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Temperature Shocks and the Cost of Equity Capital: Implications for Climate Change Perceptions

Ronald Balvers , Ding Du , Xiaobing Zhao

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Ronald Balvers
DeGroote School of Business, DSB A105
McMaster University
Hamilton, ON L8S 4M4, Canada
E-mail: balvers@mcmaster.ca
Phone: (905) 525-9140 x23969

Ding Du
The W. A. Franke College of Business, PO Box 15066
Northern Arizona University
Flagstaff, AZ 86011
E-mail: ding.du@nau.edu
Phone: (928) 523-7274

Xiaobing Zhao
The W. A. Franke College of Business, PO Box 15066
Northern Arizona University
Flagstaff, AZ 86011
E-mail: xiaobing.zhao@nau.edu
Phone: (928) 523-7279

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Abstract

Financial market information can provide an objective assessment of losses anticipated from temperature changes. In an APT model in which temperature shocks are a systematic risk factor, the risk premium is significantly negative, loadings for most assets are negative, and asset portfolios in more vulnerable industries have stronger negative loadings on a temperature shock factor. Weighted average increases in the cost of equity capital attributed to uncertainty about temperature changes are 0.22 percent, implying a present value loss of 7.92 percent of wealth. These costs represent a new channel that may contribute to cost of climate change assessment.

JEL Codes: G12, Q54
Key Words: Asset Pricing; Climate Change; Cost of Capital; Tracking Portfolios.

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