

Financial Mathematics

MATH 5870/6870¹
Fall 2021

Le Chen

lzc0090@auburn.edu

Last updated on
August 2, 2021

Auburn University
Auburn AL

¹Based on Robert L. McDonald's *Derivatives Markets*, 3rd Ed, Pearson, 2013.

Chapter 19. Monte Carlo Valuation

Chapter 19. Monte Carlo Valuation

- § 19.1 Computing the option price as a discounted expected value
- § 19.2 Computing random numbers
- § 19.3 Simulating lognormal stock prices
- § 19.4 Monte Carlo valuation
- § 19.5 Efficient Monte Carlo valuation
- § 19.6 Valuation of American options
- § 19.7 The Poisson distribution
- § 19.8 Simulating jumps with the Poisson distribution
- § 19.9 Simulating correlated stock prices
- § 19.10 Problems

Chapter 19. Monte Carlo Valuation

- § 19.1 Computing the option price as a discounted expected value
- § 19.2 Computing random numbers
- § 19.3 Simulating lognormal stock prices
- § 19.4 Monte Carlo valuation
- § 19.5 Efficient Monte Carlo valuation
- § 19.6 Valuation of American options
- § 19.7 The Poisson distribution
- § 19.8 Simulating jumps with the Poisson distribution
- § 19.9 Simulating correlated stock prices
- § 19.10 Problems

Chapter 19. Monte Carlo Valuation

- § 19.1 Computing the option price as a discounted expected value
- § 19.2 Computing random numbers
- § 19.3 Simulating lognormal stock prices
- § 19.4 Monte Carlo valuation
- § 19.5 Efficient Monte Carlo valuation
- § 19.6 Valuation of American options
- § 19.7 The Poisson distribution
- § 19.8 Simulating jumps with the Poisson distribution
- § 19.9 Simulating correlated stock prices
- § 19.10 Problems

Chapter 19. Monte Carlo Valuation

§ 19.1 Computing the option price as a discounted expected value

§ 19.2 Computing random numbers

§ 19.3 Simulating lognormal stock prices

§ 19.4 Monte Carlo valuation

§ 19.5 Efficient Monte Carlo valuation

§ 19.6 Valuation of American options

§ 19.7 The Poisson distribution

§ 19.8 Simulating jumps with the Poisson distribution

§ 19.9 Simulating correlated stock prices

§ 19.10 Problems

Chapter 19. Monte Carlo Valuation

- § 19.1 Computing the option price as a discounted expected value
- § 19.2 Computing random numbers
- § 19.3 Simulating lognormal stock prices
- § 19.4 Monte Carlo valuation**
- § 19.5 Efficient Monte Carlo valuation
- § 19.6 Valuation of American options
- § 19.7 The Poisson distribution
- § 19.8 Simulating jumps with the Poisson distribution
- § 19.9 Simulating correlated stock prices
- § 19.10 Problems

Chapter 19. Monte Carlo Valuation

- § 19.1 Computing the option price as a discounted expected value
- § 19.2 Computing random numbers
- § 19.3 Simulating lognormal stock prices
- § 19.4 Monte Carlo valuation
- § 19.5 Efficient Monte Carlo valuation**
- § 19.6 Valuation of American options
- § 19.7 The Poisson distribution
- § 19.8 Simulating jumps with the Poisson distribution
- § 19.9 Simulating correlated stock prices
- § 19.10 Problems

Chapter 19. Monte Carlo Valuation

- § 19.1 Computing the option price as a discounted expected value
- § 19.2 Computing random numbers
- § 19.3 Simulating lognormal stock prices
- § 19.4 Monte Carlo valuation
- § 19.5 Efficient Monte Carlo valuation
- § 19.6 Valuation of American options**
- § 19.7 The Poisson distribution
- § 19.8 Simulating jumps with the Poisson distribution
- § 19.9 Simulating correlated stock prices
- § 19.10 Problems

Chapter 19. Monte Carlo Valuation

- § 19.1 Computing the option price as a discounted expected value
- § 19.2 Computing random numbers
- § 19.3 Simulating lognormal stock prices
- § 19.4 Monte Carlo valuation
- § 19.5 Efficient Monte Carlo valuation
- § 19.6 Valuation of American options
- § 19.7 The Poisson distribution**
- § 19.8 Simulating jumps with the Poisson distribution
- § 19.9 Simulating correlated stock prices
- § 19.10 Problems

Chapter 19. Monte Carlo Valuation

- § 19.1 Computing the option price as a discounted expected value
- § 19.2 Computing random numbers
- § 19.3 Simulating lognormal stock prices
- § 19.4 Monte Carlo valuation
- § 19.5 Efficient Monte Carlo valuation
- § 19.6 Valuation of American options
- § 19.7 The Poisson distribution
- § 19.8 Simulating jumps with the Poisson distribution**
- § 19.9 Simulating correlated stock prices
- § 19.10 Problems

Chapter 19. Monte Carlo Valuation

- § 19.1 Computing the option price as a discounted expected value
- § 19.2 Computing random numbers
- § 19.3 Simulating lognormal stock prices
- § 19.4 Monte Carlo valuation
- § 19.5 Efficient Monte Carlo valuation
- § 19.6 Valuation of American options
- § 19.7 The Poisson distribution
- § 19.8 Simulating jumps with the Poisson distribution
- § 19.9 Simulating correlated stock prices**
- § 19.10 Problems

Chapter 19. Monte Carlo Valuation

- § 19.1 Computing the option price as a discounted expected value
- § 19.2 Computing random numbers
- § 19.3 Simulating lognormal stock prices
- § 19.4 Monte Carlo valuation
- § 19.5 Efficient Monte Carlo valuation
- § 19.6 Valuation of American options
- § 19.7 The Poisson distribution
- § 19.8 Simulating jumps with the Poisson distribution
- § 19.9 Simulating correlated stock prices
- § 19.10 Problems