

## How much can investors discount?

## Takuji Arai and Takamasa Suzuki

Department of Economics, Keio University, 2-15-45 Mita, Minato-ku, Tokyo 108-8345, Japan (e-mail: arai@econ.keio.ac.jp)

**Received**: May 31, 2010 **Revised**: July 9, 2010

JEL classification: G10

Mathematical Subject Classification (2010): 91G99, 46N10, 91B30

Abstract. We suggest a new valuation method of contingent claims for complete markets. Since our new valuation is closely related to shortfall risk, our suggestion would be useful to study shortfall risk measures which are convex risk measures induced by shortfall risk. We firstly give a brief introduction of shortfall risk measures, and discuss a general form of the valuation. We shall then deal with diffusion type models which are complete market models with underlying assets described by diffusion processes. In particular, the valuation for American type claims is discussed.

Key words: Convex risk measure, shortfall, American type claims