Instructions

Mental Models of the Stock Market

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May 30, 2023

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1.1 Full survey in condition *Nike good news*

Welcome

Thank you very much for participating in this study! This study is conducted by researchers from the briq institute, the University of Bonn, and the University of Copenhagen. Participation in the study is **anonymous**.

It is very important for the quality of our research that you **answer carefully** and **read the questions very carefully** before answering.

Participant information and informed consent form

Below, you find the informed consent form of this study. We ask you to confirm that you want to take part in this study.

Who is responsible for the study?
Responsible for the execution of the study and therefore for the processing of your data:
Peter Andre
briq - Behavior and Inequality Research Institute GmbH
Schaumburg-Lippe-Str. 5-9
53113 Bonn
Germany

What are the purposes of the study?
The purpose of this study is to improve our understanding of human behavior in economic contexts. We are interested in natural, unbiased behavior. Hence, no details on the background of this research project is given beforehand, which is in accordance with the standard in experimental economics. All necessary information will be provided in due time.

What happens to my data?
All participating employees and scientists work in accordance with the provisions of the Data Protection Regulation, the Federal Data Protection Act and the relevant State Data Protection Acts.
For this project, we cooperate with research institutions, universities, institutes or laboratories which are based in and outside the EU. In general, these partners only receive anonymized data. In all other cases, we contractually oblige our partners to process the data as securely as is required in the EU. Those contracts are accepted by the EU for this purpose.

Immediately after the collection, your data will be stored anonymized and then statistically analysed. No conclusions about your person can be drawn from these results. We work together with other partners, universities and laboratories for this study. These also only receive anonymized data, which do not allow any identification of your person. Even the laboratory or survey institute is no longer in a position to merge the survey data with your name after the execution of survey.

Your data will be stored on a server within the EU, which is not operated by briq. We have taken all necessary precautions with the operator of the server and concluded all contracts which are necessary in order to comply with data protection.

For this study, we collect "special categories of personal data", in particularly data revealing migration background (racial or ethnic origin - term according to Art. 9 GDPR), political opinions, religious or philosophical beliefs or trade union membership, genetic data, health data or data concerning a person's sex life or sexual orientation, which we use only for research purposes and solely with your consent.

Which rights do I have?
You have the right to obtain information about the personal data stored about you (Art. 15 GDPR). Should incorrect data be processed, you have the right to rectification (Art. 16 GDPR). When the legal requirements are met, you have the right to request the deletion or restriction of the processing and submit an objection against the processing of your data (Art. 17, 18 and 21 GDPR).

You can also contact our external data protection officer: Mr. Johannes Baeck, 2B Advice GmbH, Joseph-Schumpeter-Allee 25, 53227 Bonn, Germany, e-mail: briq@2b-advice.com.

You have the right to complain to the competent data protection authorities.

The consent given here can be withdrawn at any time with effect for the future. However, if your data has already been anonymized, it can no longer be associated with you. Therefore we are unable to "remove" your data from the result.

Declaration of Consent
I hereby consent to the processing of my personal data for the research project PA2210AR for the questions on human behavior in economic contexts. **I can withdraw my consent at any time.** I have taken note of all information concerning the usage of my data and on my rights in the privacy policy.

I confirm

I do not confirm

The next question is about the following problem. In questionnaires like ours, sometimes there are participants who do not carefully read the questions and just quickly click through the survey. This compromises the results of research studies. **To show that you are reading the survey carefully, please choose both "Very strongly interested" <u>and</u> "Not at all interested" as your answer to the next question.**

Given the above, how interested are you in politics?

- Very strongly interested
- Very interested
- A little bit interested
- Not very interested
- Not at all interested

How do you describe yourself?

- Male
- Female
- Non-binary / third gender
- Prefer to self-describe
- Prefer not to say

What is your age?

In which state do you currently reside?

What was your yearly household income in 2022 in US dollars before taxes and deductions?
Note: The household income is the total amount of money earned by every member of your household.

- Less than 15,000
- Between 15,000 and 25,000
- Between 25,000 and 50,000
- Between 50,000 and 75,000
- Between 75,000 and 100,000
- Between 100,000 and 150,000
- Between 150,000 and 200,000
- More than 200,000

What is the highest level of education you have completed?

- 12th grade or less
- Graduated high school or equivalent
- Some college, no degree
- Associate degree
- Bachelor's degree
- Post-graduate degree

About this survey

In this survey, we will ask you to predict the return of stocks in hypothetical scenarios. We start with a short introduction. Please read the introduction carefully.

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Stock returns

Stocks
The stock market is an exchange on which stocks are bought and sold. Stocks are shares of publicly held companies. If you hold them, you own a part (often tiny) of a company.

How can you earn money by holding stocks?
The **return** of an investment in a stock is the percent **change in value** that you receive from investing in that stock. It includes both dividend payments and the change in the stock price.

> Dividends: Regular payouts that companies transfer to their stockholders.
> Change in the stock price: The difference between the future price and the price at which you buy the stock.

In this survey, we do not distinguish between the two different sources of stock returns. When we speak of "return", we refer to the total return, which includes both elements. We provide a few examples below.

Examples
Imagine that you invest $1,000 in a stock. The table below shows the total value of the investment after 12 months for different rates of return.

Return over 12 months	**Total value after 12 months**	**Change in value**
20%	$1,200	$200
13%	$1,130	$130
4%	$1,040	$40
0%	$1,000	$0
-7%	$930	-$70

Expected returns
Future stock returns cannot be predicted with certainty. When we ask you to predict future returns, we are interested in your expected return, namely, the return that you expect for the future.

Two scenarios

On the next page, you will read about two **hypothetical scenarios**.

Both scenarios refer to **Nike**. Nike is a US sportswear company specializing in athletic footwear, apparel, accessories, and sports equipment.

A quiz will test your understanding, and you can only proceed with the study if you pass the quiz. Therefore, please read the scenario descriptions carefully.

Two scenarios

Please think about the following two hypothetical scenarios.

Scenario 1: Nike maintains supplier partnership
Four weeks ago, on April 29, 2023, Nike Inc. announced the continuation of its partnership with major polyester supplier Toray Industries Inc., in a move aimed at retaining its current supply chain. The continuation of the partnership is expected to maintain the company's current cost structure. Industry experts were not surprised by the announcement, as continuity in supplier relationships is a common practice in the industry.

Scenario 2: Nike secures cost-saving partnership
Four weeks ago, on April 29, 2023, Nike Inc. announced a new strategic partnership with leading recycled polyester supplier Unifi Inc., aimed at reducing raw material costs by 20%. The deal is expected to have a significant impact on Nike's bottom line, making its products more price-competitive. Industry experts were pleasantly surprised by the news and dubbed it an “unexpected success” for the company. They projected the move to significantly enhance Nike's market position in the sports apparel industry.

In both scenarios, the announcement was made four weeks ago and received a lot of attention from stock market traders.

Quiz

Please select all correct statements in the following list. Do not select any incorrect statements.

- The scenarios are about a lawsuit against Nike.
- The scenarios are about Nike’s supply chain partnerships.
- In both scenarios, the announcement was made four weeks ago.
- In both scenarios, the announcement was made earlier today.
- In both scenarios, the announcement did not receive a lot of attention among stock market traders.
- In both scenarios, the announcement received a lot of attention among stock market traders.
- In scenario 1, Nike maintains its current supply partnerships. In scenario 2, Nike secures a new supply partnership.
- In scenario 1, Nike secures a new supply partnership. In scenario 2, Nike maintains its current supply partnerships.

Well done!

All responses were correct.

[PAGE BREAK]

Your prediction

Review the two scenarios *(click to open detailed description)*

▸ **Scenario 1: Nike maintains supplier partnership**

▸ **Scenario 2: Nike secures cost-saving partnership**

The announcements were made four weeks ago and received a lot of attention.

Imagine that you invest $1,000 in Nike stocks today, **four weeks after the announcement was made in the two scenarios**. Imagine that you sell these stocks in twelve months from now.

What would you expect? In which scenario would the return of this investment in Nike stocks be higher?

	The expected return would be ...		
	higher in scenario 1	**similar in both scenarios**	**higher in scenario 2**
Return of investment over the next twelve months Invest $1,000 in Nike stocks today, *four weeks after the announcement*. Sell these stocks one year from now.	○	○	○

"Similar in both scenarios" means that the difference in returns is smaller than or equal to 0.5 percentage points.

How confident are you in your above prediction? Please answer on a scale from 1 (Not confident at all) to 6 (Very confident).

Not confident at all **1**	**2**	**3**	**4**	**5**	Very confident **6**

Important

On the next page, you will encounter <u>an open question</u> in which we will ask you to explain the prediction that you made on the previous page.

From our experience, it can take about **2 minutes** to complete this question.

Your responses are very valuable for this research project. Therefore, **please take your time to respond carefully.**

[PAGE BREAK]

Your explanation

Review the two scenarios *(click to open detailed description)*

▸ **Scenario 1: Nike maintains supplier partnership**

▸ **Scenario 2: Nike secures cost-saving partnership**

The announcements were made four weeks ago and received a lot of attention.

For the following investment ...

> You invest $1,000 in Nike stocks today, **four weeks after the announcement was made in the two scenarios**.
> You sell these stocks twelve months from now.

... you responded that you expect that the **return of the investment in Nike stocks would be** .

Please explain why you think that would be the case.

Future years

Review the two scenarios *(click to open detailed description)*

▸ **Scenario 1: Nike maintains supplier partnership**

▸ **Scenario 2: Nike secures cost-saving partnership**

The announcements were made four weeks ago and received a lot of attention.

Now, please think about the more distant future. Imagine that you buy Nike stocks not today but in one year, two years, three years, or four years from now. Below, we ask you to think about the returns of a twelve-month investment for each of these cases.

What would you expect? In which scenario would the return of a future investment in Nike stocks be higher? Please respond for each of the following time periods.

	The expected return would be …		
	higher in scenario 1	similar in both scenarios	higher in scenario 2
Return of investment from May 2024 to May 2025 Invest $1,000 in Nike stocks one year from now. Sell these stocks two years from now.	○	○	○
Return of investment from May 2025 to May 2026 Invest $1,000 in Nike stocks two years from now. Sell these stocks three years from now.	○	○	○
Return of investment from May 2026 to May 2027 Invest $1,000 in Nike stocks three years from now. Sell these stocks four years from now.	○	○	○
Return of investment from May 2027 to May 2028 Invest $1,000 in Nike stocks four years from now. Sell these stocks five years from now.	○	○	○

"Similar in both scenarios" means that the difference in returns is smaller than or equal to 0.5 percentage points.

Uncertainty

Review the two scenarios *(click to open detailed description)*

▸ **Scenario 1: Nike maintains supplier partnership**
▸ **Scenario 2: Nike secures cost-saving partnership**

The announcements were made four weeks ago and received a lot of attention.

Now, please think about the uncertainty of the return of an investment in Nike stocks.

When uncertainty is higher, large deviations from the predicted return are more likely. For example, if uncertainty is high, it is more likely that the return is much higher or much lower than the predicted return. Note that uncertainty is distinct from the predicted return itself. One might predict a *high* return with high or low uncertainty. Conversely, one might predict a *low* return with high or low uncertainty.

In which scenario would market participants expect the uncertainty of the return of an investment in Nike stocks to be higher? Please respond for each of the following time periods.

	Market participants would expect the uncertainty of the return to be ...		
	higher in scenario 1	**similar in both scenarios**	**higher in scenario 2**
Uncertainty of the return over the next twelve months Invest $1,000 in Nike stocks today, *four weeks after the announcement*. Sell these stocks one year from now.	○	○	○
Uncertainty of the return from May 2024 to May 2025 Invest $1,000 in Nike stocks one year from now. Sell these stocks two years from now.	○	○	○
Uncertainty of the return from May 2025 to May 2026 Invest $1,000 in Nike stocks two years from now. Sell these stocks three years from now.	○	○	○
Uncertainty of the return from May 2026 to May 2027 Invest $1,000 in Nike stocks three years from now. Sell these stocks four years from now.	○	○	○
Uncertainty of the return from May 2027 to May 2028 Invest $1,000 in Nike stocks four years from now. Sell these stocks five years from now.	○	○	○

Protection against unfavorable developments

Review the two scenarios *(click to open detailed description)*

▸ **Scenario 1: Nike maintains supplier partnership**

▸ **Scenario 2: Nike secures cost-saving partnership**

The announcements were made four weeks ago and received a lot of attention.

Now, please think about the relationship between the return of an investment in Nike stocks and other general developments.

Some stocks offer protection against general developments that are deemed unfavorable by investors, such as the risk that the economy as a whole performs poorly. Such stocks tend to give a *high* return when these unfavorable developments occur and a *low* return when they do not occur. By contrast, other stocks are exposed to developments that investors deem unfavorable. Those stocks tend to give a *low* return when these unfavorable developments occur and a *high* return when they do not occur.

In which scenario would market participants expect Nike stocks to offer more protection against developments deemed unfavorable by investors? Please respond for each of the following time periods.

	Market participants would expect that the protection against unfavorable developments would be …		
	higher in scenario 1	similar in both scenarios	higher in scenario 2
Protection over the next twelve months Invest $1,000 in Nike stocks today, *four weeks after the announcement*. Sell these stocks one year from now.	○	○	○
Protection from May 2024 to May 2025 Invest $1,000 in Nike stocks one year from now. Sell these stocks two years from now.	○	○	○
Protection from May 2025 to May 2026 Invest $1,000 in Nike stocks two years from now. Sell these stocks three years from now.	○	○	○
Protection from May 2026 to May 2027 Invest $1,000 in Nike stocks three years from now. Sell these stocks four years from now.	○	○	○
Protection from May 2027 to May 2028 Invest $1,000 in Nike stocks four years from now. Sell these stocks five years from now.	○	○	○

Earnings

Review the two scenarios *(click to open detailed description)*

▸ **Scenario 1: Nike maintains supplier partnership**

▸ **Scenario 2: Nike secures cost-saving partnership**

The announcements were made four weeks ago and received a lot of attention.

Now, please think about the earnings of Nike. The earnings a company makes are the difference between its revenue and its overall production costs.

In which scenario would market participants expect that the earnings of Nike are higher? Please respond for each of the following time periods.

	Market participants would expect earnings to be …		
	higher in scenario 1	**similar in both scenarios**	**higher in scenario 2**
Earnings over the next twelve months Start of period: today, *four weeks after the announcement*. End of period: one year from now.	○	○	○
Earnings from May 2024 to May 2025 Start of period: one year from now. End of period: two years from now.	○	○	○
Earnings from May 2025 to May 2026 Start of period: two years from now. End of period: three years from now.	○	○	○
Earnings from May 2026 to May 2027 Start of period: three years from now. End of period: four years from now.	○	○	○
Earnings from May 2027 to May 2028 Start of period: four years from now. End of period: five years from now.	○	○	○

Return predictions for both scenarios

Review the two scenarios *(click to open detailed description)*

▸ **Scenario 1: Nike maintains supplier partnership**

▸ **Scenario 2: Nike secures cost-saving partnership**

The announcements were made four weeks ago and received a lot of attention.

Now, we would like to ask you to predict the returns in both scenarios separately.

Please predict which return you would expect in both scenarios for the following investment period.

> **Return over the next twelve months**
> You invest $1,000 in Nike stocks today, **four weeks after the announcement was made in the two scenarios**.
> You sell these stocks twelve months from now.

In scenario 1, I predict a return of ...

[ ] %

In scenario 2, I predict a return of ...

[ ] %

Which return over the next twelve months do you believe that other stock traders would predict?

In scenario 1, other stock traders would on average predict a return of ...

[ ] %

In scenario 2, other stock traders would on average predict a return of ...

[ ] %

Your considerations

Review the two scenarios *(click to open detailed description)*

▸ **Scenario 1: Nike maintains supplier partnership**
▸ **Scenario 2: Nike secures cost-saving partnership**

The announcements were made four weeks ago and received a lot of attention.

For the following investment ...

> You invest $1,000 in Nike stocks today, **four weeks after the announcement was made in the two scenarios**.
> You sell these stocks twelve months from now.

... you responded that you expect that the **return of the investment in Nike stocks would be** .

Which of the following considerations was most important to you when predicting the future return of the investment in Nike stocks?

The expected future return is higher if market participants expect the stock to offer **less protection against developments deemed unfavorable by investors**, such as the risk that the economy as a whole performs poorly.

The stock market is prone to **under-reaction**. When there is good news about a company's business prospects, the expected future return is higher for some time (and vice versa for bad news), until the news is fully incorporated in the stock price.

The stock market **quickly and efficiently responds to news**. News about a company's business prospects tend to be fully and immediately incorporated in the stock price. Very soon after the news, one can no longer expect a higher or lower future return based on such news.

The expected future return is higher if market participants expect the company to have **higher earnings**.

The stock market is prone to **over-reaction**. When there is good news about a company's business prospects, the expected future return is higher for some time, pushing the stock price to an exaggerated level (and vice versa for bad news), until a correction occurs.

The expected future return is higher if market participants expect the **return to be more uncertain**.

Another consideration

Please answer the following questions.

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
- Do not know

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
- Do not know

Please tell me whether this statement is true or false: "Buying a single company's stock usually provides a safer return than a stock mutual fund."

- True
- False
- Do not know

Has your household ever invested in stocks or stock mutual funds?

Yes	No	Don't know

Please think of all of your household's financial assets. This includes both retirement accounts (401(K)s, IRAs, Keogh accounts, etc.) and financial assets outside of retirement accounts (bank accounts, brokerage accounts, investment accounts etc.). Please do NOT include the value of any real estate property or any private business that your household owns.

What is the current total value of your household's financial assets?

About what percent of your household's financial assets (see previous question) is currently invested in stocks or stock mutual funds?
Type in "0" if your households currently does not own stocks or stock mutual funds.

%

Does your household plan to invest in stocks or stock mutual funds in the future?

Yes	No	Don't know

To what extent to you agree with the following statement?
"I closely follow the development of the stock market."

1 (strongly disagree)	2	3	4	5	6	7 (strongly agree)

When you personally make saving or investment decisions, how would you generally describe your attitude towards risk?

1 (not at all willing to take risks)	2	3	4	5	6	7 (very willing to take risks)

How often do you trade with stocks or stock mutual funds on average?

Daily	Weekly	Once or twice per month	Once or twice per quarter	Once or twice per year	Less than once a year

What is your typical investment horizon for investments in stocks or stock mutual funds?

Shorter than 3 months	3-11 months	1-2 years	3-5 years	6-10 years	Longer than 10 years

Choose one or more races or ethnicities that you consider yourself to be

- White or Caucasion
- Black or African American
- Hispanic or Latino
- American Indian/Native American or Alaska Native
- Asian
- Native Hawaiian or Other Pacific Islander
- Other
- Prefer not to say

Do you think of yourself as closer to the Republican or Democratic party?

- Republican
- Democratic
- Independent

1.2 All scenarios

Nike good news

Introduction: Both scenarios refer to Nike. Nike is a US sportswear company specializing in athletic footwear, apparel, accessories, and sports equipment.

Scenario 1: Nike maintains supplier partnership

Four weeks ago, on [date], Nike Inc. announced the continuation of its partnership with major polyester supplier Toray Industries Inc., in a move aimed at retaining its current supply chain. The continuation of the partnership is expected to maintain the company's current cost structure. Industry experts were not surprised by the announcement, as continuity in supplier relationships is a common practice in the industry.

Scenario 2: Nike secures cost-saving partnership

Four weeks ago, on [date], Nike Inc. announced a new strategic partnership with leading recycled polyester supplier Unifi Inc., aimed at reducing raw material costs by 20%. The deal is expected to have a significant impact on Nike's bottom line, making its products more price-competitive. Industry experts were pleasantly surprised by the news and dubbed it an "unexpected success" for the company. They projected the move to significantly enhance Nike's market position in the sports apparel industry.

Nike bad news

Introduction: Both scenarios refer to Nike. Nike is a US sportswear company specializing in athletic footwear, apparel, accessories, and sports equipment.

Scenario 1: Nike maintains supplier partnership

Four weeks ago, on [date], Nike Inc. announced the continuation of its partnership with major polyester supplier Toray Industries Inc., in a move aimed at retaining its current supply chain. The continuation of the partnership is expected to maintain the company's current cost structure. Industry experts were not surprised by the announcement, as continuity in supplier relationships is a common practice in the industry.

Scenario 2: Nike faces supply chain disruption

Four weeks ago, on [date], Nike Inc. announced that it is discontinuing its long-standing partnership with major polyester supplier Toray Industries Inc., in a move that is expected to increase the company's production costs by 20%. The sudden termination disrupts Nike's supply chain, leading to higher raw material costs. Industry experts were negatively surprised by the news and dubbed it an "unexpected setback" for Nike. They projected the move to significantly weaken the company's market position in the sports apparel industry.

Amazon good news

Introduction: Both scenarios refer to Amazon. Amazon is a US technology company specializing in e-commerce, cloud computing, and online advertising.

Scenario 1: No changes to Amazon's international strategy

Four weeks ago, on [date], Amazon announced that it would move forward with its current expansion plans in the e-commerce sector. As expected, no new country expansions were announced, and none of the existing expansion plans, such as in Africa and South America, were put on hold. The news came as no surprise to e-commerce experts.

Scenario 2: Amazon expands in Africa

Four weeks ago, on [date], Amazon announced that it would further increase its expansion efforts in Africa, launching its e-commerce business in Nigeria, Algeria, and Morocco later this year. A spokesperson for the company said that negotiations with authorities in these countries—which are among the largest economies on the continent—were proceeding at a faster than expected pace. E-commerce experts were surprised by the good news, and called it an "unexpected success" for the company.

Amazon bad news

Introduction: Both scenarios refer to Amazon. Amazon is a US technology company specializing in e-commerce, cloud computing, and online advertising.

Scenario 1: No changes to Amazon's international strategy

Four weeks ago, on [date], Amazon announced that it would move forward with its current expansion plans in the e-commerce sector. As expected, no new country expansions were announced, and none of the existing expansion plans, such as in Africa and South America, were put on hold. The news came as no surprise to e-commerce experts.

Scenario 2: Amazon withdraws from South America

Four weeks ago, on [date], Amazon announced that it would be withdrawing from the South American e-commerce market. A spokesperson of the company said the company would end its operations in Brazil in the summer of 2023 and put any expansion plans to other countries in the region on indefinite hold. This decision has raised concerns about Amazon's expansion potential. E-commerce experts were surprised by the bad news, and called it a "significant setback" for the company.

Novartis bad news

Introduction: Both scenarios refer to Novartis. Novartis is a Swiss-American healthcare company that focuses on the development, production, and sale of pharmaceutical products.

Scenario 1: Novartis keeps exclusive right to sell heart drug

Four weeks ago, on [date], the Food and Drug Administration (FDA) upheld Novartis' right to the exclusive sale of the heart failure drug Entresto until at least 2028, banning any competitors from producing cheaper substitutes of the drug. This decision ensures that Novartis can continue to sell its drug without contest from competitors for at least five more years. The news came as no surprise to experts of the pharmaceutical industry, who predicted the company's profits to remain stable in the next few years.

Scenario 2: Novartis to lose exclusive right to sell heart drug

Four weeks ago, on [date], the Food and Drug Administration (FDA) rejected Novartis' right to the exclusive sale of the heart failure drug Entresto. The US regulator will open the market for competing generic drug makers, which plan to sell equivalent drugs at lower prices, starting in September this year. The decision is a significant setback for Novartis as the Entresto drug generated the second-highest revenue among all products sold by the company in the past year. Experts of the pharmaceutical industry were surprised by the bad news, calling it an "unexpected defeat" for the company.

BioNTech good news

Introduction: Both scenarios refer to BioNTech. BioNTech is a German biotechnology company specializing in developing pharmaceutics for cancer immunotherapy and vaccines.

Scenario 1: BioNTech's cancer drug still years away, market predictions confirmed

Four weeks ago, on [date], BioNTech, a German biotechnology company, announced slow but steady progress in its cancer treatment research. A company spokesperson reported on a recently concluded large-scale trial for its bowel cancer drug. The results were promising but indicated that the program still requires years of development before commercial roll-out. The news came as no surprise to industry experts.

Scenario 2: BioNTech reports unexpected breakthrough in cancer research

Four weeks ago, on [date], BioNTech unexpectedly announced a breakthrough in its cancer treatment research. Results published by the company after the conclusion of a large-scale trial indicate considerably stronger effects of an mRNA-based drug in treating bowel cancer compared to earlier trials, paving the way for a commercial roll-out of the drug later this year. Industry experts were surprised by the good news, and called it an "unexpected success" for the company.

Oil production bad news

Introduction: Both scenarios refer to plans of oil producing countries in the Middle East. Oil remains a significant input in many production processes and provides the basis for most fuels, and therefore plays an important role in any industrialized economy.

Scenario 1: Crude oil production remains unchanged

Four weeks ago, on [date], oil producing countries in the Middle East announced that they plan to keep their crude oil production unchanged. Moreover, the countries announced that no changes to these plans are expected in the foreseeable future. Thus, the globally available amount of crude oil will remain roughly at the current level for the foreseeable future. The news came as no surprise to economic experts.

Scenario 2: Crude oil production sharply reduced

Four weeks ago, on [date], oil producing countries in the Middle East unexpectedly announced that they will sharply cut their crude oil production in Fall 2023. As a result, the globally available amount of crude oil will be substantially lower over the next years, putting pressure on crude oil prices and further exacerbating the existing energy crisis. Economic experts were surprised by the bad news, and called it a "worst-case scenario" for economic growth in the US.

Solar technology good news

Introduction: Both scenarios refer to the progress of solar energy technology, which involves systems and devices that convert sunlight into electricity. Electricity is a crucial resource in modern societies, powering a wide range of industries, households, and infrastructures, and therefore plays a vital role in any industrialized economy.

Scenario 1: Development of solar energy technology proceeding as expected

Four weeks ago, on [date], it was revealed that the development of a new solar panel technology is progressing according to plan, with no significant delays or setbacks reported. The technology holds the potential to enhance the efficiency and affordability of solar power, but it will still require years of development before commercial roll-out. The news came as no surprise to experts.

Scenario 2: Breakthrough in development of solar energy technology

Four weeks ago, on [date], it became known that there was a groundbreaking advancement in renewable energy technology, enabling the production of solar power at a substantially lower cost. The innovation is anticipated to drive a rapid and substantial expansion of solar power generation, leading to significant energy cost reductions for businesses and consumers across the United States already by the end of this year. Experts were positively surprised by the announcement. They projected the news to generate "significant tailwind" for the US economy, boosting overall economic growth.

Government spending good news

Introduction: Both scenarios refer to government decisions regarding the implementation of a stimulus package, which refers to a coordinated effort to increase government spending. Stimulus packages can have broad implications for businesses and consumers, and therefore play a crucial role in the economy.

Scenario 1: No new government spending programs ahead

Four weeks ago, on [date], the government announced that there would be no new stimulus package aimed at boosting economic growth. Instead, the government plans to focus on other key issues during the current legislative period. Experts were not surprised by the announcement, citing previous statements from government officials.

Scenario 2: New government spending program to boost economy announced

Four weeks ago, on [date], the government unexpectedly announced a new large-scale stimulus package aimed at boosting economic growth by increasing spending on infrastructure projects and providing aid to struggling US businesses. Experts were positively surprised by the news, predicting that the stimulus package would provide a "significant boost" to the US economy.

Interest rates bad news

Introduction: Both scenarios refer to decisions made by the Federal Reserve, the central bank of the United States, which is responsible for setting interest rates. Interest rates can influence borrowing costs and investment decisions, and therefore play a crucial role in the economy.

Scenario 1: Interests rates remain unchanged

Four weeks ago, on [date], the Federal Reserve announced that it would keep interest rates unchanged, in line with market expectations. Experts were not surprised by the decision, which was seen as reflecting the current state of the economy. The move is expected to maintain stability in borrowing costs for businesses and consumers.

Scenario 2: Fed increased interest rates unexpectedly

Four weeks ago, on [date], the Federal Reserve unexpectedly announced a major increase in interest rates. The move follows a recent shift in the composition of the Fed committee, with newly appointed members holding more hawkish views. The move is expected to slow down economic growth by making borrowing more expensive for consumers and businesses. Experts were negatively surprised by the announcement and anticipate the hike to generate "significant headwinds" for the US economy.

1.3 Special instructions for aggregate scenarios

Introduction of "US stock market portfolio" after introduction to stock returns.

The return of the US stock market

In this survey, we will ask you to predict the return of an investment in the US stock market. By "investment in the US stock market" we mean the purchase of a portfolio that contains stocks of all companies listed on the US stock exchanges (each weighted by their share in the total market value), which we will also refer to as the "US stock market portfolio".

→

Return prediction

Your prediction

Review the two scenarios *(click to open detailed description)*

▸ **Scenario 1: No new government spending programs ahead**

▸ **Scenario 2: New government spending program to boost economy announced**

The announcements were made four weeks ago and received a lot of attention.

Imagine that you invest $1,000 in the US stock market portfolio today, **four weeks after the announcement was made in the two scenarios**. Imagine that you sell these stocks in twelve months from now.

What would you expect? In which scenario would the return of this investment in the US stock market portfolio be higher?

	The expected return would be …		
	higher in scenario 1	similar in both scenarios	higher in scenario 2
Return of investment over the next twelve months Invest $1,000 in the US stock market portfolio today, *four weeks after the announcement*. Sell these stocks one year from now.	○	○	○

"Similar in both scenarios" means that the difference in returns is smaller than or equal to 0.5 percentage points.

How confident are you in your above prediction? Please answer on a scale from 1 (Not confident at all) to 6 (Very confident).

Not confident at all **1**	**2**	**3**	**4**	**5**	Very confident **6**

Adjusted instructions for protection against low economic growth

Now, please think about the relationship between the return of an investment in the US stock market portfolio and other general developments.

During some times, the US stock market offers protection against general developments that are deemed unfavorable by investors, such as the risk that the economy as a whole performs poorly. During these times, the US stock market tends to give a *high* return when these unfavorable developments occur, and a *low* return when they do not occur. During other times, the US stock market is exposed to developments that investors deem unfavorable. Then, the US stock market tends to give a *low* return when these unfavorable developments occur and a *high* return when they do not occur.

In which scenario would market participants expect the US stock market portfolio to offer more protection against developments deemed unfavorable by investors? Please respond for each of the following time periods.

	Market participants would expect that the protection against unfavorable developments would be ...		
	higher in scenario 1	similar in both scenarios	higher in scenario 2
Protection over the next twelve months Invest \$1,000 in the US stock market portfolio today, *four weeks after the announcement*. Sell these stocks one year from now.	○	○	○

(...)

Risk aversion

Risk aversion

Review the two scenarios *(click to open detailed description)*

▸ **Scenario 1: No new government spending programs ahead**

▸ **Scenario 2: New government spending program to boost economy announced**

The announcements were made four weeks ago and received a lot of attention.

Now, please think about market participants' risk aversion.

If market participants' aversion to risk is low, they will be ready to accept a high risk when making a financial investment. By contrast, if their risk aversion is high, market participants may not be willing to accept that same high risk when making a financial investment.

In which scenario would market participants in the US exhibit a higher risk aversion? Please respond for each of the following time periods.

	Market participants' risk aversion would be ...		
	higher in scenario 1	similar in both scenarios	higher in scenario 2
Risk aversion over the next twelve months Start of period: today, *four weeks after the announcement*. End of period: one year from now.	○	○	○
Risk aversion from May, 2024 to May, 2025 Start of period: one year from now. End of period: two years from now.	○	○	○
Risk aversion from May, 2025 to May, 2026 Start of period: two years from now. End of period: three years from now.	○	○	○
Risk aversion from May, 2026 to May, 2027 Start of period: three years from now. End of period: four years from now.	○	○	○
Risk aversion from May, 2027 to May, 2028 Start of period: four years from now. End of period: five years from now.	○	○	○

Interest rates

Interest rates

Review the two scenarios *(click to open detailed description)*

▸ **Scenario 1: No new government spending programs ahead**

▸ **Scenario 2: New government spending program to boost economy announced**

The announcements were made four weeks ago and received a lot of attention.

Now, please think about interest rates. Interest rates determine how much savers can earn by saving money and how much debtors have to pay for borrowing money.

In which scenario would market participants expect interest rates in the US to be higher? Please respond for each of the following time periods.

	Market participants would expect interest rates to be ...		
	higher in scenario 1	**similar in both scenarios**	**higher in scenario 2**
Interest rates over the next twelve months Start of period: today, *four weeks after the announcement*. End of period: one year from now.	○	○	○
Interest rates from May, 2024 to May, 2025 Start of period: one year from now. End of period: two years from now.	○	○	○
Interest rates from May, 2025 to May, 2026 Start of period: two years from now. End of period: three years from now.	○	○	○
Interest rates from May, 2026 to May, 2027 Start of period: three years from now. End of period: four years from now.	○	○	○
Interest rates from May, 2027 to May, 2028 Start of period: four years from now. End of period: five years from now.	○	○	○

Adjusted instructions for earnings

Now, please think about the earnings of US companies. The earnings a company makes are the difference between its revenue and its overall production costs.

In which scenario would market participants expect that the earnings of US companies are higher? Please respond for each of the following time periods.

	Market participants would expect earnings to be ...		
	higher in scenario 1	**similar in both scenarios**	**higher in scenario 2**
Earnings over the next twelve months Start of period: today, *four weeks after the announcement*. End of period: one year from now.	○	○	○

(...)

Adjusted response option for "considerations" question

Which of the following considerations was most important to you when predicting the future return of the investment in the US stock market portfolio?

The stock market **quickly and efficiently responds to news**. News about the economy tend to be fully and immediately incorporated in the stock prices. Very soon after the news, one can no longer expect a higher or lower future return based on such news.

The stock market is prone to **under-reaction**. When there is good news about the economy, the expected future return is higher for some time (and vice versa for bad news), until the news is fully incorporated in the stock prices.

The expected future return is higher if market participants expect companies to have **higher earnings**.

The expected future return is higher if **interest rates are higher**.

The expected future return is higher if market participants are **more averse to taking risks**.

The expected future return is higher if market participants expect the **return to be more uncertain**.

The expected future return is higher if market participants expect the US stock market portfolio to offer **less protection against developments deemed unfavorable by investors**, such as the risk that the economy as a whole performs poorly.

The stock market is prone to **over-reaction**. When there is good news about the economy, the expected future return is higher for some time, pushing the stock prices to an exaggerated level (and vice versa for bad news), until a correction occurs.

Another consideration

1.4 Special instructions for experts

Predictions of return uncertainty, market exposure on earnings for one-year-horizon

Other aspects

Review the two scenarios *(click to open detailed description)*

▸ **Scenario 1: Nike maintains supplier partnership**

▸ **Scenario 2: Nike faces supply chain disruption**

The announcements were made four weeks ago and received a lot of attention.

Besides the expected future return, there are other aspects that could differ between the scenarios.

- When the **return uncertainty** is higher, large deviations from the predicted return are more likely.
- Some stocks offer **protection against general developments that are deemed unfavorable by investors**, such as the risk that the economy as a whole performs poorly. Such stocks tend to give a *high* return when these unfavorable developments occur
- The **earnings** a company makes are the difference between its revenue and its overall production costs.

What would you expect? In which scenario would ... be higher?

	Higher in scenario 1	Similar in both scenarios	Higher in scenario 2
Uncertainty of the return over the next twelve months Invest $1,000 in Nike stocks today, *four weeks after the announcement*. Sell these stocks one year from now.	○	○	○
Protection against general developments deemed unfavorable by investors over the next twelve months Invest $1,000 in Nike stocks today, *four weeks after the announcement*. Sell these stocks one year from now.	○	○	○
Earnings of Nike over the next twelve months Start of period: today, *four weeks after the announcement*. End of period: one year from now.	○	○	○

1.5 Bundesbank Online Panel

See separate document.