Contents

Preface	Х
Acknowledgments	Хİİ
About the Authors	Х
CHAPTER 1 Overview	1
CHAPTER 2 The Principle of Replication	13
CHAPTER 3 Static and Dynamic Replication	37
CHAPTER 4 Variance Swaps: A Lesson in Replication	57
CHAPTER 5 The P&L of Hedged Option Strategies in a Black-Scholes-Merton World	85
CHAPTER 6 The Effect of Discrete Hedging on P&L	105
CHAPTER 7 The Effect of Transaction Costs on P&L	117
CHAPTER 8 The Smile: Stylized Facts and Their Interpretation	131
CHAPTER 9	101
No-Arbitrage Bounds on the Smile	153

CHAPTER 10	100
A Survey of Smile Models	163
CHAPTER 11	
Implied Distributions and Static Replication	175
CHAPTER 12	
Weak Static Replication	203
CHAPTER 13	
The Binomial Model and its Extensions	227
CHAPTER 14	
Local Volatility Models	249
CHAPTER 15	
Consequences of Local Volatility Models	265
CHAPTER 16	
Local Volatility Models: Hedge Ratios and Exotic Option Values	289
CHAPTER 17	
Some Final Remarks on Local Volatility Models	303
CHAPTER 18	
Patterns of Volatility Change	309
CHAPTER 19	
Introducing Stochastic Volatility Models	319
CHAPTER 20	
Approximate Solutions to Some Stochastic Volatility Models	337
CHAPTER 21	
Stochastic Volatility Models: The Smile for Zero Correlation	353
CHAPTER 22	
Stochastic Volatility Models: The Smile with Mean Reversion and Correlation	369
CHAPTER 28	
Jump-Diffusion Models of the Smile: Introduction	383

395
417
419
421
431
433
497
501