Summary

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1) What are the research questions?

Whether sell-side equity analysts incorporate the impact of climate change into their earnings forecasts. Specifically, it examines if analysts located in areas where firms exhibit greater sensitivity to abnormal temperature changes issue relatively less optimistic and more accurate forecasts in periods following large temperature increases, especially for firms that are more sensitive to temperature changes.

2) Why are the research questions interesting?

This investigation is driven by the need to assess the financial market's efficiency in processing and responding to environmental risks, which are increasingly relevant in today's global economic landscape.

3) What is the paper's contribution?

1. Previous literature:

i. There is a growing literature investigating how climate change influence financial outcomes including investment decisions, stock returns and firm earnings.

ii. A lot of literature has examined the factors that affect analyst forecasts while the most related paper examine how extreme temperatures affect earnings expectations and find that analysts anticipate part of the earnings shocks associated with temperature extremes.

iii. Recent studies suggest that political views affect the behavior and believes of financial market's participants.

2. Contributions(based on the literature)

i. The paper extend the region of how climate change affect financial outcomes by creating a measure identifying firms whose earnings are affected by temperature increases.

ii. The paper extend the literature on the factors influencing analysts by further investigating how analysts come to understand the effects of climate change on firms' earnings.

iii. The paper provide evidence that political beliefs are associated with analysts' ability to assess the relation between climate change and firm earnings.

4) What hypotheses are tested in the paper?

Hypothesis 1: Analysts, especially those located in regions with greater exposure to climate change, are likely to adjust their earnings forecasts to reflect the impacts of climate change, which is expected to make their forecasts less optimistic following significant temperature increases, particularly for firms more sensitive to climate change.

Hypothesis 2: Analysts located in states with higher firm sensitivities to climate change issue more accurate forecasts following significant temperature increases.

Hypothesis 3: For firms with higher sensitivity to climate change, the adjustments in earnings forecasts by analysts in response to climate change information lead to more pronounced market reactions to earnings announcements.

H1 is rooted in the theory that financial analysts assimilate all relevant information, including external macro-environmental factors like climate change, into their forecasts, and following the previous literature, worse climate environment corresponds to worse firm performance;

H2 is based on information asymmetry which local analysts have better understandings of climate's influence on the firms' performance;

H3 is supported by the literature on market reaction to earnings announcements.

The hypotheses can be interpreted in following logic frame.
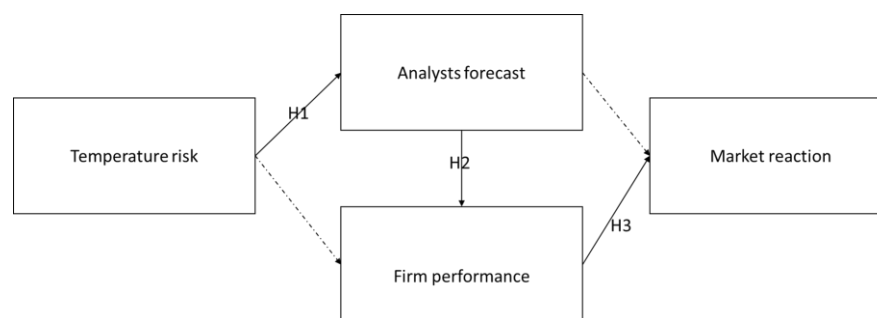
5) Sample: comment on the appropriateness of the sample selection procedures

Step1: exclude forecasts with an absolute forecast error greater than one, following the literature.

Step2: restrict sample to forecasts that were issued for firms that have an average share price greater than $1, following the literature.

Step 3: only include forecasts for firms that are covered by at least five analysts in case of selection bias.

Step 4: keep forecasts with a maximum horizon of six months and a minimum horizon of one month from the earnings announcement date. In case of potential noise by stale information and leakage of information.

6) Dependent and independent variables

Relative Optimism – an indicator about whether analysts' forecast is above the consensus.; **PMAFE –** forecast error of analysts on firms.(following the previous literature); **HTSA** - dummy variable about whether the forecast is issued during the extreme temperature event; **Sensitivity** –Firm's excess return's regression coefficient on temperature anomaly; **Temperature anomaly**: Difference between the average temperature in month t and the past 30 years' average.

7) Regression/prediction model specification

The main regression model is DID regression which could reduce the chances that other factors motivating the results. Besides are panel regression incorporating fixed effects, which bears the similar effect of isolating factors.

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

Isolating the impact of climate change from other factors; Defining and quantifying a firm's sensitivity to climate change is complex; Climate change does not affect all regions equally.

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

Examine whether and how the presence and quality of ESG disclosures influence analysts' ability to incorporate climate change information into their forecasts and the subsequent market reaction to these forecasts..