

The Types of Annuities with Flexible Premium

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Abstract : Actuarial uses mathematics, statistic and financial information when analyzing the financial impacts of uncertainties, risks, insurance and pension related issues. In other words, it deals with the likelihood of potential risks, their financial impacts and especially the financial measures. Handling these measures require some long-term payment and investments. So, it is obvious it is inevitable to plan the periodic payments with equal time intervals considering also the changing value of money over time. These series of payment made specific intervals of time is called annuity or rant. In literature, rants are classified based on start and end dates, start times, payments times, payments amount or frequency. Classification of rants based on payment amounts changes based on the constant, descending or ascending payment methods. The literature about handling the annuity is very limited. Yet in a daily life, especially in today's world where the economic issues gained a prominence, it is very crucial to use the variable annuity method in line with the demands of the customers. In this study, the types of annuities with flexible payment are discussed. In other words, we focus on calculating payment amount of a period by adding a certain percentage of previous period payment was studied. While studying this problem, formulas were created considering both start and end period payments for cash value and accumulated. Also increase of each period payment by r interest rate each period payments calculated with previous periods increases. And the problem of annuities (rants) of which each period payment increased with previous periods' increase by r interest rate has been analyzed. Cash value and accumulated value calculation of this problem were studied separately based on the period start/end and their relations were expressed by formulas.

Keywords : actuarial, annuity, flexible payment, rant

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