

ECON 133 – Securities Markets – Fall 2010

Practice Problems -- Futures

1. The spot price for is \$650. The dividend yield on the S&P 500 is 2.5%. The risk-free interest rate is 5%. Solve for the futures price for gold for a one year contract.

2. A one year gold futures contract is selling for \$641. Spot gold prices are \$600 and the one year risk free rate is 6%. Solve for the arbitrage profit implied by these prices.

3. The following data on gold futures are from New York Mercantile Exchange. Gold futures are quoted in dollars per troy ounces. Trading unit is 100 troy ounces. Answer the following questions:

	Last	Open High	Open Low	High	Low	Most Recent Settle	Change
Aug. 2009	n/a	n/a	n/a	n/a	n/a	943.30	0.00
Sept. 2009	942.50	n/a	942.30	942.50	942.30	942.40	-0.90
Oct. 2009	945.30	n/a	944.50	945.30	944.10	943.70	+1.60
Dec. 2009	946.30	n/a	944.20	946.40	943.20	944.80	+1.40
Feb. 2009	944.70	n/a	944.70	944.70	944.70	946.10	-1.40
April 2010	n/a	n/a	n/a	n/a	n/a	947.30	0.00

- a) Suppose the contract expiring on Feb. 2010 is exactly 6 months from the quotation date. 6-months interest rate is 3%. If gold is trading at \$900 per troy ounce on the spot market, find out the implied per ounce storage cost of gold. Use the price column “Most Recent Settle”

- b) Suppose the storage cost is zero. If instead the gold futures delivered in Feb. 2010 are selling at \$890, how can you arbitrage? Suppose there is no margin requirement.