A Measurement of Jump Size When Stock Return Generating Processes Are Governed by Irregular Shocks, Stock Split Cases

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To explain the nonstationarity of the return's variance, Merton (1976) introduced a jump component to the stock return generating process. Since then, the existence of a jump component has been evidenced by several empirical studies.

The study examines the volatility implied by option pricing model around stock split events (the announcement as well as actual split), and analyzes the impact of the stock-split on the stock volatility by identifying this event as a jump component. The results are

1. Implid Standard Deviation shows an increase after both event dates
2. All parameter estimates are positive
3. The ration of the varience of the jump component to the variance of the non-jump component is far less than the ratios reported in other studies.