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Pricing and Hedging Gap Risk

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Peter Tankov (https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=333305)

ENSAE, Institut Polytechnique de Paris

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Abstract

We analyze a new class of exotic equity derivatives called gap options or gap risk swaps. These products are designed by major banks to sell off the risk of rapid downside moves, called gaps, in the price of the underlying. We show that to price and manage gap options, jumps must necessarily be included into the model, and present explicit pricing and hedging formulas in the single asset and multi-asset case. The effect of stochastic volatility is also analyzed.

Keywords: Gap risk, gap option, exponential Levy model, quadratic hedging, Levy copula**JEL Classification:** G13[Suggested Citation](#) >[Show Contact Information](#) >[Download This Paper \(Delivery.cfm/SSRN_ID1281052_code333305.pdf?abstractid=1263352&mirid=1\)](https://papers.ssrn.com/sol3/Delivery.cfm/SSRN_ID1281052_code333305.pdf?abstractid=1263352&mirid=1)[Open PDF in Browser \(Delivery.cfm/SSRN_ID1281052_code333305.pdf?abstractid=1263352&mirid=1&type=2\)](https://papers.ssrn.com/sol3/Delivery.cfm/SSRN_ID1281052_code333305.pdf?abstractid=1263352&mirid=1&type=2)

19 References

1. Leif B.G. Andersen (https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=111031) , Jesper Andreasen (https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=111032)
Jump-Diffusion Processes: Volatility Smile Fitting and Numerical Methods for Pricing (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=171438)
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2. O E Barndorff-Nielsen , N Shephard
Non-Gaussian OrnsteinUhlenbeck based models and some of their uses in financial econometrics
J. R. Statistic. Soc. B , volume 63 , p. 167 - 241 Posted: 2001
Crossref (<https://doi.org/10.1111/1467-9868.00282>)
3. D Bates
Jumps and stochastic volatility: the exchange rate processes implicit in Deutschemark options
Rev. Fin. Studies , volume 9 , p. 69 - 107 Posted: 1996
Crossref (<https://doi.org/10.3386/w4596>)
4. D Bates
Pricing and hedging the S&P 500 futures option in a market with jumps
J. Econometrics , volume 94 , p. 181 - 238 Posted: 1999
Crossref ([https://doi.org/10.1016/S0304-4076\(99\)00021-4](https://doi.org/10.1016/S0304-4076(99)00021-4))

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