

Task 2.4

Friday, September 20, 2024 12:29 PM

Task 4

FV of index

$$F = S_0 \cdot e^{(r-r_f)T} = 400 \cdot e^{0,02 \cdot 0,3} = 402,68$$

Actual pricing: 405

The future price is higher than the theoretical price. This means that the index is overpriced and we can create an arbitrage strategy

Strategy:

Short the futures contract at \$405

Buy the index at 400 using loans at risk free interest rate

Borrow: 400 at 6%

Buy: Index at 400

Short: future at 405

$$\text{Dividend: } 400 \cdot e^{0,04 \cdot \frac{1}{3}} = 5,37$$

$$\text{loan: } 400 \cdot e^{0,06 \cdot \frac{1}{3}} = 408,08$$

Cash flow

$$\text{Total} = \text{Dividend} + \text{Future} = 5,37 + 405 = 410,37$$

Outflow

$$\text{Total} = 408,08$$

$$\text{Profit} = 410,37 - 408,08 = 2,29$$