Summary of Climate Change, Analyst Forecasts, and Market Behavior

Yiming Li

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**1. What are the research questions?**

How do sell-side analysts in areas more sensitive to changes in temperature incorporate the impact of climate change into their earnings forecasts

**2. Why are the research questions interesting?**

The research question reveals how climate change affects financial outcomes. Climate change affects firm performance is an emerging academic topic. Analysts should provide earnings forecasts as information intermediaries of the market and they should reflect the potential impact of global climate change. However, not all the analysts are successfully playing their roles, this paper is showing us the reason.

**3. What is the paper's contribution?**

a. Existing literature Hugon and Law (2019) has explored the effects of climate change on financial outcomes, such as firm earnings and stock returns. Studies have investigated how extreme temperatures can impact earnings expectations, suggesting that analysts anticipate part of the earnings shocks associated with temperature extremes. Research like Choi, Gao, and Jiang (2020) has also shown that beliefs influence various financial decisions, including asset allocations and corporate social responsibility policies.

b. This paper extends the literature by offering insights into financial market responses to environmental risks. It finds that the impact of abnormally climate on the earnings of firms is heterogeneous, for firms with greater sensitivities to temperature increases the impact is greater.

c. The study complements existing research by demonstrating that large increases in temperature negatively affect the earnings of firms with greater sensitivities to temperature increases, while earnings of other firms remain unaffected, thus highlighting the importance of the temperature sensitivity measure in identifying affected firms.

**4 . What hypotheses are tested in the paper? list them explicitly.**

H1: Analysts located in areas where firms exhibit greater sensitivity to climate change will issue relatively less optimistic forecasts compared to analysts in less sensitive areas.

H2: Analysts in areas where firms are more sensitive to changes in temperature will exhibit higher forecast accuracy following large temperature increases compared to analysts in less sensitive areas.

H3: Above effect could be amplified for firms that are more sensitive to climate change.

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

Yes, the hypotheses directly stem from and address the research questions posed in the paper.

**b) Do these hypotheses follow from theory or are they otherwise adequately developed? Please explain the logic of the hypotheses.**

The hypotheses are developed based on rational inattention theories and existing articles. H1 and H2 tell the story of temperature sensitivity of analysts' area influences their forecast, H3 tries to explain the inner reason of these phenomenons.

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

Only select the annual forecasts may lead to sample attrition.

The measurement time period of climate change is too simple, it may not cover all the changes.

**6) Dependent and independent variables: comment on the appropriateness of variable definition and measurement.**

Dependent Variable: Relative Optimism (dummy variable indicating if analyst forecast is higher than consensus)

Using average value of forecasts issued by untreated analysts as consensus forecast may may be affected by outliers, median is a better choice.

**7) Regression/prediction model specification: comment on the appropriateness of** the regression/prediction model specification.

DID regression is employed with reasonable fixed effects like analyst, firm, and time.

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

Difficulties may arise due to potential confounding variables, limited generalizability beyond the studied states, and challenges in isolating the effects of climate change on analyst behavior.

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

We could explore if climate risk priced, by looking for regional variation in exposure to heat stress.