

Firm Level Climate Change Exposure/Risk/Sentiment: Readme & Data Description

Please read this document in full before using this data. These details are critically important to ensure proper usage.

This file contains a set of scores related to climate change from 2001Q1 to 2020Q4. The data is at firm-quarter/firm-year level.

We introduce a method that identifies firm-level climate change exposures/risks/sentiments from conversation in earnings conference calls. The method captures exposures/risks/sentiments related to opportunity, physical, and regulatory shocks associated with climate change.

The variable names consist of three part.

1. The first part refers to general climate change as well as three topics related with climate change: opportunity, physical, and regulatory. They are 'cc', 'op', 'ph' and 'rg'.

2. The second part refers to different metrics. We have exposures ('expo'), risks (risk), positive sentiment ('pos'), negative sentiment ('neg'), and overall sentiments ('sent').

3. The third part refers to the weighting scheme of climate change bigrams. Equal weighted scores is denoted by 'ew', and TFIDF weighted scores are denoted by 'tfidf' (available for legacy data only).

Users can use ISIN/Gvkey to match our measure against other datasets. We also provide meta information such as SIC code and headquarter location of the firms.

Background

For an extensive description of this data, please read the data and methodology sections of the paper cited below. For convenience, here is a brief description.

The exposure measures count the frequency with which certain climate

change bigrams occur in the transcript, scaled by the total number of bigrams in the transcript. We construe these measures as indicating the occurrence of climate change events or shocks at the firm. Our method also allows us to construct measures of the first and second moment associated with these shocks. In other words, whether the events represent (in expectation) good or bad news to the firm and whether the shocks are uncertain. For the first moment, we construct ``sentiment'' measures, which count the relative frequency of climate change bigrams that occur in the vicinity of positive and negative tone words (Loughran and McDonald 2011). For the second moment, or risk measures, we count the relative frequency of climate change bigrams mentioned in the same sentence as the words ``risk" or ``uncertainty" (or their synonyms). Following prior practice in Hassan et al. (2019), we interpret these sentiment and risk measures as components of the exposure measures.

Citations

Please cite the following study when using this Climate Change Exposure/Risk/Sentiment data:

Sautner, Zacharias, Laurence Van Lent, Grigory Vilkov, and Ruishen Zhang. "Firm-level climate change exposure." *The Journal of Finance* 78, no. 3 (2023): 1449-1498.

The data is publicly available and free to use, provided its source is acknowledged as follows:

Sautner, Z., L. van Lent, G. Vilkov, and R. Zhang, 2023. "Data for 'Firm-level Climate Change Exposure'".

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and both data and the associated paper are cited in any work that uses these resources.