

## Topic 31: Banks

### Question #1 of 5

Question ID: 727278

An investment bank is evaluating several financing arrangements for a new securities issuance. Which of the following arrangements would allow the bank to sell only part of the issue without being obligated to buy the unsold portion?

- A) Firm commitment.
- B) Private placement.
- C) Dutch auction process.
- D) Best efforts basis.

### Question #2 of 5

Question ID: 727280

Regarding the originate-to-distribute model of a bank, which of the following statements is not associated with a benefit of this model?

- A) It can free up capital with which banks can meet regulatory requirements or make new loans.
- B) It can be applied to the residential mortgage market, student loans, credit card balances, and commercial loans and mortgages.
- C) It can lead banks to loosen lending standards.
- D) It increases liquidity in the sectors of the lending market where it is used.

### Question #3 of 5

Question ID: 727276

Regarding the differences between economic capital and regulatory capital, which of the following statements is correct?

- A) Even if economic capital is less than regulatory capital, a bank must maintain its capital at the regulatory minimum or greater.
- B) In terms of bank regulation, subordinated long-term debt is referred to as Tier 1 capital.
- C) Regulatory capital refers to the amount of capital that a bank believes is adequate based on its own risk assessment.
- D) Economic capital is used to determine the maximum amount of risk a bank can take on.

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## **Question #4 of 5**

Question ID: 727279

Which of the following statements is correct regarding the differences between the bank's trading book and banking book? The trading book:

- A)** refers to loans made, which are the primary assets of a commercial bank.
  - B)** refers to assets and liabilities related to a bank's trading activities.
  - C)** does not include accrued interest for nonperforming loans.
  - D)** uses a daily marked to market method for items that lack a liquid market.
- 

## **Question #5 of 5**

Question ID: 727277

A system of deposit insurance could potentially create a moral hazard problem. Which of the following statements is least likely correct regarding moral hazard?

- A)** In the banking context, with deposit insurance in place, the moral hazard arises when depositors pay more attention to banks' financial health than they otherwise would.
- B)** One way of mitigating moral hazard is by making insurance premiums risk-based.
- C)** Deposit insurance allows banks to offer higher interest rates on deposits and make higher-risk loans with the funds they attract.
- D)** Moral hazard suggests that insured parties take greater risks than they would normally take if they were not insured.

## Topic 32: Insurance Companies and Pension Plans

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### Question #1 of 5

Question ID: 727282

Assume that the relevant interest rate for insurance contracts is 4% per annum (semiannual compounding applies), and all premiums are paid annually at the beginning of the year. A \$250,000 term insurance contract is being proposed for a 50-year-old male in average health. Assuming that payouts occur halfway throughout the year, calculate the insurance company's breakeven premium for a one-year term. Note that the probability of death within 1 year for a 50-year-old male is 0.005038.

- A) \$1,211.44.
  - B) \$1,259.50.
  - C) \$1,234.80.
  - D) \$1,615.38.
- 

### Question #2 of 5

Question ID: 727285

A new hire is researching the differences between a defined benefit plan and a defined contribution plan. Which of the following statements within the company's policies would indicate that the pension plan is a defined benefit plan?  
A defined benefit plan:

- A) does not explicitly state the amount of the pension that the employee will receive upon retirement.
  - B) involves one individual account associated with one employee.
  - C) risks underperformance of the plan's investments, and this risk is borne solely by the employee.
  - D) involves one pooled account for all employees as all contributions go into and all payments come out of the one account.
- 

### Question #3 of 5

Question ID: 727284

Which of the following statements is correct regarding the differences between mortality risk and longevity risk from the perspective of an insurance company?

- A) Mortality risk refers to the risk of policyholders living longer than expected due to better healthcare and healthier lifestyle choices.

- B)** In regard to mortality risk, the risk of losses increases due to the longer-than-expected annuity payout period.
  - C)** Longevity risk refers to the risk of policyholders dying earlier than expected due to illness or disease.
  - D)** Longevity risk is bad for the annuity business but is good for the life insurance business due to the delayed payout.
- 

## Question #4 of 5

Question ID: 727283

For a property-casualty insurance company, how is a company's operating ratio computed?

- A)** Payouts minus premiums generated.
  - B)** Combined ratio plus dividends minus investment income.
  - C)** Loss ratio plus expense ratio.
  - D)** Combined ratio minus dividends.
- 

## Question #5 of 5

Question ID: 727281

Which of the following statements does not accurately describe a major risk facing insurance companies?

- A)** By transacting with banks and reinsurance companies, insurance companies face credit risk if the counterparty defaults on its obligations.
- B)** Insurance companies often invest in short-term debt securities, so if defaults decrease, insurance companies will incur losses.
- C)** Insurance companies face losses due to failure of its systems and procedures or from external events outside the company's control.
- D)** It is always possible that insurance companies will have a sudden surge of payouts in a short period of time.

## Topic 33: Mutual Funds and Hedge Funds

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### Question #1 of 5

Question ID: 727290

Which of the following hedge fund strategies would most likely include market neutral funds and factor neutral funds?

- A) Merger arbitrage.
  - B) Long/short equity.
  - C) Distressed securities.
  - D) Managed futures.
- 

### Question #2 of 5

Question ID: 727286

Assume ABZ mutual fund is an open-end fund that owns \$500 million in equities, \$150 million in bonds, and \$25 million in cash. They owe \$5.5 million in management fees payable at this point in the quarter, and they have 22 million shares outstanding. What is this fund's net asset value (NAV)?

- A) \$53.23.
  - B) \$29.55.
  - C) \$30.43.
  - D) \$22.48.
- 

### Question #3 of 5

Question ID: 727289

A hedge fund manager uses a strategy that attempts to infer patterns from past price movements and use those patterns as a basis for predictions. This fund manager then backtests his trading rules using historical data. Which of the following strategies is this hedge fund manager most likely utilizing?

- A) Managed futures.
  - B) Fixed income arbitrage.
  - C) Convertible arbitrage.
  - D) Dedicated short.
- 

### Question #4 of 5

Question ID: 727287

An analyst is reviewing the key differences and similarities between hedge funds and mutual funds. Which of the following statements should he consider correct?

- A)** Hedge funds are marketed to any and all investors, while mutual funds are restricted to only wealthy and sophisticated investors.
  - B)** Both mutual funds and hedge funds are permitted to use leverage.
  - C)** Mutual funds offer professional management, instant diversification, and the ability to commingle funds with other investors, while hedge funds do not offer all of these features.
  - D)** Unlike mutual funds, hedge funds do not need to provide the redemption of shares at any time the investor chooses or a daily calculated net asset value.
- 

### Question #5 of 5

Question ID: 727288

Hedge funds deploy a complex compensation structure centered on incentive fees. Which of the following items would not act as a safeguard for investors to soften this incentive fee structure?

- A)** 2 plus 20% structure.
- B)** Clawback clause.
- C)** Hurdle rates.
- D)** High-water mark.

## Topic 34: Introduction

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### Question #1 of 18

Question ID: 439021

Arbitrageurs attempt to:

- A)** earn a long-term profit by making consistent long term investments.
  - B)** earn a riskless profit through the exploitation of security mispricings.
  - C)** neutralize a financial exposure as part of a risk management strategy.
  - D)** earn significant profits by making market bets regarding securities prices.
- 

### Question #2 of 18

Question ID: 439020

Jim Bob and Joe Bob both are employed as portfolio managers at a regional investment firm based on Amarillo, Texas.

Jim Bob is examining employing a covered call strategy on a particular oil stock, and tells his colleague that he likes this approach, since it will increase expected returns on the portfolio while at the same time reducing downside risk.

Joe Bob is considering another approach. He is looking at an oil services firm and would like to employ a protective put strategy. He tells his colleague that this approach will permit his investors to have an unlimited profit potential while limiting potential losses to an amount equal to the initial stock price less the put premium.

Are Jim Bob and/or Joe Bob correct in their statements?

- A)** Jim Bob is incorrect; Joe Bob is also incorrect.
  - B)** Jim Bob is correct; Joe Bob is incorrect.
  - C)** Jim Bob is incorrect; Joe Bob is correct.
  - D)** Jim Bob is correct; Joe Bob is also correct.
- 

### Question #3 of 18

Question ID: 439012

The practice of adjusting the margin balance in a futures account for the daily change in the futures price is called:

- A)** the daily call.
- B)** a margin call.
- C)** marking to market.
- D)** settling up.

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## Question #4 of 18

Question ID: 439013

Comparing and contrasting the over-the-counter (OTC) market with the traditional exchange market, which is larger, and what would be a key advantage of OTC trading compared with traditional exchange trading?

- A)** OTC market is smaller, and a key OTC advantage is that terms are not set by any exchange.
  - B)** OTC market is smaller, and a key OTC advantage is calls are recorded, to prevent miscommunications.
  - C)** OTC market is larger, and a key OTC advantage is that credit risk is eliminated or largely mitigated.
  - D)** OTC market is larger, and a key OTC advantage is participants' flexibility to negotiate.
- 

## Question #5 of 18

Question ID: 439017

A call option gives the holder:

- A)** the right to sell at a specific price.
  - B)** the right to buy at a specific price.
  - C)** an obligation to buy at a certain price.
  - D)** an obligation to sell at a certain price.
- 

## Question #6 of 18

Question ID: 439016

The formula for the payoff at expiration to a put option buyer is:

- A)**  $\max(0, S_T - X)$ .
  - B)**  $\max(0, X - S_T)$ .
  - C)**  $-\max(0, X - S_T)$ .
  - D)**  $-\max(0, S_T - X)$ .
- 

## Question #7 of 18

Question ID: 439197

How are futures contracts typically organized and arranged?

- A)** Futures contracts are used to hedge commodity and financial product risk, are organized between two parties privately, and can be established in any quantity or product.

- B)** Futures contracts require a margin deposit, the position is marked to market daily, and are standardized according to exchange guidelines.
  - C)** Futures contracts do not trade on organized exchanges, do not require margin deposits, and are not regulated by any agencies.
  - D)** One counterparty agrees to buy, and another counterparty agrees to sell, a given asset, at an agreed price, and there always exists risk that one party may default.
- 

### Question #8 of 18

Question ID: 439211

In the commodity spot and futures markets, what effect on price fluctuations and market liquidity do speculators provide?

- A)** Expand market breadth, reduce volatility, increase price volatility.
  - B)** Smooth price fluctuations, provide market liquidity.
  - C)** Increase volume, volatility and liquidity risk, while providing market depth.
  - D)** Lower margin rates, increase price volatility.
- 

### Question #9 of 18

Question ID: 439022

Joe Mannes, FRM believes he has identified an arbitrage opportunity between the NASDAQ and the London Stock Exchange (LSE). The stock he is looking at, Pharma PLC, is trading on NASDAQ for \$76 and trading on the LSE for 52.03 GBP. The current exchange rate is 1.557\$ / GBP. Is there a potential for an arbitrage profit, and if so, what would it be?

- A)** Yes; \$4.75.
  - B)** Yes; \$2.50.
  - C)** Yes; \$5.00.
  - D)** No.
- 

### Question #10 of 18

Question ID: 439202

Which of the following statements about arbitrage opportunities is **TRUE**?

- A)** There can never be an opportunity to make profits from arbitrage.
  - B)** Engaging in arbitrage requires a large amount of capital for the investment.
  - C)** Pricing errors in securities are instantaneously corrected by the first arbitrageur to recognize them.
  - D)** When an opportunity exists to profit from arbitrage, it usually lasts for several trading days.
- 

### Question #11 of 18

Question ID: 439018

What is the payoff and profit, respectively, to the call buyer on a stock, given the following specifics:

Call strike price: \$62

Put strike price: \$63

Stock price: \$70

Call premium: \$3.25

Put premium: \$2.75

- A)** Payoff: \$8.00; Profit: \$4.75
  - B)** Payoff: \$8.00; Profit: \$12.75
  - C)** Payoff: \$0; Profit: \$0
  - D)** Payoff: \$7.00; Profit: \$2.75
- 

### Question #12 of 18

Question ID: 439205

Which of the following is an example of an arbitrage opportunity?

- A)** A portfolio of two securities that will produce a certain return that is greater than the risk-free rate of interest.
  - B)** A stock with the same price as another has a higher expected rate of return.
  - C)** A stock with the same price as another has a higher rate of return.
  - D)** A put option on a share of stock has the same price as a call option on an identical share.
- 

### Question #13 of 18

Question ID: 439204

The process that ensures that two securities positions with identical future payoffs, regardless of future events, will have the same price is called:

- A)** the law of one price.
  - B)** payoff parity.
  - C)** arbitrage.
  - D)** exchange parity.
- 

### Question #14 of 18

Question ID: 439015

Which of the following is *least likely* correct?

- A)** The initial investment in futures consists of the premium.
  - B)** Futures contracts have a symmetrical payoff.
  - C)** Speculators use derivatives due to the low initial investment required.
  - D)** Option contracts have an asymmetrical payoff.
- 

### Question #15 of 18

Question ID: 439014

The highest price a dealer is willing to pay to purchase a security is the:

- A)** exercise price.
  - B)** bid price.
  - C)** offer price.
  - D)** strike price.
- 

### Question #16 of 18

Question ID: 439019

An investor has been bullish on AAPL for quite some time, and has accumulated a large position totaling 1.2 million shares. The current stock price is \$575 per share. If the investor is concerned about a decline in the price of the stock and elects to hedge the position by purchasing a 3-month put option, what is the profit on a per share basis if the stock price is \$541 in 3 months, the strike price on the put is \$575, and the put premium is \$3.70?

- A)** \$30.30.
  - B)** -\$3.70.
  - C)** -\$34.00.
  - D)** \$3.70.
-

## **Question #17 of 18**

Question ID: 439023

If a risk manager misuses derivatives by speculating instead of actually hedging, what is the term for it?

- A)** Regulatory risk.
  - B)** Business risk.
  - C)** Catastrophic risk.
  - D)** Operational risk.
- 

## **Question #18 of 18**

Question ID: 439198

Considering the differing needs and goals of spot buyers, hedgers, speculators and arbitrageurs, which of these parties have a primary goal of transferring the risk of price change?

- A)** Speculator.
- B)** Spot buyer.
- C)** Arbitrageur.
- D)** Hedger.

# Topic 35: Futures Markets and Central Counterparties

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## Question #1 of 40

Question ID: 439051

Which of the following statements about closing a futures contract through offset is *most* accurate?

- A) In an offset, or reversing trade, a trader makes an exact opposite trade (maturity, quantity, and good) to her current position, either through the clearinghouse or a private party.
  - B) Offset is the least common method of closing a futures position.
  - C) A low percentage of offsets take place *ex-pit*.
  - D) The clearinghouse nets the position to zero.
- 

## Question #2 of 40

Question ID: 439027

Which of the following statements *best* describes marking-to-market of a futures contract? At the:

- A) end of the day, the maintenance margin is increased for traders who lost and decreased for traders who gained.
  - B) conclusion of each trade, the gains or losses from all previous trades in the futures contract are tallied.
  - C) end of the day, the gains or losses are tallied to the trader's account.
  - D) maturity of the futures contract, the gains or losses are tallied to the trader's account.
- 

## Question #3 of 40

Question ID: 439040

The money added to a margin account to bring the account back up to the required level is known as the:

- A) daily settlement.
  - B) variation margin.
  - C) maintenance margin.
  - D) initial margin.
- 

## Question #4 of 40

Question ID: 439026

Which of the following statements regarding the mark to market of a futures account is *least* accurate? Marking to market of a futures account:

- A)** may be done more often than daily.
  - B)** is only done when the settlement price is below the maintenance price.
  - C)** effectively adjusts the price of the future to the new equilibrium level.
  - D)** may result in a margin balance above the initial margin amount.
- 

### Question #5 of 40

Question ID: 439031

An investor has a short position in T-bond futures, and due to a decrease in interest rates, is required to make an additional cash deposit to her futures account. This is an example of:

- A)** initial margin.
  - B)** variation margin.
  - C)** minimum margin.
  - D)** maintenance margin.
- 

### Question #6 of 40

Question ID: 439024

If an investor desires to take a short position in a particular type of commodity, but wishes to specify the quality of the underlying commodity, which is the appropriate type of contract she should use?

- A)** Either a forward contract or a futures contract could be used.
  - B)** A forward contract would be preferred.
  - C)** Neither a forward nor a futures contract allows such specificity.
  - D)** A futures contract would be preferred.
- 

### Question #7 of 40

Question ID: 439050

Which of the following statements about closing a futures position through delivery is *most* accurate?

- A)** Delivery is also known as *exchange for physicals* (EFP).
  - B)** Delivery can occur through the clearinghouse or by private party negotiation.
  - C)** Depending on the wording of the contract, a trader may close a contract by either delivering the goods to a designated location or by making a cash settlement of any gains or losses.
  - D)** Although the popularity of physical delivery has decreased over time, delivery by cash settlement remains the most popular method of closing a futures position.
-

## Question #8 of 40

Question ID: 439034

Which of the following statements regarding margin in futures accounts is **FALSE**?

- A) Margin *must* be deposited before a trade can be made.
  - B) With futures margin, there is no loan of funds.
  - C) Margin is usually 10% of the contract value for futures contracts.
  - D) Margin is resettled daily.
- 

## Question #9 of 40

Question ID: 439058

Most deliverable futures contracts are settled by:

- A) an exchange-for-physicals.
  - B) delivery of the asset at contract expiration.
  - C) a cash payment at expiration.
  - D) an offsetting trade.
- 

## Question #10 of 40

Question ID: 439038

If the balance in a trader's account falls below the maintenance margin level, the trader will have to deposit additional funds into the account. The additional funds required is called the:

- A) variation margin.
  - B) margin call.
  - C) initial margin.
  - D) marking to market.
- 

## Question #11 of 40

Question ID: 439055

Prior to contract expiration the short in a futures contract can avoid futures exposure by:

- A) entering into a reversing trade.
  - B) delivering the asset at the current spot price.
  - C) paying a cash settlement amount.
  - D) using an exchange-for-physicals.
-

## Question #12 of 40

Question ID: 439029

Revaluing a participant's portfolio to market value at the end of each trading day describes which mechanism for reducing counterparty risk?

- A)** Contract standardization.
  - B)** Marking to market.
  - C)** Netting.
  - D)** Downgrade triggers.
- 

## Question #13 of 40

Question ID: 439041

The initiation of a futures position:

- A)** is at a price negotiated between the buyer and seller.
  - B)** requires both a buyer and a seller.
  - C)** is often done with a futures dealer when the asset is not standard.
  - D)** is done through a bank or other large financial institution acting as a dealer.
- 

## Question #14 of 40

Question ID: 439025

What is the term for the difference between the spot price and the future price, and what happens to it as the futures contract approaches expiration?

- A)** Spot different; it approaches zero.
  - B)** Basis; it decreases.
  - C)** Convergence; it decreases.
  - D)** Spot arbitrage; it increases.
- 

## Question #15 of 40

Question ID: 439061

Which of the following statements regarding orders in exchange markets is *least* accurate?

- A)** In a short sale, a trader borrows stock and sells it.
- B)** A stop buy order can be combined with a short sale to limit losses.
- C)** A stop buy order is an order to purchase a stock if the price falls to the stop price.
- D)** A limit sell order is an order to sell at a price greater than the limit price.

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## Question #16 of 40

Question ID: 439060

An investor sold a stock short and is worried about rising prices. To protect himself from rising prices he would place a:

- A)** limit order to buy.
  - B)** limit order to sell.
  - C)** stop order to sell.
  - D)** stop order to buy.
- 

## Question #17 of 40

Question ID: 439033

A similarity of margin accounts for both equities and futures is that for both:

- A)** additional payment is required if margin falls below the maintenance margin.
  - B)** interest is charged on the margin loan balance.
  - C)** the initial margin is effectively paid to the seller of the security by the buyer.
  - D)** the value of the security is the collateral for the loan.
- 

## Question #18 of 40

Question ID: 439057

Which of the following is *least likely* a way to terminate a long position in a deliverable futures contract at expiration?

- A)** An exchange-for-physicals.
  - B)** An equivalent cash settlement.
  - C)** Close-out at expiration.
  - D)** Taking delivery.
- 

## Question #19 of 40

Question ID: 439042

Which of the following statements regarding a futures trade of a deliverable contract is **FALSE**?

- A)** The long is obligated to purchase the asset.
- B)** Equilibrium futures price is known only at the end of the trading day.
- C)** The short is obligated to deliver the asset.
- D)** The price is determined by open outcry.

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## Question #20 of 40

Question ID: 439039

When a futures trader receives a margin call what must he or she do to bring the position up to the initial margin? The futures trader must:

- A)** deposit maintenance margin.
  - B)** deposit the daily settlement value.
  - C)** deposit variation margin.
  - D)** sell stock to cover the margin call.
- 

## Question #21 of 40

Question ID: 439044

The settlement price for a futures contract is:

- A)** the price at which all trades over a certain period are executed.
  - B)** the price of the last trade of a futures contract at the end of the trading day.
  - C)** the price of the asset in the future for all trades made in the same day.
  - D)** an average of the trade prices during the 'closing period'.
- 

## Question #22 of 40

Question ID: 439045

The clearinghouse in a futures contract performs all but which of the following roles? The clearinghouse:

- A)** splits each trade and acts as a buyer to futures sellers and as a seller to futures buyers.
  - B)** guarantees traders against default from another party.
  - C)** guarantees the physical delivery of the underlying asset to the buyer of futures contracts.
  - D)** allows traders to reverse their position without having to contact the other side of the position.
- 

## Question #23 of 40

Question ID: 439028

In commodity trading, the exchange removes any daily losses from a trader's account and adds any gains to the trader's account. This process is known as:

- A)** initial margin.
  - B)** maintenance margin.
  - C)** variation margin.
  - D)** marking to market.
- 

### Question #24 of 40

Question ID: 439043

If the margin balance in a futures account with a long position goes below the maintenance margin amount:

- A)** a deposit is required which will bring the account to the maintenance margin level.
  - B)** a deposit is required to return the account margin to the initial margin level.
  - C)** a margin deposit is required only if the price does not rise sufficiently the next (trading) day.
  - D)** a margin deposit equal to the maintenance margin is required within two business days.
- 

### Question #25 of 40

Question ID: 439059

Dan Chavez, FRM is long one contract at \$1,610 per ounce of gold in the futures market. Gold has dropped to \$1,575 per ounce. Chavez is trying to decide how to settle the position. If Chavez elects to reverse the position, how is the process best described?

- A)** Find a trader with opposite position, deliver goods, and settle position off the floor of the exchange.
  - B)** The same contract is sold, and the difference of \$35 per ounce is deducted from the trader's margin account.
  - C)** Gold contracts are cash-settlement contracts in which delivery is not an option. The futures accounts are marked to market at the end of the contract.
  - D)** Accept delivery of the goods and pay the contract price to the other side.
- 

### Question #26 of 40

Question ID: 439056

An offsetting trade is used to:

- A)** speculate in the futures market.
  - B)** fully hedge a risk arising in the normal course of business activity.
  - C)** close out a futures position prior to expiration.
  - D)** partially hedge the interest rate risk of a bond position.
-

## Question #27 of 40

Question ID: 439032

Initial margin deposits for futures accounts are:

- A) based on price volatility.
  - B) usually larger for the short position.
  - C) typically 50% of the purchase price.
  - D) set by the Federal Reserve for U.S. markets.
- 

## Question #28 of 40

Question ID: 439053

All of the following are methods to close out a futures position **EXCEPT**:

- A) engaging in an offsetting trade in the futures market.
  - B) delivery of the underlying commodity.
  - C) through an exchange for physicals with another trader.
  - D) allowing the contract to expire without taking action.
- 

## Question #29 of 40

Question ID: 439047

Which of the following statements about futures and the clearinghouse is /least accurate? The clearinghouse:

- A) has defaulted on one half of one percent of futures trades.
  - B) guarantees that traders in the futures market will honor their obligations.
  - C) requires the daily settlement of all margin accounts.
  - D) acts as the opposite side of all trades once they are initiated.
- 

## Question #30 of 40

Question ID: 439207

A futures contract is established for a farmer's wheat crop and the quantity and quality of the good is specified in the contract. The futures contract further specifies the time and place of delivery, as well as the permitted methods for closing the contract. What key role does the futures exchange serve?

- A) Provides a location for price discovery.
- B) Specifies each side of the contract's obligations and ensures proper delivery of commodity.
- C) Assists in bringing parties together, but does not guarantee delivery.
- D) Determines permissible price fluctuations but does not require daily settlements.

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### Question #31 of 40

Question ID: 738591

Alexa Fiedler has issued the following orders to her broker when GMB Corp. is trading at 29 and RML Corp. is trading at 17:

1. Buy 200 shares of GMB if the price increases to 31.
2. Sell 400 shares of RML for 16 or more.

Fiedler has issued what types of market orders?

GMB      RML

- A)** Limit buy      Limit sell
- B)** Stop buy      Stop sell
- C)** Stop buy      Limit sell
- D)** Limit buy      Stop sell

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### Question #32 of 40

Question ID: 439054

Which method is **NOT** an appropriate way to close out a futures contract?

- A)** Delivery.
- B)** Default.
- C)** Exchange for physicals.
- D)** Reverse trade.

## Questions #33-34 of 40

It is April 15, and a trader is entered into a short position in two soybean meal futures contracts. The contracts expire on August 15, and call for the delivery of 100 tons of soybean meal each. Further, because this is a futures position, it requires the posting of a \$3,000 initial margin and a \$1,500 maintenance margin per contract. For simplicity, however, assume that the account is marked to market on a monthly basis. Assume the following represent the contract delivery prices (in dollars per ton) that prevail on each settlement date:

April 15 (initiation)	173.00
May 15	179.75
June 15	189.00
July 15	182.50
August 15 (delivery)	174.25

## Question #33 of 40

Question ID: 439036

What is the equity value of the margin account on the May 15 settlement date, including any additional equity that is required to meet a margin call?

- A) \$4,650.
- B) \$2,300.
- C) \$\$7,350.
- D) \$1,350.

## Question #34 of 40

Question ID: 439037

Based on the May 15 settlement date, which of the following is *most* accurate?

- A) Since the equity value of the margin account is below the maintenance margin, a variation margin is called to restore the equity value of the account to its initial level.
- B) No margin call or disbursement occurs.
- C) Since the equity value fell below the initial margin level, a variation margin of \$650 is called.
- D) Since the equity value of the margin account is above the initial margin, the trader can withdraw \$1,350.

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## Question #35 of 40

Question ID: 439048

Richard Wilson is concerned about the credit risk on a particular over-the-counter (OTC) contract. How does the process of collateralization work in the OTC market?

- A) There is a mark to market feature and losses are settled in cash daily.

- B)** There is no collateralization process in the OTC market.
  - C)** Collateral is posted and losses are guaranteed by the exchange.
  - D)** Collateral is held by the exchange and losses are covered via the collateral at conclusion of the contract term.
- 

### Question #36 of 40

Question ID: 439052

Which of the following statements about closing a futures position is /least accurate?

- A)** Few futures positions are settled by delivery of cash or assets.
  - B)** Except for *exchange for physicals (EFP)* transactions, futures contracts must be closed on the exchange floor.
  - C)** As maturity of a contract approaches, more and more traders will attempt to close their positions.
  - D)** Closing a position through delivery refers exclusively to the physical delivery of goods.
- 

### Question #37 of 40

Question ID: 439049

Jacob Donnie, FRM is studying futures settlement prices for a select group of stocks in the automotive industry. He has determined that over the past 5 months, there has been an inverted market in the automotive industry. What would that indicate for settlement prices during that time period?

- A)** Settlement prices have been decreasing.
  - B)** Futures prices have been volatile.
  - C)** Settlement prices have been parabolic.
  - D)** Futures prices have been increasing.
- 

### Question #38 of 40

Question ID: 439046

The clearinghouse, in U.S. futures markets, does **NOT**:

- A)** act as a counterparty in futures contracts.
  - B)** guarantee performance of futures contract obligations.
  - C)** allow reversing trades.
  - D)** choose which assets will have futures contracts.
-

**Question #39 of 40**

Question ID: 439210

An exchange-for-physicals, as it pertains to futures contracts:

- A)** is another term for delivering an asset to satisfy a futures contract.
  - B)** is not permitted for financial futures.
  - C)** is another term for accepting delivery of an asset to satisfy a futures contract.
  - D)** involves an agreement off the floor of the exchange.
- 

**Question #40 of 40**

Question ID: 439030

To equitize the cash portion of assets under management, a portfolio manager enters into a long futures position on the S&P 500 index with a multiplier of 250. The cash position is \$15 million which at the current futures value of 1,000, requires the manager to be long 60 contracts. If the current initial margin is \$12,500 per contract, and the current maintenance margin is \$10,000 per contract, what variation margin does the portfolio manager have to advance if the futures contract value falls to 995 at the end of the first day of the position being placed?

- A)** \$300,000.
- B)** \$30,000.
- C)** \$75,000.
- D)** \$0.

# Topic 36: Hedging Strategies Using Futures

---

## Question #1 of 15

Question ID: 439070

The minimum variance hedge ratio is equal to the product of the correlation coefficient between the spot and futures price changes and the ratio of the:

- A) standard deviation of the spot to the standard deviation of the futures.
  - B) variance of the spot to the variance of the futures.
  - C) standard deviation of the futures to the standard deviation of the spot.
  - D) variance of the futures to the variance of the spot.
- 

## Question #2 of 15

Question ID: 439064

Which of the following is **TRUE** concerning basis risk? In a hedge using futures contracts:

- A) both basis risk and price risk are eliminated.
  - B) basis risk is eliminated but price risk still exists.
  - C) basis risk of the hedged security is replaced with price risk.
  - D) price risk of the hedged security is replaced with basis risk.
- 

## Question #3 of 15

Question ID: 439072

The purpose of computing a minimum variance hedge ratio is to minimize the variance of the:

- A) hedging instrument.
  - B) combined hedged and hedging instrument portfolio.
  - C) instrument to be hedged.
  - D) correlation estimator.
- 

## Question #4 of 15

Question ID: 439068

Which of the following is a definition of basis risk? Basis risk is the uncertainty about the difference between the:

- A) spot and futures price over the hedging horizon.
- B) current spot price and the expected spot price over the hedging horizon.

**C)** current spot price and the spot price at the time the hedge is removed.

**D)** current spot price and the current futures price.

---

### Question #5 of 15

Question ID: 439069

Which of the following is *closest* to the correct value for the basis associated with a spot position valued at \$15 per unit and a futures contract with a value of \$18 per unit?

**A)** \$5.0.

**B)** -\$3.0.

**C)** \$3.0.

**D)** \$2.0.

---

### Question #6 of 15

Question ID: 439071

How will the value of a portfolio of non-callable corporate bonds hedged with Treasury futures change if the yield curve shifts up in a parallel manner by an anticipated amount? The value of the newly hedged portfolio:

**A)** stays the same.

**B)** increases.

**C)** may increase or decrease.

**D)** decreases.

---

### Question #7 of 15

Question ID: 439065

A corn grower is concerned that the price he can get from the field in mid-September will be less than he has forecasted. To protect himself from price declines, the farmer has decided to hedge. The best available futures contract he can find is for August delivery. Which of the following is the appropriate direction of his position and the source of basis risk that may impact the farmer?

**A)** Short futures; rollover.

**B)** Long futures; rollover.

**C)** Short futures; correlation.

**D)** Long futures; correlation.

---

### Question #8 of 15

Jimmy Deininger, FRM is a portfolio manager and runs a large \$400,000,000 value portfolio. Relative to the S&P 500, Deininger's portfolio has a beta of 1.07. Currently, S&P futures are trading at 1,368, and the multiplier is 250. Deininger has created a hedge for his portfolio value for the next four months.

If Deininger wishes to correct for any possible over-hedging through a "tailing the hedge" strategy, how would he implement this strategy? Assume the futures price is now 1,380 and the spot price is 1,325. After making a "tailing the hedge" adjustment, how many S&P futures contracts are needed?

- A)** Multiply the hedge ratio by the futures price to daily spot price ratio; 1,385 contracts.
  - B)** Multiply the hedge ratio by the daily spot price to futures price ratio; 1,201 contracts.
  - C)** Multiply the hedge ratio by the futures price to daily spot price ratio; 1,012 contracts.
  - D)** Multiply the hedge ratio by the daily spot price to futures price ratio; 986 contracts.
- 

### Question #9 of 15

An airline company wants to protect itself from large jet fuel price increases and has decided to use the futures markets and establish a long position. What is the term for this strategy?

- A)** Volatility hedge.
  - B)** Anticipatory hedge.
  - C)** Expectations hedge.
  - D)** Minimum variance hedge.
- 

### Question #10 of 15

A portfolio manager has a \$15 million mid-cap portfolio that has a beta of 1.3 relative to the S&P 400. S&P 500 futures are trading at 1,150 and have a multiplier of 250. The most significant risk this manager faces in attempting to hedge his position is:

- A)** volatility risk arising from unstable correlation predictions.
  - B)** basis risk resulting from a cross-hedge.
  - C)** improper profit forecasts of the underlying position.
  - D)** correlation risk resulting from a rollover of positions between the S&P 400 and S&P 500.
- 

### Question #11 of 15

Craig Fullen is a portfolio manager with a \$25,000,000 value portfolio with a beta of 0.75 relative to the S&P 500. Fullen is concerned the market will fall, and wants to hedge the risk to his portfolio using S&P 500 futures contracts.

If the current value of the S&P 500 is 1,050, what action should Fullen take to hedge his portfolio? Assume the contract multiplier for S&P 500 index futures is 250.

- A)** Sell 71 futures contracts.
  - B)** Sell 119 futures contracts.
  - C)** Buy 95 futures contracts.
  - D)** Sell 95 futures contracts.
- 

### Question #12 of 15

Question ID: 439075

A portfolio manager would like to use S&P 500 stock index futures to help increase his exposure to movements in the stock market over the next three months. The current S&P500 futures contracts are trading at 1,205 with a multiplier of \$250, and the portfolio manager would like to increase the portfolio beta from 0.92 to 1.05. If the value of the asset portfolio is \$15 million, the position taken for stock index futures would be *closest* to which of the following?

- A)** Sell 6 contracts.
  - B)** Purchase 6 contracts.
  - C)** Purchase 50 contracts.
  - D)** Sell 50 contracts.
- 

### Question #13 of 15

Question ID: 439076

Which of the following factors is (are) often considered to be a problem with hedged positions?

- I. Uncertainty with roll-over of the hedging instrument.
- II. Perfect correlation between the asset and the hedging instrument.
- III. Certainty with the date of the underlying asset's purchase or sale.
- IV. Imperfect correlation between the hedged asset and the hedging instrument.

- A)** I and II only.
  - B)** I only.
  - C)** II and III only.
  - D)** I and IV only.
-

## Question #14 of 15

Question ID: 439062

Burton Futura, FRM is short a well-known tech stock and wishes to engage in a futures transaction to protect against losses in his short position. What would be the best futures transaction for this situation, particularly if Futura expects the price of the tech stock to increase?

- A)** Long hedge.
  - B)** Short hedge
  - C)** Straddle.
  - D)** Offset hedge.
- 

## Question #15 of 15

Question ID: 439067

A weakening of the basis is a consequence of the:

- A)** futures price moving according to hyper-arithmetic Brownian motion.
- B)** spot price moving according to hyper-arithmetic Brownian motion.
- C)** spot price increasing faster than the futures price over time.
- D)** futures price increasing faster than the spot price over time.

## Topic 37: Interest Rates

---

### Question #1 of 17

Question ID: 439092

A bond has an effective duration of 7.5 and a convexity of 104.0. If yields rise by 82 bps, the price of the bond will:

- A)** decrease by 6.15%.
  - B)** increase by 6.15%.
  - C)** increase by 6.50%.
  - D)** decrease by 5.80%.
- 

### Question #2 of 17

Question ID: 439089

Understanding that duration is a good approximation for changes in price for a standard, option-free bond, what benefit does determining the amount of convexity add?

- A)** Convexity measures the standard error of estimate.
  - B)** Convexity accounts for the amount of error in the estimated price change based on duration.
  - C)** Convexity estimates the basis point change in yield as time passes until the bond's maturity using a continuous compounding method.
  - D)** Convexity measures the difference between actual and estimated prices and how that difference narrows as yield swings grow.
- 

### Questions #3-5 of 17

Use a stated rate of 9% compounded periodically to answer the following three questions. Select the choice that is the closest to the correct answer.

### Question #3 of 17

Question ID: 439082

The semi-annual effective rate is:

- A)** 9.20%.
- B)** 9.00%.
- C)** 9.31%.
- D)** 10.25%.

## **Question #4 of 17**

Question ID: 439083

The quarterly effective rate is:

- A)** 9.00%.
- B)** 9.40%.
- C)** 9.31%.
- D)** 9.20%.

## **Question #5 of 17**

Question ID: 439084

The continuously compounded rate is:

- A)** 9.42%.
  - B)** 9.67%.
  - C)** 9.20%.
  - D)** 9.45%.
- 

## **Question #6 of 17**

Question ID: 439088

An investor has entered into a forward rate agreement (FRA) where she has contracted to pay a fixed rate of 5 percent on \$5,000,000 based on the quarterly rate in three months. If interest rates are compounded quarterly, and the floating rate is 2 percent in three months, what is the payoff at the end of the sixth month? The investor will:

- A)** make a payment of \$37,500.
  - B)** receive a payment of \$37,500.
  - C)** make a payment of \$75,000.
  - D)** receive a payment of \$75,000.
- 

## **Question #7 of 17**

Question ID: 439079

The effective annual yield (EAY) of a loan with a quoted rate of 8%, compounded quarterly is equivalent to the EAY of a loan with a continuously compounded quoted rate of:

- A)** 8.24%.
  - B)** 8.08%.
  - C)** 7.92%.
  - D)** 8.16%.
-

## Question #8 of 17

Question ID: 439078

A Treasury bill, with 45 days until maturity, has an effective annual yield of 12.50%. The bill's holding period yield is closest to:

- A)** 1.54%.
  - B)** 12.50%.
  - C)** 1.57%.
  - D)** 1.46%.
- 

## Question #9 of 17

Question ID: 439087

A bank has entered into a 3 x 6 forward rate agreement to receive a fixed rate of 3.35 percent on \$12 million in six months. If the applicable rate in three months is 3.62 percent, the cash flow associated with this forward rate agreement for the bank would be closest to:

- A)** -\$8,100.
  - B)** -\$32,400.
  - C)** \$32,400.
  - D)** \$16,200.
- 

## Question #10 of 17

Question ID: 439091

A bank has \$100 million in assets with modified duration of 8.5, and \$90 million of liabilities with modified duration of 6.5. Accounting only for duration effects, a 50 basis point parallel downward shift would impact the bank's equity position by an amount closest to a:

- A)** \$100 million decrease in equity.
  - B)** \$10 million increase in equity.
  - C)** \$1.325 million increase in equity.
  - D)** \$90 million increase in equity.
- 

## Question #11 of 17

Question ID: 439085

Calculate bond yield given the information below. Assume semi-annual coupon payments and a bond price of \$103.07.

PMT = 3

N = 6

FV = 100

- A) 3.67%.
- B) 5.39%.
- C) 2.44%.
- D) 4.89%.

---

### Question #12 of 17

Question ID: 439093

A 12-year, 8 percent semiannual coupon bond with \$100 par value currently trades at \$78.75 and has an effective duration of 9.8 years and a convexity of 130.0. What is the price of the bond if the yield falls by 150 basis points?

- A) \$86.47.
- B) \$91.48.
- C) \$67.17.
- D) \$95.43.

---

### Question #13 of 17

Question ID: 439077

In reviewing historical interest rate trends and patterns, what rate do traders typically use as a proxy for the short-term risk-free rate?

- A) Repo rate.
- B) LIBOR.
- C) U.S. interbank offered rate.
- D) Treasury rates, such as T-bill or T-bond.

---

### Question #14 of 17

Question ID: 439094

Estimated price changes using only duration tend to:

- A) underestimate the decrease in price that occurs with an increase in yield for large changes in yield.
- B) overestimate the increase in price that occurs with a decrease in yield for small changes in yield.

- C)** underestimate the increase in price that occurs with a decrease in yield for large changes in yield.
- D)** overestimate the increase in price that occurs with a decrease in yield for large changes in yield.
- 

### Question #15 of 17

Question ID: 439080

The following Treasury zero rates are exhibited in the marketplace:

- 6 months = 1.25%
- 1 year = 2.35%
- 1.5 years = 2.58%
- 2 years = 2.95%

Assuming continuous compounding, the price of a 2-year Treasury bond that pays a 6 percent semiannual coupon is closest to:

- A)** 105.90.  
**B)** 103.42.  
**C)** 105.20.  
**D)** 108.66.
- 

### Question #16 of 17

Question ID: 439090

A 12-year, 6 percent, option-free bond is currently trading at par. The bond has a duration of 8.38 years and a convexity of 91.93. Your estimate of the percent price change (PPC) associated with a 100 basis point decrease in yield is closest to:

- A)** 8.84 percent decrease.  
**B)** 7.92 percent decrease.  
**C)** 7.92 percent increase.  
**D)** 8.84 percent increase.
- 

### Question #17 of 17

Question ID: 439086

Calculate the forward rate for a coupon bond for these spot rates:

One year rate: 2.92%

Two year rate: 3.77%

- A) 4.62%.
- B) 4.66%.
- C) 4.68%.
- D) 4.64%.

## Topic 38: Determination of Forward and Futures Prices

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### Question #1 of 19

Question ID: 439113

A quantitative analyst is studying the relationship between commodity futures prices and current spot prices. How would a situation referred to as "contango" best be described?

- A)** Futures price is greater than the spot price.
  - B)** Spot price is greater than the futures price.
  - C)** Spot price is greater than the futures price, and the futures contract exhibits positive systematic risk
  - D)** There is a benefit to holding the asset.
- 

### Question #2 of 19

Question ID: 439098

Which of the following would be considered a key difference between a forward contract and a futures contract?

- A)** Futures contract is marked to market regularly, while a forward contract is not.
  - B)** Only forward contracts can be set up as cash settlement contracts.
  - C)** One clearinghouse is the counterparty to all forward contracts.
  - D)** The owner of the forward contract receives cash flows from the underlying asset between contract origination and delivery.
- 

### Question #3 of 19

Question ID: 439111

Which of the following increases the cost of rolling a long hedge (i.e., using long futures contracts to hedge a pre-existing short position)?

- I. A market shift from normal backwardation to contango.
- II. A market shift from contango to normal backwardation.

- A)** Neither I nor II.
  - B)** II only.
  - C)** Both I and II.
  - D)** I only.
-

## Question #4 of 19

Question ID: 439107

Actual ownership of a physical commodity may provide benefits not afforded to holders of the futures contracts. What are these benefits?

- A)** Convenience yield.
  - B)** Physical advantage.
  - C)** Arbitrage benefit.
  - D)** Cost of carry advantage.
- 

## Question #5 of 19

Question ID: 439101

The S&P 500 index is trading at 1015. The S&P 500 pays an expected dividend yield of 2 percent and the current risk-free rate is 4.1 percent. The value of a 3-month futures contract on the S&P 500 is *closest* to:

- A)** 979.86.
  - B)** 1,350.59.
  - C)** 997.68.
  - D)** 1,020.34.
- 

## Question #6 of 19

Question ID: 439102

At the inception of a six-month forward contract on a stock index, the value of the index was \$1,150, the interest rate was 4.4 percent, and the continuous dividend was 1.8 percent. Three months later, the value of the index is \$1,075. Which of the following statements is **TRUE**? The value of the:

- A)** long position is \$47.56.
  - B)** long position is -\$82.41.
  - C)** short position is \$47.56.
  - D)** long position is \$82.41.
- 

## Question #7 of 19

Question ID: 439096

Gold would be an example of what type of asset?

- A)** Depreciating.
  - B)** Intangible.
  - C)** Consumption.
  - D)** Investment.
- 

### Question #8 of 19

Question ID: 439099

Which of the following is an important effect of dividends on the cost-of-carry model? Dividends:

- A)** reduce the cost of carry.
  - B)** do not affect the cost-of-carry model.
  - C)** eliminate arbitrage opportunities.
  - D)** reduce the value of the spot prices.
- 

### Question #9 of 19

Question ID: 439103

At the inception of a one-year forward contract on a stock index, the price of the index was 1,100, the interest rate was 2.6 percent, and the continuous dividend was 1.2 percent. Six months later, the price of the index is 1,125.

Which of the following statements is **TRUE**? The value of the:

- A)** short position is -\$22.19.
  - B)** short position is -\$17.17.
  - C)** long position is -\$17.17.
  - D)** long position is \$25.00.
- 

### Question #10 of 19

Question ID: 439105

Jan Echtenkamp, FRM is studying the interest rate parity relationship between the U.S. dollar and the Swiss franc. On what does the interest rate parity relationship depend?

- A)** An arbitrage opportunity between the currencies.
  - B)** Future convergence of exchange rates between the two currencies.
  - C)** The forward contract taking on a non-zero value after contract is entered into.
  - D)** Spot and forward exchange rates between the two currencies.
-

### **Question #11 of 19**

Question ID: 558862

Assume that the short-term interest rate in London is 4 percent and that the short-term interest rate in the US is 2 percent. If the current exchange rate between the pound and dollar is 1=US\$1.2217, using the continuous time futures pricing model, what is the price of a three-month futures contract?

- A)** \$1.2207.
  - B)** \$1.2156.
  - C)** \$1.2144.
  - D)** \$1.2235.
- 

### **Question #12 of 19**

Question ID: 439104

In examining the relationship between forward and futures prices, which statement is the most accurate?

- A)** Forward and futures prices can be shown to be the same.
  - B)** Assuming forward and futures prices are the same is an approximation.
  - C)** Forward prices have a tendency to be more volatile.
  - D)** The law of arbitrage guarantees that the payoffs between the two will not be identical.
- 

### **Question #13 of 19**

Question ID: 439108

Using the continuous time forward pricing model, what is the no-arbitrage price of a 3-month forward contract if the interest rate is 3.2 percent and the spot price of the asset is \$750?

- A)** \$729.
  - B)** \$756.
  - C)** \$744.
  - D)** \$780.
- 

### **Question #14 of 19**

Question ID: 439110

Lisa Traina, FRM, is short a series of copper futures contracts. At present, copper's carrying cost is greater than the convenience yield. What should Traina do?

- A)** Deliver the contract at expiration.
  - B)** Deliver the contract early.
  - C)** Deliver when futures price and spot price converges.
  - D)** Take the opposite position shortly before contract expiration.
- 

### Question #15 of 19

Question ID: 439109

Using the continuous time forward pricing model, what is the no-arbitrage price of a 9-month forward contract if the interest rate is 2.4 percent and the spot price of the asset is \$1,650?

- A)** \$1,680.
  - B)** \$1,621.
  - C)** \$1,689.
  - D)** \$1,664.
- 

### Question #16 of 19

Question ID: 439097

If a short seller is faced with a "short squeeze", what transpires?

- A)** Short seller may have to close his position.
  - B)** The underlying stock drops dramatically.
  - C)** Counterparty must pay the dividends.
  - D)** The deposit the short seller has with the broker is wiped out.
- 

### Question #17 of 19

Question ID: 439112

Economist John Maynard Keynes found the widely used method of expressing the futures price as a function of the expected spot price  $F_0 = (S_T)$  to be flawed because it did not provide justification for speculators to enter the market. To entice speculators to bear the risk of futures contracts, the futures contract must be less than the expected spot price at maturity. What is the name of the frequently used model, and what is the market force that causes the price of the futures contract to be less than the expected spot price at maturity?

- A)** Future expectations model; normal contango.
- B)** No arbitrage model; backwardation.
- C)** Expectations model; normal backwardation.
- D)** Cost of carry model; contango.

---

### Question #18 of 19

Question ID: 438680

Which of the following increases the cost of rolling a long hedge (i.e., using long futures contracts to hedge a pre-existing short position)?

- I. Futures prices rising above the spot price.
- II. Futures prices falling below the spot price.

- A)** I only.
  - B)** Both I and II.
  - C)** II only.
  - D)** Neither I nor II.
- 

### Question #19 of 19

Question ID: 439106

An FRM candidate is studying commodity futures, specifically income and storage costs associated with consumption assets. Which statement is correct, concerning consumption assets and storage costs?

- A)** Consumption assets' actual storage costs must be expressed as a known cash flow.
- B)** The storage costs associated with consumption assets are offset by the income, in most cases.
- C)** Consumption assets' actual storage costs may be expressed as either a known cash flow or as a yield.
- D)** Consumption assets' actual storage costs must be expressed as a yield.

## Topic 39: Interest Rate Futures

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### Question #1 of 23

Question ID: 439121

Scott Malooly recently paid 109.05 for a \$1,000 face value, semi-annual coupon bond with a quoted price of 105.19.

Assuming that transaction costs are zero, which of the following statements is *most* accurate?

- A)** The price Malooly paid includes the discounted amount of accrued interest due to seller.
  - B)** The bond was trading ex-coupon.
  - C)** The price Malooly paid covers the amount of the next coupon payment not earned by the seller.
  - D)** Malooly purchased the bond between coupon dates.
- 

### Question #2 of 23

Question ID: 439117

A semi-annual pay bond with a \$100 par value pays coupons on March 1 and September 1. The annual coupon is 8%, and it is currently June 13. Compute the accrued interest of this bond as a T-bond.

- A)** \$4.58.
  - B)** \$2.26.
  - C)** \$4.52.
  - D)** \$2.29.
- 

### Question #3 of 23

Question ID: 439115

In the context of bonds, accrued interest:

- A)** is discounted along with other cash flows to arrive at the dirty, or full price.
  - B)** covers the part of the next coupon payment not earned by seller.
  - C)** applies only to bonds with semi-annual or quarterly coupon payments.
  - D)** equals interest earned from the previous coupon to the sale date.
- 

### Question #4 of 23

Question ID: 439134

John Jordan manages a bond portfolio valued at \$11.2 million, which has a duration of five years. To hedge against an increase in interest rates, he wishes to employ interest-rate futures. The deliverable on the current futures contract has a duration of seven years, and the futures contract is trading at 97.5 with a contract size of \$100,000. To

hedge the position, Jordan must:

- A)** buy 82 contracts.
  - B)** sell 54 contracts.
  - C)** buy 54 contracts.
  - D)** sell 82 contracts.
- 

### Question #5 of 23

Question ID: 439131

Calculate the theoretical futures price for a Treasury bond futures contract given the following information:

Accrued interest: 0.7  
Cash price of cheapest-to-deliver bond: 103.1  
Cash futures price: 97.69  
Quoted futures price: 96.99  
Conversion factor: 1.15

- A)** 88.88.
  - B)** 86.76.
  - C)** 84.34.
  - D)** 90.12.
- 

### Question #6 of 23

Question ID: 439118

The per annum discount rate of a 180-day T-bill with a cash price of 98 is closest to:

- A)** 3%.
  - B)** 4%.
  - C)** 1%.
  - D)** 2%.
- 

### Question #7 of 23

Question ID: 439124

The dirty, or full, price of a bond:

- A)** applies if an issuer has defaulted.
- B)** equals the present value of all cash flows, plus accrued interest.

**C)** is paid when a security trades ex-coupon.

**D)** is usually less than the clean price.

---

### Question #8 of 23

Question ID: 439130

When dealing with Treasury bond futures, locating the cheapest-to-deliver bond is a critical decision. When yields are fairly low (below 6%), as they are at present, which of the following types of bonds tend to be the cheapest-to-deliver?

**A)** High-coupon, long maturity.

**B)** High-coupon, short maturity.

**C)** Low-coupon, long maturity.

**D)** Zero-coupon, long maturity.

---

### Question #9 of 23

Question ID: 439128

Because there are a large number of available Treasury bonds (T-bonds) available for delivery on the futures market, which of the following defines the price received by the short position of the futures contract?

**A)** Chicago Board of Trade (CBOT) factor.

**B)** Conversion factor.

**C)** Market yield option.

**D)** Wild card option.

---

### Question #10 of 23

Question ID: 439135

Jon Crandell, FRM is a fixed income portfolio manager, and he wishes to create a T-bond futures hedge to alter his portfolio's duration. What should he do if he wishes to shorten the duration of his portfolio with minimal disruption to the underlying portfolio, and what will this action do to the portfolio's interest rate sensitivity?

**A)** Buy futures; increase portfolio's interest rate sensitivity.

**B)** Sell futures; decrease portfolio's interest rate sensitivity.

**C)** Sell futures; increase portfolio's interest rate sensitivity.

**D)** Buy futures; decrease portfolio's interest rate sensitivity.

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### Question #11 of 23

A 5% coupon bond with semi-annual coupon payments on a coupon payment date when the coupon has not been paid yet and the bond has a \$1,000 par value. What is the accrued interest of the bond and what is the bond's full price?

<u>Accrued Interest</u>	<u>Full Price</u>
-----------------------------	-------------------

- A)** \$50                  \$1,000
  - B)** \$25                  \$1,025
  - C)** \$25                  \$1,000
  - D)** \$50                  \$1,050
- 

**Question #12 of 23**

The day count convention used to calculate accrued interest on U.S. Treasury bonds is:

- A)** 30/365.
  - B)** 30/360.
  - C)** actual/360.
  - D)** actual/actual.
- 

**Question #13 of 23**

If the issuer of a bond is in default, the bond will be trading:

- A)** registered.
  - B)** on accrual.
  - C)** off the market.
  - D)** flat.
- 

**Question #14 of 23**

Assume a bond's quoted price is 105.22 and the accrued interest is \$3.54. The bond has a par value of \$100. What is the bond's *clean* price?

- A)** \$103.54.

- B)** \$108.76.
  - C)** \$105.22.
  - D)** \$100.00.
- 

### Question #15 of 23

Question ID: 439136

When is a duration-based hedging strategy least successful?

- A)** When there are minimal changes in yield.
  - B)** When changes in interest rates are large and nonparallel.
  - C)** When interest rates are rising.
  - D)** When yield changes are nearly perfectly correlated.
- 

### Question #16 of 23

Question ID: 439119

An investor has a 90-day T-bill with a quoted price of two. The face value is 100. Compute the true interest rate.

- A)** 0.5025%.
  - B)** 0.7995%.
  - C)** 1.0523%.
  - D)** 0.5126%.
- 

### Question #17 of 23

Question ID: 439114

Which of the following statements regarding accrued interest is *most* accurate?

- A)** If the buyer must pay the seller the accrued interest, the bond is said to be trading ex-coupon.
  - B)** The bond is trading flat if the bond issuer is in default and the bond is trading without accrued interest.
  - C)** The accrued interest is paid by the seller of the bond to the buyer (new owner) of the bond.
  - D)** If the seller must pay the buyer accrued interest, the bond is said to be trading cum-par.
- 

### Question #18 of 23

Question ID: 507545

An analyst has been asked to calculate the theoretical futures price for a Treasury bond futures contract without any

convexity adjustment. It is a 3-month Eurodollar futures contract, \$25 movement per "tick", or basis point. The contract is a \$1 million contract. If the quoted price for the Eurodollar futures price is 97.1, what is the theoretical price?

- A)** 992,750.
  - B)** 993,100.
  - C)** 991,900.
  - D)** 994,500.
- 

### Question #19 of 23

Question ID: 439122

Austin Traynor is considering buying a \$1,000 face value, semi-annual coupon bond with a quoted price of 104.75 and accrued interest since the last coupon of \$33.50. If Traynor pays the dirty price, how much will the seller receive at the settlement date?

- A)** \$1,081.00.
  - B)** \$1,033.50.
  - C)** \$1,014.00.
  - D)** \$1,047.50.
- 

### Question #20 of 23

Question ID: 439120

Suppose a bond's quoted price is 105 7/32 and the accrued interest is \$23.54. If the bond has a par value of \$1,000, what is the bond's flat price?

- A)** \$1,075.73.
  - B)** \$1,052.19.
  - C)** \$1,023.54.
  - D)** \$1,000.00.
- 

### Question #21 of 23

Question ID: 439133

Connor Brooski, FRM is examining a Eurodollar contract for a futures contract that is maturing in six months. At that time, the 90-day forward LIBOR six months from now is relatively low, around 1.75%. Brooski has been following the daily marking to market of the futures contract and has noted differences between actual forward rates, and those rates implied by the futures contracts. What effect does the use of the convexity adjustment have on this difference?

- A)** There is no difference in the adjustment to the rates as a result of the convexity adjustment.
- B)** The difference is increased by using the convexity adjustment.
- C)** The convexity adjustment will eliminate the difference.
- D)** The difference is reduced by using the convexity adjustment.
- 

### Question #22 of 23

Question ID: 439129

Marty Moore, FRM is an investor with a short position and is preparing to deliver a bond. From his bond portfolio, he has four positions to choose from. The last settlement price, also the quoted futures price, is \$97.85. Which bond would be the "worst choice" for Parks to deliver?

<u>Bond</u>	<u>Quoted Bond Price</u>	<u>Conversion Factor</u>
A	101	1.03
B	116	1.12
C	105	1.07
D	124	1.23

- A)** Bond C.
- B)** Bond B.
- C)** Bond A.
- D)** Bond D.
- 

### Question #23 of 23

Question ID: 439123

Peter Stone is considering buying a \$100 face value, semi-annual coupon bond with a quoted price of 105.19. His colleague points out that the bond is trading ex-coupon. Which of the following choices *best represents* what Stone will pay for the bond?

- A)** \$105.19 minus accrued interest.
- B)** \$105.19.
- C)** \$105.19 minus the coupon payment.
- D)** \$105.19 plus accrued interest.

## Topic 40: Swaps

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### Question #1 of 21

Question ID: 439157

Two analysts are discussing the proper use of swaps, and work with clients to design all types of swaps. Which of the following types of swaps allow swap payments to be floating on both sides, with payments not known until the end of each period?

- A) Interest rate swap.
  - B) Commodity swap.
  - C) Equity swap.
  - D) Volatility swap.
- 

### Question #2 of 21

Question ID: 439145

A firm has entered into a \$22.5 MM plain vanilla interest rate swap in which it pays fixed at 4.2 percent and receives LIBOR. At inception, what is the firm's credit exposure on this swap if LIBOR is 3.2 percent?

- A) \$225,000.
  - B) \$0.
  - C) \$11.25 MM.
  - D) \$22.5 MM.
- 

### Question #3 of 21

Question ID: 439147

A financial institution has entered into a plain vanilla currency swap with one of its customers. The period left on the swap is 3 years, with the institution paying 5 percent on USD20 million and receiving 2.5 percent on JPY1,500 million annually. The current exchange rate is JPY120/USD, and the flat term structure in both countries generates a 3 percent rate in the U.S. and a 0.75 percent rate in Japan. The current value of this swap to the institution is closest to:

- A) USD7.95 million.
  - B) USD6.875 million.
  - C) -USD7.95 million.
  - D) -USD6.875 million.
-

## Question #4 of 21

Question ID: 439156

What is the most common use of a commodity swap, and how does it typically work?

- A) Farmers managing crop production costs; one firm agrees to pay a fixed rate for multi-period delivery and receive a corresponding floating rate based on spot rates at time of delivery.
  - B) To manage energy costs; one firm agrees to pay a fixed rate for multi-period delivery and receive a corresponding floating rate based on LIBOR at time of delivery.
  - C) To manage the cost of purchasing energy resources; one firm agrees to pay a fixed rate for multi-period delivery and receive a corresponding floating rate based on spot rates at time of delivery.
  - D) To manage the cost of grain; one firm agrees to pay a floating rate for multi-period delivery and receive a corresponding fixed rate based on spot rates at time of delivery.
- 

## Question #5 of 21

Question ID: 439155

The credit risks to the fixed-rate payer in a swap:

- A) are greatest at the inception of the swap.
  - B) increase when floating rates are below the swap rate.
  - C) are greatest just prior to maturity.
  - D) increase when floating rates rise above the swap rate.
- 

## Question #6 of 21

Question ID: 439143

What is the proper discount rate to use when valuing an interest rate swap using a sequence of forward rate agreement, rather, at what rate are the swap cash flows discounted?

- A) LIBOR forward rates.
  - B) Corresponding spot rate from a LIBOR spot curve.
  - C) Corresponding forward rates implied by the forward rate agreements.
  - D) Corresponding forward rates implied by Eurodollar futures.
- 

## Question #7 of 21

Question ID: 508537

Which statement is most accurate regarding the mechanics of a currency swap?

- A)** A currency swap exchanges principal and interest payments at the swap's inception using forward rates corresponding to the swap's tenor, and periodic payments are netted.
  - B)** A currency swap exchanges interest payments with payments in the same currencies and the periodic cash flows are netted.
  - C)** Currency swaps are typically fixed-for-variable, and periodic cash flows are netted.
  - D)** A currency swap exchanges principal and interest payments at the swap's inception using the spot exchange rate, and periodic cash flows are not netted.
- 

### Question #8 of 21

Question ID: 439153

Company J enters into a fixed-for-fixed currency swap with Company K. Company J is paying 3% in Euros to Company K, and receiving 2.5% in USD from Company K. What is the value of the swap in USD to Company J?

- A)** FV of the USD payments - FV of the Euro-denominated payments
  - B)** PV of the USD payments - (Spot rate in USD per Euro  $\times$  PV of the Euro-denominated payments)
  - C)** Spot rate of the USD payments - (Spot rate in USD per Euro  $\times$  PV of the Euro-denominated payments)
  - D)** PV of the Euro-denominated payments - (Spot rate in USD per Euro  $\times$  PV of the USD payments)
- 

### Question #9 of 21

Question ID: 439146

A forward rate agreement (FRA):

- A)** is priced in dollars.
  - B)** is risk-free when based on the Treasury bill rate.
  - C)** is settled by making a loan at the contract rate.
  - D)** can be used to hedge the interest rate exposure of a floating-rate loan.
- 

### Question #10 of 21

Question ID: 439149

Brody Oakley, FRM, is valuing an interest rate swap based on a sequence of forward rate agreements (FRAs). Oakley is looking at a \$12 million notional swap which pays a floating rate based on the 6-month LIBOR and receives a 4% fixed rate semiannually. 9 months remain on the swap. Pay dates are at 3 and 9 months. The spot LIBOR rates are 3 months at 3.6% and 9 months at 3.75%. LIBOR at the last payment date was 3.3%. In calculating the value of the swap to the fixed-rate receiver using the FRA methodology, Oakley must first determine the first floating rate cash flow. What is that cash flow?

- A)** \$396,000.
  - B)** \$432,000.
  - C)** \$198,000.
  - D)** \$216,000.
- 

### Question #11 of 21

Question ID: 439142

The success of the currency swap markets has been explained by which of the following?

- A)** Efficient exchange rate pricing arguments.
  - B)** Comparative advantage arguments.
  - C)** Reduced counterparty risk arguments.
  - D)** Floating interest rate risk arguments.
- 

### Question #12 of 21

Question ID: 439152

Assume that two firms are considering entering into a currency swap, and that their respective borrowing rates (U.S. dollars and Swiss francs) are as shown below:

<u>Company</u>	<u>USD Borrowing Rate</u>	<u>CHF Borrowing Rate</u>
Apple	2%	4%
Orange	3%	4.5%

What is the net potential borrowing savings by entering into a swap for both companies, Apple and Orange?

- A)** 150 basis points.
  - B)** 50 basis points.
  - C)** 0 basis points.
  - D)** 100 basis points.
- 

### Question #13 of 21

Question ID: 439138

Assuming interest rates change markedly during the period of time of a plain vanilla interest rate swap, what effect will this have on the two parties involved?

- A)** The fixed rate payer has the advantage.
- B)** The receiver of the floating rate payment has the advantage in most cases.

- C)** Interest rate risk exposure for the parties will completely change for each party.
  - D)** This swap limits the liability to both parties.
- 

## Question #14 of 21

Question ID: 439137

Company A and Company B enter into a 2 year plain vanilla interest rate swap. Company A agrees to pay Company B a periodic fixed rate on a notional principal over the swap's tenor. In exchange, Company B agrees to pay Company A a periodic floating rate on the same notional principal. Assume currency is the same. The payments will be made semi-annually. The reference rate is the 6-month LIBOR. The fixed rate of the swap is 0.95%, and the notional principal is \$100 million. 6-month LIBOR rates are as follows:

<u>Beginning of Period</u>	<u>LIBOR</u>
1	0.65%
2	0.85%
3	1.10%
4	1.45%
5	1.55%

What is the net payment due to Company B at the end of period 2?

- A)** -\$100,000.
  - B)** \$425,000.
  - C)** \$50,000.
  - D)** -\$50,000.
- 

## Question #15 of 21

Question ID: 439139

Which statement would be considered the most accurate regarding the swaps marketplace and the role of a financial intermediary?

- A)** While swaps have become more standardized, there is still credit risk involved, and the financial intermediary helps mitigate credit risk.
  - B)** Swaps are custom instruments, and swap participants are largely individuals.
  - C)** The swaps market is regulated, and banks typically serve as financial intermediaries.
  - D)** Swaps are not traded in any organized secondary market, and financial intermediaries earn a spread by bringing two nonfinancial firms together in a swap agreement.
-

## Question #16 of 21

Question ID: 439148

Two banks enter into a 1-year plain vanilla interest-rate swap with the following terms:

- Notional principal is \$500,000,000.
- The fixed component of the swap is 7%.
- The floating component of the swap is LIBOR + 200bps where LIBOR equals 5%.

If the current risk-free rate is 4 percent, the value for this swap at inception is *closest* to:

- A) \$35,000,000.  
B) \$8,750,000.  
C) \$0.  
D) \$500,000,000.
- 

## Question #17 of 21

Question ID: 439140

What is the term for the standardized contract, or Master Agreement, which outlines details of a particular swap, and what trade organization created it?

- A) Acceptance, International Swaps and Derivatives Association (ISDA).  
B) Confirmation, International Swaps and Derivatives Association (ISDA).  
C) Swap contract, Bond Market Association (BMA).  
D) Tenor agreement, Bond Market Association (BMA).
- 

## Question #18 of 21

Question ID: 439144

A bank entered into a 4-year tenor plain vanilla swap exactly three years ago from today. The agreements of the swap are to pay 6.5 percent annually, based on annual compounding with a 30/360 day-count convention, fixed rate on a \$50 million notional, and receive 1-year London Interbank Offered Rate (LIBOR). The continuously compounded LIBOR for 1-year obligations is currently 5.75 percent. The 1-year LIBOR at the beginning of the period was 6.25 percent. The value of the swap is *closest* to:

- A) \$110,000.  
B) \$800,522.  
C) -\$257,020.  
D) -\$270,000.
-

## Question #19 of 21

Question ID: 439151

Larry Kardaras, FRM and Luke Robertson, FRM are discussing the proper role that currency swaps play in a firm's overall risk management program.

Kardaras states: "A currency swap can actually transform the currency backing any asset, or liability, into a different currency entirely."

Robertson states: "A currency swap can reduce a firm's borrowing costs and produce enhanced investment returns."

Are Kardaras and Robertson correct in their statements?

- A)** Both Kardaras and Robertson are correct.
  - B)** Neither are correct.
  - C)** Robertson is correct, Kardaras is not.
  - D)** Kardaras is correct, Robertson is not.
- 

## Question #20 of 21

Question ID: 439154

Assume that a currency swap is established, and it must be valued using a sequence of forward rate agreements (FRAs) to Company J.

Further assume:

$$\text{USD } 1.57 = \text{GBP } 1$$

Forward Rates:

Year 1: \$1.57 / £

Year 2: \$1.52 / £

Year 3: \$1.49 / £

Cash flows as follows:

<u>Time</u>	<u>USD Cash Flow</u>	<u>GBP Cash Flow</u>
1	10	6.36
2	10	6.36
3	10	6.36
3	250	159.23

What is the total of the net cash flows to Company J in year 3 only?

- A)** 13.45.
- B)** 13.01.
- C)** 13.27.

### Question #21 of 21

Question ID: 439141

A primary criticism with the comparative advantage argument as justification for the existence of swaps is related to which of the following?

- A)** Constant spreads over London Interbank Offered Rate (LIBOR).
- B)** Inefficient credit markets.
- C)** Perceived advantage in one market over the other.
- D)** Credit risk.

# Topic 41: Mechanics of Options Markets

---

## Question #1 of 6

Question ID: 652903

An investor owns 500 option contracts on XYZ stock. The strike price for each option is \$15 and the time to expiration is three months. If XYZ announces a 1-for-10 reverse stock split, how many options would the investor own and at what strike price would each option be?

- A)** 5,000 options with \$1.50 strike price.
  - B)** 5,000 options with a strike price =  $(\$15 - \text{current stock price})$ , if the stock price is less than \$15.
  - C)** 500 options with a \$150 strike price.
  - D)** 50 options with \$150 strike price.
- 

## Question #2 of 6

Question ID: 525568

Which of the following statements accurately describe long-term equity anticipation securities (LEAPs)?

- I. LEAPs allow for nonstandard contract terms.
  - II. LEAPs are traded over the counter (OTC).
- 
- A)** I only.
  - B)** Both I and II.
  - C)** Neither I nor II.
  - D)** II only.
- 

## Question #3 of 6

Question ID: 656214

Which statement about option valuation is least accurate?

- A)** If the stock price is lower than the strike price at expiration, a put option is worth the difference between the strike price and the stock price.
  - B)** Prior to maturity, out-of-the-money options have no value.
  - C)** The maximum loss for the buyer of a call option is the premium paid.
  - D)** The value of an option is its time value plus its intrinsic value.
-

## Question #4 of 6

Question ID: 525566

Which of the following definitions of non-standard options is most likely associated with FLEX options?

- A)** Exchange-traded options on equity indices and equities that allow some alteration of the options contract specifications.
  - B)** Generate discontinuous payoff profiles because they pay only one price at expiration if the asset value is above the strike price.
  - C)** Structured to only be in the money in the event of a large downward price movement in the underlying asset.
  - D)** Typically American-style options and utilize delivery of shares rather than cash at settlement.
- 

## Question #5 of 6

Question ID: 525563

A trader can close a long position in a call option by:

- A)** buying the stock.
  - B)** buying a call.
  - C)** selling a call.
  - D)** buying a put.
- 

## Question #6 of 6

Question ID: 525564

Which statement best reflects the risk exposure of a put writer?

- A)** Limited risk.
- B)** No risk.
- C)** Unlimited risk.
- D)** Conditional risk tied to tax law.

## Topic 42: Properties of Stock Options

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### Question #1 of 18

Question ID: 439161

Consider a call option on a stock currently priced at \$50 with a strike price of \$55. Which of the following **CANNOT** be the price of the call option?

- A) \$15.
  - B) \$50.
  - C) \$55.
  - D) \$10.
- 

### Question #2 of 18

Question ID: 459979

American put option values increase as a result of increases in which of the following factors?

- I. Volatility.
- II. Dividends.
- III. Stock Price.
- IV. Time to expiration.

- A) I, II, and IV only.
  - B) I, III, and IV only.
  - C) I and III only.
  - D) II and IV only.
- 

### Question #3 of 18

Question ID: 439176

For American options prior to maturity, the difference between the price of a call option and the price of a put option with the same underlying stock, strike price, and maturity must be less than or equal to the:

- A) exercise price minus stock price.
  - B) stock price minus the present value of the exercise price.
  - C) present value of exercise price minus stock price.
  - D) stock price minus the exercise price.
-

## Question #4 of 18

Question ID: 439160

ABEX Corporation common stock is selling for \$50.00 per share. Both an American call option and a European call option are available on ABEX common, and each have identical strike prices and expiration dates. Which of the following statements concerning these two options is **TRUE**?

- A) The greater flexibility allowed in exercising the American option will normally result in a higher market value relative to an otherwise identical European option.
  - B) The European option will normally have a higher option premium because of their relative scarcity compared to American options.
  - C) The American option will have a higher option premium, because the American security markets are larger than the European markets.
  - D) Because the American and European options have identical terms and are written against the same common stock, they will have identical option premiums.
- 

## Question #5 of 18

Question ID: 439167

Which of the following is the expression for put-call parity ( $c_t$  = call price,  $p_t$  = put price,  $S_t$  = stock price (all at time  $t$ ),  $X$  = exercise price of call and put,  $r$  = interest rate,  $T$  = time at expiration of the options)?

- A)  $S_t + p_t = c_t - Xe^{-r(T-t)}$
  - B)  $S_t - p_t = c_t + Xe^{-r(T-t)}$
  - C)  $S_t + p_t = c_t + Xe^{-r(T-t)}$
  - D)  $S_t + c_t = p_t + Xe^{-r(T-t)}$
- 

## Question #6 of 18

Question ID: 439169

Referring to put-call parity, which one of the following alternatives would allow you to create a synthetic European call option?

- A) Sell the stock; sell a European put option on the same stock with the same exercise price and the same maturity; invest an amount equal to the present value of the exercise price in a pure-discount riskless bond.
- B) Buy the stock; buy a European put option on the same stock with the same exercise price and the same maturity; short an amount equal to the present value of the exercise price worth of a pure-discount riskless bond.
- C) Sell the stock; buy a European put option on the same stock with the same exercise price and the same maturity; invest an amount equal to the present value of the exercise price in a pure-discount riskless bond.

- D)** Buy the stock; sell a European put option on the same stock with the same exercise price and the same maturity; short an amount equal to the present value of the exercise price worth of a pure-discount riskless bond.
- 

## Question #7 of 18

Question ID: 439164

Assume that the value of a call option with a strike price of \$100 and six months remaining to maturity is \$5. For a stock price of \$100 and an interest rate of 6 percent, what is the value of the corresponding put option with the same strike price and expiration as the call option?

- A)** \$2.13.
  - B)** \$5.00.
  - C)** \$1.78.
  - D)** \$2.87.
- 

## Question #8 of 18

Question ID: 439165

A European put option on a stock can be replicated with which of the following combined positions?

- A)** Short a European call, long a zero-coupon bond, and short the stock.
  - B)** Long a European call, short a zero-coupon bond, and long the stock.
  - C)** Long a European call, long a zero-coupon bond, and short the stock.
  - D)** Short a European call, short a zero-coupon bond, and long the stock.
- 

## Questions #9-10 of 18

Ronald Franklin, CFA, has recently been promoted to junior portfolio manager for a large equity portfolio at Davidson-Sherman (DS), a large multinational investment-banking firm. He is specifically responsible for the development of a new investment strategy that DS wants all equity portfolio managers to implement. Upper management at DS has instructed its portfolio managers to begin overlaying option strategies on all equity portfolios. The relatively poor performance of many of their equity portfolios has been the main factor behind this decision. Prior to this new mandate, DS portfolio managers had been allowed to use options at their own discretion, and the results were somewhat inconsistent. Some portfolio managers were not comfortable with the most basic concepts of option valuation and their expected return profiles, and simply did not utilize options at all. Upper management of DS wants Franklin to develop an option strategy that would be applicable to all DS portfolios regardless of their underlying investment composition. Management views this new implementation of option strategies as an opportunity to either add value or reduce the risk of the portfolio.

Franklin gained experience with basic options strategies at his previous job. As an exercise, he decides to review the

fundamentals of option valuation using a simple example. Franklin recognizes that the behavior of an option's value is dependent on many variables and decides to spend some time closely analyzing this behavior. His analysis has resulted in the information shown in Exhibits 1 and 2 for European style options.

<i>Exhibit 1: Input for European Options</i>	
Stock Price (S)	100
Strike Price (X)	100
Interest Rate (r)	0.07
Dividend Yield (q)	0.00
Time to Maturity (years) (t)	1.00
Volatility (Std. Dev.)(Sigma)	0.20
Black-Scholes Put Option Value	\$4.7809

<i>Exhibit 2: European Option Sensitivities</i>		
<i>Sensitivity</i>	<i>Call</i>	<i>Put</i>
Delta	0.6736	-0.3264
Gamma	0.0180	0.0180
Theta	-3.9797	2.5470
Vega	36.0527	36.0527
Rho	55.8230	-37.4164

## Question #9 of 18

Question ID: 439173

Using the information in Exhibit 1, Franklin wants to compute the value of the corresponding European call option. Which of the following is the *closest* to Franklin's answer?

- A) \$11.54.
- B) \$5.55.
- C) \$4.78.
- D) \$12.07.

## Question #10 of 18

Question ID: 439174

Franklin is interested in the sensitivity of the European call option to changes in the volatility of the underlying equity's returns. What happens to the value of the call option if the volatility of the underlying equity's returns *decreases*?

The call option value:

- A) increases.

**B)** increases or decreases.

**C)** decreases.

**D)** stays the same.

---

### Question #11 of 18

Question ID: 439158

Which of the following has the same impact on both American call and put option prices?

- I. An increase in volatility.
- II. An increase in the stock price.
- III. An increase in the risk-free rate.
- IV. A decrease in time to expiration.

**A)** I and II.

**B)** I and IV.

**C)** I and III.

**D)** I only.

---

### Question #12 of 18

Question ID: 439175

It may be attractive to exercise an American put option prior to expiration when the underlying stock price is:

- A)** above the strike price and risk-free rates are close to zero.
  - B)** close to the strike price and risk-free rates are positive.
  - C)** close to the strike price and risk-free rates are close to zero.
  - D)** much lower than the exercise price and risk-free rates are positive.
- 

### Question #13 of 18

Question ID: 439170

Referring to put-call parity, which one of the following alternatives would allow you to create a synthetic stock position?

- A)** Sell a European call option; sell a European put option; invest the present value of the exercise price in a riskless pure-discount bond.
- B)** Sell a European call option; buy a European put option; short the present value of the exercise price worth of a riskless pure-discount bond.
- C)** Buy a European call option; buy a European put option; invest the present value of the exercise price in a riskless pure-discount bond.

- D)** Buy a European call option; short a European put option; invest the present value of the exercise price in a riskless pure-discount bond.
- 

### Question #14 of 18

Question ID: 439171

Referring to put-call parity, which one of the following alternatives would allow you to create a synthetic riskless pure-discount bond?

- A)** Sell a European put option; sell the same stock; buy a European call option.
  - B)** Sell a European put option; buy the same stock; buy a European call option.
  - C)** Buy a European put option; buy the same stock; sell a European call option.
  - D)** Buy a European put option; sell the same stock; sell a European call option.
- 

### Question #15 of 18

Question ID: 439168

Which of the following *best* explains put-call parity?

- A)** No arbitrage requires that only the underlying stock can be synthetically replicated using at the money call and put options and a zero coupon bond with a face value equal to the strike price of the options.
  - B)** No arbitrage requires that using any three of the four instruments (stock, call, put, bond) the fourth can be synthetically replicated.
  - C)** A stock can be replicated using any at the money call and put options and a bond.
  - D)** A stock can be replicated using any call option, put option and bond.
- 

### Question #16 of 18

Question ID: 439166

A security sells for \$40. A 3-month call with a strike of \$42 has a premium of \$2.49. The risk-free rate is 3 percent. What is the value of the put according to put-call parity?

- A)** \$3.45.
  - B)** \$1.89.
  - C)** \$6.03.
  - D)** \$4.18.
- 

### Question #17 of 18

A put option on DCY stock matures six months from today and sells for \$0.49. A call option on DCY stock with the same strike price sells for \$4.52. Both the put and the call are European options. DCY stock is priced at \$55 and the risk-free rate of interest is 4 percent. The strike price of the put and call options is *closest* to:

- A)** \$52.
  - B)** \$50.
  - C)** \$53.
  - D)** \$51.
- 

### Question #18 of 18

What is the primary difference between an American and a European option?

- A)** American and European options are never written on the same underlying asset.
- B)** The European option can only be traded on overseas markets.
- C)** The American option can be exercised at anytime on or before its expiration date.
- D)** American and European options always have different strike prices when written on the same underlying asset.

## Topic 43: Trading Strategies Involving Options

---

### Question #1 of 15

Question ID: 439181

A bear spread is an option strategy in which the option trader:

- A)** sells a high strike call option and buys a lower strike call option.
  - B)** sells a high strike put option and buys a lower strike call option.
  - C)** purchases a high strike call option and sells a lower strike call option.
  - D)** purchases a high strike put option and sells a lower strike call option.
- 

### Question #2 of 15

Question ID: 439180

Which of the following combinations resemble(s) the payoff of a covered call position?

- I. Long stock plus a long put.
- II. Short put plus cash.
- III. Short stock plus long call.
- IV. Short call plus cash.

- A)** II only.
  - B)** I and II only.
  - C)** III and IV only.
  - D)** III only.
- 

### Question #3 of 15

Question ID: 439185

Assume that the current price of a stock is \$100. A call option on that stock with an exercise price of \$97 costs \$7. A call option on the stock with the same expiration and an exercise price of \$103 costs \$3. Using these options what is the expiration profit of a bear call spread if the stock price is equal to \$110?

- A)** \$2.
  - B)** \$6.
  - C)** -\$2.
  - D)** -\$6.
-

## Question #4 of 15

Question ID: 439177

A covered call position is:

- A)** the simultaneous purchase of the call and the underlying asset.
  - B)** the purchase of a share of stock with a simultaneous sale of a call on that stock.
  - C)** the short sale of a stock with a simultaneous sale of a call on that stock.
  - D)** the purchase of a share of stock with a simultaneous sale of a put on that stock.
- 

## Questions #5-7 of 15

Dennis Austin works for O'Reilly Capital Management and manages endowments and trusts for large clients. The fund invests most of its portfolio in S&P 500 stocks, keeping some cash to facilitate purchases and withdrawals. The fund's performance has been quite volatile, losing over 20 percent last year but reporting gains ranging from 5 percent to 35 percent over the previous five years. O'Reilly's clients have many needs, goals, and objectives, and Austin is called upon to design investment strategies for their clients. Austin is convinced that the best way to deliver performance is to, whenever possible, combine the fund's stock portfolio with option positions on equity.

## Question #5 of 15

Question ID: 439187

Given the following scenario:

- Performance to Date: Up 3%
- Client Objective: Stay positive
- Austin's scenario: Low stock price volatility between now and end of year.

Which is the *best* option strategy to meet the client's objective?

- A)** Bull call.
- B)** 2:1 Ratio Spread.
- C)** Protective put.
- D)** Long butterfly.

## Question #6 of 15

Question ID: 439188

Given the following scenario:

- Performance to Date: Up 16%
- Client Objective: Earn at least 15%
- Austin's scenario: Good chance of large gains or large losses between now and end of year.

Which is the *best* option strategy to meet the client's objective?

- A)** Long straddle.
- B)** Short straddle.
- C)** Long butterfly.

**D)** Condor.

### Question #7 of 15

Question ID: 439189

Given the following scenario:

- Performance to Date: Up 16%
- Client Objective: Earn at least 15%
- Austin's scenario: Good chance of large losses between now and end of year.

Which is the *best* option strategy to meet the client's objective?

- A)** Long call options.  
**B)** Short put options.  
**C)** Long put options.  
**D)** Short call options.
- 

### Question #8 of 15

Question ID: 439178

A covered call position is equivalent to:

- A)** owning the stock and a long put.  
**B)** owning the stock and a long call.  
**C)** a short call.  
**D)** a short put.
- 

### Question #9 of 15

Question ID: 439183

Assume that the current price of a stock is \$100. A call option on that stock with an exercise price of \$97 costs \$7. A call option on the stock with the same expiration and an exercise price of \$103 costs \$3. Using these options what is the cost of entering into a long bull spread on this stock?

- A)** \$1.  
**B)** \$4.  
**C)** \$7.  
**D)** \$0.
- 

### Question #10 of 15

Question ID: 439190

The buyer of a straddle on a stock is *most likely* to benefit:

- A)** if the volatility of the underlying asset's price increases.
  - B)** if the position expires worthless.
  - C)** if the volatility of the underlying asset's price decreases.
  - D)** under all conditions because the straddle is guaranteed a risk-free rate of return.
- 

### Question #11 of 15

Question ID: 439192

What is the expiration payoff of a long straddle, with an exercise price \$100, if the underlying stock price is \$125?

- A)** \$25.
  - B)** \$50.
  - C)** \$0.
  - D)** -\$25.
- 

### Question #12 of 15

Question ID: 439179

An investor owns a stock and believes that the stock's price will remain relatively unchanged for the short term but is bullish in the long term. Which of the following strategies will be the *best* for this investor?

- A)** An at-the-money strip.
  - B)** A covered call.
  - C)** An at-the money strap.
  - D)** A protective put.
- 

### Question #13 of 15

Question ID: 439182

A bear call spread is an option strategy in which the option trader:

- A)** sells a low strike call option and sells a higher strike put option.
  - B)** purchases a high strike call option and sells a lower strike call option.
  - C)** purchases a low strike put option and sells a higher strike call option.
  - D)** sells a low strike put option and buys a higher strike call option.
- 

### Question #14 of 15

Assume that the current price of a stock is \$100. A call option on that stock with an exercise price of \$97 costs \$7. A call option on the stock with the same expiration and an exercise price of \$103 costs \$3. Using these options what is the profit for a long bull spread if the stock price at expiration of the options is equal to \$110?

- A) \$2.
  - B) \$0.
  - C) -\$2.
  - D) \$6.
- 

### Question #15 of 15

A short straddle comprises a trading combination of options that:

- A) purchases a put and call option at the same strike price.
- B) sells a put and call option at the same strike price.
- C) sells a low strike call option and buys a higher strike call option.
- D) purchases a low strike call option and sells a higher strike call option.

## Topic 44: Exotic Options

---

### Question #1 of 16

Question ID: 439933

An option wherein the payoff is based on the highest or lowest price experienced over some period of time, whichever is *most advantageous* to the option holder, is called what?

- A) An outside barrier option.
  - B) A lookback option.
  - C) A rainbow option.
  - D) A fixed-quanto option.
- 

### Question #2 of 16

Question ID: 439938

Which of the following barrier put options is *best* described as a standard put option that ceases to exist if the underlying asset price hits a barrier level, which is set above the current stock value?

- A) Down-and-out put.
  - B) Up-and-out put.
  - C) Up-and-in put.
  - D) Down-and-in put.
- 

### Question #3 of 16

Question ID: 439930

A knock-in barrier option is harder to hedge when it is:

- A) in-the-money.
  - B) at the inception of the trade.
  - C) at the barrier and near maturity.
  - D) out-of-the-money.
- 

### Question #4 of 16

Question ID: 439936

A down-and-in call option is an option that:

- A) ceases to exist when the underlying asset price rises to a designated barrier price.

- B)** comes into existence when the underlying asset price rises to a designated barrier price.
  - C)** ceases to exist when the underlying asset price falls to a designated barrier price.
  - D)** comes into existence when the underlying asset price falls to a designated barrier price.
- 

## Question #5 of 16

Question ID: 439935

A shout option allows the owner to:

- A)** receive either the intrinsic value at shout time or at expiration.
  - B)** pay the average price over the option period from shout time.
  - C)** choose whether the option is a call or a put at shout time.
  - D)** cancel the option if it falls below a specified price barrier.
- 

## Question #6 of 16

Question ID: 439937

A chooser option allows the owner to:

- A)** choose whether the option is a call or a put at a specified period of time.
  - B)** choose the option's strike price.
  - C)** pay the minimum price over a period chosen by the owner.
  - D)** receive the intrinsic value either at expiration or at a time chosen by the owner.
- 

## Question #7 of 16

Question ID: 439934

A shout option allows the owner to:

- A)** choose whether the option is a call or a put at shout time.
  - B)** receive the greater of the intrinsic value at shout time or the intrinsic value at expiration.
  - C)** pay the average price over the option period from shout time.
  - D)** cancel the option if it falls below a specified price barrier.
- 

## Question #8 of 16

Question ID: 439942

An option that allows its holder to purchase or sell an asset based on its average price over some time period is an example of a(n):

- A)** contagion option.
  - B)** lookback option.
  - C)** barrier option.
  - D)** Asian option.
- 

### Question #9 of 16

Question ID: 439927

Which of the following is (are) reason(s) to hedge with over-the-counter (OTC) options rather than exchange-traded options?

- I. Superior liquidity.
- II. Better customization.
- III. Less credit risk.
- IV. Lower transactions costs.

- A)** III and IV.
  - B)** I only.
  - C)** II only.
  - D)** II and IV.
- 

### Question #10 of 16

Question ID: 439929

A Bermudan option is one where the:

- A)** exercise is restricted to certain dates.
  - B)** strike price is changed to one-half the initial stock price.
  - C)** volatility is assumed to increase by.
  - D)** strike price is chosen to be the average between the maximum and minimum stock price over the life of the option.
- 

### Question #11 of 16

Question ID: 439940

Which of the following statements regarding options is (are) CORRECT?

- I. Chooser options allow the seller to determine if the option is a put or a call.
  - II. Vega may be negative for a barrier option but is always positive for a standard option.
  - III. Restricting the early exercise of an American Option to specific dates results in an Asian option.
- A)** I and II.

- B)** II and III.
  - C)** II only.
  - D)** I only.
- 

## Question #12 of 16

Question ID: 439941

A down-and-out call option is an option that:

- A)** ceases to exist when the underlying asset price falls to a designated barrier price.
  - B)** comes into existence when the underlying asset price falls to a designated barrier price.
  - C)** ceases to exist when the underlying asset price rises to a designated barrier price.
  - D)** comes into existence when the underlying asset price rises to a designated barrier price.
- 

## Question #13 of 16

Question ID: 439931

Which of the following describes a compound option?

- A)** Selling a forward contract on a put option.
  - B)** Selling a call and put at the same strike price.
  - C)** Buying a call and put at the same strike price.
  - D)** Buying a call option on another call option.
- 

## Question #14 of 16

Question ID: 439932

A down-and-out call option is an option that:

- A)** ceases to exist when the underlying asset price rises to a designated barrier price.
  - B)** comes into existence when the underlying asset price falls to a designated barrier price.
  - C)** ceases to exist when the underlying asset price falls to a designated barrier price.
  - D)** comes into existence when the underlying asset price rises to a designated barrier price.
- 

## Question #15 of 16

Question ID: 439939

Which of the following options is *best* described as follows: "A six month call option may only be exercised early on the first day of each month"?

- A)** American option.
  - B)** Bermudan option.
  - C)** Binary option.
  - D)** Chooser option.
- 

### Question #16 of 16

Question ID: 439928

A call option where early exercise is restricted to certain dates is an example of a(n):

- A)** Bermudan option.
- B)** Asian option.
- C)** lookback option.
- D)** chooser option.

# Topic 45: Commodity Forwards and Futures

---

## Question #1 of 23

Question ID: 439224

Which of the following commodities is an example of seasonal production and constant demand?

- A) Oil.
  - B) Corn.
  - C) Natural gas.
  - D) Gold.
- 

## Question #2 of 23

Question ID: 439230

Which of the following is the *main* motivation behind using a strip hedge instead of using a stack hedge? A strip hedge is:

- A) Able to hedge against both interest rate risk and volatility risk.
  - B) a more effective interest rate risk hedging strategy for multiple cash flows.
  - C) cheaper.
  - D) more suitable for a single large cash flow.
- 

## Question #3 of 23

Question ID: 439229

Why is there basis risk in a hedged commodity transaction, and what effect does having a situation in which a financial futures contract must be rolled over before delivery date have on basis risk?

- A) Basis risk occurs because the values of spot and futures contracts do not move together perfectly, and basis risk increases when a financial futures contract must be rolled over before delivery date.
- B) Basis risk occurs because of changes in interest rates and supply/demand for the commodity, and basis risk is lessened when a financial futures contract must be rolled over before delivery date.
- C) Basis risk occurs because the values of spot and futures contracts do not move together perfectly, and basis risk is lessened when a financial futures contract must be rolled over before delivery date.
- D) Basis risk occurs because of changes in interest rates and supply/demand for the commodity, and basis risk increases when a financial futures contract must be rolled over before delivery date.

---

### Question #4 of 23

Question ID: 439226

Which of the following commodities is very difficult to store and transport?

- A) Natural gas.
  - B) Corn.
  - C) Oil.
  - D) Gold.
- 

### Question #5 of 23

Question ID: 439221

A commodities analyst is studying storage costs, lease rates and convenience yield. In determining a forward price in a non-arbitrage forward pricing formula, what is the convenience yield, and how would it be related to inventory levels?

- A) Convenience yield is the cost-of-carry adjustment, and is directly related to levels of inventory.
  - B) Convenience yield is equal to storage costs minus the lease rate, and is inversely related to levels of inventory.
  - C) Convenience yield is the benefit of holding the physical asset, and is inversely related to levels of inventory.
  - D) Convenience yield is the reverse cost-of-carry adjustment which quantifies the benefit of going forward the asset, and is directly related to levels of inventory.
- 

### Question #6 of 23

Question ID: 439222

What effect does the fact that electricity is a non-storable commodity have on overall electricity pricing?

- A) Price is set by supply and demand at a given point in time, and futures prices fluctuate more during the day compared to financial futures.
  - B) Arbitrage opportunities are only available long-term, and price fluctuations are much higher compared to all other commodities.
  - C) Short-term arbitrages are possible, but daily price fluctuations are higher compared to financial futures.
  - D) Price is set according to supply and electricity production source, and daily price fluctuations are lower compared to financial futures.
-

## Question #7 of 23

Question ID: 439213

All of the following statements describing the formulation of synthetic forward commodity are correct **EXCEPT**:

- I. A synthetic commodity forward price can be derived by combining a long position on a commodity forward,  $F_{0,T}$ , and a long zero-coupon bond that pays  $e^{-rT}$  at time  $T$ .
- II. The total cost at time 0 is equivalent to the cost of the bond, or  $e^{-rT}F_{0,T}$ .
- III. The payoff at time  $T$  is  $S_T - F_{0,T} + e^{-rT}F_{0,T} = S_T$ .

- A)** I only.
- B)** All of the statements are correct.
- C)** II only.
- D)** III only.
- 

## Question #8 of 23

Question ID: 439220

Calculate the 3-month forward price for a barrel of crude oil if the current spot price is \$92/barrel, the effective monthly interest rate is 0.75%, and the monthly storage costs in a floating tanker are \$0.50/barrel.

- A)** 95.60.
- B)** 94.50.
- C)** 96.40.
- D)** 93.40.
- 

## Question #9 of 23

Question ID: 439228

Which of the following results from a commodity that is an input in the production process of other commodities?

- A)** Commodity spread.
- B)** Implied lease rate.
- C)** Convenience yield.
- D)** Implied forward rate.
- 

## Question #10 of 23

Question ID: 439214

Gold is currently selling for \$1,600 and the one-year futures price is \$1,680. Assume an investor can borrow and lend funds at 6.25%, and there are no transaction costs. According to the no-arbitrage principle, the one-year futures price should be \$1,710. How would profit be made in this situation?

- A)** Establish a cash-and-carry arbitrage.
  - B)** Go long gold, borrow funds at the 6.25%, and sell the futures contract.
  - C)** Establish a reverse cash-and-carry arbitrage.
  - D)** Short the futures contract and go long gold.
- 

### Question #11 of 23

Question ID: 439217

The current spot rate for a commodity is \$24. The annual lease rate is 6 percent for the commodity. The appropriate continuously compounding annual risk-free rate for the commodity is equivalent to 7 percent. What is the 6-month commodity forward rate?

- A)** \$23.91.
  - B)** \$24.00.
  - C)** \$24.22.
  - D)** \$24.12.
- 

### Question #12 of 23

Question ID: 439216

Which of the following is **TRUE** in normal backwardation? Futures prices tend to:

- A)** fall over the life of the contract because speculators are net short and have to receive compensation for bearing risk.
  - B)** rise over the life of the contract because speculators are net long and have to receive compensation for bearing risk.
  - C)** fall over the life of the contract because hedgers are net short and have to receive compensation for bearing risk.
  - D)** rise over the life of the contract because hedgers are net long and have to receive compensation for bearing risk.
- 

### Question #13 of 23

Question ID: 439234

An investor takes a position in two different markets with essentially equal positions in each, in an attempt to effectively counterbalance risk and to manage volatility. What is this strategy?

- A)** Cross spread.
- B)** Swap spread.
- C)** Interest hedge.

- 
- D) Cross hedge.**

---

### Question #14 of 23

Question ID: 439225

Consider the factors that affect the price of futures contracts on various commodities. Which of the following statements does not accurately describe the relationship between a commodity's futures price and its underlying factors?

- A) Gold futures have an implicit lease rate which, because it is not actually paid by commodity borrowers, creates incentive to hold physical rather than synthetic gold as ideal strategy to gain gold exposure.**
  - B) Relatively constant worldwide demand for oil and its ability to be cheaply transported keep oil prices relatively stable in the absence of short-run supply and demand.**
  - C) Natural gas is produced relatively consistently but has seasonal demand, causing the futures price to rise steadily in the fall months, since natural gas is too expensive to store.**
  - D) The cost of storing corn, which has relatively constant demand, causes the futures price to rise until the next harvest at which point the price falls.**
- 

### Question #15 of 23

Question ID: 652904

Which of the following is a *difference* between a strip and a stack hedge? A stack hedge uses:

- A) out-of-the money put options.**
  - B) a combination of long and short positions in different futures expirations.**
  - C) futures contracts that are concentrated in a single futures expiration.**
  - D) futures contracts on assets that are related to, but different, from the hedged asset.**
- 

### Question #16 of 23

Question ID: 440960

If the October 2005 spot price for natural gas is 5.171, the annual risk-free rate of interest is 5 percent, and the November forward price is 5.253. What is the natural gas implied storage cost for the month of October?

- A) 0.060.**
  - B) 0.075.**
  - C) 0.057.**
  - D) 0.043.**
-

### Question #17 of 23

Question ID: 439233

How could an oil refiner hedge the risk of an agreement to supply 50,000 barrels of oil each month for a year at a fixed price? The oil refiner could enter a:

- I. long futures contract position for every month for 50,000 barrels.
  - II. short futures contract position for every month for 50,000 barrels.
  - III. long near-term futures contract for 600,000 barrels.
  - IV. short near-term futures contract for 50,000 barrels.
- A)** I and III only.  
**B)** II only.  
**C)** II and IV only.  
**D)** I only.
- 

### Question #18 of 23

Question ID: 439218

Suppose the owner of a commodity decides to lend out the commodity. If the commodity has a continuously compounded convenience yield of  $c$ , proportional to the value of the commodity, which of the following *best represents* the lowest forward price?

- A)**  $S_0 e^{(r+\lambda-c)T}$   
**B)**  $E(S_0) e^{(r+\lambda+c)T}$   
**C)**  $S_0 e^{(r+\lambda)T}$   
**D)**  $S_0 e^{(r-\delta_1-c)T}$
- 

### Question #19 of 23

Question ID: 439215

Which of the following statements regarding the lease rate in commodity futures contracts is incorrect?

- I. The lease rate is the return required by the lender in exchange for lending a commodity.
- II. Assuming it is positive, as the lease rate increases, the futures price for a commodity increases.
- III. In a cash-and-carry arbitrage, the lease rate is earned whether or not the underlying commodity is actually loaned.
- IV. Lease rates are similar to dividends paid to the lender of a share of common stock.
- V. If the lease rate is less than the risk-free rate, the forward market is said to be in contango.

- A)** I, III, and V.  
**B)** II and IV.  
**C)** III and V.

- D) II and III.**
- 

### Question #20 of 23

Question ID: 439227

A hedge fund specializing in commodity related derivatives is considering a crush spread position using soybean and soybean oil futures contracts. Using the information in the table below, determine which of the following statements is correct.

	Soybeans	Soybean Oil
Spot Price	\$5.83/bushel	\$0.27/pound
Storage Cost*	63%	3%
Convenience Yield*	6%	6%
Interest rate*	11%	11%
Time to expiration	3 months	6 months

\*Continuously compounded annual rates

- A)** The hedge fund should establish a long position in the soybean futures contract for no more than \$6.91 and a short position in the soybean oil contract for no less than \$0.29.
  - B)** The hedge fund should establish a long position in the soybean futures contract for no more than \$7.01 and a long position in the soybean oil contract for no more than \$0.29.
  - C)** The hedge fund should establish a short position in the soybean futures contract for no less than \$7.01 and a long position in the soybean oil contract for no less than \$0.28.
  - D)** The hedge fund should establish a long position in the soybean futures contract for no more than \$7.01 and a short position in the soybean oil contract for no less than \$0.28.
- 

### Question #21 of 23

Question ID: 439235

Burton Riviera, FRM does not know the forward price of a commodity and wants to derive it by establishing a synthetic commodity forward price. How would this strategy be implemented?

- A)** Establish a straddle on the commodity, and simultaneously purchase a short-term Treasury bond.
  - B)** Combine a short position on the commodity forward, and a long zero-coupon bond.
  - C)** Combine a long position on the commodity forward, and a long zero-coupon bond.
  - D)** Establish a straddle on the commodity.
-

## Question #22 of 23

Question ID: 746111

Which of the following statements regarding controlling risk with derivatives is **FALSE**?

- A) In a strip hedge, the portfolio manager buys more of the nearest-term futures contract than the amount the manager is hedging.
  - B) Credit spread risk refers to the risk that the difference between the yield on a risky asset and the yield on a risk-free asset increases.
  - C) To calculate the dollar duration of a portfolio, the manager multiplies the effective duration times the basis point movement times the value of the position.
  - D) To reduce the duration of a current portfolio to a target duration, a portfolio manager can sell T-bond futures contracts.
- 

## Question #23 of 23

Question ID: 439223

Which of the following commodities is an example of constant production and seasonal demand?

- A) Corn.
- B) Natural gas.
- C) Gold.
- D) Wheat.

## Topic 46: Exchanges, OTC Derivatives, DPCs and SPVs

---

### Question #1 of 5

Question ID: 642618

Which of the following classes of derivatives securities dominates the OTC market in terms of total gross notional value outstanding?

- A)** Commodity derivatives.
  - B)** Interest rate derivatives.
  - C)** Foreign exchange derivatives.
  - D)** Credit default swaps.
- 

### Question #2 of 5

Question ID: 642619

Which of the following mechanisms for controlling counterparty risk has a business model that is similar to that of a monoline?

- A)** structured investment vehicles (SIVs).
  - B)** derivatives product companies (DPCs).
  - C)** special purpose vehicles (SPVs).
  - D)** credit derivative product companies (CDPCs).
- 

### Question #3 of 5

Question ID: 642616

A credit analyst is examining the benefits of a clearing ring as a mechanism to reduce counterparty exposure between three or more exchange members. Which of the following statements would not be a characteristic of a clearing ring? Clearing rings:

- A)** improve liquidity.
  - B)** are designed to mitigate counterparty risk.
  - C)** benefit all exchange members.
  - D)** facilitate the close-out process.
- 

### Question #4 of 5

Question ID: 656215

When comparing exchanged-traded and over-the-counter (OTC) derivatives, which of the following differences

between the two markets is correct?

- A)** Novation of contracts may be problematic given the lack of fungibility in the OTC markets.
  - B)** OTC derivatives are standardized contracts with a liquid, active, and regulated market.
  - C)** Exchange-traded derivatives are privately negotiated bilateral contracts transacted in a market with little or no regulation.
  - D)** OTC derivatives are typically shorter term and are settled within a few days.
- 

### Question #5 of 5

Question ID: 642615

Regarding the functions of exchanges, which of the following statements is incorrect?

- A)** Entities trading on an exchange may opt out of the exchange's rules and conditions.
- B)** Exchanges report transaction prices to various entities, including trading participants, vendors, and subscribers.
- C)** Exchanges may be physical locations or electronic platforms that provide a central location for trading, which then facilitates price discovery.
- D)** Exchanges set the terms of traded, standardized products.

# Topic 47: Basic Principles of Central Clearing

---

## Question #1 of 7

Question ID: 642613

With respect to margin, counterparties must post both initial margin and variation margin with a central counterparty (CCP). Which of the following statements pertains to variation margin? Variation margin:

- A) adjusts contract prices to changes in the market value of the underlying asset, or to changes in the reference rate or currency.
  - B) cannot be rehypothecated or reused as margin for other transactions.
  - C) is the first line of defense against potential losses in a member default scenario.
  - D) acts as the first buffer against member defaults and reduces counterparty risk.
- 

## Question #2 of 7

Question ID: 642623

Assume that counterparty A owes counterparty B 150, counterparty B owes counterparty C 175, and counterparty C owes counterparty A 225. If a central counterparty (CCP) is used to net these obligations, which of the following positions is correct?

- A) Counterparty C pays the CCP 25.
  - B) Counterparty B pays the CCP 50.
  - C) The CCP pays counterparty A 75.
  - D) The CCP pays counterparty B 25.
- 

## Question #3 of 7

Question ID: 642621

Which of the following advantages of the central clearing process could potentially lead to problems in the form of moral hazard and/or adverse selection?

- A) By transacting through a CCP, duplicate bilateral contracts can be offset, which improves flexibility for new transactions and reduces costs.
- B) Member defaults are centrally managed through the auction process which minimizes price disruptions.
- C) A member's losses are distributed among all surviving members, which spread the impact of losses, reduce costs, and minimize market impact and systemic risk.
- D) The daily margining of products in a centrally-cleared market ensures greater transparency in product valuation, which increases product liquidity.

---

## Question #4 of 7

Question ID: 642624

Regarding the impact of central clearing on the broader financial markets, which of the following central counterparty functions could potentially increase systematic risk? CCPs:

- A) improve liquidity for the market.
  - B) provide transparency for the market.
  - C) address counterparty risk by providing offsetting positions through netting.
  - D) require members to post higher initial margin during times of increased market volatility.
- 

## Question #5 of 7

Question ID: 642622

Which of the following statements about margining in centrally cleared and bilateral markets is incorrect?

- A) Variation margin is typically cash posted by a member to cover the daily net change of the member's position.
  - B) Margining by CCPs is stricter than in the OTC derivatives markets.
  - C) CCPs normally set margin requirements based only on the risks of the members' transactions.
  - D) Members with different credit risk will always post different amounts of initial margin.
- 

## Question #6 of 7

Question ID: 642620

A central counterparty (CCP) interjects itself between over-the-counter (OTC) trades. Which of the following statements is incorrect regarding a CCP's functions? The CCP:

- A) acts as the seller to each buyer and the buyer to each seller.
  - B) increases the interconnectedness of trades and of participants.
  - C) reduces the risk of default or non-payment by a counterparty.
  - D) increases trade liquidity and transparency.
- 

## Question #7 of 7

Question ID: 642614

Central clearing through central counterparties (CCPs) offers numerous advantages. Which of the following statements does not describe a potential benefit of central clearing?

- A) CCPs and clearinghouses manage margin requirements and require both initial margin and variation margin payments.

- B)** Multilateral netting of trades allows entities to reduce their counterparty risk.
- C)** CCPs represent a single point in the market system through which counterparty risk is concentrated.
- D)** Losses arising from a counterparty's default are spread across all central clearing members.

# Topic 48: Risks Caused by CCPs: Risks Faced by CCPs

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## Question #1 of 5

Question ID: 642629

A risk manager is evaluating lessons learned from previous central counterparty (CCP) failures. Which of the following assumptions should the manager disagree with as an attempt to mitigate the risk from CCP failures?

- A)** Eliminating cross-margining linkage arrangements between CCPs will minimize liquidity problems.
  - B)** CCPs must actively monitor positions, penalize overly concentrated positions, and promptly liquidate or hedge extremely large positions.
  - C)** Variation margins should be recalculated often and collected quickly.
  - D)** Initial margins and default funds should be sufficiently large in order to withstand significant negative asset value declines.
- 

## Question #2 of 5

Question ID: 642625

Regarding risks faced by central counterparties (CCPs), which of the following statements most likely describes concentration risk? Concentration risk refers to:

- A)** the risk that a foreign government could default on its debt obligations, thereby causing members to fail.
  - B)** the risk that exposure to a counterparty is negatively correlated with the credit quality of the counterparty.
  - C)** the risk of clearing members, margins, or both that are located in a single geographic area.
  - D)** the risk of losses of margin funds resulting from investment actions performed within or outside of the stated investment policy.
- 

## Question #3 of 5

Question ID: 642628

Counterparty X is a non-member of a central counterparty (CCP). Which of the following statements is incorrectly associated with this counterparty?

- A)** It is possible that clearing members are able to pass on losses to non-members, which would reduce the gains of non-members.
- B)** Non-members are required to contribute to default funds.
- C)** If a CCP fails, a non-member may be able to avoid losses so long as its counterparty is solvent.

- D)** Non-members face the risk of not being able to port their trades should the counterparty member default.
- 

## Question #4 of 5

Question ID: 642626

Which of the following statements is incorrect regarding the default of a clearing member and its flow through effects?

- A)** If default correlation is low among over-the-counter (OTC) derivatives market participants there may be default or distress of other clearing members.
  - B)** In the event of a failed auction, the CCP will be required to pass on the defaulting member's losses.
  - C)** In the event that a clearing member resigns from a CCP, the applicable initial margins and default funds must be returned to the resigning clearing member.
  - D)** Some clearing members may resign from the central counterparty (CCP) after the default of another clearing member.
- 

## Question #5 of 5

Question ID: 652905

Central counterparties (CCPs) may be subjected to model risk given that over-the-counter (OTC) derivatives are priced using valuation models that use mark-to-market functions. In this case, model risk could arise due to errors pertaining to all of the following except:

- A)** complex dependencies.
- B)** volatility.
- C)** right-way risk.
- D)** tail risk.

# Topic 49: Foreign Exchange Risk

---

## Question #1 of 12

Question ID: 439243

A bank can create an on-balance-sheet hedged position by matching:

- A)** domestic and foreign inflation rate exposure on its balance sheet.
  - B)** domestic and foreign cash rate exposure on its balance sheet.
  - C)** domestic and foreign market value positions on its balance sheet.
  - D)** maturity and currency positions on its balance sheet.
- 

## Question #2 of 12

Question ID: 439236

A positive net exposure position applies when:

- A)** fewer assets than liabilities are held in a given currency.
  - B)** the financial institution is net short in a currency.
  - C)** the financial institution faces the risk that the FX will rise in value against the dollar.
  - D)** more assets than liabilities are held in a given currency.
- 

## Question #3 of 12

Question ID: 439241

A bank's investment portfolio derives income from the difference between revenue and costs. What has been achieved when, in addition, the bank has a matched maturity and currency foreign asset-liability book?

- A)** Off-balance sheet hedging has been achieved.
  - B)** All earnings risk has been eliminated.
  - C)** On-balance sheet hedging has been achieved.
  - D)** Earnings declines have been neutralized.
- 

## Question #4 of 12

Question ID: 439247

Banks generally have matched and mismatched asset-liability portfolios spread across many foreign currencies. How can risks from mismatching one-currency positions be alleviated?

- A)** Use of floating rate bonds can minimize interest rate risk.

- B)** Effective currency rate forecasts can reduce single currency positions.
  - C)** Risks can be offset by an effective hedging program.
  - D)** Risks can be offset by possible gains from asset-liability portfolio diversification.
- 

## Question #5 of 12

Question ID: 439245

Jimmy Deininger, FRM can invest in USD at 4%, or he can invest in Swiss francs (CHF) at 4.25%. Deininger is a U.S. resident, and the current spot rate is 1.03 USD/CHF. Using the interest rate parity theorem, calculate the 1-year forward rate expressed in USD/CHF:

- A)** 1.0267.
  - B)** 0.9956.
  - C)** 1.0158.
  - D)** 1.0275.
- 

## Question #6 of 12

Question ID: 439238

Glacier Bank is a U.S. bank with some Euro assets and liabilities. Glacier also does a limited amount of Euro trading. At quarter end, here is a summary of the bank's Euro positions:

\$1,367,450 Euro assets  
\$1,500,325 Euro liabilities  
\$580,368 Euro bought  
\$250,200 Euro sold

---

What is Glacier Bank's net Euro exposure?

- A)** 1,750,525.
  - B)** (132,875).
  - C)** 330,168.
  - D)** 197,293.
- 

## Question #7 of 12

Question ID: 439237

In assessing foreign exchange risk, a negative net exposure in a given currency occurs when:

- A)** more assets than liabilities are held in a given currency.
- B)** a net long position in the currency is held.

**C)** more liabilities than assets are held in a given currency.

**D)** the value of the currency is more likely to fall than rise.

---

## Question #8 of 12

Question ID: 439240

How can a bank control the scale of its foreign exchange exposure?

**A)** Limits on foreign currencies speculation.

**B)** Matching duration of assets and liabilities.

**C)** Trading foreign currencies and acting as an agent for customers.

**D)** On-balance-sheet hedging and off-balance sheet hedging.

---

## Question #9 of 12

Question ID: 439244

A European bank exchanges euros for USD, lends them at the U.S. risk-free rate, and simultaneously enters into a forward contract to sell the loan proceeds for euros at loan maturity. If the net effect of these transactions is to earn the risk-free euro rate, it is an example of:

**A)** arbitrage.

**B)** spot-forward equality.

**C)** interest rate parity.

**D)** the law of one price.

---

## Question #10 of 12

Question ID: 439248

What are the two components of domestic and foreign nominal interest rates?

**A)** Inflation adjusted interest rate plus foreign currency adjustment.

**B)** Compound interest rate plus real inflation-adjusted interest rate.

**C)** Compound nominal interest rate and expected exchange rate risk.

**D)** Real interest rate and expected inflation rate.

---

## Question #11 of 12

Question ID: 439242

Assume that the current spot exchange rate between the U.S. dollar and the euro is \$1.2500 per . In the U.S., the 3-year nominal continuously compounded risk-free interest rate is 5%. In Europe, the 3-year nominal continuously

compounded risk-free interest rate is 6.5%. The 3-year forward exchange rate is closest to:

- A)** \$1.308.
  - B)** \$1.288.
  - C)** \$1.213.
  - D)** \$1.195.
- 

### Question #12 of 12

Question ID: 439246

Assume that Swiss interest rates remain ahead of U.S. rates, and thus banks are focusing their activities more on making hedged Swiss loans, and are correspondingly buying more Swiss francs. What will be the likely eventual result?

- A)** Forward rate spread will decline and spot exchange rate for buying Swiss francs will decline.
- B)** Forward rate spread will increase and spot exchange rate for buying Swiss francs will decline.
- C)** Forward rate spread will decline and spot exchange rate for buying Swiss francs will rise.
- D)** Forward rate spread will increase and spot exchange rate for buying Swiss francs will rise.

# Topic 50: Corporate Bonds

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## Question #1 of 21

Question ID: 439250

Which of the following statements regarding zero-coupon bonds is **TRUE**?

- A)** An investor who holds a zero-coupon bond until maturity will receive a return equal to the bond's effective annual yield.
  - B)** An investor who holds a zero-coupon bond until maturity will receive an annuity of coupon payments plus recovery of principal at maturity.
  - C)** An investor who holds a zero-coupon bond until maturity will receive an annuity of coupon payments.
  - D)** Zero-coupon bonds have substantial amount of coupon reinvestment risk.
- 

## Question #2 of 21

Question ID: 439256

Which of the following is **TRUE** about the call feature of a bond? It:

- A)** stipulates whether and under what circumstances the issuer can redeem the bond prior to maturity.
  - B)** stipulates whether and under what circumstances the bondholders can request an earlier repayment of the principal amount prior to maturity.
  - C)** describes the credit risk of the bond.
  - D)** describes the maturity date of the bond.
- 

## Question #3 of 21

Question ID: 439255

An elderly client is evaluating different options regarding the proper bonds to purchase. What is the closest definition of a "guaranteed bond"?

- A)** A guaranteed bond is guaranteed in a series in a blanket arrangement.
  - B)** A guaranteed bond is guaranteed by the issuing firm's overall credit performance.
  - C)** A guaranteed bond is guaranteed by another firm.
  - D)** A guaranteed bond is guaranteed free of default risk.
-

## Question #4 of 21

Question ID: 439262

Most often the initial call price of a bond is its:

- A) par value.
  - B) principal less a discount fee.
  - C) principal plus a premium.
  - D) par value plus one year's interest.
- 

## Question #5 of 21

Question ID: 439257

The refunding provision found in nonrefundable bonds allows bonds to be retired *unless*:

- A) the funds come from the sale of new common stock.
  - B) the funds come from earnings.
  - C) market interest rates have increased substantially.
  - D) the funds come from a lower cost bond issue.
- 

## Question #6 of 21

Question ID: 439260

Which of the following statements regarding callable bonds is *most* accurate? Callable bonds:

- A) that have a deferred call feature allow the bondholder to defer the call for up to 5 years.
  - B) may not be called at par value--there must be at least a slight call premium to compensate the holder for losing the bond.
  - C) are likely to be called when interest rates have increased.
  - D) typically require that the issuer pay a premium above par to call the issue, and the amount of this premium usually declines as the bond approaches maturity.
- 

## Question #7 of 21

Question ID: 424465

Which of the following contains the overall rights of the bondholders?

- A) Trustee.
  - B) Indenture.
  - C) Rights offering.
  - D) Covenant.
-

## Question #8 of 21

Question ID: 439259

Which of the following is the appropriate redemption price when bonds are called according to the sinking fund provision?

- A) Special redemption price.
  - B) Specific redemption price.
  - C) Regular redemption price.
  - D) General redemption price.
- 

## Question #9 of 21

Question ID: 439252

A coupon bond:

- A) always sells at par.
  - B) does not pay interest on a regular basis, but pays a lump sum at maturity.
  - C) pays interest on a regular basis (typically semi-annually).
  - D) can always be converted into a specific number of shares of common stock in the issuing company.
- 

## Question #10 of 21

Question ID: 439249

What best describes the relationship between a bond's maturity date and the early retirement of a bond?

- A) Price and yield are positively correlated, and a bond indenture may be terminated if a company chooses to retire a bond early.
  - B) Price and yield are negatively correlated, and the maturity date is when the issuer pays the principal and any accrued interest or premium.
  - C) Price and yield are negatively correlated, and at a bond's maturity only the principal payment is due and payable to the bondholder.
  - D) Price and yield are positively correlated, and the longer the bond's maturity, the more time a company has to retire the bond early.
- 

## Question #11 of 21

Question ID: 439254

A Fortune 500 firm is considering issuing subordinated debenture bonds. How would these bonds be best characterized?

- A) The bonds are secured, but have other bonds with a higher claim above them.

- B)** The bonds typically pay a higher interest rate, and are secured by equipment.
  - C)** The bonds are unsecured, and have other bonds with a higher claim above them.
  - D)** The bonds are backed by selected obligations that the company owns.
- 

## Question #12 of 21

Question ID: 439258

Which of the following statements about the early retirement of debt is *least* accurate?

- A)** Sinking fund provisions require the issuer to systematically retire the issue over its life rather than at maturity.
  - B)** Noncallable bonds generally cannot be retired for any reason prior to maturity.
  - C)** When bonds are redeemed under sinking fund provisions, the call price is known as the "regular redemption price."
  - D)** Non-refundable bonds prohibit a company from calling an issue financed by the proceeds of a lower cost refunding bond issue.
- 

## Question #13 of 21

Question ID: 439270

Chrissy Burke, FRM is studying recovery rates of bonds that have defaulted. She finds that Moody's estimated that the recovery rate for bonds historically has been less than 40%. Measuring recovery rates can be complicated because the analyst must compute the present value of the remaining cash flows at the time of the default. What is another reason measuring recovery rates can be a challenge?

- A)** Mixing zero-coupon with floating-rate bonds makes estimates of recovery rates inexact.
  - B)** Some of the recovered amounts can be in the form of securities.
  - C)** Bonds with lower seniority have higher recovery rates.
  - D)** Corporations are hesitant to share the relevant information.
- 

## Question #14 of 21

Question ID: 439265

Which of the following circumstances is an example of event risk?

- A)** A currency devalues due to foreign exchange market forces.
- B)** A bond's bid/ask spread widens.
- C)** A local government regulatory agency introduces more stringent clean-water requirements that will significantly reduce the cash flow of an area paper mill.
- D)** The U.S. Federal Reserve unexpectedly increases interest rates by 100 basis points.

---

## Question #15 of 21

Question ID: 439253

What type of bond pays at least the contracted, specified interest rate, but may pay more depending on the company's profits?

- A) Participating bond.
  - B) Payment-in-kind bond.
  - C) Floating-rate bond.
  - D) Income bond.
- 

## Question #16 of 21

Question ID: 439268

There are many types of high-yield bonds. Step-up bonds and payment-in-kind bonds are different types of what type of bond?

- A) Reset bonds.
  - B) Deferred-coupon structures bonds.
  - C) Poison put bonds.
  - D) Story bonds.
- 

## Question #17 of 21

Question ID: 439269

Two fixed income analysts are studying bond default rates. Issuer default rates have declined in the current year to date, but dollar default rates have declined by a lesser amount. What is the dollar default rate?

- A) The dollar default rate is the number of issues defaulted on during the year divided by the total number of issuers at the beginning of the year.
  - B) The dollar default rate is the total market value of all bonds that defaulted during the year divided by the recovery rate year to date for all bonds issued.
  - C) The dollar default rate is the par value of all bonds that defaulted during the year divided by the total par value of all bonds outstanding during the year.
  - D) The dollar default rate is the market value of all bonds that defaulted during the year divided by the total market value of all bonds outstanding during the year.
- 

## Question #18 of 21

Question ID: 439267

Which of the following is **NOT** an example of event risk?

- A) An interim South American government imposes restrictions on the outflow of capital.
  - B) A corporation calls a large bond issue.
  - C) The U.S. Food and Drug Administration (FDA) determines that a biotech company's flagship product is harmful to consumers and cannot be marketed.
  - D) Ratings agencies downgrade a company's rating after the company takes on a significant amount of debt to fund a leveraged buy-out (LBO).
- 

### Question #19 of 21

Question ID: 439261

Which of the following statements regarding a sinking fund provision is *most* accurate?

- A) It requires that the issuer set aside money based on a predefined schedule to accumulate the cash to retire the bonds at maturity.
  - B) It permits the issuer to retire more than the stipulated sinking fund amount if they choose.
  - C) It requires that the issuer retire a portion of the principal through a series of principal payments over the life of the bond.
  - D) It must be made through the payment of cash, paid to the trustee based on a predetermined schedule.
- 

### Question #20 of 21

Question ID: 439266

All of the following risks are types of event risk EXCEPT:

- A) regulatory risk.
  - B) disaster/accident risk.
  - C) political risk.
  - D) interest rate risk.
- 

### Question #21 of 21

Question ID: 439264

Taylor Park, FRM is studying credit default risk and credit spread risk on various corporate bond issuers. If a corporate bond has a spread duration of 6, how will the value of the bond change if there is a 75 basis point change?

- A) 6.75%.
- B) 3.0%.
- C) 6.0%
- D) 4.5%.



# Topic 51: Mortgages and Mortgage-Backed Securities

---

## Question #1 of 53

Question ID: 439978

What is curtailment in relation to a mortgage?

- A) A full default on the mortgage.
  - B) Prepayments of a mortgage for the entire amount.
  - C) Prepayments of a mortgage for less than the full amount.
  - D) Payments that come in slower than expected.
- 

## Question #2 of 53

Question ID: 439990

Which of the following is a characteristic of a mortgage loan?

- A) If the borrower defaults on the loan, the lender has the right to seize all assets of the borrower to ensure that the loan is paid off.
  - B) A very risky loan since it is unsecured.
  - C) If the borrower defaults on the loan, the lender has the right to seize the collateral.
  - D) A loan that can be collateralized by real estate, financial securities, or any other personal asset.
- 

## Question #3 of 53

Question ID: 440002

The volatility assumption in a Monte Carlo simulation is important, because it determines the:

- A) level of prepayments.
  - B) speed of prepayments.
  - C) effect the Federal Reserve Board (Fed) will have on the valuation process.
  - D) dispersion of future interest rates and the number of possible paths that may be followed.
- 

## Question #4 of 53

Question ID: 439952

The SMM formula is:  $SMM = 1 - (1 - CPR)^{1/12}$ . Calculate the single monthly mortality rate (SMM) for month 6, 100 PSA:

- A) 0.010366.

- B)** 0.000837.
  - C)** 0.001259.
  - D)** 0.001006.
- 

### Question #5 of 53

Question ID: 439985

Payments in excess of the required monthly payment amount are called:

- A)** CMOs.
  - B)** mega-payments.
  - C)** passthroughs.
  - D)** prepayments.
- 

### Question #6 of 53

Question ID: 439955

Regarding mortgage passthrough securities, which of the following statements is **FALSE**?

- A)** Passthrough security investors receive the monthly cash flows generated by the underlying pool of mortgages less any servicing and guarantee/insurance fees.
  - B)** The passthrough coupon rates are less than the average coupon rate of the underlying mortgages in the pool.
  - C)** The passthrough coupon rates are greater than the average coupon rate of the underlying mortgages in the pool.
  - D)** Passthrough securities convert illiquid mortgages into liquid securities.
- 

### Question #7 of 53

Question ID: 439973

A trader is bearish on the U.S. bond market (he thinks prices will fall in the short-term). Which mortgage derivative position will usually yield a profit if the trader's assumption is accurate?

- A)** PO (principal only).
  - B)** Inverse floater.
  - C)** IO (interest only).
  - D)** None of these.
-

## Question #8 of 53

Question ID: 439951

Suppose that the single-monthly mortality rate (SMM) is equal to 0.004. The mortgage balance for a certain month is \$100 million, and the scheduled principal payment for the same month is \$2.5 million. What is the assumed prepayment amount for this month?

- A) \$960,000.
  - B) \$460,000.
  - C) \$890,000.
  - D) \$390,000.
- 

## Question #9 of 53

Question ID: 439999

Prepayment models are complex and rely upon a number of different methods to circumvent the problem of prepayment path dependency. Which of the following is often used to avoid the problems associated with prepayment path dependency?

- A) Cox-Ingersoll-Ross tree design.
  - B) Monte Carlo simulation.
  - C) Error-correction model tree design.
  - D) Bernard and Schwartz simulation.
- 

## Question #10 of 53

Question ID: 439988

What is a curtailment in relation to a mortgage?

- A) Payments that come in slower than expected.
  - B) Prepayments of a mortgage for less than the full amount.
  - C) A default on a mortgage.
  - D) Prepayments of a mortgage for the entire amount.
- 

## Question #11 of 53

Question ID: 495084

Which of the following statements regarding collateralized mortgage obligations (CMOs) is **FALSE**? The:

- A) principal pay down window refers to the number of months that it takes for a given tranche to be fully amortized.
- B) early maturing tranches offer relatively greater protection against contraction risk.
- C) longer-term tranches offer relatively greater protection against contraction risk.

- D)** early maturing tranches offer relatively greater protection against extension risk.
- 

### Question #12 of 53

Question ID: 439969

How is a collateralized mortgage obligation (CMO) created? A CMO is created by:

- A)** redistributing the cash flows of mortgage-related products to different bond classes.
  - B)** eliminating prepayment risk.
  - C)** eliminating contraction risk.
  - D)** eliminating extension risk.
- 

### Question #13 of 53

Question ID: 439957

Consider a pool of mortgages that were issued exactly 22 months ago (they are beginning month 23). What is the conditional prepayment rate (CPR) and the single monthly mortality rate (SMM) assuming 150 percent PSA?

CPR      SMM

- |                |       |
|----------------|-------|
| <b>A)</b> 4.6% | 0.63% |
| <b>B)</b> 4.6% | 0.59% |
| <b>C)</b> 6.9% | 0.63% |
| <b>D)</b> 6.9% | 0.59% |
- 

### Question #14 of 53

Question ID: 439950

Suppose that the single-monthly mortality rate (SMM) is equal to 0.003. The mortgage balance for a certain month is \$250 million, and the scheduled principal payment for the same month is \$3 million. What is the assumed prepayment amount for this month?

- A)** \$988,000
  - B)** \$356,000.
  - C)** \$741,000.
  - D)** \$672,000.
-

### Question #15 of 53

Question ID: 439983

Which of the following *most accurately* describes the cash flows of a fixed rate, level payment, fully amortized mortgage loan?

- A) The borrower pays equal percentage installments over the term of the mortgage.
  - B) The mortgage is amortized in the final payment as in corporate debt.
  - C) The borrower pays equal installments over the term of the mortgage.
  - D) The mortgage is amortized in two equal payments, one after half of the life of the mortgage and one at the end.
- 

### Question #16 of 53

Question ID: 495085

Which of the following products may be expected to provide the *best* hedge against impairment of mortgage servicing rights?

- A) Inverse floating rate collateralized mortgage obligation (CMO).
  - B) Floor contract on the 10-year constant maturity Treasury (CMT) rate.
  - C) 10-year Treasury note.
  - D) Planned amortization class (PAC) bond.
- 

### Question #17 of 53

Question ID: 440000

Which of the following is NOT a step in the Monte Carlo method for calculating the theoretical value of a mortgage-backed security?

- A) Discount cash flows to present values based on the interest rate path.
  - B) Generate interest-rate paths and estimate cash flows for each path based on a prepayment model.
  - C) Calculate the option-adjusted spread (OAS).
  - D) Average all the present values to get the theoretical model.
- 

### Question #18 of 53

Question ID: 439981

Which of the following *most accurately* describes prepayments?

- A)** A payment that pays the mortgage in full prior to maturity.
  - B)** Prepayment occurs if both interest and principal are paid before the end of the mortgage term.
  - C)** A payment made in excess of the monthly mortgage payment.
  - D)** A scheduled mortgage payment that includes scheduled amortization and interest.
- 

### Question #19 of 53

Question ID: 439982

Regarding a fixed-rate, level payment, and fully amortized mortgage loan, which of the following statements is **FALSE**?

- A)** Principal repayment falls as interest payments rise over the life of the loan.
  - B)** Interest payments fall as principal payments rise over the life of the loan.
  - C)** Payments are equal over the life of the loan.
  - D)** Each payment consists of an interest component and a principal component.
- 

### Question #20 of 53

Question ID: 439996

Regarding the creation of agency or private-label mortgage-backed security pools, which of the following statements is incorrect?

- A)** The loans that do not meet government agency requirements are securitized in private label transactions.
  - B)** Although there is no agency guarantee on private label securities, there is insurance through the creation of subordinate classes.
  - C)** After a pool of mortgages is securitized, it is sold to investors as a pass-through investment.
  - D)** The loans that meet government agency requirements are charged an insurance premium by the agency and then sold as private label transactions.
- 

### Question #21 of 53

Question ID: 440004

Which of the following statements regarding the Monte Carlo simulation model in valuing mortgage-backed securities is **CORRECT**?

- A)** The Monte-Carlo simulation model is not designed to be arbitrage-free.
- B)** Monte Carlo models must be calibrated so that the current price generated by the paths in the model is equal to the market price of the on-the-run benchmark issues.

- C)** The critical refinancing rate spread (spread relationship between the refinancing rate and the 1-month interest rates along each of the simulated paths) is allowed to vary.
  - D)** The key difference between the various suppliers of the Monte-Carlo-based simulation programs is the assumed level of refinancing rates.
- 

### Question #22 of 53

Question ID: 439962

Which of the following *best* describes a stripped mortgage-backed security (MBS)? A stripped MBS is a security:

- A)** that provides no interest payments.
  - B)** whose distribution of principal and interest has been altered from a pro rata distribution to an unequal distribution.
  - C)** that provides no principal payments.
  - D)** whose distribution of principal and interest has been altered from an unequal distribution to a pro rata distribution.
- 

### Question #23 of 53

Question ID: 439984

Prepayments or curtailments:

- A)** have no impact on the amount of interest the lender receives over the life of the loan.
  - B)** cause the duration of the original mortgage to lengthen or increase.
  - C)** will increase the amount of interest the lender receives over the life of the loan.
  - D)** will reduce the amount of interest the lender receives over the life of the loan.
- 

### Question #24 of 53

Question ID: 439964

How is the price of a principal-only mortgage strip affected by declining mortgage rates in the market? The price of the principal-only strip:

- A)** may increase or decrease.
  - B)** decreases.
  - C)** is unaffected.
  - D)** increases.
-

## Question #25 of 53

Question ID: 439986

Which of the following is a characteristic of a fixed rate, level payment, fully amortized mortgage loan?

- A) The payments are such that at the end of the mortgage, the loan has been fully amortized.
  - B) Each payment includes interest on the borrowed amount only.
  - C) Throughout the life of the mortgage, the interest portion of each payment increases.
  - D) Each payment includes an equal portion of interest and amortized principal.
- 

## Question #26 of 53

Question ID: 440016

The spread ( $k$ ) that must be added to all of the spot rates along each interest rate path that will force equality between the average present value of the path's cash flows and the market price (plus accrued interest) for the mortgage-backed security (MBS) being evaluated is called the:

- A) k-spread.
  - B) option-adjusted spread (OAS).
  - C) Monte Carlo spread.
  - D) PAC spread.
- 

## Question #27 of 53

Question ID: 439966

Principal-only strips are:

- A) sold at par.
  - B) sold at a considerable discount to par.
  - C) sold at a considerable premium to par.
  - D) could be sold at a discount or a premium, depending on economic conditions.
- 

## Question #28 of 53

Question ID: 439965

Which of the following is *most accurate* regarding the investment characteristics of a principal-only (PO) mortgage strip?

- A) The higher the coupon the higher the investor's return.
  - B) The lower the coupon the higher the investor's return.
  - C) The slower the prepayments the higher the investor's return.
  - D) The faster the prepayments the higher the investor's return.
-

**Question #29 of 53**

Question ID: 439975

Based on recent trends, which of the following measures of creditworthiness is generally seen as *least* important by mortgage lenders?

- A)** Credit scores.
  - B)** Loan-to-value ratio.
  - C)** Income ratios.
  - D)** Documentation provided by borrower.
- 

**Question #30 of 53**

Question ID: 440001

All of the following are steps used in applying a Monte Carlo simulation model for valuing a mortgage-backed security (MBS) **EXCEPT**:

- A)** input potential interest rate paths.
  - B)** use an assumed level of interest volatility.
  - C)** use the Treasury yield curve for rates.
  - D)** stipulate the number of paths the analyst is willing accept.
- 

**Question #31 of 53**

Question ID: 439949

Which of the following *most accurately* describes a mortgage passthrough security?

- A)** A futures contract on a pool of mortgages of a certain type.
  - B)** A participation certificate in a pool of mortgages.
  - C)** An option on a pool of mortgages.
  - D)** A security that pays off the full amount of the mortgage if the borrower defaults.
- 

**Question #32 of 53**

Question ID: 440006

Which of the following is CORRECT concerning Monte Carlo simulation for valuing a mortgage-backed security? Monte Carlo simulation involves:

- A)** creating a trinomial interest rate tree that is used for the valuation.
  - B)** generating a series of interest rates paths used to discount the known cash flows.
  - C)** creating a binomial interest rate tree that is used for the valuation.
  - D)** generating a series of cash flows based on simulated mortgage refinancing rates.
- 

### Question #33 of 53

Question ID: 652906

In measuring prepayment speeds for a pool of mortgages with the assumption of 125 PSA, which of the following statements regarding the conditional prepayment rate (CPR) and single monthly mortality rate (SMM) is *least* accurate?

- A)** The SMM in month 30 is 0.00760156.
  - B)** The SMM in month 20 is 0.004265319.
  - C)** The CPR in month 20 is 0.05.
  - D)** The CPR in month 30 is 0.075.
- 

### Question #34 of 53

Question ID: 440017

A collateralized mortgage obligation (CMO) bond structure includes four tranches, A, B, C, and D, with the following characteristics:

Tranche	OAS (in BP)	Option Cost (in BP)
A	54	73
B	55	94
C	68	71
D	56	90

Using this information, which of the tranches appears to be cheap?

- A)** A.
  - B)** D.
  - C)** C.
  - D)** B.
- 

### Question #35 of 53

Question ID: 495083

What FICO score is needed to qualify a borrower as prime rather than subprime?

- A)** Above 660.
  - B)** Above 620.
  - C)** Above 600.
  - D)** Above 640.
- 

### Question #36 of 53

Question ID: 439954

Which of the following *most accurately* describes the term "securitizing a mortgage"?

- A)** Selling an entire mortgage to another investor.
  - B)** Including a mortgage in a pool of mortgages that is used as collateral for a mortgage passthrough security.
  - C)** Offsetting the mortgage payments by an investment that generates exactly the same cash flows.
  - D)** Selling shares of one mortgage to other investors.
- 

### Question #37 of 53

Question ID: 439970

Which of the following have greater price volatility than the pass-through from which they are derived?

- A)** Interest only strips.
  - B)** Neither interest only strips nor principal only strips.
  - C)** Interest only strips and principal only strips.
  - D)** Principal only strips.
- 

### Question #38 of 53

Question ID: 439958

The purchaser of a mortgage passthrough security:

- A)** has a claim to equal percentage shares of the interest and principal payments from a pool of mortgages.
  - B)** can select a tranche that offers the desired prepayment risk or maturity characteristics.
  - C)** will receive semiannual payments that consist of interest, scheduled principal payments, and prepayments of principal.
  - D)** hedges all prepayment risk.
-

### Question #39 of 53

Question ID: 439947

In relation to MBS, what is the cause of refinancing burnout?

- A) A number of falls in interest rates.
  - B) Lenders tightening their underwriting after a boom period.
  - C) A fall in the supply of mortgage funding.
  - D) Interest rates rising after having fallen.
- 

### Question #40 of 53

Question ID: 440020

If the simulated interest rates are based on the Treasury curve, then how is the option-adjusted spread obtained (OAS) using the Monte Carlo simulation model interpreted? The OAS is the:

- A) spread over the Treasury spot rate corresponding to the maturity of the mortgage-backed security.
  - B) average spread over the Treasury spot rate curve.
  - C) average spread over the Treasury yield.
  - D) price difference between a mortgage-backed security and the corresponding Treasury security.
- 

### Question #41 of 53

Question ID: 439963

Interest only (IO) strip cash flow:

- A) starts out big and gets smaller over time.
  - B) starts out small and gets bigger over time.
  - C) have longer effective lives than principal only (PO) strips.
  - D) are the same throughout the life of the security.
- 

### Question #42 of 53

Question ID: 439979

Which of the following *most accurately* describes a mortgage loan?

- A) An unsecured loan to enable the borrower to finance a real estate property.
- B) An unsecured commercial loan to enable the borrower to finance a real estate property.
- C) A loan secured by the collateral of some specified real estate property.
- D) A commercial loan secured by the collateral of some specified real estate property.

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### Question #43 of 53

Question ID: 440019

How is the option-adjusted spread (OAS) computed using the Monte Carlo simulation model? The OAS is the value of the spread that, when added to all of the simulated spot rates, makes the:

- A)** present value of cash flows equal to the market price of the mortgage-backed security.
  - B)** average of the present values from the simulated cash flow paths equal to the market price of the mortgage-backed security.
  - C)** theoretical present value, assuming a constant prepayment rate, equal to the market price of the mortgage-backed security.
  - D)** theoretical present value, assuming no prepayments, equal to the market price of the mortgage-backed security.
- 

### Question #44 of 53

Question ID: 439974

Which of the following statements regarding principal-only (PO) and interest-only (IO) strips is (are) CORRECT?

- I. The IO price is positively related to mortgage rates at low current rates.
  - II. The IO exhibits some negative convexity at low rates.
  - III. PO strips are sold at a moderate discount to par.
  - IV. PO prices increase when interest rates fall.
- A)** II and III.  
**B)** I and IV.  
**C)** I and II.  
**D)** III and IV.
- 

### Question #45 of 53

Question ID: 440018

Generally speaking, an analyst would like the adjusted spread (OAS) to be:

- A)** small.
  - B)** big.
  - C)** negative.
  - D)** zero.
- 

### Question #46 of 53

Question ID: 439967

Which of the following *best* describes how planned amortization class (PAC) bonds are protected against prepayment risk to create products that provide better asset and liability matching for institutional investors? PAC bonds:

- A)** do not allow prepayment for certain types of mortgages.
  - B)** accrue the interest for one tranche and redistribute it to the support tranches.
  - C)** have a fixed principal repayment schedule that must be satisfied as long as the support tranches exist.
  - D)** have several different companion tranches to which repayments are directed sequentially.
- 

### Question #47 of 53

Question ID: 439997

Which of the following statements is correct regarding dollar roll transactions?

- A)** A dollar roll transaction occurs when an MBS market maker buys positions for one settlement month and, at a future date, sells those same positions.
  - B)** Funding costs in the repo market is a factor that impacts dollar roll valuations.
  - C)** Shortages of certain securities will decrease the front month price.
  - D)** An increase in the back month price could cause a dollar roll to trade special.
- 

### Question #48 of 53

Question ID: 439946

In the past, if mortgage rates fell by more than 2%, refinancing activity would increase dramatically. That effect is *best* described as the:

- A)** lock-in effect.
  - B)** refinance effect.
  - C)** media effect.
  - D)** burnout effect.
- 

### Question #49 of 53

Question ID: 440005

Which of the following is a limitation of the zero-volatility spread for a mortgage-backed security (MBS)? The zero-volatility spread:

- A)** does not account for the fact that MBSs have lower convexity than Treasuries.
  - B)** is not adjusted for interest rate risk.
  - C)** is not adjusted for prepayment risk.
  - D)** does not account for the fact that MBSs have higher convexity than Treasuries.
- 

### Question #50 of 53

Question ID: 439987

Prepayments cause the timing and amount of cash flows from mortgage loans and mortgage-backed securities (MBS) to be uncertain. Thus:

- A)** regulators mandate the convention firms must use when estimating prepayment rates.
  - B)** the rate of prepayments is important to valuing the passthrough securities but is impossible to estimate.
  - C)** industry conventions need to be adopted as benchmarks for prepayment risk but have not been at this point.
  - D)** the analyst must make specific assumptions about the rate at which prepayments of the pooled mortgages occurs when valuing the passthrough securities.
- 

### Question #51 of 53

Question ID: 439953

Given a single monthly mortality rate (SMM) of 0.45 percent, a mortgage pool with a \$200,000 principal balance outstanding at the beginning of the 26<sup>th</sup> month, and a scheduled monthly principal payment of \$60.00 for the 26<sup>th</sup> month, the estimated prepayment is:

- A)** \$899.73.
  - B)** \$567.89.
  - C)** \$450.00.
  - D)** \$426.38.
- 

### Question #52 of 53

Question ID: 439944

The most important determinant of refinancing burnout is the:

- A)** current level of interest rates.
- B)** season of the year.
- C)** spread between the current mortgage rate and the original rate.
- D)** path that mortgage rates have followed since origination.

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### Question #53 of 53

Question ID: 439971

A rise in interest rates would *most likely* cause which of the following?

- A)** Both IO and PO strips to decrease in value.
- B)** Both IO and PO strips in increase in value
- C)** PO strips to increase in value.
- D)** IO strips to increase in value.