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# Pricing Lookback Options with Knock-out Boundaries

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## Abstract

In the last decade, many kinds of exotic options have been traded and introduced in the financial market. This paper describes a new kind of exotic option, lookback options with knock-out boundaries. These options are knock-out options whose pay-offs depend on the extrema of a given securities price over a certain period of time. Closed form expressions for the price of seven kinds of lookback options with knock-out boundaries are obtained in this article. The numerical studies have also been presented.

Keywords:

Exotic options

lookback options

knock-out boundaries

## Acknowledgements

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## Notes

1. This was pointed out by Professor Masayuki Ikeda.
2. It is also possible to derive the integral formula (32) by taking the limit  $\alpha \rightarrow 0$  in integral formula (9). This formula is then derived using l'Hopital's rule. This was pointed by Professor Masayuki Ikeda.

### Related Research Data

[Path Dependent Options: The Case of Lookback Options](#)

Source: The Journal of Finance

[Pricing Options With Curved Boundaries<sup>1</sup>](#)

Source: Mathematical Finance

[Path Dependent Options: "Buy at the Low, Sell at the High"](#)

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