

## **ABSTRACT**

### **COMPARE THE BENEFIT PREMIUMS N-YEAR TERM INSURANCE OF GOMPERTZ LAWS OF MORTALITY, MAKEHAM LAWS OF MORTALITY AND UNITED STATES LIFE TABLE 1979 – 1981 WITH CONSTANT FORCE OF INTEREST**

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The purposes of this research are to determine the benefit premiums for a unit  $n$ -year term insurance of Gompertz laws of mortality, Makeham laws of mortality, and U.S. life table 1979-1981 and the factors affect the amount of benefit premiums. Estimating parameters use nonlinear least square. The actuarial present value determined with integrating present value, life probability, and the force of mortality in  $n$ -year term. The annual premium is estimated by the actuarial present value and the value of annuity. The result shows that the factors affect the amount of benefit premiums are  $n$ -year term insurance, force of mortality, age of policy issue, and force of interest. The longer of the period of insurance, the greater the actuarial present value. Benefit premiums of Makeham has the greatest value than Gompertz and U.S. life tables. This is also apply to the value of annual premiums.

Keywords : force of mortality, Gompertz laws of mortality, Makeham laws of mortality, and benefit premiums for a unit  $n$ -year term insurance.