

The Impact of Carbon Emission and Water Usage Intensity on Firm Market Value: An ESG Perspective

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Abstract:

This study investigates the impact of carbon emission intensity and water usage intensity on firm market value from an ESG (Environmental, Social, and Governance) perspective. As sustainability gains prominence, environmental efficiency has become a key determinant of firm valuation. Using data from publicly listed companies in Taiwan from 2018 to 2023, sourced from the Taiwan Economic Journal (TEJ), the study applies multiple regression to examine how carbon and water intensity affect Tobin's Q, while controlling for financial and industry variables. Corporate governance scores are also included to assess their moderating effect. Results indicate that firms with lower carbon and water intensity tend to exhibit higher market value. Moreover, strong corporate governance strengthens this relationship, suggesting a complementary effect between environmental and governance performance. These findings emphasize the value of environmental efficiency and good governance in enhancing firm valuation, providing strategic insights for companies and ESG policy development.

Keywords:

Carbon emission intensity, water usage intensity, firm market value, Tobin's Q, ESG performance, corporate governance.