EXAM FM QUESTIONS OF THE WEEK

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Week of October 1/07

A stock pays continuous dividends at rate δ and has an implied repo rate of $\delta + .02$ on a one year forward contract. A second stock has a current price which is 5 more than the first stock, and it also pays continuous dividends at rate δ. The second stock has an implied repo rate of $\delta + .01$ on a one year forward contract. The one year forward price of the second stock is 4.64 greater than the one year forward price of the first stock. Find the current price of the first stock.

The solution can be found below.

Week of October 1/07 - Solution

Let S be the current stock price, and let F be the one year forward price on the first stock.
Then $F = Se^{\delta+.02-\delta} = Se^{.02}$.

For the second stock, we have $F + 4.64 = (S+5)e^{\delta+.01-\delta} = Se^{.01} + 5e^{.01}$.

From these two equations we get $Se^{.02} = Se^{.01} + 5e^{.01} - 4.64$.

Solving for S results in $S = 40.41$.