

Pricing Path-dependent Derivative Securities: A New Approach

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We propose a new method to pricing path-dependent derivatives either in stock markets or fixed income markets. The idea is to produce a time and value discretization of the stochastic process that represents the underlying in conjunction with a novel way to benefit from the Feynman-Kac formula. Our method provides a formula, numerically solved, that deals with continuous time as well as discrete monitoring path-dependent derivatives on diffusions and Levy processes. It admits parallel computing, which is not the case of most standard methods. We price a Brazilian Asian type interest rate option, called IDI, discretely updated.

References

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