Topics 41 to 45

Question #1 of 85

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

- ✗ **A) Compound interest rate plus real inflation-adjusted interest rate.**
- ✗ **B)** Compound nominal interest rate and expected exchange rate risk.
- ✗ **C)** Inflation adjusted interest rate plus foreign currency adjustment.
- ✓ **D)** Real interest rate and expected inflation rate.

Explanation

Real interest rate reflect a particular currency's real supply/demand for its funds, while the expected inflation rate reflects what the investors require to offset expected inflationary erosion in purchasing power over time.

Question #2 of 85

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.

Explanation

When a convenience yield is associated with a commodity, the futures price on that commodity becomes a range, rather than a single value. The range is expressed in the following formula:

$$S_0 e^{(r + \lambda - c)T} \leq F_{0,T} \leq S_0 e^{(r + \lambda)T}$$

Using this formula, we can calculate the range of futures prices acceptable for the soybean and soybean oil futures contracts as follows:

Soybeans: $5.83e^{(0.11 + 0.63 - 0.06)0.25} \leq F_{0,0.25} \leq 5.83e^{(0.11 + 0.63)0.25}$; $6.91 \leq F_{0,0.25} \leq 7.01$

Soybean Oil: $0.27e^{(0.11 + 0.03 - 0.06)0.5} \leq F_{0,0.5} \leq 0.27e^{(0.11 + 0.03)0.5}$; $0.28 \leq F_{0,0.5} \leq 0.29$

For a crush spread, the investor goes long (short) a soybean futures contract and then takes a short (long) position in a soybean meal futures contract.

Question #3 of 85

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 and III only.
- ✗ **C)** II and IV only.
- ✗ **D)** I, III, and IV only.

Explanation

American put option values decrease as stock prices increase.

Question #4 of 85

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

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

Explanation

Corn is an example of a commodity with seasonal production and a constant demand. Corn is produced in the fall of every year, but it is consumed throughout the year.

Question #5 of 85

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 is lessened when a financial futures contract must be rolled over before delivery date.**

X **B)** 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.

✓ **C)** 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.

X **D)** 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.

Explanation

Basis risk occurs because the values of spot and futures contracts do not move together perfectly. When there is a mismatch, and a contract must be rolled over before delivery, basis risk is increased.

Question #6 of 85

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?

X **A)** $0.

✓ **B)** $4.

X **C)** $7.

X **D)** $1.

Explanation

The buyer of a bull spread buys the call with an exercise price below the current stock price and sells the call option with an exercise price above the stock price. The cost of the strategy is the difference between the cost of buying the option with the lower exercise price and selling the option with the higher exercise price which is $7 - $3 = $4 to enter into this strategy.

Question #7 of 85

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

X **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.

X **C)** 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.

X **D)** 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.

Explanation

According to put-call parity we can write a European call as: $C_0 = P_0 + S_0 - X/(1+R_f)^T$

We can then read off the right-hand side of the equation to create a synthetic position in the call. We would need to buy the European put, buy the stock, and short or issue a riskless pure-discount bond equal in value to the present value of the exercise price.

Question #8 of 85

A chooser option allows the owner to:

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

Explanation

Chooser options allow the owner to choose whether the option is a call or a put.

Question #9 of 85

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

- ✗ **A) Price is set according to supply and electricity production source, and daily price fluctuations are lower compared to financial futures.**
- ✗ **B)** Short-term arbitrages are possible, but daily price fluctuations are higher compared to financial futures.
- ✓ **C)** 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.
- ✗ **D)** Arbitrage opportunities are only available long-term, and price fluctuations are much higher compared to all other commodities.

Explanation

Since electricity is not storable, daily price fluctuations are higher, and arbitrage opportunities do not exist.

Question #10 of 85

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) $2.87.**
- ✗ **B)** $1.78.
- ✗ **C)** $5.00.
- ✓ **D)** $2.13.

Explanation

The formula for put-call parity is: Call - Put = Stock - $X/(1+r)^t$

Solving for the put results in: Call - Stock + $X/(1+r)^t$ = Put

Rearranging the variables: $P = C - S + X/(1+r)^t$

Put value = $5 - $100 + $100/1.06^{0.5}$ = $2.13

Question #11 of 85

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

Explanation

Trading in European options is considerably less than trading in American options, because demand for them is much lower. This is due to their relative inflexibility regarding when they can be exercised. The greater exercising flexibility of American options gives them increased value to traders, which normally results in a greater market value relative to an otherwise identical European option.

Question #12 of 85

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 fixed-quanto option.
- ✗ **D)** A rainbow option.

Explanation

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 a lookback option.

Question #13 of 85

Question ID: 439231

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

✗ **A)** **futures contracts on assets that are related to, but different, from the hedged asset.**

✓ **B)** futures contracts that are concentrated in a single futures expiration.

✗ **C)** a combination of long and short positions in different futures expirations.

✗ **D)** out-of-the money put options.

Question #14 of 85

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)** **$4.18.**

✗ **B)** $6.03.

✗ **C)** $3.45.

✗ **D)** $1.89.

Explanation

$p = c + Xe^{-rt} - S = 2.49 + 42\ e^{-0.03 \times 0.25} - 40 = \$4.18$

Question #15 of 85

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)** **III only.**

✗ **B)** III and IV only.

✗ **C)** I and II only.

✓ **D)** II only.

Explanation

A covered call combines a long position in a stock with a written call. The payoff is similar to cash plus a short put option because the upside is capped at the strike price plus the premium, but still has the downside of the strike price less the stock price. Note that a long stock plus a long put is a protective put. A short stock plus long call will profit as the stock price declines, but if the stock price rises, losses are limited by the long call. A short call plus cash receives a premium, but has unlimited downside if the price of the stock rises.

Question #16 of 85

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) On-balance sheet hedging has been achieved.**

✗ **B)** All earnings risk has been eliminated.

✗ **C)** Off-balance sheet hedging has been achieved.

✗ **D)** Earnings declines have been neutralized.

Explanation

The bank has a matched maturity and currency foreign asset-liability book, thus has achieved perfect on-balance-sheet-hedging.

Questions #17-18 of 85

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.

Exhibit 1: Input for European Options	
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

Exhibit 2: European Option Sensitivities		
Sensitivity	Call	Put
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 #17 of 85

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)** **$12.07.**

  ✗ **B)** $4.78.

  ✗ **C)** $5.55.

  ✓ **D)** $11.54.

Explanation

This result can be obtained using put-call parity in the following way:

Call Value = Put Value - Xe^{-rt} + S = $4.78 - $100.00e$^{(-0.07 * 1.0)}$ + 100 = $11.54

The incorrect value of $4.78 does not discount the strike price in the put-call parity formula. The value $12.07 results from using the binomial model.

Question #18 of 85

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)** **stays the same.**

  ✗ **B)** increases or decreases.

  ✗ **C)** increases.

  ✓ **D)** decreases.

Explanation

Due to the limited potential downside loss, changes in volatility directly affect option value. Vega measures the option's sensitivity relative to volatility changes.

Question #19 of 85

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)** **II and III.**

  ✗ **B)** I, III, and V.

✗ **C)** III and V.

✗ **D)** II and IV.

Explanation

The lease rate is the amount that a lender requires as compensation for lending a commodity. In determining the price of a commodity futures contract, the lease rate, δ_l, is subtracted from the risk-free rate, r, as follows:

$$F_{0,T} = S_0 e^{(r-\delta_l)T}$$

Assuming a positive lease rate, the lease rate effectively reduces the futures price, all else constant. This also assumes that there is an active market for lending the commodity underlying the futures contract. The lease rate can only be earned by actually lending the underlying commodity.

Question #20 of 85

Question ID: 439935

A shout option allows the owner to:

✗ **A) pay the average price over the option period from shout time.**

✗ **B)** choose whether the option is a call or a put at shout time.

✗ **C)** cancel the option if it falls below a specified price barrier.

✓ **D)** receive either the intrinsic value at shout time or at expiration.

Explanation

Shout options allow the owner to shout to the writer one time during the life of the option. At expiration, the owner will receive either the intrinsic value at shout time, or at expiration, whichever is greater.

Question #21 of 85

Question ID: 439178

A covered call position is equivalent to:

✗ **A) a short call.**

✓ **B)** a short put.

✗ **C)** owning the stock and a long put.

✗ **D)** owning the stock and a long call.

Explanation

The covered call: *stock plus a short call, or a short put*. The term covered means that the stock covers the inherent obligation assumed in writing the call. Why would you write a covered call? You feel the stock's price will not go up any time soon, and you want to increase your income by collecting some call option premiums. To add some insurance that the stock won't get called away, the call writer can write out-of-the money calls. You should know that this strategy for enhancing one's income is not without risk. The call writer is trading the stock's upside potential for the call premium. The desirability of writing a covered call to enhance income depends upon the chance that the stock price will exceed the exercise price at which the trader writes the call. This is similar reasoning to selling (or going short) a put. A put is *in-the-money* when the exercise price is above the stock price. Since the seller of a put prefers that the buyer just pay the premium and never exercise, the seller wants the price of the stock to remain above the exercise price.

Question #22 of 85

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 $F_{0,T}$ 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 $S_T - F_{0,T} + F_{0,T} = S_T$.

✓ **A) All of the statements are correct.**

✗ **B)** II only.

✗ **C)** III only.

✗ **D)** I only.

Explanation

All of the statements are correct. 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 $F_{0,T}$ at time T. The total cost at time 0 is equivalent to the cost of the bond, $e^{-rT}F_{0,T}$. The forward contract does not have any initial cash flows at time 0. The payoff at time T is $S_T - F_{0,T} + F_{0,T} = S_T$, where S_T is the spot price of the commodity at time T. The present value of the expected spot price at time T is $E(S_T)e^{-\alpha T}$. This amount is equivalent to the cost of the bond, $e^{-rT}F_{0,T}$, because both represent the amount you would pay today to receive the commodity at time T.

Question #23 of 85

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 American option can be exercised at anytime on or before its expiration date.

✗ **C)** American and European options always have different strike prices when written on the same underlying asset.

✗ **D)** The European option can only be traded on overseas markets.

Explanation

American and European options are virtually identical, except exercising the European option is limited to its expiration date only. The American option can be exercised at anytime on or before its expiration date. For the exam, the key concept relating to this difference is the value of the American option must be equal or greater than the value of the corresponding European option, all else being equal.

Question #24 of 85

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) Binary option.**

✗ **B)** American option.

✓ **C)** Bermudan option.

✗ **D)** Chooser option.

Explanation

American options can be exercised at any time prior to expiration. If some of the available expiration periods are restricted, then it becomes a nonstandard option. Restricting early exercise to certain dates is known as a Bermudan option.

Binary options generate discontinuous payoff profiles because they pay only one price at expiration if the asset value is above the strike price. Chooser options allow the owner, after a certain period of time has elapsed, to choose whether the option is a call or a put.

Question #25 of 85

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

✓ **A) much lower than the exercise price and risk-free rates are positive.**

✗ **B)** close to the strike price and risk-free rates are close to zero.

✗ **C)** above the strike price and risk-free rates are close to zero.

✗ **D)** close to the strike price and risk-free rates are positive.

Explanation

It can be shown that American put options on non-dividend paying stocks may be exercised early if the underlying stock price is sufficiently low. The owner of the option would essentially receive the strike price, which is the maximum value of the option, and could reinvest the proceeds at the risk-free rate, which would generate a payoff received today as opposed to in the future.

Question #26 of 85

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 increase and spot exchange rate for buying Swiss francs will decline.**

✓ **B)** Forward rate spread will decline and spot exchange rate for buying Swiss francs will rise.

✗ **C)** Forward rate spread will decline and spot exchange rate for buying Swiss francs will decline.

✗ **D)** Forward rate spread will increase and spot exchange rate for buying Swiss francs will rise.

Explanation

Theoretically, the forward exchange rate will continue to fall until the market reaches equilibrium, and the advantage of Swiss investing will be eliminated.

Question #27 of 85

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)** more suitable for a single large cash flow.

✗ **C)** cheaper.

✓ **D)** a more effective interest rate risk hedging strategy for multiple cash flows.

Questions #28-30 of 85

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 #28 of 85

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.

Explanation

Long butterfly is the choice as this combination produces gains should stock prices not move either up or down, while not producing much in loss if prices are volatile. None of the other positions produce gains should stock prices not move much. The protective put guards against falling prices, the bull call limits losses and gains should prices move, and the 2:1 ratio spread gains should prices move up.

Question #29 of 85

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)** Condor.

✗ **D)** Long butterfly.

Explanation

Long straddle produces gains if prices move up or down, and limited losses if prices do not move. Short straddle produces significant losses if prices move significantly up or down. Long Butterfly also produces losses should prices move either up or down. The condor is

similar to the long butterfly, although the gains for no movement are not as great.

Question #30 of 85

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 put options.**

✗ **B)** Short put options.

✗ **C)** Long call options.

✗ **D)** Short call options.

Explanation

Long put positions gain when stock prices fall and produce very limited losses if prices instead rise. Short calls also gain when stock prices fall but create losses if prices instead rise. The other two positions will not protect the portfolio should prices fall.

Question #31 of 85

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)** fall over the life of the contract because hedgers are net short and have to receive compensation for bearing risk.

✗ **C)** rise over the life of the contract because hedgers are net long and have to receive compensation for bearing risk.

√ **D)** rise over the life of the contract because speculators are net long and have to receive compensation for bearing risk.

Explanation

Normal backwardation means that *expected futures spot prices* are greater than futures prices. It suggests that when hedgers are net short futures contracts, they must sell them at a discount to the expected future spot prices to get speculators to assume the risk of holding a net long position. The futures price rises over the life of the contract, which compensates speculators for the exposure of their long positions.

Question #32 of 85

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; buy the same stock; buy a European call option.**

✗ **B)** Buy a European put option; sell the same stock; sell a European call option.

√ **C)** Buy a European put option; buy the same stock; sell a European call option.

✗ **D)** Sell a European put option; sell the same stock; buy a European call option.

Explanation

According to put-call parity we can write a riskless pure-discount bond position as:

$X/(1+R_f)^T = P_0 + S_0 - C_0$.

We can then read off the right-hand side of the equation to create a synthetic position in the riskless pure-discount bond. We would need to buy the European put, buy the same underlying stock, and sell the European call.

Question #33 of 85

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 rises 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 falls to a designated barrier price.

Explanation

This is the definition of a down-and-out call. "Out" signifies that the option ceases to exist when the price moves "down" to a specified barrier.

Question #34 of 85

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) II and IV only.**

✗ **B)** I only.

✗ **C)** II only.

✓ **D)** I and III only.

Explanation

The oil refiner could enter into a strip hedge, by obtaining a long futures contract position for every month of the year for 50,000 barrels. Alternatively, the oil refiner could create a long position of a near-term futures contract for approximately 600,000 barrels.

Question #35 of 85

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 strap.**

✗ **B)** A protective put.

✗ **C)** An at-the-money strip.

✓ **D)** A covered call.

Explanation

A covered call strategy is used to generate cash on a stock position that is not expected to increase in value over the life of the option.

Question #36 of 85

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.

Explanation

The trader of a bear call spread sells the call with an exercise price below the current stock price and buys the call option with an exercise price above the stock price. Therefore, for a stock price of $110 at expiration of the options, the buyer realizes a payoff of -$13 from his short position and a positive payoff of $7 from his long position for a net payoff of -$6. The revenue of the strategy is $4. Hence the profit is equal to -$2.

Question #37 of 85

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)** **barrier option.**

✗ **B)** contagion option.

✗ **C)** lookback option.

✓ **D)** Asian option.

Explanation

Asian options have payouts based on average underlying values.

Question #38 of 85

Which of the following describes a compound option?

✗ **A)** **Selling a forward contract on a put option.**

✓ **B)** Buying a call option on another call option.

✗ **C)** Buying a call and put at the same strike price.

✗ **D)** Selling a call and put at the same strike price.

Explanation

Compound options are options on other options. Buying a call option on another call option allows the owner to determine whether he wishes to exercise the first option to own the second.

Question #39 of 85

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)** Establish a reverse cash-and-carry arbitrage.

✗ **C)** Go long gold, borrow funds at the 6.25%, and sell the futures contract.

✗ **D)** Short the futures contract and go long gold.

Explanation

The futures price is too low, so a reverse cash-and-carry arbitrage should be initiated. The commodity should be sold short, the short sale proceeds should be loaned at the 6.25% rate, and the futures contract should be bought. At expiration, the proceeds of the loan are collected, and the arbitrageur will take delivery of the commodity for the futures price and cover the short sale commitment.

Question #40 of 85

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

✗ **A)** **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.**

✗ **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)** In a strip hedge, the portfolio manager buys more of the nearest-term futures contract than the amount the manager is hedging.

✗ **D)** To reduce the duration of a current portfolio to a target duration, a portfolio manager can sell T-bond futures contracts.

Explanation

In a *stack* hedge, the portfolio manager buys more of the nearest-term futures contract than the amount the manager is hedging.

Question #41 of 85

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.

Explanation

The buyer of a bull spread buys the call with an exercise price below the current stock price and sells the call option with an exercise price above the stock price. Therefore, for a stock price of $110 at expiration of the options, he gets a payoff $13 from his long position and a payoff of -$7 from his short position for a net payoff of $6. The cost of the strategy is $4. Hence the profit is equal to $2.

Question #42 of 85

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)** 1.0158.

✗ **B)** 1.0267.

✗ **C)** 0.9956.

✓ **D)** 1.0275.

Explanation

Forward (DC/FC) = spot(DC/FC) $[(1+ r_{DC}) / (1+ r_{FC}) = 1.03 (1.04 / 1.0425) = 1.02753$

r_{DC} = domestic currency rate

r_{FC} = foreign currency rate

Question #43 of 85

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

✗ **A) A stock can be replicated using any at the money call and put options and a bond.**

✗ **B)** 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.

✗ **C)** A stock can be replicated using any call option, put option and bond.

✓ **D)** No arbitrage requires that using any three of the four instruments (stock, call, put, bond) the fourth can be synthetically replicated.

Explanation

A portfolio of the three instruments will have the identical profit and loss pattern as the fourth instrument and therefore the same value by no arbitrage. So the fourth security can be synthetically replicated using the remaining three.

If a domestic bank is assisting a customer in the buying and selling of foreign currencies in conjunction with that customer's particular business transaction, how would the bank's role be best described?

- ✓ **A) The bank would not assume any foreign exchange rate risk itself, and would serve as an agent for the customer.**
- ✗ **B)** The bank would share in the foreign exchange rate risk along with serving as an agent for the customer.
- ✗ **C)** The bank would assume the entire foreign exchange rate risk, as well as serve as agent for the customer.
- ✗ **D)** The bank would offset the foreign currency exposure for hedging purposes.

Explanation

If a bank is assisting a customer in this manner, the bank would not typically assume any foreign exchange risk itself, but would serve as an agent for the customer, earning a fee.
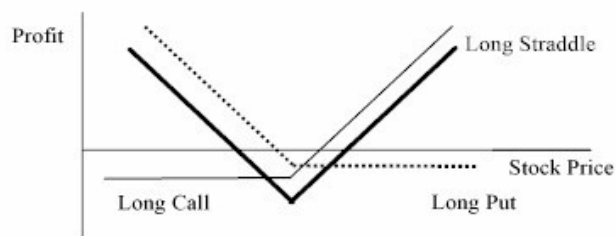
Question #45 of 85

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

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

Explanation

The buyer of the straddle purchases both a call and a put. This position will benefit from large swings of the price of the underlying stock in either direction. If the position expires worthless, which occurs when the stock price stays flat, the investor will lose 100% of the investment. The payoff diagram is:

Question #46 of 85

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

- ✗ **A) chooser option.**
- ✗ **B)** Asian option.

✗ **C)** lookback option.

✓ **D)** Bermudan option.

Explanation

A Bermudan option is an option in which early exercise is restricted to certain dates.

Question #47 of 85

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

✓ **A) Natural gas.**

✗ **B)** Wheat.

✗ **C)** Corn.

✗ **D)** Gold.

Explanation

Natural gas is an example of a commodity with constant production but seasonal demand.

Question #48 of 85

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)** $S_0 e^{(r+\lambda)T}$

✓ **B)** $S_0 e^{(r+\lambda-c)T}$

✗ **C)** $E(S_0) e^{(r+\lambda+c)T}$

✗ **D)** $S_0 e^{(r-\delta_1-c)T}$

Explanation

The owner of a commodity is able to create a range of no-arbitrage prices as follows: $S_0 e^{(r+\lambda-c)T} \leq F_{0,T} \leq S_0 e^{(r+\lambda)T}$. The lower bound adjusts for the convenience yield and therefore explains why forward prices may appear lower at times when the convenience yield is accounted for. The upper bound depends on storage costs but not on the convenience yield.

Question #49 of 85

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

✗ **A) Matching duration of assets and liabilities.**

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

✓ **C)** On-balance-sheet hedging and off-balance sheet hedging.

✗ **D)** Limits on foreign currencies speculation.

Explanation

A bank's returns on foreign exchange trading come from speculation in currencies or by taking unhedged currency positions. The best methods of controlling the scale of foreign exchange exposure are on- and off-balance sheet hedging transactions.

Question #50 of 85

A Bermudan option is one where the:

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

Explanation

Bermudan options are options that restrict exercise to certain dates, not anytime over the life of the option.

Question #51 of 85

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

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

Explanation

A commodity spread results from a commodity that is an input in the production process of other commodities.

Question #52 of 85

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) 0.057.**
- ✗ **B)** 0.043.
- ✗ **C)** 0.075.
- ✓ **D)** 0.060.

Explanation

The implied storage cost for October is calculated as follows:

$\$5.253 = \$5.171e^{0.00417} + \lambda_{Oct\,2005}$

$\$5.253 = \$5.193 + \lambda_{Oct\,2005}$

$\$5.253 - \$5.193 = \lambda_{Oct\,2005}$

$0.060 = \lambda_{Oct2005}$

Question #53 of 85

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-in put.
- ✓ **C)** Up-and-out put.
- ✗ **D)** Down-and-in put.

Explanation

An up-and-out put is a standard put option that only ceases to exist if the underlying asset price hits a barrier level, which is set above the current stock value. The opposite situation would be an up-and-in put, which only comes into existence if the underlying asset price hits the barrier level.

Question #54 of 85

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) $24.22.**
- ✗ **B)** $23.91.
- ✓ **C)** $24.12.
- ✗ **D)** $24.00.

Explanation

The 6-month forward rate is calculated as follows:

$F = 24e^{(0.07-0.06)\times 0.5} = \$24.12$.

Question #55 of 85

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) 94.50.**
- ✗ **B)** 93.40.
- ✗ **C)** 96.40.
- ✓ **D)** 95.60.

Explanation

Calculating the future cost of storage for 3 months:

$0.50 + 0.50(1.0075) + 0.50(1.0075)^2 = 1.51$

This means that it costs \$1.51 to store the oil for 3 months, including interest. The next step is to add the cost of storage to the spot price, plus interest:

$92(1.0075^3) + 1.51 = 94.09 + 1.51 = 95.60 = $ 3-month forward price

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Question #56 of 85

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)** Buy a European call option; short a European put option; invest the present value of the exercise price in 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)** 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.

Explanation

According to put-call parity we can write a stock position as: $S_0 = C_0 - P_0 + X/(1+R_f)^T$

We can then read off the right-hand side of the equation to create a synthetic position in the stock. We would need to buy the European call, sell the European put, and invest the present value of the exercise price in a riskless pure-discount bond.

Question #57 of 85

A shout option allows the owner to:

✓ **A)** **receive the greater of the intrinsic value at shout time or the intrinsic value at expiration.**

✗ **B)** choose whether the option is a call or a put at shout time.

✗ **C)** pay the average price over the option period from shout time.

✗ **D)** cancel the option if it falls below a specified price barrier.

Explanation

Shout options allow the owner to shout to the writer one time during the life of the option. At expiration, the owner will receive the intrinsic value at either shout time or expiration, whichever is greater.

Question #58 of 85

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)** ceases to exist when the underlying asset price falls to a designated barrier price.

✗ **C)** comes into existence when the underlying asset price rises to a designated barrier price.

✓ **D)** comes into existence when the underlying asset price falls to a designated barrier price.

Explanation

This is the definition of a down-and-in call: "in" signifies that the option comes into existence when the price moves "down" to a specified barrier.

Question #59 of 85

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)** $50.

  ✗ **B)** $53.

  ✓ **C)** $52.

  ✗ **D)** $51.

Explanation

This question can be answered with the put-call parity relation. The relation is $p+S_0=c+Xe^{-rT}$, so rearranging gives $X=(p+S_0-c)/e^{-rT}=(0.49+55-4.52)/e^{-0.04(.5)}=52$.

Question #60 of 85

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)** **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.**

  ✓ **B)** 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.

  ✗ **C)** 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.

  ✗ **D)** 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.

Explanation

Gold can be loaned out to financial intermediaries and other investors willing to pay the lease rate (the price for borrowing the gold) to the lender. Thus, holding physical gold requires the investor to forgo earning the lease rate while also incurring storage costs. Therefore, the ideal gold exposure strategy is generally to hold synthetic gold.

Question #61 of 85

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

✗ **A)** **Gold.**

✗ **B)** Oil.

✓ **C)** Natural gas.

✗ **D)** Corn.

Explanation

Natural gas is expensive to store, and demand in the United States peaks during high periods of use in the winter months. In addition, the price of natural gas is different for various regions due to high international transportation costs.

Question #62 of 85

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

✗ **A)** **comes into existence when the underlying asset price rises to a designated barrier price.**

✗ **B)** ceases to exist when the underlying asset price rises to a designated barrier price.

✗ **C)** comes into existence when the underlying asset price falls to a designated barrier price.

✓ **D)** ceases to exist when the underlying asset price falls to a designated barrier price.

Explanation

This is the definition of a down-and-out call. "Out" signifies that the option ceases to exist when the price moves "down" to a specified barrier.

Question #63 of 85

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

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

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

✗ **C)** a net long position in the currency is held.

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

Explanation

A bank has a negative currency exposure if it holds more liabilities than assets in a given currency.

Question #64 of 85

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

✗ **A)** -$25.

✗ **B)** $0.

✗ **C)** $50.

✓ **D)** $25.

Explanation

A long straddle consists of a long call and put with the same exercise price and the same expiration, at a stock price of $125 the put will expire worthless and the call value will be $25.

Question #65 of 85

A short straddle comprises a trading combination of options that:

  ✗ **A)** **purchases a put and call option at the same strike price.**

  ✗ **B)** purchases a low strike call option and sells a higher strike call option.

  ✓ **C)** sells a put and call option at the same strike price.

  ✗ **D)** sells a low strike call option and buys a higher strike call option.

Explanation

A short straddle is a situation in which both a call and a put with the same strike price are sold.

Question #66 of 85

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)** interest rate parity.

  ✗ **C)** spot-forward equality.

  ✗ **D)** the law of one price.

Explanation

Interest rate parity is a situation in which the differential between spot and forward exchange rates is equal to the differential between interest rates for the two different currencies.

Question #67 of 85

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 only.**

  ✗ **B)** II and III.

  ✗ **C)** I and II.

  ✓ **D)** II only.

Explanation

Chooser options allow the buyer (the option holder) to determine if the option is a put or a call.

Vega may be negative for a barrier option but is always positive for a standard option.

Restricting the early exercise to specific dates results in a Bermudian option.

Question #68 of 85

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

✓ **A) purchases a high strike call option and sells a lower strike call option.**

✗ **B)** purchases a low strike put option and sells a higher strike call option.

✗ **C)** sells a low strike call option and sells a higher strike put option.

✗ **D)** sells a low strike put option and buys a higher strike call option.

Explanation

Bear call spreads are those in which an option trader buys a high strike call option and sells a lower strike call.

Question #69 of 85

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 only.**

✗ **B)** I and III.

✗ **C)** I and II.

✓ **D)** I and IV.

Explanation

Increased volatility positively influences put and call option values, while a decrease in time to expiration will negatively influence call and put prices. Note that an increase in the stock price and an increase in the risk-free rate will cause the price of an American call to increase but will cause the price of an American put to decrease.

Question #70 of 85

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)** $S_t + c_t = p_t + Xe^{-r(T-t)}$

✗ **B)** $S_t + p_t = c_t - Xe^{-r(T-t)}$

✗ **C)** $S_t - p_t = c_t + Xe^{-r(T-t)}$

✓ **D)** $S_t + p_t = c_t + Xe^{-r(T-t)}$

Question #71 of 85

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 reverse cost-of-carry adjustment which quantifies the benefit of going forward the asset, and is directly related to levels of inventory.**

✗ **B)** Convenience yield is the cost-of-carry adjustment, and is directly related to levels of inventory.

✗ **C)** Convenience yield is equal to storage costs minus the lease rate, and is inversely related to levels of inventory.

✓ **D)** Convenience yield is the benefit of holding the physical asset, and is inversely related to levels of inventory.

Explanation

Some commodities have unique properties which can affect their forward price. If inventory is low, this would increase convenience yield, since it is more valuable to hold the physical asset in times of a shortage. Convenience yield is the cost-of-carry adjustment in the non-arbitrage pricing formula, in determining forward prices.

Question #72 of 85

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)** **Swap spread.**

✗ **B)** Interest hedge.

✓ **C)** Cross hedge.

✗ **D)** Cross spread.

Explanation

Examples of cross-hedging: (1) Hedging jet fuel with crude oil, (2) Utility firms using weather derivatives to hedge cost of energy purchases

Question #73 of 85

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

✗ **A)** **Short a European call, long a zero-coupon bond, and short the stock.**

✗ **B)** Short a European call, short a zero-coupon bond, and long the stock.

✗ **C)** Long a European call, short a zero-coupon bond, and long the stock.

✓ **D)** Long a European call, long a zero-coupon bond, and short the stock.

Explanation

Using put-call parity, the value of a put is: $p=c+Xe^{-rT}-S_0$. Thus a put is equivalent to being long a call, long a zero-coupon bond, and short the stock.

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) stock price minus the exercise price.**

✗ **B)** exercise price minus stock price.

✗ **C)** present value of exercise price minus stock price.

✓ **D)** stock price minus the present value of the exercise price.

Explanation

The following relationship must hold for American options:

$S_0 - X \leq C - P \leq S_0 - Xe^{-rt}$

Question #75 of 85

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) $10.**

✗ **B)** $15.

✓ **C)** $55.

✗ **D)** $50.

Explanation

The upper bound on a European call option is the stock price, so it can't be worth $55.

Question #76 of 85

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.

Explanation

Foreign and domestic interest rates and equity returns are not perfectly correlated over time. Diversification of the portfolio is the most effective means of offsetting single currency rate risk.

Question #77 of 85

Question ID: 439930

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

✗ **A) at the inception of the trade.**

✓ **B)** at the barrier and near maturity.

✗ **C)** out-of-the-money.

✗ **D)** in-the-money.

Explanation

Owing to their inherent discontinuities, both knock-in and knock-out barrier options are relatively difficult to hedge (and value) when the spot price is close to the barrier price and the contract is near maturity.

Question #78 of 85

A positive net exposure position applies when:

✗ **A) the financial institution is net short in a currency.**

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

✗ **C)** the financial institution faces the risk that the FX will rise in value against the dollar.

✗ **D)** fewer assets than liabilities are held in a given currency.

Explanation

More assets than liabilities are held, and in this instance, the financial institution faces the risk that the FX will fall.

Question #79 of 85

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) I only.**

✗ **B)** II and IV.

✗ **C)** III and IV.

✓ **D)** II only.

Explanation

Compared to OTC options, exchange-traded options have superior liquidity, less credit risk, and lower transaction costs. However, OTC options can be customized to hedge the specific risk(s) the firm faces.

Question #80 of 85

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)** **$1.195.**

✗ **B)** $1.308.

✗ **C)** $1.213.

✗ **D)** $1.288.

Explanation

Interest rate parity:

$F_0 = S_0 e^{(r-rf)T} = 1.25 e^{(0.05-0.065)\,'\,3} = 1.195$

Question #81 of 85

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

✗ **A)** **domestic and foreign cash rate exposure on its balance sheet.**

✗ **B)** domestic and foreign market value positions on its balance sheet.

✓ **C)** maturity and currency positions on its balance sheet.

✗ **D)** domestic and foreign inflation rate exposure on its balance sheet.

Explanation

By matching both the maturity and currency positions on its balance sheet, the bank has created a situation where a net return is essentially locked in, no matter what happens to the exchange rate.

Question #82 of 85

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

✗ **A)** **sells a high strike put option and buys a lower strike call option.**

✗ **B)** sells a high strike call 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.

Explanation

Bear spreads are those in which an option trader buys a high strike call option and sells a lower strike call.

Question #83 of 85

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

Explanation

Calculating the bank's net Euro exposure:

(EUR assets - EUR liabilities) + (EUR bought - EUR sold)

(1,367,450 - 1,500,325) + (580,368 - 250,200) = EUR 197,293

Question #84 of 85

A covered call position is:

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

Explanation

The covered call: *stock plus a short call*. The term covered means that the stock covers the inherent obligation assumed in writing the call. Why would you write a covered call? You feel the stock's price will not go up any time soon, and you want to increase your income by collecting some call option premiums. To add some insurance that the stock won't get called away, the call writer can write out-of-the money calls. You should know that this strategy for enhancing one's income is not without risk. The call writer is trading the stock's upside potential for the call premium. The desirability of writing a covered call to enhance income depends upon the chance that the stock price will exceed the exercise price at which the trader writes the call.

Question #85 of 85

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.**
- ✗ **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, and simultaneously purchase a short-term Treasury bond.

Explanation

The payoff at the end will come from the forward contract plus the bond payoff.