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Climate Risk and Clean Water Investments: Implications for Sustainable Development

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Abstract

Investments in water technology have increased significantly to combat global clean water crisis. Consequently, empirical research on clean water investing is also growing. Nevertheless, there is still room for additional work on at least two fronts. The first is examining the effect of climate risk on water equities, while the second is checking the regime switching behavior of such assets. Our paper addresses these issues by combining the Markov regime switching (MRS) model with the vector autoregressive (VAR) process. The empirical findings suggest that while the standard VAR model fails to detect the effects of climate risk on water equity returns, employing the MRS-VAR model confirms that such effects exist implying that they are regime-dependent. More specifically, the effect of environmental uncertainties is positive in the low volatility regime and negative in the high volatility regime. Further analyses suggest that higher climate risk leads to higher hedging costs and that oil could be a suitable hedge for water equities during the periods of high climate risk. Overall, our investigation offers key implications which could be essential for attaining sustainable development goals.

Keywords: climate risk, water investing, regime switching, sustainability, volatility.