

Statistical inference in a new extension of stochastic Gompertz process with exogenous factors

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SUMMARY

We define a new non-homogeneous extension of the well know Gompertz diffusion process (cf. [1]). This extension is obtained as a combination of the two non-homogeneous versions of the same process: the first was studied by Gutierrez et al. in (cf. [2]), who considered the exogenous factors in the intrinsic growth rate, while the second was defined in (cf. [3]), where the exogenous factors were assumed to affect the deceleration factor of the process. For the new process defined in this paper, the probabilistic characteristics are determined and the statistical inference is studied.

Keywords: Stochastic Gompertz process, Exogenous factors, Statistical inference in diffusion process.

AMS Classification: 60J60, 62M86

References

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