

IDFM Assignment 1

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Q1. Is there any difference between currency forwards and futures markets?

c) Yes, only a limited number of currencies are traded in the futures market and that also in standardized amounts.

Q2. What is the difference between primary and secondary markets?

c) 1 and 3 only

Q3. A company can raise capital through the primary market in the form of

(d) All of the above

Q4. PK Enterprises Limited has sold an entire lot of 500,000 equity shares @ \$9 each to Prosperous Bank Private Limited. The bank in turn will offer the shares to general public for subscription @\$11 per share. Identify the method of floatation being described in the given lines.

- a. Private placement
- b. Offer through prospectus
- c. Offer for sale
- d. Rights issue

(c) Offer for sale

Q5. The type of unit which guarantees that all the buying and selling will be made by traders of exchange is called

c) Clearing house

Q6. _ is the minimum amount which must be remained in a margin account.

a) Maintenance margin

Q7. The basic difference between speculators and hedgers in futures contracts is that speculators:

b) Are not protecting their commodity holdings.

Q8. Hershey's Chocolate must purchase cocoa to make its products. The company is concerned that prices may rise prior to building inventory for Halloween sales. Analysts project that price per ton could vary from \$1250 to \$11500. A September futures contract can be obtained with a \$1300 purchase price. What is Hershey's risk in this situation?

- a. Cocoa prices will rise above \$1300 and Hershey will purchase its cocoa at a price of \$1300.
- b. Cocoa prices will decline below \$1300 and Hershey will purchase its cocoa at a price of \$1300.
- c. Cocoa prices will hit \$1300 and the contract was a waste of time.
- d. Hershey has no risk in this situation.

b) Coca prices will decline below \$1300 and Hershey will purchase its coca at a price of \$1300.

Q9. An investor sells a futures contract on an asset when the futures price is \$1500. Each contract is on 100 units of the asset. The contract is closed out when the futures price is \$1540. Which of the following is true?

- a. The investor has made a gain of \$4000.
- b. The investor has made a loss \$4000.
- c. The investor has made a gain \$200.
- d. The investor has made a loss of \$200.

b) The investor has made a loss of \$4000.

Q10. A short forward contract on an asset plus a long position in a European call option on the asset with a strike price equal to the forward price is equivalent to

c) A long position in a put

Q11. A trader has a portfolio worth \$5 million that mirrors the performance of a stock index. The stock index is currently 1250. Futures contracts trade on the index with one contract being on 250 times the index. To remove market risk from the portfolio the trader should

b) Sell 16 contracts

Q12. A company enters into a short futures contract to sell 50000 units of a commodity for 70 cents per unit. The initial margin is \$4000 and the maintenance margin is \$3000. What is the futures price per unit above which there will be a margin call?

d) 72 cents

Q13. The standard deviation of monthly changes in the spot price of live cattle is (in cents per pound) 1.2. The standard deviation of monthly changes in the future price of live cattle for the closest contract is 1.4. The correlation between the futures price changes and the spot price changes is 0.7. It is now October 15. A beef producer is committed to purchasing 200,000 pounds of live cattle on November 15. The producer wants to use the December live-cattle futures contracts to hedge its risk. Each contract is for the delivery of 40,000 pounds of cattle. What strategy should the beef producer follow?

a) The beef producer should take a long position in 3 December contracts closing out the position on November 15.

Q14. On July 1, an investor holds 50,000 shares of a certain stock. The market price is \$30 per share. The investor is interested in hedging against movements in the market over the is currently 1,500 and one contract is for delivery of \$50 times the index. The beta of the stock is 1.3. What strategy should the investor follow?

d) A short position in 26 contracts.

Q15. A trader owns 55,000 units of a particular asset and decides to hedge the value of her position with futures contract on another related asset. Each futures contract is on 5,000 units. The spot price of the asset that is owned is \$28 and the standard deviation of the change in this price over the life of the hedge is estimated to be \$0.43. The futures price of the related asset is \$27 and the standard deviation of the change in this over the

life of the hedge is \$0.40. The coefficient of correlation between the spot price change and futures price change is 0.95.

- What is the minimum variance hedge ratio?
- Should the hedger take a long or short futures position?
- What is the optimal number of futures contracts when issues associated with daily settlement are not considered?
- How can the daily settlement of futures contracts be taken into account?

Q25 $Q_A = 55,000$ $S = \$28$
 $Q_F = 5,000$ $\sigma_S = 0.43$, $\sigma_F = 0.4$

$F = \$27$; $\rho = 0.95$

a) $h = \rho \frac{\sigma_S}{\sigma_F} = 0.95 \times \frac{0.43}{0.4}$
 $h^* = 1.02125$

b) Short

c) $N = \frac{h Q_A}{Q_F} = \frac{1.02125 \times 55,000}{5,000}$
 $= 11.233$
 $= 11$

d) By tailing the hedge.

$N = A \frac{V_A}{V_F} = 102125 \times \frac{55000 \times 28}{5,000 \times 27}$
 $= 12$