

Quiz B for 9:45 Class: 7/11/12

Name Key

Assume that you can buy or sell the following securities:

Security	Price Today	Payoff one year from today if the economy is:		Payoff two years from today if the economy is:	
		Strong	Weak	Strong	Weak
TaxCut	\$120	\$10	\$0	\$130	\$30
Market	\$100	\$25	\$15	\$100	\$0

Assume also that you can buy or short-sell risk-free bonds that mature either a year from today or two years from today for whatever amount you chose. The return on these bonds is 3.5% per year.

- a. What investment in the market and risk-free bonds will generate cash flows identical to those generated by TaxCut?
- b. Calculate the no-arbitrage price for TaxCut?

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? Note: Use a "+" for inflows and a "-" for outflows.

④ a. Buy market ⁺³ short sell bond that matures one year for ⁺² \$15, buy bond that matures in two years for ⁺² \$30.

③ b. $100 - \frac{15}{1.035} + \frac{30}{(1.035)^2} = 100 - 14.493 + 28.005 = 113.513$

\$1 \$2

④ c + d

Trans	\$0	\$	\$	\$	\$
+2 Short TaxCut	+120	+2	-10	+2	-130
+2 Buy market	-100	+2	+25	+2	+100
+2 short 1-yr bond	+14.493	+2	-15	+15	0
+2 Buy 2-yr bond	-28.005	+2	0	-15	+30
<u>Total</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
	113.513	+1	0	+1	+1