Gurdip Bakshi
University of Maryland

Dilip Madan
University of Maryland

Frank Xiaoling Zhang
Morgan Stanley

Investigating the Role of Systematic and Firm-Specific Factors in Default Risk: Lessons from Empirically Evaluating Credit Risk Models*

This paper proposes and empirically investigates a family of credit risk models driven by a two-factor structure for the short interest rate and an additional factor for firm-specific distress. The firm-specific distress factors include leverage, book-to-market, profitability, equity-volatility, and distance-to-default. Our estimation approach and performance yardsticks show that interest rate risk is of first-order importance for explaining variations in single-name defaultable bond yields. When applied to low-grade bonds, a credit risk model that takes leverage into consideration reduces absolute yield mispricing by as much as 30%. A strategy relying on Treasury instruments is effective in dynamically hedging credit exposures.

I. Introduction

The paradigm that default occurs when a continuous process such as firm value reaches a default boundary

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