

Point Processes And Queues, Martingale Dynamics

The Valuation of Executive Stock Options in an Intensity-Based Framework *

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Abstract. This paper presents a general intensity-based framework to value executive stock options (ESOs). It builds upon the recent advances in the credit risk modeling arena. The early exercise or forfeiture due to voluntary or involuntary employment termination and the early exercise due to the executive's desire for liquidity or diversification are modeled as an exogenous point process with random intensity dependent on the stock price. Two analytically tractable specifications are given where the ESO value, expected time of exercise or forfeiture, and the expected stock price at the time of exercise or forfeiture are calculated in closed form.

Key words: Brownian area, early exercise, executive stock options, Feynman-Kac formula, forfeiture, Laplace transform, occupation time, point processes with random intensity.

JEL classification: G13, G39, M41.

1. Introduction

Executive stock options (ESOs) currently constitute a sizable fraction of many firms' total compensation expense. It is important to accurately assess the cost of these options to shareholders both for accounting purposes and from a managerial control perspective (see Carpenter, 1998; Foster et al., 1991; Jennergren and Naslund, 1993). Since 1995, the Financial Accounting Standards Board (FASB) SFAS 123 has mandated that an estimate of the cost of ESO grants be disclosed in a footnote. Although it is not required, the recommended valuation method is to use the Black-Scholes European call pricing formula. The suggested maturity used in this formula is the expected life, although the maximum life (typically 10 years at grant) can also be used. Rubinstein (1995) argues on theoretical grounds that either method will tend to cause overvaluation. Similarly, Marquardt (1999) empirically

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POINT PROCESSES AND QUEUES. Martingale Dynamics. (Springer Series in Statistics). By P. BREMAUD: pp DM; US\$ (Springer-Verlag, Berlin .Download Citation on ResearchGate Point Processes and queues: martingale dynamics / Pierre Bremaud Incluye bibliografia e indice }.Point Processes and Queues: Martingale Dynamics. [Pierre Bremaud] -- From the Introduction: " The emphasis has been placed on topics of interest in systems .Point processes and queues, martingale dynamics /? Pierre Bremaud. Author. Bremaud, Pierre, (author.) Published. New York: Springer-Verlag, cPoint Processes and Queues: Martingale Dynamics by Pierre Bremaud, , available at Book Depository with free delivery.ingly, spatial-temporal point processes are used to describe environmental processes; in such instances .. Point Processes and Queues: Martingale Dynamics.Point Processes and Queues, Martingale Dynamics - Bremaud, P. H. Rost Metrika (). Volume: 30, page ; ISSN: ; X/e.Pierre Bremaud. Springer New York, - Martingales (Mathematics) Point Processes and Queues: Martingale Dynamics P. Bremaud No preview available .Point Processes and Queues: Martingale Dynamics by P. Bremaud and a great selection of similar Used, New and Collectible Books available now at.By P. Bremaud. From the advent: " The emphasis has been put on subject matters of curiosity in structures technology at large The point of.Bremaud, P. () Point Processes and Queues: Martingales Dynamics. Springer Verlag, New York. jekunthetbestejzelfworden.com has been cited.Point Processes and Queues: Martingale Dynamics. Pierre Bremaud. Format: Book; Published: New York: Springer-Verlag, c Language: English; Series .Point processes and queues, martingale dynamics by Pierre Bremaud; 1 edition; First published in ; Subjects: Point processes, Queuing.Point Processes and Queues: Martingale Dynamics by Pierre Bremaud. Buy Point Processes and Queues: Martingale Dynamics online for Rs. () - Free Shipping.BIBLIOGRAPHIC DATA. Title, Point Processes and Queues, Martingale Dynamics - Bremaud, P. Type, Article. Parent ID, PPN_

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