

# Information Illusion: Different Amounts of Information and Stock Price Estimates

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## Motivation and research questions

- Information for individual financial decision making has been in the focus of research with regard to both relevance and appropriate amount of information.
- Ambiguous findings regarding the relevance of idiosyncratic and further systematic factors than the market factor.
- Appropriate amount of information considers recipients' limited cognitive capacity for information perception and processing, i.e. avoids information overload.
- We analyze how investors perceive different amounts of information in the context of stock price estimates. Three main research questions:
  - How well do participants feel informed when receiving different amounts of information?
  - What impact do different amounts of information have on investors' expectation of stock return and risk and – ex post – the accuracy of their estimate?
  - What impact do different amounts of information have on investors' expectations regarding the accuracy of their own stock price estimates compared to the accuracy of the estimates of other investors, i.e. in a stock price forecast competition?

## Data and methodology

- Questionnaire-based stock price forecast competition among 196 undergraduate students in business administration.
- Questionnaire consists of two parts:
  - Items on participant characteristics: gender, financial knowledge, self-assessed knowledge in statistics, risk attitude, cognitive reflection, overconfidence, Big Five personality factors, locus of control, affect.
  - Stock price forecast competition with three different stocks. Participants state expected stock return and risk. The first stock is presented with low amount of information and is the same in all questionnaires. The other two stocks are with medium (additional systematic) and high (additional systematic and idiosyncratic) amount of information. Second and third stock are presented in varying order among participants.

## Key Findings

- With more systematic and idiosyncratic information, participants state to have significantly more relevant information.
  - But the amount of information has no significant influence on participants' stock price estimates.
- } → Added information acts as placebic information and leads to an information illusion.
- For stocks with medium and high amount of information, participants expect a significantly lower payoff from the forecast competition, because they on average expect a higher probability to win *no* prize at all than for the stock with low amount of information.
  - Participants' expectations of payoffs from the competition still exceed the payoffs that they could expect in a fair game.
  - Participants' overconfidence plays a key role:
    - Participants with higher levels of overconfidence generally expect higher net payoffs from the forecast competition and hardly lower their expectations to win a prize when information is added.
    - Participants with lower levels of overconfidence state lower expected net payoffs and also significantly lower their expectations to win a prize when information is added.
- Higher amounts of information reduce less overconfident participants' level of perceived expertise.

<i>How well do participants feel informed?</i>	<u>Perceived amount of relevant information</u>
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Stock with ____ amount of information	
Low	4.04
Medium	5.19
High	5.71

\*\*\*\*Differences between all three settings are statistically significant at one per mill level\*\*\*\*

<i>Impact of information on expected stock return and risk</i>	<u>Expected return (in percent)</u>	<u>Expected risk (in percent)</u>
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Stock with ____ amount of information		
Low	-.22	7.3
Medium	-.66	7.1
High	-.39	7.5

---Differences between any two settings are not statistically significant---

## Implications

- Regulators and policy makers should consider that placebic information can significantly impact investors' perception; regulation on information that is provided to retail investors should focus on relevant and avoid irrelevant information.
- Researchers should be aware that in experiments irrelevant information asymmetrically influences expectations of participants with different levels of overconfidence and their perception of how well they are informed.
- Research should analyze the impact of irrelevant information on financial decision making and interdependencies with individual characteristics in other methodological setups and for further groups of decision makers.

<i>Impact of information on expected performance in the forecast competition</i>	<u>Expected net payoff (in Euro)</u>	<u>Probability no prize in competition (in percent)</u>
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Stock with ____ amount of information		
Low	2.76	73.41
Medium	2.23	75.23
High	2.21	76.32

\*\*\*Differences between setting with low amount of information and other settings are statistically significant at least at the five per mill level\*\*\*