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Some approximations of ultimate ruin probability for finite initial surplus. (English)

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In the present paper it is demonstrated that renewal theoretical results can also be applied to derive explicit, approximate formulas for the ultimate ruin probability in the most important case of fixed finite initial surplus. These results are of interest from the theoretical as well as from the practical point of view.

MSC:

62P05 Applications of statistics to actuarial sciences and financial mathematics

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60K05 Renewal theory

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renewal theoretical results; approximate formulas; ultimate ruin probability; fixed finite initial surplus

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References:

- [1] Andersen, Sparre (1957): On the collective theory of risk in case of contagion between the claims. TICA 15, p. 219–229.
- [2] Bartholomew, D. J. (1963): An approximate solution of the integral equation of renewal theory. J.R. Statist. Soc. B, 25, 432–441. · [Zbl 0118.13203](#)
- [3] Cramér, H. (1955): Kollektive risk theory. A survey. Scandia Jubilee Volume. Stockholm 1955.
- [4] Deligönül, Z. S. (1985): An approximate solution of the integral of renewal theory. J. Appl. Prob. 22, 926–931. · [Zbl 0591.60085](#) · [doi:10.1017/S0021900200108162](#)
- [5] De Vylder, F. (1978): A practical solution to the problem of ultimate ruin probability. Scandinavian Actuarial Journal.
- [6] Gerber, H. U. (1980): An introduction to mathematical risk theory. Huebner Foundation.
- [7] Gerber, H. U. (1984): Ruin theory in the linear model. Insurance: Mathematics & Economics.
- [8] Goovaerts, M. and De Vylder, F. (1984): A stable recursive algorithm for evaluation of ultimate ruin probabilities. Astin Bulletin Vol. 14. · [Zbl 0547.62068](#)
- [9] Janssen, J. (1981): Generalized risk models. Cahiers du centre d'études de recherche opérationnelle, Vol. 23.
- [10] Kremer, E. (1986): Höhere Versicherungsmathematik. Hamburg 1986.
- [11] Ozbaykal, T. (1971): Bounds & approximations for the renewal function. M.S. Thesis. Department of OR and Admin., Sci. Monterey, Can.

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