Reading 71

ARBITRAGE, REPLICATION, & THE COST OF CARRY IN PRICING DERIVATIVES

1. (B) **arbitrage opportunities are exploited rapidly.**

   Explanation

   Derivatives valuation is based on the assumption that any arbitrage opportunities in financial markets are exploited rapidly so that assets with identical cash flows are forced toward the same price. It does not assume arbitrage opportunities do not arise or that investors are risk neutral.

   (Module 71.1, LOS 71.a)

2. (B) **decrease the no-arbitrage forward price at initiation.**

   Exp lanation

   Compared to an underlying asset with no net holding cost or benefit, a net benefit from holding the underlying asset will decrease the no-arbitrage forward price at initiation and the value of a forward contract during its life. Holding costs and benefits have no effect on the value of a forward contract at expiration.

   (Module 71.1, LOS 71.b)

3. (B) **increase the no-arbitrage forward price.**

   Explanation

   When costs of holding the underlying are greater than benefits from holding the underlying, the no-arbitrage forward price is higher than it would be in the absence of costs or benefits of holding the underlying.

   (Module 71.1, LOS 71.b)

4. (C) **increase the no-arbitrage forward price.**

   Explanation

   An increase in holding costs of the underlying asset increases the no-arbitrage forward price, other things equal.

   (Module 71.1, LOS 71.b)

5. (C) **Lower convenience yield for a commodity.**

Explanation

Either a decrease in benefits or an increase in costs of holding the underlying asset would increase the no-arbitrage price of a forward contract.

(Module 71.1, LOS 71.b)

6. (C) **less than the future value of the spot price.**

Explanation

An opportunity for arbitrage exists if the forward price is not equal to the future value of the spot price, compounded at the risk-free rate over the period of the forward contract.

(Module 71.1, LOS 71.a)

7. (A) **storage costs.**

Explanation

Costs of holding an asset increase its no-arbitrage forward price. Benefits from holding the asset, such as dividends or convenience yield, decrease its no-arbitrage forward price.

(Module 71.1, LOS 71.b)

8. (B) **the future value of the spot price.**

Explanation

At initiation of a forward contract on an underlying asset with no holding costs or benefits, the no-arbitrage forward price is the future value of the spot price, compounded at the risk-free rate to the expiration date of the forward contract: $F_o(T) = S_0(1 + Rf)^{T.}$ The forward contract has a value of zero at initiation if the forward price in the contract is equal to the no-arbitrage forward price.

(Module 71.1, LOS 71.b)