



CALCULATION OF RUIN PROBABILITY IN THE CLASSICAL RISK PROCESS WITH WEIBULL AND PARETO CLAIM DISTRIBUTION

UNDERGRADUATE THESIS

Submitted as one of the requirements to obtain

Sarjana Aktuaria

By

Nur Fani Fauziyah

021202100037

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PLAGIARISM REPORT

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ABSTRACT

The Weibull and Pareto distributions are commonly used in the insurance industry because they effectively model different aspects of risk and loss also their ability to model a wide range of risk case effectively. The calculation of ruin probability can be used to estimate and anticipate insurance companies from bankruptcy. One of the models to calculate ruin probability is classical risk process, in classical risk process a company considered bankrupt when the surplus process falls to zero or below. In this thesis, the calculation of ruin probability will be calculated through survival probability using numerical approximations that is Euler's method and Trapezoidal rule. The claim data from vehicle insurance be assumed to be Weibull and Pareto distributed and to get the maximum parameter value will use the Maximum Likelihood Estimation method. The result show the Pareto distribution yields a higher ruin probability compared to the Weibull distribution.

Keywords: Ruin Probability, Maximum Likelihood, Weibull distribution, Pareto distribution, Euler's method.

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