A MULTIFACTORIAL MODEL IN FINANCES

Gabriel-Lucian NEPOTU[1]

Abstract: *The multifunctional models refer to the dependence of the bond value on several factors, unlike the unifactorial ones depending on the interest rate r(t) only. Supposing that the bond value is depending on two random factors: the interest rate r(t) and the volatility* $\sigma(t)$*, both of them being stochastic. Starting from the dynamics of r(t) and* $\sigma(t)$*, we find the differential equation for the bond value.*

Key words: *interest rate, volatility, bond value, Ito formula.*

[1] Mathematical Analysis and Probabilities Dept., *Transilvania* University of Braşov.