

Meta-Regression Analysis and Benefit Transfer in the Sportfishing Literature When Valuation Studies Contain Dependent Measurements

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Abstract

When compiling metadata for use in a meta-analysis, many of the underlying studies report multiple estimates leading to issues of correlation or dependence. This paper examines the effects of different models and treatments for within-study correlation on meta-regression (MR) analysis and their corresponding implications on benefit transfer (BT) performance. Treatments include weighted and panel data regression models on all estimates, or reducing the metadata by selecting a best estimate or calculating an average estimate for each study with multiple dependent estimates. Data treatments and regression-based methods are applied to metadata from the sportfishing literature and contains about 140 papers that provide 833 estimates of access values for fishing in the United States and Canada. Results show that the median absolute transfer errors are lower for the model based on a single value, i.e. average- and best-set metadata than models based on the full metadata, although some loss of information is engendered through these data treatment methods.