

Quiz B for 2:30 Class: 9/4/13

Name Key

Short Answer 1: Assume General Mills' current stock price is \$49.32 and that it will pay a dividend per share of \$0.35 on 10/5/13, 1/8/14, 4/8/13, and 7/8/13. Ignoring transaction costs, what price on 4/23/14 will lead to a loss for you if you short-sell General Mill's stock today and close out your position on 4/23/14?

Break even = $+49.32 - .35(3) - P = 0 \Rightarrow P = 48.27$ Loss if $P > 48.27$

Short Answer 2: Assume a risk-free bond pays \$150 two years from today. What is the no-arbitrage price if the risk-free rate is 1.4%?

$150 / (1.014)^2 = 147.5$

Problem: Assume that each share of the Balanced Bond ETF holds one ST Bond and two LT bonds. Assume also that you have the following bid and ask prices, the number of bonds at each price, and the payment information for the ETF and the bonds. What is the maximum total arbitrage profit you can earn today? What trades today will set up the arbitrage? What cash flows will each of your positions generate? What transactions will be required two years from today? Show that the conditions of arbitrage are met. Notes: 1) I recommend building a table. 2) Use "+" for inflows and "-" for outflows. I will assume "+" if you do not write either one.

Security	Bid		Ask		Payments in	
	Price	Number	Price	Number	Year 1	Year 2
Balanced Bond ETF	859.80	500	860.00	300	400	500
ST Bond	282.80	600	283.20	400	200	100
LT Bond	277.30	700	277.70	900	100	200

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

Buy ETF + short bonds: $-860 + 282.80 + 2(277.30) = -22.6X$
 Short ETF + buy bonds: $+859.80 - 283.20 - 2(277.70) = +21.2V$

Trans ₀	CF ₀	CF ₁	CF ₂	Trans ₂
+5 Short 400 ETF	+859.8 x 400 = +343,920	-400 x 400 = -160,000	-500 x 400 = -200,000	buy 400 ETF
+5 Buy 400 STB	-283.20 x 400 = -113,280	+200 x 400 = +80,000	+100 x 400 = +40,000	Bonds mature
+5 Buy 800 LT B	-277.70 x 800 = -222,160	+100 x 800 = +80,000	+200 x 800 = +160,000	Bonds mature
	<u>+8480</u>	<u>0</u>	<u>0</u>	
	+3	+3	+3	