

Question #70

Answer: D

Expected present value (EPV) of future benefits =

$$= (0.005 \times 2000 + 0.04 \times 1000) / 1.06 + (1 - 0.005 - 0.04)(0.008 \times 2000 + 0.06 \times 1000) / 1.06^2$$

$$= 47.17 + 64.60$$

$$= 111.77$$

$$\text{EPV of future premiums} = \left[1 + (1 - 0.005 - 0.04) / 1.06 \right] 50$$

$$= (1.9009)(50)$$

$$= 95.05$$

$$E \left[{}_1L \mid K_{55} \geq 1 \right] = 111.77 - 95.05 = 16.72$$