

Estimation of Coefficients of Ridge and Principal Components Regressions with Multicollinear Data

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Abstract : The presence of multicollinearity is common in handling with several explanatory variables simultaneously due to exhibiting a linear relationship among them. A great problem arises in understanding the impact of explanatory variables on the dependent variable. Thus, the method of least squares estimation gives inexact estimates. In this case, it is advised to detect its presence first before proceeding further. Using the ridge regression degree of its occurrence is reduced but principal components regression gives good estimates in this situation. This paper discusses well-known techniques of the ridge and principal components regressions and applies to get the estimates of coefficients by both techniques. In addition to it, this paper also discusses the conflicting claim on the discovery of the method of ridge regression based on available documents.

Keywords : conflicting claim on credit of discovery of ridge regression, multicollinearity, principal components and ridge regressions, variance inflation factor

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