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## Option-Implied Adjusted Volatility Using Modified Generalised Leland Models: An Empirical Study on Dow Jones Industrial Average Index Options

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### Abstract

This study investigates the relative option pricing performance of Modified Generalised Leland models. We employ non-parametric mechanism within the conventional option-pricing framework based on the Leland models to assure realistic pricing of options. This study extends the models by developing Modified Generalised Leland models based on the implied adjusted volatility introduced in Leland models. The proposed models are developed to incorporate the transaction costs rate in the integrated model-free framework. Relevant sample data extracted from the Dow Jones Industrial Average index options is tested in this study. We find that the option-implied adjusted volatility, which is priced using the Modified

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Generalised Leland models, delivers a significant improvement to the option valuation accuracy.

### Keywords

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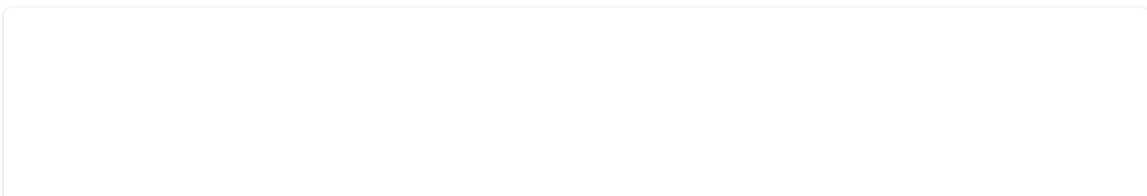
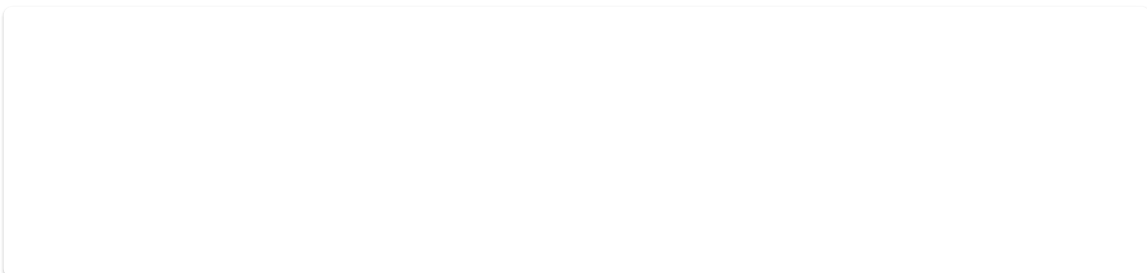
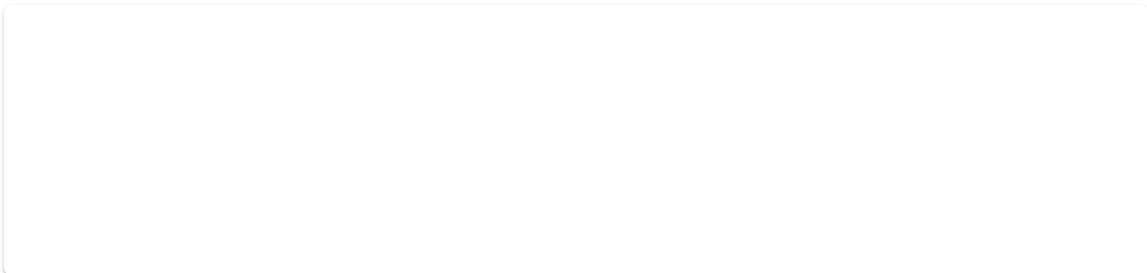
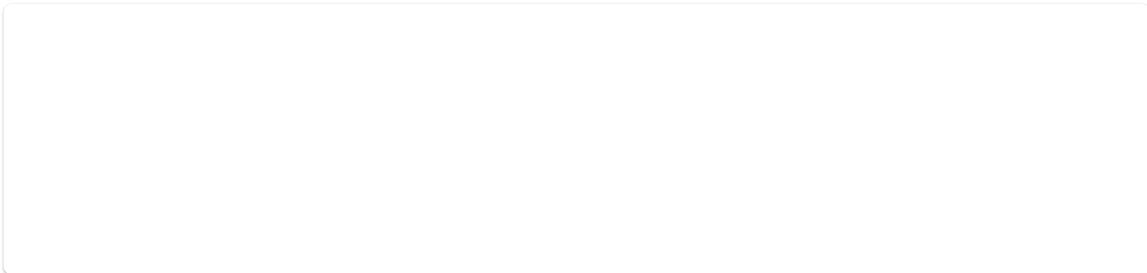
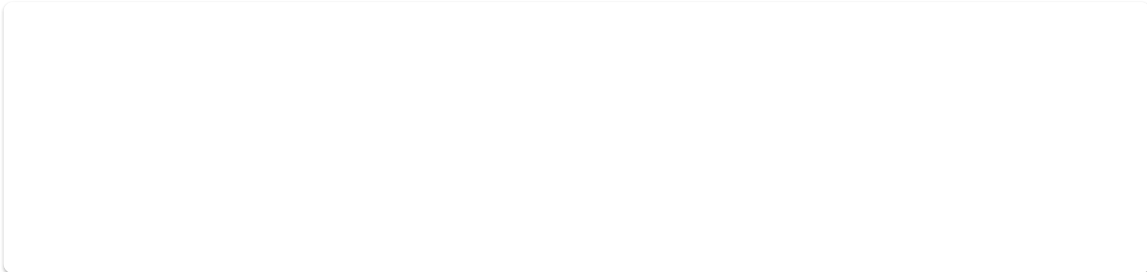
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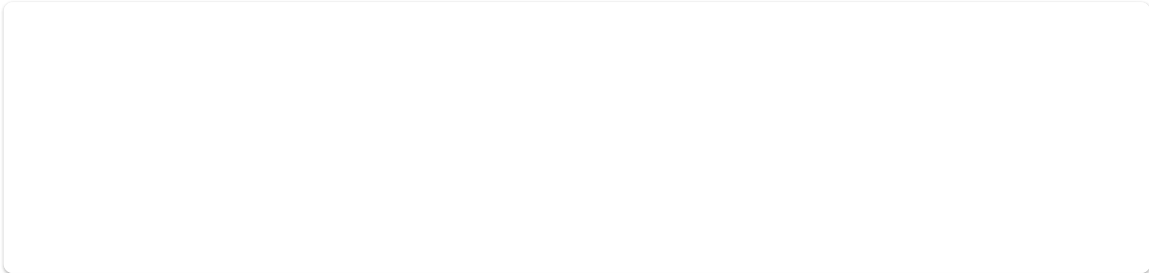
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