

NAME: _____

Finance 4376

Second Midterm Exam Answers

Williams

You have 70 minutes to complete this 100 point exam. Please write clearly and legibly. Show your calculations for partial credit. Good luck!

1. (20 Points). Match each finance term below with the 1 letter preceding its correct definition.

<u>_S_</u> discount rate	<u>_O_</u> principal agent problem
<u>_F_</u> bearer instrument	<u>_T_</u> PPP
<u>_N_</u> call provision	<u>_R_</u> TIPS
<u>_H_</u> tariffs	<u>_G_</u> LIBOR
<u>_E_</u> free rider problem	<u>_D_</u> open market operations

- A. Occurs when the primary owner of a stock quickly sells it on secondary markets.
- B. Provision allowing a bondholder to convert her bond into stock.
- C. Buying and selling of equities by market makers on secondary markets.
- D. Buying and selling of Treasury securities by the Fed.
- E. Problem that arises when some benefit from information without having to pay for it.
- F. Whoever owns the bond at maturity receives the principal and interest.
- G. London interbank offer rate.
- H. Taxes imposed specifically on imported goods.
- I. A financial security that guarantees its holder ownership in a business.
- J. Rate at which a junk bond must be discounted in order to attract buyers.
- K. Theory of Price Performance Parity stating that stocks ultimately earn the same risk-adjusted return.
- L. Problem that arises when borrowers engage in risky behavior with borrowed funds.
- M. Toronto Interbank Preferred Securities.
- N. Provision allowing bond issuer to force redemption of a bond prior to its maturity date
- O. When a firm's management engages in practices detrimental to shareholder value.
- P. London International Bond Offer Rate.
- R. Treasury Inflation-Protected Securities
- S. Interest rate charged by the Fed to banks for short term loans.
- T. Theory of Purchasing Power Parity stating that changes in exchange rates should reflect relative changes in national price levels.
- V. Limits placed on the quantity of a product that can be imported.

2. (30 Total Points on this Page) Choose FIVE of the six statements below. Indicate whether each of the five is **true** or **false**. Explain each of your indications in one or two sentences each. (Your scores depend entirely upon your explanations; do not repeat or slightly reword the statements in your explanations.)

According to the law of one price, if an ounce of silver costs \$500 in the U.S and 5 Marks in Germany then the mark/dollar exchange rate must be 100 Marks per dollar.

False. The implied exchange rate would be $5/500 = .01$ marks per dollar

Purchasing power parity theorizes that foreign exchange rates fluctuate due to changes in interest rates, technology, and trade barriers among countries.

False. See the definition on page 1, will ya?

The difference between common stock and preferred stock is that one pays a dividend and the other does not.

False. Common stock may pay a dividend (or it may not) and its owners have voting rights; preferred stock generally pays a fixed dividend and its owners have no voting rights.

A 20-year Treasury security with 45 days left 'til its maturity date is traded in a money market.

False. Any security whose original time to maturity is greater than 1-year is traded on the capital market

Indirect finance is a smaller source of external funds for firms than is direct finance.

False; approximately 65% of all external funds for business is indirect (obtained through financial intermediaries); the rest is direct. Moral hazard, adverse selection, transactions costs and the free-rider problem make direct finance unattractive for many firms

The Fed fights inflation by buying Treasury securities in the open market.

False. The Fed fights inflation by acting to increase short term interest rates; this can be accomplished by selling Treasury securities and/or raising the discount rate.

3. (10 points) Trump is in the 30% tax bracket. He can buy either a risk-free municipal bond with a 5% yield or a risk-free Treasury bond with an 8% yield. Both bonds have the same time 'til maturity.

Which bond should Trump buy? Support your answer with calculations.

the after-tax return on the T-bond is $.08(1-.3) = .056$, or 5.6%. This is higher than the muni yield, so Trump should buy the T-bond.

4. (10 points) Describe a “bankers acceptance” in three or four sentences.

A banker's acceptance is created when a buyer's bank issues a letter signifying that the buyer has the resources to pay the seller a specified amount, and that the bank will make good on this amount at a future date. This letter is sent to the seller's bank; the seller's bank sends it back to the buyer's bank, who then “stamps” it as accepted and returns it to the seller's bank. At that point the letter becomes a banker's acceptance.

5. (10 points) You purchase a new 182-day Treasury bill with an annualized yield of 5%. When it matures it will be worth \$10,000.

How much did you pay for the bond?.

$$(10000 - x)/x \times 365/182 = .05$$

$$\rightarrow (10000 - x)/x \times 2.0054945 = .05$$

$$\rightarrow (10000 - x)/x = 0.0249315069176205668975905942399742$$

$$\rightarrow 10000 - x = 0.0249315069176205668975905942399742x$$

$$\rightarrow 10000 = 1.0249315069176205668975905942399742x$$

$$\rightarrow x = \$9756.75$$

6. (10 points) A share of Reliant Energy stock pays a dividend of \$3 (per year), expected to grow at a rate of 6% per year. The discount rate is 11%

Calculate the current fair price of Reliant energy stock according to the Gordon model.

$$3/(.11-.06) = \$60$$

7. (10 points) A 1-year U.S. bond has a yield of 4% (payable in dollars). A 1-year bond with identical attributes in France has an 9% yield (payable in Francs). The 1-year forward franc/dollar exchange rate is 5 francs per dollar.

Calculate today's franc/dollar exchange rate.

$$.04 + (5 - x)/x = .09$$

$$\rightarrow (5-x)/x = .05$$

$$\rightarrow .05x = 5 - x$$

$$\rightarrow 1.05x = 5$$

$$\rightarrow x = 5/1.05 = 4.762 \text{ francs per dollar (rounded)}$$

