The Valuation and Hedging of Variance Swaps with Jumps in Returns

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In this study, we begin by developing a model for the valuing of variance swaps with jumps in the returns of the underlying assets. We then compare our simulation results with those of the Carr and Wu (2004) model under the same framework, and find that the pricing errors within our model for valuing variance swaps are generally smaller than those of the Carr and Wu (2004) model. We find, from our simulation results, that jumps in returns can affect the values of variance swaps.

Keywords: Jumps, Pricing, Hedging, Mixed Process.

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考慮報酬跳躍下之變異數交換合約之評價與避險

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本研究我們在考慮報酬跳躍之下，對變異數交換合約之評價推導出封閉解，進而在相同架構之下，和 Carr-Wu (2004) 之模型做比較，由模擬結果，我們發現我們的模型比 Carr-Wu 模型更能精準地評價變異數交換合約。此外，我們也發現報酬發生跳躍，將對變異數交換合約的價值產生很顯著地影響。

關鍵詞：跳躍，避險，混合過程。