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Editorial: Climate risk, ESG integration and economic growth

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Editorial on the Research Topic

Climate risk, ESG integration and economic growth

This research topic aimed to explore factors affecting economic growth, Environmental, Social, and Governance (ESG) integration, and climate-aligned approaches and challenges. The current research topic comprises 10 relevant articles that fulfil the research objectives. The articles are written by authors from different countries (China, Malaysia, Pakistan, and Romania) and offer interesting insights from different perspectives and approaches.

Lyu et al. construct two different Tapio carbon decoupling models employing data from 30 Chinese administrative units over the period 2004–2017 and several methodologies. The authors highlight that emissions trading policies play a key role in promoting carbon decoupling in China. Two variables are important in this process, namely, gray technology innovation and clean technology innovation.

Zhao et al. examine the role of the sulfur dioxide emission trading pilot scheme in reducing the CO₂ emissions of Chinese firms over the period 1998–2013. Employing a propensity score matching-difference in differences methodology, the authors found that the introduction of this pilot scheme has an important reduction effect on corporate CO₂ emissions. Their results provide empirical evidence for the importance of environmental regulation policies.

Maxim et al. aim to analyze the willingness of Romanian households from the second poorest region of the European Union to pay a premium to support the development of renewable energy. The authors employed a discrete choice experiment for the purpose of their research. The most important social benefits in the eye of the Romanian households that will make them pay more for renewable energy are the creation of new jobs, higher country energy independence, and reduction of air, water and ground pollution. Their findings have significant policy implications outlined in the paper.

Using data from 22 European countries over the period 1990–2020, **Liu et al.** investigate the impact of several factors on CO₂ emissions. The key results show that the level of economic development, the degree of urbanization and energy power have a significant impact on CO₂ emissions. Furthermore, in 2020, the level of CO₂ emissions decreased during the COVID-19 pandemic.

Onofrei et al. analyze the dynamic link between economic growth and CO₂ in a sample of 27 European countries over the period 2000–2017. Employing several methodologies, the authors found a long-run cointegrating relationship between economic growth and CO₂

emissions, thus contributing to the growing literature focused on the determinants of CO₂ emissions.

[Dinca et al.](#) examine the role of governance quality and education in improving environmental performance. They use an extensive sample of countries (43) over the period 1995–2020 and several methodologies. The authors found a positive and statistically significant relationship between the level of education and CO₂ emissions. However, the impact of institutional quality was positive but statistically significant.

[Huang and Chen](#) aim to analyze the role of Technologically Advanced Policy (TAP) on green innovation in a sample of listed Chinese SMEs over the period 2004–2021. Using manually collected data on green innovation and several econometric methodologies, the authors found a positive impact of stimulus policies on corporate green innovation. Furthermore, they highlight the different roles of stimulus mechanisms in supporting green innovation. The results proved to be robust for several tests and provide empirical evidence for the impact of public policies in China.

[Zeng et al.](#) construct a KMV-logit mixed model that incorporates an ESG index in order to estimate the credit risk of public internet finance firms from China. The model proved to be efficient in estimating credit risk and emphasize the role of firm-level variables in estimating default risk. Furthermore, the authors found that the coronavirus pandemic had a significant effect on the credit risk of public internet finance firms from China.

[Huang et al.](#) examine the impact of regional integration policy on total factor productivity (TFP) using a sample of Chinese firms over the period 2007–2020. They found a positive association between regional integration policy and total factor productivity and this relationship is higher in the case of state-owned firms. Furthermore, the authors identify as transmission mechanisms the industrial chains, green innovation, innovation, and market competitiveness.

In the last paper of this research topic, [Firtescu et al.](#) investigate the effect of environmental taxes on greenhouse gas emissions in a

sample of 28 European countries over a long period (1995–2019). Employing several econometric techniques, the authors found a negative link between environmental taxes and greenhouse gas emissions.

Overall, these articles offer a deep empirical understanding of factors affecting economic growth, Environmental, Social, and Governance (ESG) integration, and climate-aligned approaches and challenges, based on various research methods applied to different geographical and institutional frameworks. The recent trends we are facing leave ample room for further research and insightful discussions on the role of additional factors or in other regions as soon as more data will be available.

Author contributions

All authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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