

BAYESIAN AND CLASSIC INFERENCE FOR THE DEFECTIVE GOMPERTZ CURE RATE MODEL

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- **ABSTRACT:** *In the survival analysis theory, there is the case in which a certain fraction of population are immune. These cases are usually treated using a standard mixture model, however, here we use an alternative methodology based on defective models. Defective models are those which allow to change the domain that is defined to certain distribution parameter, generating an improper distribution that naturally behaves as a cure rate model. In literature, there is two distributions with this property, the inverse Gaussian and Gompertz. We propose a Bayesian approach for Defective Gompertz model, along with a comparison to the maximum likelihood estimator. The results indicate that the bayesian model approximates to the classical, but with some small additional advantages in terms of confidence associated.*
- **KEYWORDS:** *Gompertz distribution; cure rates; defective models.*

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