Quiz Key: 1/25/12

WSJ1: The Japanese government is expected to announce Wednesday that the country recorded its first annual _____ since 1980.
a. budget deficit
B. trade deficit
c. drop in new investment by businesses
d. drop in stock prices
e. drop in industrial output

WSJ2: On Tuesday, the Fed takes another historic step: At the conclusion of its two-day meeting, it will _____ for the first time
a. raise interest rates even though unemployment is above 8%
b. push interest rates negative
C. release detailed interest-rate projections
d. stop publishing weekly reports on the money supply
e. consult with Congress about how to stimulate the U.S. economy

Quiz: Assume that you can buy or sell risk-free bonds that mature for any dollar amount either a year from today or two years from today. All risk-free bonds pay an annual interest rate of 4%. Assume also that you can buy or sell the following securities at the market prices listed:

Security	Market Price	Payoff one year from today if the economy is: Strong	Weak	Payoff two years from today if the economy is: Strong	Weak
X	70	100	50	0	0
Z	160	0	0	200	150
ETF	445	150	100	400	300

a. What portfolio of securities will generate cash flows identical to those generated by the ETF?
b. What is the no-arbitrage price of the ETF?
Note: Feel free to answer parts "c" and "d" with a table
c. What set of transactions today will generate an arbitrage profit today?
d. What cash flows (each trade and total) will your transactions produce today, a year from today, and two years from today?

a. Equivalent portfolio: Buy X + buy 2$\underset{Z}{Z}$ + buy risk-free bond that matures for $50 in one year (or for $48.08)

b. $70 + 2(160) + 50/(1.04) = 438.08$ _(+3)_

Transaction	Cash Flow today	Cash flow one year from today: Strong	Weak	Cash flow two years from today: Strong	Weak
Buy X	− 70.00	+100	+50	0	0
Buy 2 Z	− 320.00	0	0	+400	+300
Buy risk-free bond	-48.08	+50	+50	0	0
Short-sell ETF	+445.00	− 150	− 100	− 400	− 300
Total	+6.92	0	0	0	0