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Evaluating Officer Retirement Under the New DoD Retirement System Using Single Objective Decision Analysis

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Abstract: This thesis employs Monte Carlo simulation to evaluate the new Department of Defense (DoD) retirement system. This new retirement system will incorporate a Thrift Savings Plan (TSP), similar to a 401k, with matching in addition to the current defined benefit. This thesis seeks to first evaluate the new retirement from a monetary perspective and compare it to the old retirement system. Next, this paper will analyze how long officers should decide to stay in the Army based on the net present value (NPV) of all future incomes in both military and civilian careers. The Monte Carlo simulation explores the value of an officer's career by simulating uncertainty in military promotion rates, interest rates, rates of returns on investments, and civilian career growth. This model shows that officers should opt in to the new retirement system because it has a higher NPV than the old retirement system at 20 YOS. Additionally, it allows servicemembers to leave the military with retirement benefits even if they do not reach 20 YOS. The salary that officers make as civilians determines whether or not they should stay in the Army. If an officer's starting salary in a career field is \$60,000 or more, the best decision for them is leaving the Army to work in this civilian career field as there is greater than a 50% probability that this will result in the most income. If they can obtain a starting salary of \$85,000 or more at age 25, then 75% of the time choosing this civilian career is a better decision than an Army career from a monetary perspective. Lastly, when considering civilian career fields, sales and business development is the best field for Army officers to enter followed by engineering.

Keywords: Decision Analysis, Retirement, Army Career