

Task 3

Let n be a period and $m < n$ each with rates
If

$$A_t = P \cdot e^{r_n \cdot n} = P e^{r_m \cdot m} \cdot e^{r_{(n-m)} \cdot (n-m)}$$

$$= r_n \cdot n = r_m \cdot m + r_{(n-m)} \cdot (n-m)$$

$$r_{(n-m)} = \frac{r_n \cdot n - r_m \cdot m}{n - m}$$

Then

$$r_{1,2} = \frac{0,03 \cdot 2 - 0,02 \cdot 1}{2-1} = 4\%$$

$$r_{2,3} = \frac{0,037 \cdot 3 - 0,03 \cdot 2}{3-2} = 5,1\%$$

$$r_{3,4} = \frac{0,042 \cdot 4 - 0,037 \cdot 3}{4-3} = 5,7\%$$

$$r_{4,5} = \frac{0,045 \cdot 5 - 0,042 \cdot 4}{5-4} = 5,7\%$$