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Characteristics of Innovators in Presence of Measurement Errors: Evidence from Turkish Industry

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ABSTRACT

This study aims to determine the characteristics of product and process innovators under the effects of measurement errors. The analysis is based on the firm level data obtain from Turkish Statistical Institute (TURKSTAT) and covers the period from 2008 to 2010. The data is analyzed with bivariate probit models presuming high correlation between product and process innovations. The probability of product and process innovations are explored by using several measures of firm characteristics such as firm size, firm age, average wage rate, etc. In some sense, many of the characteristics cannot be exactly observed and contains some errors. In the econometric analyses, measurement error in predictors causes biases in estimated regression coefficients. The main purpose of the study is to eliminate the effects of measurement error on the parameter estimation using the regression calibration method. This method is the most commonly used technique for such models. In the study, the parameters estimated by ordinary least squares ignoring the measurement error and estimated by regression calibration with measurement error are also compared.

KEYWORDS Measurement Error Model; Regression Calibration; Innovation; Turkish Industry

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