

東京ファイナンス研究会 (Tokyo Finance Workshops)

#4: The Optimality of Defaultable Debt Contract in Continuous Time

Date & Time : 2005/11/1(Tue) 16:00-17:40

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Abstract

This paper studies dynamic costly state verification (or CSV) in a common agency model in continuous time and investigates recurrent loan-default negotiation in a competing mechanism design. Two main results are obtained: (1) An optimal contract is of a defaultable debt type, and (2) With respect to equilibrium default performance, (i) The contract requires state verification when, and only when, a default occurs, (ii) The equilibrium outcome involves paths with arbitrarily large finite numbers of defaults within any time interval, (iii) Defaults occur infinitely many times almost surely, and (iv) The equilibrium default probability follows an exponential distribution. Also, this paper gives a game-theoretic interpretation to Duffie-Singleton[17]'s default-intensity approach, and, due to the mathematical tractability, has numerous possibilities for practical extensions beyond simple CSV models (e.g., hidden entrepreneurial efforts and endogenous liquidity premium formulation). This model provides a better framework than before to analyze high yield spreads in actual debt pricing, especially liquidity premia.