other participants can win a bonus for selecting the correct answer.

Importantly:

- You should first read the question, think about your response, and then record your answer.
- The recording begins once you click “Start Recording”.
- After you click to submit a recording, it can take a little while to upload. We kindly ask you to be patient.

We ask you not to search the answers on the internet:

- We are interested in the explanations behind your answer.
- To confirm that you do not search for answers, the survey will monitor whether the survey window remains active.
- If you leave the browser tab of this survey, you will not be eligible for the $6.00 reward.
- You should remain focused on the survey window and answer questions as best you can using your previous knowledge.

Bonus Payment

At the end of the survey, one out of every ten participants is randomly selected to be eligible for an additional bonus of up to $10. If you are selected for the bonus payment:

- One of the 15 questions you have answered will be randomly chosen.
- You will receive the bonus of $10 if the participant selected the correct answer.
- After you click to submit a recording, it can take a little while to upload. We kindly ask you to be patient.

One of the participants who listened to your answer will be randomly chosen. You should therefore give your explanation in a way that makes the other respondent most likely to select the correct answer!

Much like you, participants listening to your recordings will have a chance to win a bonus of $10 if they select the right question in a randomly selected round. Moreover, participants listening to your recordings will be informed that you will receive a bonus if they select the correct answer.

This study will take approximately 30 minutes to complete. You will earn a reward of $6.00 for completing the survey. To complete the study, you will need to read all instructions carefully and correctly answer the comprehension questions.

Comprehension Questions

Please answer the comprehension questions below. Note that if you fail them twice in a row, you will not be eligible for the completion payment.

In this study, you will record a number of voice messages on different questions. Which one of the following statements is true?

- I should answer as if I'm talking to myself because the recording will never be played to another person.
- I should give a well-rehearsed response as if I'm giving a speech to a large audience of people that I don't know.
- I should share an explanation behind my response as if I were to give advice in an informal conversation. My response will be shared with other participants who later have to respond to the same question.

Which one of the following statements is true?

- On questions where I will be recorded, each recording only starts once I click "Start Recording" on a page.
- On questions where I will be recorded, each recording starts as soon as I enter a page.

Which one of the following statements is true?

- I can leave the tab of the experiment to search for answers online without consequences on my payment.
- If I leave the tab of the experiment, I will not be paid.

Remember!

Your chances of receiving the bonus payment are highest if the other participant chooses the correct answer.

Main Part: Example Task (Inflation)

On the next page, a question will be displayed. You should first read the question, think about your response, and then record your answer. The recording begins once you click "Start Recording". After recording your advice, you will select your own answer to the question.

Read the question, then record your explanation!

Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, would you be able to buy:

1. More than today
2. Exactly the same as today
3. Less than today

Record an explanation that helps the other participant select the correct answer.

[Recording box, activated manually]

Provide your best answer

Please answer what you think is the correct answer to the question.

[Question with multiple choice response]

How certain are you that your above answer is correct?

[Slider from 0% (Not at all certain) to 100% (Fully certain)]

Additional Questions

Your answer to the following question will not affect your reward or bonus payment for this study, so please answer honestly. Did you search the answer to any of the 15 questions before providing your advice or your own answer?

- Yes
- No

[Followed, on a separate page, by elicitation of sex, age, ethnicity, education, employment and political affiliation.]

Receiver experiment

Survey Overview

In this survey, you will be asked questions on various topics. Besides giving your answer to a question, you will sometimes listen to a voice message of someone else's thoughts on the question. The study is designed for computer (PC or Mac) users only (desktop, laptop, etc.) and only works on Firefox and Chrome.

Voice Messages from Previous Participants

For some of the questions, you will first listen to a voice message from another participant. In a previous survey, we asked respondents to record their thoughts on the same questions that you will be asked.

Test Your Speaker

Use the play button below to test your speaker. Click "Play" to play back a voice message and select the sentence that you heard in the text box below.

[Player of a recording of someone saying "The dog runs in the park."]

Attention Check

Please select the sentence that you listened to in the voice message above:

- The koala climbs up the tree.
- The dog runs in the park.
- The lion looks at the gazelle.
- The cat waits for the mouse to come back.
- The fox sneaks through the garden.
- The turtle swims in the sea.

General Instructions

This study will take approximately 30 minutes to complete. You will earn a reward of $6.00 for completing the survey. To complete the study, you will need to read all instructions carefully and correctly answer the comprehension questions.

Survey Structure

In this study, you will be asked to answer 15 questions on various topics. Questions will have two or three possible options. Exactly one of the options is the correct answer. In each round, there are four steps:

1. You provide your best answer to the question.
2. You get information about a previous respondent's answer:
    - For some questions, you will listen to a voice message of another person once.
    - For other questions, you will see the answer of another participant to the question.
3. You have a second chance to provide your best answer to the question. Your answer may or may not be different from your response in (1), given what you learned about the other participant's answer in (2).

When you enter a page with a recording, the recording will play automatically. You will only be able to listen to it once.

Bonus Payment

At the end of the survey, one out of every ten participants is randomly selected to be eligible for an additional bonus of up to $10. If you are selected for the bonus payment:

- One of the 15 rounds you have answered will be randomly chosen.
- Either your answer from step (1) or your answer from step (3) will be randomly chosen.
- You will receive the bonus of $10 if you selected the correct answer.

Participants who made the recordings were informed they had a chance to win a bonus of $10 if you selected the correct answer. They were also informed that you had a chance to win a bonus of $10 if you selected the correct answer.

Comprehension Questions

Please answer the comprehension questions below. Note that if you fail them twice in a row, you will not be eligible for the completion payment.

In this study, you will listen to a number of voice messages on different questions. Which one of the following statements is true?

- Before each of the 15 questions I'll be asked, I will listen to a voice message from another respondent.
- Before each of the 15 questions I'll be asked, I will see what another respondent answered.
- On some of the 15 questions I'll be asked, I might listen to a voice message from another respondent. On other questions, I will see what the respondent answered.

Which one of the following statements is true?

- On questions with a voice recording, each recording only starts playing once I click "Play" on a page.
- On questions with a voice recording, each recording starts playing automatically when I enter a page, so I should read the question and pay attention to the recording.

Which one of the following statements is true?

- The answers I chose have no effect on my expected bonus.
- I maximize my expected bonus by selecting my best answer to each question.

Main Part: Example Question (Inflation)

[Prior Choice:] Provide Your Best Answer

Please answer what you think is the correct answer to the question.

Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, would you be able to buy:

1. More than today
2. Exactly the same as today
3. Less than today

How certain are you that your above answer is correct?

[Slider from 0% (Not at all certain) to 100% (Extremely certain)]

[Explanation Treatment:]

Now, you will listen to a recording of a voice message from a previous respondent who shares the explanation behind their answer to the exact same question that you just answered. The voice message will automatically start playing.

Please listen closely to the recording.

You will be able to proceed to the next page once the recording has finished playing.

[PAGEBREAK]

Listen to the other respondent's answer

[Box with question text]

Other person's answer:

[Answer of other respondent]

[Recording of other respondent, on auto-play]

[Choice Only Treatment:]

Now, you will observe the answer from a previous respondent.

Please pay close attention to the other person's answer.

[PAGEBREAK]

Read the other respondent's answer

[Box with question text]

Other person's answer:

[Answer of other respondent]

[Posterior Choice:] Provide Your Best Answer

Your answers on this page may or may not be different from your previous response, given what you learned about the other participant's answer.

Please answer what you think is the correct answer to the question.

Your answer may or may not be different from your previous response, given what you learned about the other participant's answer.

[Question with multiple choice answer]

Your answer is correct if you selected the right answer.

How certain are you that your above answer is correct?

[Slider from 0% (Not at all certain) to 100% (Fully certain)]

Additional Questions

Did you look up any answers on the internet? Your response to this question will not affect your payment. Please answer truthfully.

- Yes
- No

Additional Information

The explanations you just listened to likely differed systematically in how rich or sparse they were. Rich explanations include substantial details on the reasoning and tend to be elaborate, while sparse explanations provide limited details.

Which statement do you most agree with? Over the course of this experiment, I learned about whether a given answer is correct...

- ...more from sparse explanations than from rich explanations.
- ...more from rich explanations than from sparse explanations.
- ...equally much from rich and sparse explanations.

Why do you think this is the case?

[Open text box]

[Followed, on a separate page, by elicitation of sex, age, ethnicity, education, employment and political affiliation.]