

CHATGPT AND CORPORATE POLICIES

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1 Research questions

Can an advanced AI model such as ChatGPT help understand corporate policies?

Can expected invest-policy extracted by it provide more information that has further impact(i.e. economics)?

2 Why are the research questions interesting?

- Understanding corporate policies is central to corporate finance. Investment policies are particularly crucial.
- Private information such as expectations and plans of corporate managers affects the investment policy.
- Such information is communicated by managers through quarterly conference calls.
- However, there is a problem of doing the text analysis: Conference calls are around 8000 words in length.
 - Extracting complex information (a firm's expected investment policies) beyond the reach of researchers.
- GPT handles complex problems and provides detailed and complex answers at the level of human experts.

3 What is the paper's contribution?

(1) Literature on the investment-q relation.

Previous: Established strong theoretical and weak empirical relationships between Tobin's q and investment.

This: Methodology applies to policies and expectations which complements Tobin's q and total q.

- Help practitioners better understand corporate investment and its impact on the economy.

(2) Literature on feedback

Previous: Managers learn from prices in making investments and other corporate decisions.

This: Information extracted from firm's disclosure provides crucial new insights to investors and the market.

(3) Literature on managerial and firm expectations

Previous: Surveys are quite instrumental in obtaining information regarding agents' beliefs and expectations.

This: Complement existing surveys, generate measures for firms, and provide a new set of tools and data.

(4) Literature on textual analysis

Previous: Using textual analysis to analyze unstructured text information such as the extent of sentiment.

This: Allows an interpretable application of AI, provides a step forward for textual analysis.

4 What hypotheses are tested in the paper?

H1: The scores generated by ChatGPT capture the management's predictions about future company policies.

H2: ChatGPT scores predict future investments and returns, and its correlation with analyst forecasts.

a) Do these hypotheses follow from and answer the research questions?

- The hypotheses in the paper are grounded in empirical observations, and they answer the research question.

Do these hypotheses follow from theory or are they otherwise adequately developed?

- ChatGPT investment score measures the extent to which managers expect to adjust capital expenditures.
- Firms with high scores have negative abnormal returns in the future, which is consistent with the APT.

5 Sample: comment on the appropriateness of sample selection procedures.

The time span and sample size are reasonable, sufficient to support the empirical research.

6 Dependent and independent variables: comment on the appropriateness.

The choice of using firm-level investment from the CFO Survey is highly appropriate because it directly aligns with the goal of understanding factors influencing real-world investment decisions.

7 Regression model specification: comment on the appropriateness.

A non-linear specification or interaction terms could be considered if there is evidence that the relationship between the ChatGPT Investment Score and investment is more complex than linear.

8 What difficulties arise in drawing inferences from the empirical work?

The paper mentions that ChatGPT can sometimes provide inaccurate but confident responses. This could lead to potential biases in the generated investment scores, affecting the validity of the results.

9 Describe at least one publishable and feasible extension of this research.

Analyzing the predictive power of AI-based investment scores across different geographical markets. Expanding this analysis to international markets could provide new insights into how well AI models generalize across different regulatory environments, corporate governance structures, and economic conditions.

References

- [1] Jha, M., H. Liu, and A. Manela. 2021. Natural disaster effects on popular sentiment toward finance. *Journal of Financial and Quantitative Analysis* 56:2584–604.