

4/3/13
 Quiz B: 03/25/13

Name & Class Time Key

Notes: In solving the following I recommend setting up a table like we did in chapter 3, but this is not required. All answers should be on a per-share basis. Use a "+" for an inflow and a "-" for an outflow. I will assume an inflow if no sign is given.

Based on the following information on Disney stock and options, 1) what set of transactions today will generate an arbitrage profit today, 2) what is your arbitrage profit today, 3) at expiration of the options, what are the cash flows on your individual positions and on your total portfolio if Disney's stock price a) rises to \$60 per share and b) falls to \$40 per share, 4) what set of transactions or actions generate each of the cash flows from your individual positions at the expiration of the options if Disney's stock price falls to \$50 per share? When answering part 4) include all dollar amounts and locations for transactions.

Strike price on options = \$55; Expiration of options: 10/18/13 (198 days); Risk-free interest rate = 1.5%

	Bid	Ask
Stock	56.68	56.70
Call	4.20	4.30
Put	3.51	3.55

Wall Street Journal Questions are on the back of this page.

$$PV(K) = \frac{55}{(1.015)^{198/365}} = 54.56$$

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

$$\Rightarrow \text{Arb} = S+P-C-PV(K) > 0 \Rightarrow +56.68 + 3.51 - 4.30 - 54.56 = +1.33 \checkmark$$

$$\text{or } -S-P+C+PV(K) > 0 \Rightarrow -56.70 - 3.55 + 4.20 + 54.56 = -1.49 \times$$

Trans	CF ₀	CF ₁	
		60	40
a) short stock	+56.68	-60	-40
b) sell put	+3.51	0	-15
c) buy call	-4.30	+5	0
d) buy risk-free bond	-54.56	+55	+55
Total	+1.33	0	0

- 4) a) buy stock for \$40 in market +1
 b) buy stock for \$55 from buy put +1 + sell for \$40 in market +1
 c) throw away call +1
 d) bond matures for \$55 +1