Abstract

Our main goal is to find a market model which adequately approximate the real stock market.

At first we ran some statistical test whose results show that we can not accept most of the assumptions of the B-Sch-M model. However, analysing more precisely the peaks and valleys of the price processes, we calculated some R/S statistics which led us to assuming rather a stable driving processes. As a generalisation of this approach and considering the B-Sch-M stock price we got the Lévy type models.

By using the so-called normal inverse Gaussian model we carried out some price simulations. These results show that the NIG model can handle most of those phenomena which the B-Sch-M model can not explain.

We can say that if we generalize the B-Sch-M model then we lose the hedging property but we get better fitting.