

Quiz A: 7/25/12

Name & Time Key

In answering the following question, I recommend building an arbitrage table like we did in Chapter 3. This isn't necessary but will make working the problem easier. Answer the questions on a per-share basis.

Assume that you can buy or sell Apple stock for \$575 per share. Assume also that you can buy or sell a call on Apple with a strike price of \$575 that expires in three months for \$29.90 and a put on Apple with a strike price of \$575 that expires in three months for \$26.95. Finally, assume that the risk-free interest rate is 1% per year. What set of transactions today would generate an arbitrage profit for you today? What profit would you earn today? What cash flows would each of your transactions create three months from today if Apple's stock price ends up at \$500 per share in three months? How about if Apple's stock price ends up at \$600 per share in three months? What are your total cash flows in three months under both cases?

$$\text{Price of bond} = \frac{575}{(1.01)^{3/12}} = 573.57$$

$$S + P = C + PV(K)$$

$$575 + 26.95 = 29.90 + 573.57$$

$$601.95 \neq 603.47$$

buy
short

Trans	\$0	\$500	\$600
+3 Buy stock	-575	+500	+600
+3 Buy put	-26.95	+75	0
+3 short call	+29.90	0	-25
+3 short bond	+573.57	-575	-575
<u>Total</u>	<u>+1.52</u>	<u>0</u>	<u>0</u>