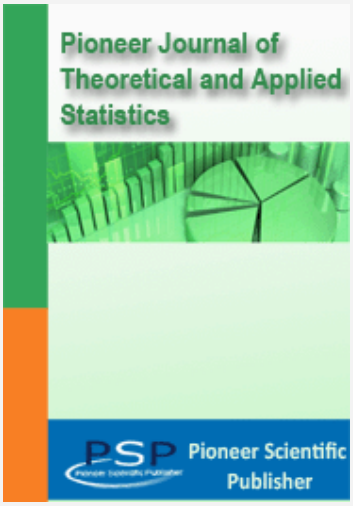
Pioneer Journal of Theoretical and Applied Statistics
Volume 14, Issues 1-2, Pages 61-71 (July & October 2017)

ISSN: 2230-9837



USING RIDGE REGRESSION TO PREDICT THE DEMAND OF THE REINFORCEMENT STEEL IN EGYPT

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Received October 10, 2017

Abstract

Based on a group of variables and data collected from the first quarter of 1983 to the fourth quarter of 2015, the paper intended to predict the demand of the reinforcement steel in Egypt. The independent variables were: number of inhabitants, gross national product (GNP), gross domestic investment, the number of modern marriage contracts, the quantity available for consumption of reinforcement steel, the consumer price index (CPI), and the dependent variable was the demand for reinforcement steel (the quantity available for consumption of reinforcement steel). The linear Ridge regression model and the logarithmic Ridge regression model were used. The results showed that the logarithmic Ridge regression model was the best model to predict the demand of the reinforcement steel, and the demand was influenced respectively by: gross national product (GNP), number of inhabitants, consumer price index (CPI), and gross total domestic investment.

Keywords and phrases: reinforcement steel, ridge regression, variance inflation factor (VIF), ridge regression parameter (k).