JOURNAL ARTICLE

Valuing American Put Options Using Gaussian Quadrature

The Review of Financial Studies, Volume 13, Issue 1, January 2000, Pages 75–94,
https://doi.org/10.1093/rfs/13.1.75
Published: 15 June 2015

Abstract

This article develops an efficient and accurate method for numerical evaluation of the integral equation which defines the American put option value function. Numerical integration using Gaussian quadrature and function approximation using Chebyshev polynomials are combined to evaluate recursive expectations and produce an approximation of the option value function in two dimensions, across stock prices and over time to maturity. A set of such solutions results in a multidimensional approximation that is extremely accurate and very quick to compute. The method is an effective alternative to finite difference methods, the binomial model, and various analytic approximations.

Issue Section: Article

- Purchase content
- Activate your purchase/trial code

Sign in

Register

Sign in with username/password

Recommend to your librarian

Institutional account management

Sign in as administrator

Purchase

Subscription prices and ordering for this journal

Purchasing options for books and journals across Oxford Academic

Short-term Access

To purchase short-term access, please sign in to your personal account above.

Don't already have a personal account? Register

Valuing American Put Options Using Gaussian Quadrature - 24 Hours access

EUR €51.00 GBP £44.00 USD $55.00

Rental

Read this now at deepdyve

This article is also available for rental through DeepDyve.