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UNIVERSITÄT BONN
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INTERVIEW

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Researchers Measure Firms' Decarbonization Progress Using Stock Prices

Interview with Jing Zeng

- Interview with Jing Zeng, EPoS Economic Research Center
- Economists develop tool based on 36,000 corporate stocks worldwide

Bonn, Mannheim, 25. September, 2026 - **Investors currently possess various methods to assess firms' progress towards decarbonization and the associated climate-related risks. Yet, information on emissions and ESG scores are sometimes scarce, especially for smaller firms and in emerging markets. To complement existing assessment, researchers have now developed a tool with worldwide coverage based on the stock prices of around 36,000 firms in more than 90 countries. The EPoS Economic Research Center at the Universities of Bonn and Mannheim publishes the details in the discussion paper "Market-Based Green Firms".**

Ms. Zeng, how does the tool work that you and your colleagues developed?

Jing Zeng: To build our measure, we used the stock price reactions around United Nations' climate conferences covering a period of 30 years. The idea behind it: When major climate policy news arrives, investors reprice firms' stocks according to how the news affects their future profitability. The price reactions reveal which firms are considered "green" and which are not. Based on this insight, we constructed a measure of "greenness" for around 36,000 firms in over 90 countries. Compared to other existing measures, our coverage is far broader and includes smaller publicly traded firms that publish no emissions data and have no ESG scores.

What advantages does the new measure offer?

Jing Zeng: Our measure capitalizes on the market's unique ability to aggregate dispersed information from financial market participants regarding both the present and the future. Our tool is thus forward-looking: indeed, firms rated as "green" turn out to emit lower carbon compared to those rated "brown" up to four years ahead. The method we propose also captures both direct and indirect climate risks embedded in a firm's value chain. Finally, we believe that our measure is less prone to green-washing, to the extent that market participants scrutinize a firm's actions and price in only the genuine attempts to shift the firm's climate impact.

Who could benefit from using the new measure in the future?

Jing Zeng: We see our measure as a new source of information for investors, regulators, and policymakers seeking to assess firms' "greenness" more comprehensively. Investors can use it to evaluate the climate-risk exposure of their portfolios, especially for investments outside of the US and Europe, where emissions data and ESG scores are scarce.

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Regulators can make use of a consistent, globally comparable measure that does not depend on what firms choose to report about themselves. Policymakers may use the country- and sector-level information to monitor whether climate commitments are seen as credible by financial market participants.

For researchers, we also provide a freely available dataset for studying the green transition on the companion website of our discussion paper:
https://sites.google.com/view/market-based-green-firms.

The presented discussion paper is a publication without peer review of the Collaborative Research Center Transregio 224 EPoS. Access the full discussion paper here:
https://www.crctr224.de/research/discussion-papers/archive/dp768

Find the list of all discussion papers of the CRC here: https://www.crctr224.de/research/discussion-papers.

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The Collaborative Research Center (CRC) Transregio 224 EPoS
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