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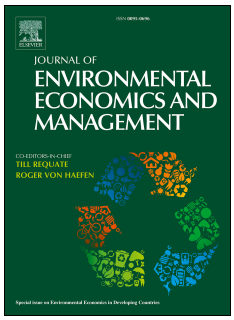

A Forward-Looking Ricardian Approach: Do land markets capitalize climate change forecasts?

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ABSTRACT

The hedonic pricing method is one of the main approaches used to estimate the economic value of attributes that affect the market price of an asset. This method is routinely used in environmental economics to derive the economic valuation of environmental attributes such as air pollution and water quality. For example, the "Ricardian approach" is based on a hedonic regression of land values on historical climate variables. Forecasts of future climate can then be employed to estimate the future costs of climate change. We show that this approach is only valid if current land markets ignore climate forecasts. While this assumption was defensible decades ago (when this literature first emerged), it is reasonable to hypothesize that information on climate change is so pervasive today that markets may already price in expectations of future climate change. Indeed, we show empirically that agricultural land markets in the United States now capitalize expectations about future climate change. We derive a straightforward empirical correction to the standard Ricardian approach (called the "Forward-Looking Ricardian Approach") that can be implemented with readily available data. Accounting for market beliefs decreases the estimated magnitude of climate change damages by 50% to 62%.

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