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**Moving Blocks Bootstrap (MBB) As an**

**Inference Procedure for Linear**

**Regression Estimation**

**Abstract**

Among the significant developments in statistical methodologies of the 1980's, the bootstrap resampling procedure is developed. The publication of Efron's paper drew the attentions of researchers to bootstrap as procedure by which many statistical problems are tackled.

The main profit from using the bootstrap methods is its ability to construct inferential procedures in modern statistical data analysis .A great deal of work has been carried out to demonstrate the extent to which this resampling procedure can be used. The bootstrap is extended to measure the accuracy of estimates, the bias, and to complicated data structures such as regression models, time series, and censored data.

Different bootstrap methods are developed. The moving blocks bootstrap and the circular blocks bootstrap are two extensions of the bootstrap method. The moving blocks bootstrap breaks down the original time series to blocks, draws samples with replacement from the blocks, and connects the sampled blocks together to form a bootstrap sample .the circular blocks bootstrap method circle the moving blocks bootstrap method .

In the present thesis, we prove the validity of these two extensions for the linear regression models under the violation of homoscedasticity assumption.