L2R46PQ-JF015-1609

LOS: LOS-9877

Lesson Reference: Lesson 4: Three Theories of Futures Returns

Difficulty: medium

The convenience yield in the cattle market will *most likely* change from USD 0.30 per pound to USD 0.25 per pound if:

- The supply of cattle increases.
- The supply of cattle decreases.
- The supply of cattle remains constant.

#### Rationale



The first choice is correct. The convenience yield can be earned by consumers if they own substantial amounts of the commodity during shortages. In a cattle market in which supply increases, there is no need for consumers to increase their current supply of the commodity, because it can be easily replaced in either the spot market or the futures market.

L2R46PQ-JF025-1609

LOS: LOS-9881

Lesson Reference: Lesson 7: Commodity Indexes

Difficulty: medium

A production-weighted commodity index is most likely to:

- Outperform a fixed-weight index when energy prices rise.
- Generate a positive return when the commodity market is in contango.
- Provide greater diversification benefits if commodities are traded on multiple exchanges.

#### Rationale

Outperform a fixed-weight index when energy prices rise.

The first choice is correct. Production-weighted or value-weighted indexes place greater emphasis on the commodities with higher prices. Energy is typically the highest-priced commodity, and if its prices are rising, the production-weighted index will outperform a fixed-weight index.

#### Rationale

**©** Generate a positive return when the commodity market is in contango.

The second choice is incorrect. Positive roll returns are much more likely when the market is in backwardation.

#### Rationale

Provide greater diversification benefits if commodities are traded on multiple exchanges.

The third choice is incorrect. Commodity prices are highly correlated, and having them trade on multiple exchanges, even those located in foreign countries, does not increase diversification benefits much, if at all.

L2R46PQ-JF021-1609

LOS: LOS-9879

Lesson Reference: Lesson 6: Commodity Swaps

Difficulty: easy

The *least likely* reason that a copper mining firm looking to hedge commodity price risk would prefer the use of swaps over futures contracts would be because swaps:

- Require no initial investment at inception.
- Provide price flexibility when selling the commodity.
- Offer the ability to transfer risk among a wide range of counterparties.

#### Rationale



The first choice is correct. Neither futures contracts nor swap contracts require any initial investment, which makes this an unlikely reason to suggest swaps are preferred over futures contracts.

#### Rationale

Provide price flexibility when selling the commodity.

The second choice is incorrect. Since most commodity swaps are settled in cash, the mining company will have significant flexibility when it wants to finally sell its copper in the spot market.

#### Rationale

Offer the ability to transfer risk among a wide range of counterparties.

The third choice is incorrect. There are many different types of swap contracts and many different counterparties willing to assume risk that the mining firm is looking to hedge.

L2R46PQ-JF010-1609

LOS: LOS-9873

Lesson Reference: Lesson 2: Commodity Futures Markets and Participants

Difficulty: easy

An investor who owns shares of stock in a financial institution and is a majority partner in a farm that raises cattle will *most likely* expect to:

- Incur storage costs for both asset classes.
- Receive dividends as a shareholder and a profit from cattle sales as a farm owner.
- Experience little price volatility from the investment in cattle but significant price volatility from the investment in the financial institution.

#### Rationale

😢 Incur storage costs for both asset classes.

The first choice is incorrect. Storage costs are relevant for many commodities, including cattle, but are not relevant for stock ownership.

#### Rationale

Receive dividends as a shareholder and a profit from cattle sales as a farm owner.

The second choice is correct. Ownership in shares of stock entitles the shareholder to any dividends paid by the firm. Cattle farmers earn a profit by selling their cattle at a price above the costs incurred during the animals' early years, and thus generating a profit.

#### Rationale

**Experience little price volatility from the investment in cattle but significant price volatility from the investment in the financial institution.** 

The third choice is incorrect. Price volatility is significant in both cattle markets and equity markets.

#### **Ouestion 5**

L2R46PQ-JF014-1609

LOS: LOS-9876

Lesson Reference: Lesson 4: Three Theories of Futures Returns

Difficulty: medium

A farmer expects to harvest corn in three months and decides to short a futures contract at a price less than the current spot price. According to the insurance theory, the *most likely* reason for this relationship is:

- The cost of storage is high.
- Expected surpluses in the futures contract reduce the convenience yield.
- The farmer accepts a discounted price to lock in a future selling price.

#### Rationale

The cost of storage is high.

The first choice is incorrect. The insurance theory is a model describing the relationship between spot and futures prices in the absence of storage costs.

#### Rationale

**Expected surpluses in the futures contract reduce the convenience yield.** 

The second choice is incorrect. The insurance theory does not consider the convenience yield as part of its model to describe the relationship between spot and futures prices.

#### Rationale

The farmer accepts a discounted price to lock in a future selling price.

The third choice is correct. The insurance theory suggests that commodity producers are willing to accept lower prices in the future in return for a guaranteed selling price for their commodity. The lower price is a form of insurance the farmer is willing to pay.

L2R46PQ-JF013-1609

LOS: LOS-9875

Lesson Reference: Lesson 3: Spot and Futures Pricing

Difficulty: medium

The spot price of sugar is USD 0.20 per pound and the three-month sugar futures contract is priced at USD 0.19 per pound. Which of the following is *most* accurate?

- The market will remain in contango over the next three months.
- The market will remain in backwardation over the next three months.
- The futures price could remain below the spot price or rise above it over the next three months.

#### Rationale



The third choice is correct. The sugar market is currently in backwardation, but this will not necessarily persist over the life of the contract. Spot and futures prices will fluctuate over time, just like any other asset prices, so their current state of backwardation could change.

#### **Ouestion 7**

L2R46PQ-JF024-1609

LOS: LOS-9881

Lesson Reference: Lesson 7: Commodity Indexes

Difficulty: medium

A commodity index that includes commodities with little mean reversion uses futures prices as inputs. This index is *most likely* to generate a positive return when:

- The index frequently rebalances its weights.
- The commodities in the index are trading in backwardation.
- The index is composed of commodities with low levels of liquidity.

#### Rationale

☼ The index frequently rebalances its weights.

The first choice is incorrect. Indexes that have more frequent rebalancing will tend to experience lower returns when commodity prices are not mean reverting.

#### Rationale

The commodities in the index are trading in backwardation.

The second choice is correct. Backwardation occurs when the spot price exceeds the futures price, making the futures price very likely to rise over time. Backwardation will very likely result in a positive index return because of the natural process of convergence.

#### Rationale

The index is composed of commodities with low levels of liquidity.

The third choice is incorrect. Lower liquidity almost always causes returns to suffer, and commodity indexes are no exception to this rule.

L2R46PQ-JF003-1609

LOS: LOS-9871

Lesson Reference: Lesson 1: Commodity Sectors

Difficulty: medium

An institutional investor searches for an asset class that will act as a hedge against rising consumer prices. The *most* appropriate commodity investment for the institution is:

- Gold.
- Cattle.
- O Copper.

#### Rationale



# **Gold.**

The first choice is correct. Precious metals have long been considered a good but not perfect hedge against the risks of inflation. An investment in gold would certainly be appropriate for this institutional investor.

#### Rationale



### Cattle.

The second choice is incorrect. Investments in cattle are typically only made by institutions through futures contracts, if allowed by the policy statement. This institution seeking an inflation hedge would not select cattle, as that commodity offers little protection against rising consumer prices.

#### Rationale



# Copper.

The third choice is incorrect. Copper is used mostly by the construction industry and does not act as a hedge against rising prices.

L2R46PQ-JF001-1609

LOS: LOS-9871

Lesson Reference: Lesson 1: Commodity Sectors

Difficulty: medium

Residential and commercial construction is increasing along a country's western coastline. The commodity *most likely* to experience a significant increase in demand is:

- O Coffee.
- Natural gas.
- Industrial metals.

#### Rationale

Coffee.

The first choice is incorrect. Coffee consumption is typically unrelated to construction activity.

#### Rationale

🔞 Natural gas.

The second choice is incorrect. Natural gas is used for transportation and electrical generation. It might experience a slight increase in demand during the construction process, and will more likely experience an increase after the construction is completed.

### Rationale

Industrial metals.

The third choice is correct. Industrial metals such as copper, aluminum, and iron are used extensively in the construction process. The demand for these metals will surely increase.

L2R46PQ-JF022-1609

LOS: LOS-9879

Lesson Reference: Lesson 6: Commodity Swaps

Difficulty: medium

An agriculture firm continuously harvests corn and soybeans as part of its global operations. To protect itself against commodity price risk using a swap contract, the firm will *most likely*:

- Swap the basis of corn for the basis of soybeans.
- Receive a fixed price per bushel of corn in a standard commodity swap.
- Pay the variance of corn and receive the variance of soybeans in a variance swap contract.

#### Rationale

Swap the basis of corn for the basis of soybeans.

The first choice is incorrect. A basis swap for two crops the firm harvests will not accomplish much in the way of managing commodity price risk, although it will transfer risk between its two crops.

#### Rationale

Receive a fixed price per bushel of corn in a standard commodity swap.

The second choice is correct. The firm harvests corn, which implies its revenue stream is based on a floating rate. To hedge this risk, the firm should agree to pay the floating rate and receive the fixed rate, which transforms its floating revenues into fixed revenues.

#### Rationale

Pay the variance of corn and receive the variance of soybeans in a variance swap contract.

The third choice is incorrect. A variance swap is typically used only when a swap party believes one crop will have a higher variance than another crop. The variance swap does not help the firm manage commodity price risk of corn or soybeans.

L2R46PQ-JF008-1609

LOS: LOS-9874

Lesson Reference: Lesson 2: Commodity Futures Markets and Participants

Difficulty: medium

A mutual fund manager who uses enhanced indexing as part of her portfolio strategy also enters the futures market occasionally in long positions in equity futures contracts. The mutual fund is most likely classified as which of the following market participants?

- Trader
- Hedger
- Speculator

#### Rationale



#### Trader

The first choice is correct. Index fund managers are considered to be traders with considerable knowledge of financial markets. An equity mutual fund enhanced indexer uses futures contracts as a substitute for actual long positions in an index and is classified as a futures market trader.

### **Rationale**



# Hedger

The second choice is incorrect. Hedgers are those who have a natural position in a spot market and seek to reduce commodity price risk in the futures market. A mutual fund indexer is not a hedger.

### Rationale



### Speculator

The third choice is incorrect. Speculators are those participants who believe they have superior knowledge or trading skills to take advantage of expected price movements. A mutual fund manager is not a speculator.

L2R46PQ-JF004-1609

LOS: LOS-9872

Lesson Reference: Lesson 1: Commodity Sectors

Difficulty: medium

The demand and supply conditions are *most* interrelated for which of the following commodity pairs?

- Coffee and copper
- Livestock and grains
- Silver and natural gas

#### Rationale

# Coffee and copper

The first choice is incorrect. Copper is used in construction, and coffee is a soft commodity consumed by global consumers. Their demand schedules are not related.

#### Rationale

# Livestock and grains

The second choice is correct. The health of livestock depends on the price, quantity, and quality of grains available as feed for the animals. Draughts or spoilage in the grain industry can impact the growth of livestock.

#### Rationale

# 😢 Silver and natural gas

The third choice is incorrect. Supply and demand conditions are not related between silver and natural gas. These commodities have their own unique pricing relationships.

L2R46PQ-JF012-1609

LOS: LOS-9875

Lesson Reference: Lesson 3: Spot and Futures Pricing

Difficulty: easy

The spot price of sugar is USD 0.20 per pound, and the three-month sugar futures contract is priced at USD 0.17 per pound. The sugar market is *most likely* described as:

O Flat.

O In contango.

In backwardation.

#### Rationale



The third choice is correct. A market is in backwardation when the spot price exceeds the futures price. In this case, the spot price is USD 0.20 while the futures price is lower, indicating a market in backwardation. A market in contango would be just the opposite relationship.

L2R46PQ-JF006-1609

LOS: LOS-9873

Lesson Reference: Lesson 1: Commodity Sectors

Difficulty: easy

The most significant difference between owning a bond and owning a commodity is:

- Bonds have little economic value.
- Commodities make periodic payments to their owners.
- Commodity spot prices are determined by well-known asset pricing models.

### **Rationale**



The first choice is correct. Most financial securities, including bonds, are promises made by the issuer to make payments to the owner of the security. Bonds have little economic value in that they cannot be consumed like commodities.

#### Rationale

Commodities make periodic payments to their owners.

The second choice is incorrect. Owning a commodity never entitles the owner to periodic payments.

#### Rationale

**©** Commodity spot prices are determined by well-known asset pricing models.

The third choice is incorrect. Financial security prices are estimated using asset pricing models, whereas commodity prices are determined by short-term supply and demand conditions.

L2R46PQ-JF007-1609

LOS: LOS-9873

Lesson Reference: Lesson 1: Commodity Sectors

Difficulty: easy

The spot value of a barrel of oil is most likely.

- The present value of its periodic payments.
- The equilibrium point of supply and demand.
- Dependent on the default risk of energy companies.

### **Rationale**

# The present value of its periodic payments.

The first choice is incorrect. Commodities offer no regular payments to their owners, so a commodity's value will never be a present value.

#### Rationale



The second choice is correct. Commodity prices are mostly determined by supply and demand conditions of the specific commodity.

#### Rationale

# 2 Dependent on the default risk of energy companies.

The third choice is incorrect. Commodity values depend on the current conditions in the commodity market and not the default risk of energy companies. It might be true that low energy prices cause default of weak energy companies, but defaults by energy companies will not cause energy prices to fall.

L2R46PQ-JF017-1609

LOS: LOS-9878

Lesson Reference: Lesson 5: Components of Futures Returns

Difficulty: medium

A mutual fund rolls its futures contract exposure to commodities every quarter using the longest-term contract available. The roll yield earned by the mutual fund *most likely*:

- Will be very high because of the long-term roll policy.
- Is solely a function of spot and futures prices on the roll date.
- Depends on whether the market is in contango or in backwardation.

#### Rationale

Will be very high because of the long-term roll policy.

The first choice is incorrect. Roll yields can be significant over longer time periods, but this is not always the case. Because spot and futures prices change daily, roll yields can be negative over extended roll periods.

#### Rationale

(2) Is solely a function of spot and futures prices on the roll date.

The second choice is incorrect. Roll yields are a function of both spot and futures prices on each successive roll date.

#### Rationale

Depends on whether the market is in contango or in backwardation.

The third choice is correct. Roll yields tend to be positive when markets are in backwardation and negative when in contango.

L2R46PQ-JF023-1609

LOS: LOS-9879

Lesson Reference: Lesson 6: Commodity Swaps

Difficulty: medium

One distinct advantage of using swap contracts instead of futures contracts to gain exposure to the energy market is:

- Swaps allow for specific contract terms.
- Swaps provide more complete diversification benefits.
- Swaps are standardized contracts that have greater liquidity.

#### Rationale



The first choice is correct. Even though there is a broad and deep secondary market for swaps, there is still ample opportunity for each investor to create a swap that has unique terms to meet its unique risk characteristics.

#### Rationale

Swaps provide more complete diversification benefits.

The second choice is incorrect. Both swaps and futures offer enough spanning that significant diversification can be achieved in either market.

#### Rationale

Swaps are standardized contracts that have greater liquidity.

The third choice is incorrect. Many swap contracts indeed have high levels of liquidity, but they are not standardized like the futures contracts that trade on organized exchanges.

# Question 18 L2AIR46-TB003-1610 LOS: LOS-9875

Lesson Reference: Lesson 3: Spot and Futures Pricing

Difficulty: medium

If futures markets are in contango, the basis of the commodity is *most likely*:

O Zero.

Positive.

O Negative.

# Rationale



If the basis (futures price minus the spot price) for a commodity is positive, then markets are in contango.

L2R46PQ-JF016-1609

LOS: LOS-9876

Lesson Reference: Lesson 4: Three Theories of Futures Returns

Difficulty: medium

An agricultural analyst following the spot and derivatives markets for lumber believes the market is currently dominated by hedging activity. The analyst observes that the activity of homebuilders exceeds the activity of timberland owners, making the market *most likely*:

- O Flat.
- In contango.
- O In backwardation.

### **Rationale**



The first choice is incorrect. The hedging pressure hypothesis would suggest a flat futures price curve only if hedging activity of both consumers and producers were identical.

#### Rationale



The second choice is correct. According to the hedging pressure hypothesis, a market in which consumers exceed producers in terms of their hedging activity suggests a contango market. A homebuilding firm is a consumer of lumber and a timberland owner is a producer of lumber.

#### Rationale

😢 In backwardation.

The third choice is incorrect. The hedging pressure theory suggests a market in backwardation if the producers' hedging activity exceeds the activity of consumers.

L2R46PQ-JF011-1609

LOS: LOS-9875

Lesson Reference: Lesson 3: Spot and Futures Pricing

Difficulty: medium

The spot price of sugar is USD 0.20 per pound. Trading in the three-month sugar futures contract suggests the basis is USD 0.02 per pound. The three-month futures price is *closest* to:

- O USD 0.18 per pound.
- O USD 0.20 per pound.
- USD 0.22 per pound.

#### Rationale



The third choice is correct. The basis of a commodity is its futures price minus its spot price. In this case, the USD 0.02 should be added to the spot price of USD 0.20 to obtain a futures price of USD 0.22 per pound.

L2AIR46-TB001-1610

LOS: LOS-9871

Lesson Reference: Lesson 1: Commodity Sectors

Difficulty: medium

Which of the following is *least likely* to be a cash crop?

- Rice
- O Sugar
- Coffee

# Rationale



Coffee and sugar are considered cash crops because they are grown and sold for income rather than consumed for subsistence, whereas rice is often consumed by its producers.

L2R46PQ-JF009-1609

LOS: LOS-9874

Lesson Reference: Lesson 2: Commodity Futures Markets and Participants

Difficulty: easy

A commodity market analyst *most likely* performs which of the following functions as a futures market participant?

- Hedges commodity price risk
- Conducts research on profitable technical trading rules
- Provides liquidity when there is a lack of abundance of short positions

#### Rationale

# Hedges commodity price risk

The first choice is incorrect. Market analysts have no inherent positions in spot markets to hedge.

#### Rationale



The second choice is correct. Commodity market analysts provide an important function when conducting research for other market participants. Investors, speculators, and even arbitrageurs would be interested in learning about profitable technical trading rules.

#### Rationale

Provides liquidity when there is a lack of abundance of short positions

The third choice is incorrect. Market analysts do not provide liquidity to futures markets.

L2AIR46-TB002-1610

LOS: LOS-9874

Lesson Reference: Lesson 2: Commodity Futures Markets and Participants

Difficulty: medium

Which of the following types of market participants *most likely* have a natural position in spot markets?

- Hedgers
- Traders
- Speculators

### Rationale

This Answer is Correct

Speculators and traders have no natural position in spot markets.

L2AIR46-TB004-1610

LOS: LOS-9876

Lesson Reference: Lesson 4: Three Theories of Futures Returns

Difficulty: medium

Which of the following commodity theories is *most likely* associated with normal backwardation?

- Theory of storage
- Insurance theory
- Hedging pressure hypothesis

# Rationale



The insurance theory is also known as normal backwardation.

L2R46PQ-JF020-1609

LOS: LOS-9881

Lesson Reference: Lesson 6: Commodity Swaps

Difficulty: medium

A commodity swap in which a hedge fund agrees to pay the return on the Grain Commodity Index in return for a fixed interest rate is *most likely* an example of a(n):

- Basis swap.
- Total return swap.
- Excess return swap.

#### Rationale



The first choice is incorrect. A basis swap is an exchange of basis (the difference between the futures and spot prices) between two commodities.

#### Rationale



The second choice is correct. A total return swap is an exchange of fixed for floating payments. The fixed payment is usually based on a reference interest rate, such as a money market return plus a credit spread. The floating payment is based on the return of a commodity index, such as a grain index.

#### Rationale



The third choice is incorrect. An excess return swap is an exchange of payments if a predetermined reference commodity return or price exceeds the current market price of the commodity.

L2AIR46-TB005-1610

LOS: LOS-9879

Lesson Reference: Lesson 6: Commodity Swaps

Difficulty: medium

If a gold mining company is concerned about the price of gold falling and negatively affecting its finances, it is *most likely* to enter into which of the following commodity swap positions?

- Pay floating and receive floating.
- Receive floating and pay fixed.
- Receive fixed and pay floating.

#### Rationale



If a gold mining company is concerned about the price of gold declining and affecting its finances, it would want to enter into an arrangement to receive a fixed price for gold and to pay the floating price.

# **Question 27** L2R46PQ-JF002-1609 LOS: LOS-9871 Difficulty: easy

Lesson Reference: Lesson 1: Commodity Sectors

A country that is rich in farmland and precious metals experiences three weather-related events over a ten-week period. The commodity produced by this country *least likely* to be impacted is:

0	Sugar.
0	Cattle.

Silver.

#### Rationale



The first choice is incorrect. Sugar crops can be damaged or destroyed during weather events and will take significant time for replanting. The second choice is incorrect. Livestock can be killed or injured during weather events, so this commodity could be dramatically impacted. The third choice is correct. Precious metals are very unlikely to be affected by weather events. Mining operations might shut down for a short time period, but can be resumed quickly after the events pass. The storage of silver is not impacted by weather at all.

# Rationale 🔀 Cattle.

### Rationale



Silver.

L2R46PQ-JF026-1609

LOS: LOS-9881

Lesson Reference: Lesson 7: Commodity Indexes

Difficulty: medium

An index includes commodities traded on futures markets in the United States, Canada, and Japan, and the commodities are selection based. The performance of the index *most likely* will depend on the:

- Performance of the CAD and the JPY.
- O Quantitative formula for commodity selection.
- Degree of correlations among the three markets.

#### Rationale



The first choice is correct. Any index with commodities traded on foreign exchanges will be exposed to currency risk. The performance of this index will depend on whether the Canadian dollar and Japanese yen appreciate or depreciate over the lives of the futures contracts.

# **Rationale**

**Quantitative formula for commodity selection.** 

The second choice is incorrect. Selection-based indexes are determined by a committee, not by a formula.

### Rationale

Degree of correlations among the three markets.

The third choice is incorrect. Correlations among commodities tend to be high regardless of which market they trade in.

L2R46PQ-JF018-1609

LOS: LOS-9878

Lesson Reference: Lesson 5: Components of Futures Returns

Difficulty: medium

A hedge fund manager generated a 3.2% total return by investing in oil futures contracts, 2.8% of which was the result of changing interest rates. The dominant component return is *most likely* the:

- O Roll return.
- O Price return.
- Collateral return.

#### Rationale



The first choice is incorrect. Roll return is the yield on rolling over one maturing contract to a far-term contract, and depends on the difference between spot and futures prices.

#### Rationale

Price return.

The second choice is incorrect. Price return is the percentage change in futures contract prices over time.

#### Rationale

October 2015 Collateral return.

The third choice is correct. Collateral return is the yield on the margin account required to open and maintain a position in any futures contract. This return is a function of interest rates, in particular the rate on any security used as collateral to satisfy the margin requirements.

L2R46PQ-JF005-1609

LOS: LOS-9872

Lesson Reference: Lesson 1: Commodity Sectors

Difficulty: medium

Which statement regarding the differences or similarities in the life cycles of natural gas and jet fuel is *most* accurate?

- O Jet fuel has a much longer shelf life.
- Storage costs are much lower for jet fuel.
- Natural gas is characterized by straight-through consumption.

#### Rationale

2 Jet fuel has a much longer shelf life.

The first choice is incorrect. Refined energy commodities have shelf lives that are measured in days and weeks, so the shelf life of jet fuel is much shorter than that of natural gas.

#### Rationale

Storage costs are much lower for jet fuel.

The second choice is incorrect. Refined energy commodities have high storage costs.

#### Rationale

Natural gas is characterized by straight-through consumption.

The third choice is correct. Natural gas is able to be consumed almost immediately after extraction, making it a straight-through consumption good.

L2R46PQ-JF019-1609

LOS: LOS-9878

Lesson Reference: Lesson 5: Components of Futures Returns

Difficulty: medium

A money manager has total exposure of USD 30,000 in wheat futures contracts and expects to roll over the entire amount tomorrow when the contract matures. The current spot price of wheat is USD 1.95 per bushel, whereas the original spot price was USD 1.75 when the contract was initiated. The far-term futures contract is priced at USD 2.25. The number of futures contracts required to maintain the position is *closest* to:

- 13,333
- 0 15,386
- 0 17,143

# **Rationale**



The first choice is correct. The total exposure of USD 30,000 divided by the far-term futures contract price of USD 2.25 suggests that 13,333 futures contracts are required.