Question #1 of 10

Question ID: 1463674

The relationship referred to as put-call-forward parity states that at time = 0, if there is no arbitrage opportunity, the value of a call at X on an asset that has no holding costs or benefits plus the present value of X is equal to:

A) the asset price minus the value of a put option at X. ✗

B) the value of a put option at X plus the present value of the forward contract price. ✓

C) the forward contract price plus the value of a put option at X. ✗

Explanation

The put-call-forward parity relationship is:

$$c_0 + X(1 + Rf)^{-T} = p_0 + F_0(T)(1 + Rf)^{-T}$$

The value of a call at X plus the present value of X is equal to the value of a put option at X plus the present value of the forward contract price.

(Module 56.1, LOS 56.b)

Question #2 of 10

Question ID: 1463667

A synthetic European call option includes a short position in:

A) the underlying asset. ✗

B) a risk-free bond. ✓

C) a European put option. ✗

Explanation

A synthetic European call option consists of a long position in the underlying asset, a long position in a European put option, and a short position in a risk-free bond (i.e., borrowing at the risk-free rate).

(Module 56.1, LOS 56.a)

Question #3 of 10

Question ID: 1463668

A fiduciary call is a portfolio that is made up of:

A) a call option and a share of stock. ✗

B) a call that is synthetically created from other instruments. ✗

C) a call option and a bond that pays the exercise price of the call at option expiration. ✓

Explanation

A fiduciary call combines a call option and a bond that pays the exercise price of the call at option expiration.

(Module 56.1, LOS 56.a)

Question #4 of 10

Question ID: 1463673

Which of the following instruments is a component of the put-call-forward parity relationship?

A) The spot price of the underlying asset. ✗

B) The present value of the forward price of the underlying asset. ✓

C) The future value of the forward price of the underlying asset. ✗

Explanation

The put-call-forward parity relationship is: $F_0(T) / (1 + RFR)^T + p = c + X / (1 + RFR)^T$, where $F_0(T)$ is the forward price of the underlying asset.

(Module 56.1, LOS 56.a)

Question #5 of 10

Question ID: 1463670

Using put-call parity, it can be shown that a synthetic European put can be created by a portfolio that is:

A) short the stock, long the call, and long a pure discount bond that pays the exercise price at option expiration. ✓

B) short the stock, long the call, and short a pure discount bond that pays the exercise price at option expiration. ✗

C) long the stock, short the call, and short a pure discount bond that pays the exercise price at option expiration. ✗

Explanation

A short position in the stock combined with a long call and lending the present value of the exercise price will replicate the payoffs on a put at option expiration.

(Module 56.1, LOS 56.a)

Question #6 of 10

Question ID: 1463672

An investor calculates that the premium of a European put option is less than its value based on put-call parity. In exploiting this arbitrage opportunity, the investor is *most likely* to:

A) sell the underlying short. ✗

B) sell the call option. ✓

C) invest the present value of the exercise price at the risk-free rate. ✗

Explanation

Put-call parity indicates that P = C + PV(X) – S. With P < [C + PV(X) – S], the arbitrage transaction is to buy the put and sell the call, borrow the PV of the exercise price (X), and buy the stock.

(Module 56.1, LOS 56.a)

Question #7 of 10

Question ID: 1463669

Using put-call parity, it can be shown that a synthetic European call can be created by a portfolio that is:

A) long the stock, short the put, and short a pure discount bond that pays the exercise price at option expiration. ✗

B) long the stock, long the put, and long a pure discount bond that pays the exercise price at option expiration. ✗

C) long the stock, long the put, and short a pure discount bond that pays the exercise price at option expiration. ✓

Explanation

A stock and a put combined with borrowing the present value of the exercise price will replicate the payoffs on a call at option expiration.

(Module 56.1, LOS 56.a)

Question #8 of 10

Question ID: 1463671

Which of the following portfolios has the same future cash flows as a protective put?

A) Long call option, long risk-free bond. ✓

B) Long call option, long risk-free bond, short the underlying asset. ✗

C) Short call option, long risk-free bond. ✗

Explanation

The put-call parity relationship shows that a protective put (long put, long underlying asset) has the same future payoff as a fiduciary call (long call, long risk-free bond).

(Module 56.1, LOS 56.a)

Question #9 of 10

Question ID: 1463675

Consider a European call option and put option that have the same exercise price, and a forward contract to buy the same underlying asset as the two options. An investor buys a risk-free bond that will pay, on the expiration date of the options and the forward contract, the difference between the exercise price and the forward price. According to the put-call-forward parity relationship, this bond can be replicated by:

A) writing the call option and buying the put option. ✓

B) buying the call option and writing the put option. ✗

C) writing the call option and writing the put option. ✗

Explanation

The put-call-forward parity relationship may be expressed as:

$$p_0 - c_0 = [X - F_0(T)](1 + Rf)^{-T}$$

That is, at initiation of a forward contract on the underlying asset, buying a put option and writing a call option with exercise price X will have the same cost as a risk-free bond which, at expiration of the forward and options, will pay the difference between X and the forward price.

(Module 56.1, LOS 56.b)

Question #10 of 10

Question ID: 1463666

A synthetic European put option includes a short position in:

A) the underlying asset.

B) a risk-free bond.

C) a European call option.

Explanation

A synthetic European put option consists of a long position in a European call option, a long position in a risk-free bond that pays the exercise price on the expiration date, and a short position in the underlying asset.

(Module 56.1, LOS 56.a)