Economic Modelling of Suicide:

Under the Assumption of the Wage following a Geometric Brownian Motion

Tomoya Suzuki[*]

Faculty of Economics

Ryukoku University

67 Tsukamoto-cho Fukakusa Fushimi-ku

Kyoto 612-8577 JAPAN

E-mail: tmy-suzuki@econ.ryukoku.ac.jp

02 May 2007

Abstract

This paper formalises an individual's decision about suicide within a framework of utility-maximisation models. This is in line with the literature on economic modelling of suicide. The novelty of the paper is to take into account income uncertainty, assuming that the wage evolves according to a stochastic process. The threshold wage, below which the individual commits suicide, is derived as a function of the parameters of the stochastic process assumed for the wage evolution. Impacts of changes in these parameters on the threshold wage are calculated. With the result, the paper shows how income uncertainty affects suicidal decision.

Key Words: Suicide, Dynamic Programming, and Real Options.

JEL Codes: D10, G13, and Z13.