THE UNIVERSITY OF CHICAGO

Department of Statistics

MASTER'S THESIS PRESENTATION

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Testing Parametric Assumption of the Mean Function of Nonstationary Time Series

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ABSTRACT

Traditional testing methods often fail to reject the wrong hypothesis of whether the mean function of a nonstationary time series follow certain parametric form. In this article, we employ the theory develop in Zhang and Wu (2011) to perform a more powerful test than traditional methods. A simulation study was performed to illustrate the test procedure and the convergence rate of the test statistics. Then we apply the method to the wheat prices data from 1264-1996 and the sea level measurement from N.O.A.A.'s Honolulu station during 1905 to 2015.