From Man vs. Machine to Man + Machine: The art and AI of stock analyses

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1 Research questions

What is the relative performance of AI analysts and human analysts in stock assessing and forecasting?
Will there be a synergistic effect between them?

2 Why are the research questions interesting?

• The development of AI technology is changing the way many industries work.
  - AI has the potential to handle large amounts of data and recognize patterns;
  - AI requires deep institutional knowledge and has limitations in handling complex situations.
• Whether the ”human+machine” model significantly reduces extreme prediction errors is worth further research.

3 What is the paper’s contribution?

***(1)* Literature on AI and Job Displacement**
Previous: Explore how human adapt to changes brought about by AI and predict the redeployment of work.
This: Building AI models to compare their performance with human analysts, implying collaborative work.

***(2)* Literature on Big Data and AI in Finance**
Previous: Changes in labor force share in financial industry, comparison between AI and human analysts.
This: Build and evaluate the internal mechanisms of own AI process, rather than relying on market level agents.
• Provided a deep understanding of the application of AI in the financial field.

***(3)* Literature on Building and Assessing Machine Learning Models in Finance**
Previous: Build and evaluate the performance of ML in financial applications, such as predicting asset prices.
This: The new empirical analysis of the application of ML in financial field and the supplementary value that human analysts provide in the AI era.

4 What hypotheses are tested in the paper?

H1: Human analysts and AI analysts each have their own advantages in different situations.
H2: Combining human experience with AI’s data processing capabilities can produce better predictive results.

a) Do these hypotheses follow from and answer the research questions?
• The Hypos derived from research question: the relative advantages, synergistic effects between AI and man.
Do these hypotheses follow from theory or are they otherwise adequately developed?
• The ability of AI to process big data and reduce bias is based on the theoretical development of machine learning algorithms and big data analysis.

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

Sample includes multiple economic cycle, evaluating AI and man analysts’ performance in different situations.

6 Dependent and independent variables: comment on the appropriateness.

The selection of variables is appropriate, as they comprehensively cover multiple key factors for stock prediction.

7 Regression model specification: comment on the appropriateness.

The regression model specifications seem appropriate, capable of handling complex datasets and answering research questions.

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

It will be difficult to quantify the complementary effects of humans and machines in the practice of combining humans and machines.

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

Incorporating significant historical financial events, economic cycles, and factors that affect analysts' subjective judgments into machine learning models will better train the models and greatly expand their capabilities and applicability.