Lecture 2
Extra questions

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Practice problem

Suppose you enter into a long ten-year forward position. In ten years, the spot price is \$200 and your payoff is \$100. At what forward price did you enter the contract?

Practice problem scratch paper

Practice problem

You own one share of the S&P 500 index. Today's spot price of the S&P 500 is $S_0 = \$3,300$ per share. In one year, the economy can be in one of two states: good (g) or bad (b). If the good state occurs, the price of the S&P 500 index will be $\$4,000$. If the bad state occurs, the price will be $\$3,000$. The probability of the good state is $\Pr(g) = 0.5$.

1. What is the expected price of the S&P 500 in one year? What is the variance?

2. The one-year forward price for the S&P 500 is $\$3,400$. What is the payoff to a short forward in the good state? The bad state?

3. Suppose you hedge your position in the S&P 500 by selling a forward. What is your expected payoff on your portfolio? What is the variance?

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