

## **Learning Module 1: Derivative Instrument and Derivative Market Features**

Q.78 Which of these is *least likely* a characteristic of over-the-counter options?

- A. They are highly regulated.
- B. Large traders trade over large sums of money.
- C. They are often used to hedge interest rate risks and currency fluctuation risks.

The correct answer is A.

Over-the-counter options are largely UNREGULATED. It is often the place where large players (i.e.: banks) hedge themselves against interest rate risks and currency fluctuation risks.

High regulation is a characteristic present in exchange markets.

**B is incorrect.** Large traders indeed trade over large sums of money in the OTC options market. This statement is accurate and reflects the nature of OTC markets, where large financial institutions, corporations, and other entities engage in sizable transactions. The ability to negotiate terms directly and create customized contracts makes OTC options particularly appealing to large traders looking to hedge specific risks or take on positions that match their unique risk profiles. The size and scope of these transactions underscore the importance of OTC markets in global finance, particularly for hedging and risk management purposes.

**C is incorrect.** The flexibility and customization available in OTC markets enable entities to create specific contracts that can effectively hedge against these and other types of financial risks. For example, a corporation with exposure to foreign currency risk due to operations in multiple countries might use OTC options to hedge against potential losses from currency fluctuations. Similarly, financial institutions might use OTC options to manage exposure to changing interest rates. This characteristic of OTC options is a key reason why they are a vital tool in the risk management strategies of many large traders and institutions.

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Q.81 The implied volatility on S&P 500 options has decreased over the past month. An analyst would *most likely* conclude that:

- A. Interest rates have decreased.
- B. The value of the broad market has decreased.
- C. The level of market uncertainty has decreased.

The correct answer is C.

The implied volatility of an options contract is the value of the volatility of the underlying, in this case, the S&P 500 (broad market).

**A is incorrect.** A decrease in interest rates does not lead to a decrease in the implied volatility of the S&P 500.

**B is incorrect.** A decrease in implied volatility does not necessarily indicate that the value of the broad market has decreased. It only indicates that the market is expecting the price of the underlying security to be less volatile in the future. It is possible for the value of the broad market to increase or remain unchanged even if implied volatility is decreasing.

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Q.1048 Exchange-traded derivatives are *most likely*:

- A. Standardized and backed by a clearinghouse.
- B. Standardized but not backed by a clearinghouse.
- C. Backed but not standardized by a clearinghouse.

The correct answer is **A**.

Derivative instruments are created and traded either on an exchange or on the OTC market. Exchange traded derivatives are standardized, whereas OTC derivatives are customized. To standardize a derivative contract means that its terms and conditions are precisely specified by the exchange and there is very limited ability to alter those terms. Exchange traded derivatives provide guarantee through the use of their clearing house. Clearinghouses provide a guarantee to the winning party that if the loser does not pay, the clearinghouse will pay the winning party.

Exchange-traded derivatives are therefore always standardized and backed by a clearinghouse. For this reason, they are highly liquid and offer no counterparty risk to traders.

**B is incorrect.** This option inaccurately suggests that exchange-traded derivatives are standardized but not backed by a clearinghouse. In reality, one of the defining characteristics of exchange-traded derivatives is their backing by a clearinghouse. This backing is crucial for managing and mitigating the risk of counterparty default, thereby ensuring the integrity and stability of the derivatives market. Without the involvement of a clearinghouse, the risk profile of exchange-traded derivatives would be significantly different, potentially deterring investors due to increased counterparty risk.

**C is incorrect.** This option implies that exchange-traded derivatives might be backed by a clearinghouse but are not standardized. This is a misunderstanding of the nature of exchange-traded derivatives. Standardization is a fundamental aspect of these instruments, allowing for their commoditization and facilitating their trading on exchanges. The standardization process ensures that all market participants have a clear understanding of the contract terms, which is essential for the efficient functioning of the market. Moreover, the backing by a clearinghouse, while crucial, is not a standalone feature but works in conjunction with standardization to provide a secure and efficient trading environment.

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Q.1053 Which of the following is *least likely* accurate for exchange-traded derivatives?

- A. Exchange-traded derivatives are liquid.
- B. Exchange-traded derivatives are standardized contracts.
- C. Exchange-traded derivatives carry significant default risk.

The correct answer is **C**.

Exchange-traded derivatives have very low default risk because the clearinghouse stands between the counterparts involved in most contracts. The clearinghouse acts as a buyer for every seller and a seller for every buyer, thereby eliminating potential losses.

**B is incorrect.** Exchange-traded derivatives are standardized contracts. This means that its terms and conditions are precisely specified by the exchange and there is very limited ability to alter those terms.

**A is incorrect.** Exchange traded derivatives are highly liquid. The standardization of contract terms facilitates the creation of a more liquid market for derivatives. Additionally, through designated market makers, derivatives exchanges guarantee that derivatives can be bought and sold.

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Q.1132 Which of the following is *least likely* an exchange-traded derivative instrument?

- A. Option contract.
- B. Futures contract.
- C. Forward contract.

The correct answer is **C**.

Options and futures are exchange-traded instruments while forwards and swaps are traded over the counter (OTC) markets.

**A is incorrect.** Option contracts are indeed exchange-traded derivative instruments. They provide the holder the right, but not the obligation, to buy or sell an underlying asset at a specified strike price before or at the contract's expiration. Options are standardized contracts that are traded on various exchanges around the world, offering liquidity and transparency to investors. The standardization includes specific quantities of the underlying asset, expiration dates, and strike prices, making them suitable for exchange trading.

**B is incorrect.** Futures contracts are also exchange-traded derivative instruments. They are standardized contracts that obligate the buyer to purchase, and the seller to sell, a specific quantity of an underlying asset at a predetermined price at a future date. Futures contracts are traded on regulated exchanges, which provide a marketplace for these contracts to be bought and sold among participants. The exchanges also facilitate the clearing and settlement of these contracts, thereby reducing the credit risk associated with the transactions. Futures contracts are used by participants to hedge against price movements in the underlying assets or to speculate on those movements.

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Q.3353 Sonia Bass works as a hedge fund manager at High-Yield Investments (HYIN). While talking to a colleague, Bass posed the following question: "How do the standardization of derivative investments and the presence of designated market makers help the trade of such securities?" The best answer to Bass' question is that they:

- A. Guarantee the buying and selling of a derivative.
- B. Increase liquidity and reduce the cost of liquidity.
- C. Guarantee the price at which a derivative is traded.

The correct answer is **B**.

While standardization and the presence of designated market makers do improve the efficiency and liquidity of the derivatives market, they do not guarantee the buying and selling of a derivative. Market conditions, such as lack of demand or excessive supply, can still make it challenging to execute trades, even in a standardized market with market makers. The primary role of market makers is to provide liquidity, not to guarantee transactions.

Although designated market makers help provide more predictable pricing by quoting buy and sell prices, they do not guarantee the price at which a derivative is traded. Market prices can fluctuate significantly due to changes in the underlying asset's value, market sentiment, or macroeconomic factors. Traders may still face slippage, which is the difference between the expected price of a trade and the price at which the trade is executed, especially in volatile market conditions.

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Q.3355 In contrast to OTC-traded derivatives, exchange-traded derivatives *least likely*:

- A. Have higher liquidity.
- B. Operate at a higher degree of regulation.
- C. Operate at a lower degree of regulation.

The correct answer is **C**.

Exchange-traded derivatives most likely have greater liquidity and operate at a higher degree of regulation as they are standardized which means that their terms and conditions are precisely specified by the exchange and there is very limited ability to alter those terms. In addition, they have a clearing and settlement operation.

**A is incorrect.** Suggesting that exchange-traded derivatives have higher liquidity is accurate and aligns with the characteristics of these financial instruments. The standardization and the presence of a centralized clearinghouse in exchange-traded markets facilitate easier trading among a larger number of participants, thereby increasing liquidity.

**B is incorrect.** Stating that exchange-traded derivatives operate at a higher degree of regulation is also correct. The standardized nature of these derivatives, combined with the oversight of a centralized clearinghouse and regulatory bodies, ensures a well-regulated trading environment. This regulatory framework is designed to protect investors and maintain the integrity of the financial markets.

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Q.3364 Derivatives are financial instruments which:

- A. Derive their performance from that of an underlying asset.
- B. Transform risk when transferring it from one party to another.
- C. Are created in the form of an informal agreement between buyer and seller.

The correct answer is **A**.

Derivatives are financial instruments that derive value and performance from an underlying asset.

**B is incorrect.** Derivatives merely transfer risk from one party to the other; they do not transform the risk. For instance, a credit default swap transfers credit risk from the protection buyer to the protection seller.

**C is incorrect.** Derivatives are created in the form of legally enforceable (and binding) contracts which always define the rights and obligations of each party.

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Q.3367 Relative to over-the-counter (OTC) derivatives, exchange-traded derivatives are:

- A. Traded in larger lot sizes.
- B. Transacted through a process that is verified by a central exchange.
- C. Traded in markets where there is zero potential to earn arbitrage profits.

The correct answer is **B**.

Exchange-traded derivatives trade on standardized exchanges which facilitate the creation of clearing and settlement operations. Clearing is the process by which the exchange verifies the execution of the transaction and records the participants' identities.

**A is incorrect.** OTC and exchange-traded derivatives do not differ based on the lot sizes being traded.

**C is incorrect.** Market makers and speculators are active participants in exchange-traded derivatives markets who stand ready to buy at one price and sell at a higher price, locking in arbitrage profits. Similarly, OTC derivatives trade on informal exchanges where dealers can participate on a desire to earn profits.

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Q.3384 Which of the following principles *most likely* form the basis of pricing derivatives?

- A. A hedge portfolio that earns the risk-free rate is constructed.
- B. The correct derivative price assures that the market has exploitable arbitrage opportunities.
- C. The expected payoff of the derivative must be discounted at the sum of the risk-free rate and risk premium.

The correct answer is **A**.

The value of the derivative is derived from the underlying by constructing a hypothetical combination of derivatives and underlyings that eliminates risk. The combination is called a hedged portfolio.

**B is incorrect.** Derivatives are priced assuming that the market is free of arbitrage opportunities.

**C is incorrect.** The expected dividend payoff must be discounted at the risk-free rate. The derivatives price is the price that guarantees that the risk-free combination of the derivative and underlying produces a risk-free return. Because risk-aversion is not a relevant factor in pricing derivatives, one can obtain the derivative price assuming the investor is risk-neutral; that is, the expected payoff of the derivative is discounted at the risk-free rate.

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Q.3394 In contrast with exchange-traded derivatives markets, over-the-counter derivatives markets provide:

- A. Liquidity.
- B. Flexibility.
- C. Transparency.

The correct answer is **B**.

Exchange-traded markets provide their participants with liquidity as contract terms are standardized. However, over-the-counter markets offer contracts that are flexible and customizable. Many OTC contracts can easily be created and offset by replicating the exact opposite transaction often with the same party. On the other hand, some exchange-traded derivatives may have very little trading interests and thus very little liquidity. Liquidity is driven by trading interest, which may be strong or weak in both markets.

Exchange-traded derivatives markets provide transparency to their participants as full information on all transactions is disclosed to exchanges and regulatory bodies. In contrast, many transactions in OTC markets will retain a degree of privacy with lower transparency.

**A is incorrect.** Liquidity refers to the ease with which an asset or security can be bought or sold in the market without affecting its price. Exchange-traded derivatives markets typically offer higher liquidity than OTC derivatives markets due to their standardized contracts and centralized trading venues, which attract a larger number of participants. The standardized nature of contracts in exchange-traded markets facilitates the matching of buy and sell orders, thereby enhancing liquidity. In contrast, the customized nature of OTC derivatives can make it more challenging to find a counterparty for a specific contract, potentially reducing liquidity.

**C is incorrect.** Exchange-traded derivatives are traded on centralized exchanges that require the disclosure of price and transaction information, making it accessible to all market participants and regulators. In contrast, OTC derivatives are traded directly between parties without the involvement of a centralized exchange, which can result in less publicly available information about prices, transactions, and market participants. This lower level of transparency can make it more difficult for participants to assess market conditions, pricing, and risk.

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Q.3896 Which of the following derivatives instruments *most likely* trade over the counter?

- A. Futures contracts and forwards contracts.
- B. Futures contracts, forwards contracts and swaps.
- C. Forwards contracts, swaps, and asset-backed securities.

The correct answer is **C**.

Forwards contracts, swaps, and asset-backed securities trade over the counter while futures contracts and options trade on regulated exchanges.

**A is incorrect.** Futures contracts, unlike forwards, are standardized contracts that trade on regulated exchanges. These exchanges provide a centralized marketplace where buyers and sellers come together, providing liquidity and price transparency. Futures contracts have standardized terms including quantity, delivery, and settlement dates, making them unsuitable for direct OTC trading.

**B is incorrect.** Similar to the explanation above, futures contracts are standardized derivatives that trade on regulated exchanges, not OTC. While forwards contracts and swaps are indeed traded OTC due to their flexibility and customization, futures contracts are not, due to their standardized nature and the regulatory environment of exchanges.

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Q.3897 Blackoil Traders Inc. is an American oil producing company that regularly sells oil futures to reduce the risk of fluctuating oil prices. This activity can *best* be described as:

- A. Clearing.
- B. Hedging.
- C. Speculating.

The correct answer is **B**.

Hedgers enter in future contracts to reduce the price risk of underlying assets.

**C is incorrect.** Speculation occurs when investors try to make profits from the change in the price of a security. Speculators are exposed to both downside and upside risks.

**A is incorrect.** Clearing is the process of managing financial market transactions between execution and settlement.

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Q.4125 Which of the following is *most likely* an example of a contingent claim?

- A. A puttable bond.
- B. A \$500 bond purchase.
- C. A contract to deliver gas at \$100 per barrel.

The correct answer is **A**.

In a contingent claim, the trade settlement depends on one of the counterparties. A puttable bond is an embedded derivative, a type of contingent claim.

**B is incorrect.** A \$500 bond purchase is a type of fixed-income security.

**C is incorrect.** It is a type of forward contract, a type of firm commitment. In firm commitment, an amount is pre-determined, and the parties involved agree to exchange it at a future date. Firm commitments include forward contracts, futures contracts, and swaps.

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Q.4126 Abson Limited is a Japanese company selling oil drilling machines globally. Consider the following draft commercial contract extracted from Clap company's records.

Contract Date	Today
Goods seller	Abson Limited, Japan
Goods buyer	Clap Company, USA
Goods description	Oil drilling machine
Quantity	Two
Delivery date	150 days from the contract date
Delivery terms	Delivered by ferry. Costs and taxes to be paid by the buyer
Payment terms	The amount is payable by the buyer upon delivery
Contract price	\$17,525

The financial manager is considering a forward commitment to hedge Abson's financial risk under the above commercial transaction. Which of the following is *most likely* an underlying asset in this case?

- A. Currency
- B. Oil drilling machine
- C. Contract price

The correct answer is A.

Abson Limited should consider a forward commitment with the currency as an underlying to sell the Japanese Yen at a fixed USD price.

**B and C are incorrect.** The oil drilling machine is not considered an underlying in this case since its price is fixed, which is affected by the currency risk.

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