

## **A Comparison of Smoothing Spline Method and Penalized Spline Regression Method Based on Nonparametric Regression Model**

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**Abstract :** This paper presents a study about a nonparametric regression model consisting of a smoothing spline method and a penalized spline regression method. We also compare the techniques used for estimation and prediction of nonparametric regression model. We tried both methods with crude oil prices in dollars per barrel and the Stock Exchange of Thailand (SET) index. According to the results, it is concluded that smoothing spline method performs better than that of penalized spline regression method.

**Keywords :** nonparametric regression model, penalized spline regression method, smoothing spline method, Stock Exchange of Thailand (SET)

**Conference Title :** ICGHOST 2020 : International Conference on Ghost Conference

**Conference Location :** ghost city, Other

**Conference Dates :** December 12-13, 2020