

SOE & WISE, Xiamen University, SEM II, AY2022-2023
Financial Economics/Asset Pricing
Homework 2

Notes:

- i. This assignment is not meant for submission. Answers will be provided next week to help you prepare for the midterm exam.
- ii. Questions 1-6 pertain to Lecture 4, while questions 7-11 are related to Lecture 5.

1. Fill in the missing exchange rates in the following table:

	U.S. Dollar	Euro	Danish Krone	Japanese Yen
U.S. Dollar	\$1	1.5576	0.2088	0.009594
Euro	0.6420			
Danish Krone	4.7898			
Japanese Yen	104.23			

2. You observe that the dollar price of the Mexican peso is \$0.09618 and the dollar price of the Canadian dollar is \$0.9997. What must the exchange rate between the Mexican peso and the Canadian dollar be for there to be no arbitrage opportunity?

3. Suppose that the exchange rate is \$0.2970 to the Israeli shekel. How could you make arbitrage profits with \$10,000 if the dollar price of gold is \$200 per ounce and the shekel price is 750 ILS per ounce?

4. A firm's earnings per share are \$5.50 and the industry average P/E multiple is 8. What would be an estimate of the value of a share of the firm's stock? Is it possible for firms being classified in the same industry to have different price/earnings multiples?

5. BHM stock is trading for \$47 per share on the NYSE and \$45 per share on the Sydney Stock Exchange. Assume that the costs of buying and selling BHM stock are negligible.

- (a) How can you make an arbitrage profit?
- (b) Over time what would you expect to happen to stock prices in New York and Sydney?
- (c) Now assume that the cost of buying and selling shares of BHM are 2% per transaction. How does this affect your answers?

6. Suppose you have \$50,000 in a bank account earning an interest rate of 3.5% per year. At the same time you have an unpaid balance on your credit card of \$13,000 on which you are paying an interest rate of 21% per year. What is the arbitrage opportunity you face?

7. Consider a five-year fixed-income security which promises \$120 per year. Calculate the value of the security if the market interest rate rises from 5% to 6% per year.

8. Consider a four-year fixed-income security which promises \$120 per year. Calculate the value of the security if the market interest rate falls from 7% to 6% per year.

9. A four-year bond has a coupon rate of 6% per year, a price of \$950, and a face value of \$1,000. Calculate its current yield and yield to maturity.

10. Calculate the coupon rate, current yield, and the yield to maturity for a bond that has \$1,000 par value, pays a coupon of \$85 annually, matures in 20 years, and has a current price of \$985.25.

11. Suppose our want to know the price of a 15-year 8% coupon bond which pays interest annually. The face value of the bond is \$1,000.

- (a) You have been told the yield to maturity is 9%. What is the price? Assume coupons are paid annually.
- (b) What is the price if coupons are paid semi-annually and the yield to maturity is 9% per year?