

Uncertainties in global warming temperature trend and their impacts on agricultural production : an econometric evaluation

Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=132191&lokasi=lokal>

Abstrak

This paper primarily attempts to detect the trend in the present upshots of global warming temperature data. It has been done through the estimation of the long memory fractional parameter using a simulation technique in the presence of additive outliers which stands as wild observations generated in the atmosphere due to global warming. Then the study investigates empirically the impact global warming on the particular aspect of global agricultural production. Based on Monte Carlo simulations, a data generating process is applied here additive outliers are generated in a discrete way. Observed facts reveal that additive outliers affect the bias and the MSE of the estimated fractional parameter. The size of the additive outliers in data generating process has also important effects on the estimated fractional parameter depending on the value of true fractional parameter. The result exhibits a non-trend or a natural cyclical variability influenced by a stochastic process in the case of climate change behavior with wild observations (outliers) that produce contradictory outcome of profound uncertainties against the case of true world temperature data trend. The results of empirical investigations assert that in the late 21 century unabated global warming would have a negative impact on global agricultural production in the aggregate and the impact could be severe if carbon fertilization benefits (enhancements of yields in a carbon-rich environment) do not materialize, especially if water scarcity limits irrigation. In addition, if warming would not halt in the 2080s, but would continue on a path toward still higher global temperature in the composition of agricultural damage could be more severe. The study also shows that the composition of agricultural effects is likely to be seriously unfavorable to developing countries with the most severe losses in Africa, Latin America and India.