

BISMA

MBA-IV

Financial Derivatives

Attempt any three questions

Q1. Explain the types of derivatives in india?

Q2. Explain daily settlement and performance guarantee regulation in future contracts?

Q3. Explain structure of derivative market.

Q4. Explain the importance and limitation of future contract?

Compulsory questions

Q5. Case study

Using the following data for work sampling determine the standard time for finishing operation with 16% allowance the units are made of 5000.

|  |  |  |  |
| --- | --- | --- | --- |
| Employee name | A | B | C |
| Total hours | 50 | 40 | 60 |
| Total observations | 400 | 360 | 340 |
| No. of observations of finishing operations | 80  | 90 | 85 |
| Average rating | 110 | 120 | 80 |

Solutions

Answer1.

Derivatives are products whose value is derived from one or more basic variables called underlying assets or base . In simpler form, derivatives are financial security such as an option or future whose value is derived in part from the value and characteristics of another an underlying asset. The primary objectives of any investor are to bring an element of certainty to returns and minimise risks. Derivatives are contracts that originated from the need to limit risk.

Derivative contracts are of several types. The most common types are forwards, futures, options and swap.

Forward Contracts

A forward contract is an agreement between two parties – a buyer and a seller to purchase or sell something at a later date at a price agreed upon today. Forward contracts, sometimes called forward commitments , are very common in everyone life. Any type of contractual agreement that calls for the future purchase of a good or service at a price agreed upon today and without the right of cancellation is a forward contract.

Future Contracts

A futures contract is an agreement between two parties – a buyer and a seller – to buy or sell something at a future date. The contact trades on a futures exchange and is subject to a daily settlement procedure. Future contracts evolved out of forward contracts and possess many of the same characteristics. Unlike forward contracts, futures contracts trade on organized exchanges, called future markets. Future contacts also differ from forward contacts in that they are subject to a daily settlement procedure. In the daily settlement, investors who incur losses pay them every day to investors who make profits.

Options Contracts

Options are of two types – calls and puts. Calls give the buyer the right but not the obligation to buy a given quantity of the underlying asset, at a given price on or before a given future date. Puts give the buyer the right, but not the obligation to sell a given quantity of the underlying asset at a given price on or before a given date.

Swaps

Swaps are private agreements between two parties to exchange cash flows in the future according to a prearranged formula. They can be regarded as portfolios of forward contracts. The two commonly used swaps are interest rate swaps and currency swaps.

Interest rate swaps: These involve swapping only the interest related cash flows between the parties in the same currency.

Currency swaps: These entail swapping both principal and interest between the parties, with the cash flows in one direction being in a different currency than those in the opposite direction.There are three main types of derivatives with forward commitments: forward contracts, futures contracts and swaps.

Answer2 .

In finance, a futures contract (more colloquially, futures) is a standardized forward contract, a legal agreement to buy or sell something at a predetermined price at a specified time in the future. The asset transacted is usually a commodity or financial instrument. The predetermined price the parties agree to buy and sell the asset for is known as the forward price. The specified time in the future—which is when delivery and payment occur—is known as the delivery date. Because it is a function of an underlying asset, a futures contract is a derivative product.

Contracts are negotiated at futures exchanges, which act as a marketplace between buyers and sellers. The buyer of a contract is said to be long position holder, and the selling party is said to be short position holder.As both parties risk their counter-party walking away if the price goes against them, the contract may involve both parties lodging a margin of the value of the contract with a mutually trusted third party. For example, in gold futures trading, the margin varies between 2% and 20% depending on the volatility of the spot market.

The first futures contracts were negotiated for agricultural commodities, and later futures contracts were negotiated for natural resources such as oil. Financial futures were introduced in 1972, and in recent decades, currency futures, interest rate futures and stock market index futures have played an increasingly large role in the overall futures markets.

The original use of futures contracts was to mitigate the risk of price or exchange rate movements by allowing parties to fix prices or rates in advance for future transactions. This could be advantageous when (for example) a party expects to receive payment in foreign currency in the future, and wishes to guard against an unfavorable movement of the currency in the interval before payment is received.

However, futures contracts also offer opportunities for speculation in that a trader who predicts that the price of an asset will move in a particular direction can contract to buy or sell it in the future at a price which (if the prediction is correct) will yield a profit.All futures transactions in the United States are regulated by the Commodity Futures Trading Commission (CFTC), an independent agency of the United States government. The Commission has the right to hand out fines and other punishments for an individual or company who breaks any rules. Although by law the commission regulates all transactions, each exchange can have its own rule, and under contract can fine companies for different things or extend the fine that the CFTC hands out.

The CFTC publishes weekly reports containing details of the open interest of market participants for each market-segment that has more than 20 participants. These reports are released every Friday (including data from the previous Tuesday) and contain data on open interest split by reportable and non-reportable open interest as well as commercial and non-commercial open interest. This type of report is referred to as the 'Commitments of Traders Report', COT-Report or simply COTR.

Answer3 .

 Key characteristics of the over-the-counter (OTC) derivatives

markets. A clearer picture of these markets will help

legislators and regulators write better legislation and rules

for the prudential regulation of OTC derivatives markets.

Derivatives are financial contracts whose value is linked

to the price of an underlying commodity, asset, rate,

index or the occurrence or magnitude of an event. The

term derivative comes from how the price of these

contracts is derived from the price of some underlying

commodity, security or index or the magnitude of some

event. The term derivative is used to refer to the set of

financial instruments that includes futures, forwards,options and swaps.The first is called a “traditional” dealer market, the

second is called an electronically brokered market and the

third is called a proprietary trading platform market.

Although these terms, unfortunately, are not used

consistently throughout the policy debate, they will be

spelled out in this Primer to help clarify the actual

character of these markets.

 TRADITIONAL DEALER MARKET – “BILATERAL

NEGOTIATION”

The OTC markets have traditionally been organized

around one or more dealers who “make a market” by

maintaining bid and offer quotes to market participants.

The quotes and the negotiation of execution prices are

generally conducted over the telephone, although the

process may be enhanced through the use of electronic

bulletin boards by the dealers for posting their quotes.

The trading process of negotiating by phone, whether

end-user-to-dealer or dealer-to-dealer, is known as

bilateral trading because only the two market participants

directly observe the quotes or execution.

This bilateral trading arrangement, from a regulatory

point of view, is not considered a trading facility because

it is not multilateral. However, it should be pointed out

the bilateral negation process under this market

arrangement is often highly automated. Dealers have

direct phone lines between themselves and other dealers

and their major customers, and this enables instantaneous

communication so that a market participant can call up dealer ask for quotes and then hang up and call another so

as to survey several dealers in just a few seconds. A quick

series of such calls can give an investor a view of the

market that is not entirely different from a view obtained

by observing a multilateral negotiating process.

ELECTRONICALLY BROKERED MARKETS —

OTC markets have also adapted new electronic and

networking technologies to their trading needs. One use

of the technology is the formation of an electronically

brokered OTC market through the use of an electronic

brokering platform (sometimes referred to as an

electronic brokering system). These electronic brokering

platforms are essentially the same as the electronic trading

platforms used by exchanges, and they create a

multilateral trading environment.

If this electronic brokering platform automatically

matches bids and offers so as to execute a trade, the

Commodity Exchange Act defines this trading

arrangement as a trading facility because it is open to

Answer4.

Advantages of futures contracts

Futures contracts have very low margin.

Futures contracts are on exchange so somewhat reduce counter party risk

The cost for trading futures are very low compare to currency forwards.

five advantages of futures over options:

Futures are great for trading certain investments: Futures may not be the best way to trade stocks, for instance, but they are a great way to trade specific investments such as commodities, currencies and indexes. Their standardized features and very high levels of leverage make them particularly useful for the risk-tolerant retail investor. The high leverage allows those investors to participate in markets to which they might not have had access otherwise.

Fixed upfront trading costs: The margin requirements for major commodity and currency futures are well known, because they have been relatively unchanged for years. Margin requirements may be temporarily raised when an asset is particularly volatile, but in most cases, they are unchanged from one year to the next. That means that a trader knows in advance how much has to be put up as initial margin. On the other hand, the option premium paid by an option buyer can vary significantly, depending on the volatility of the underlying asset and broad market. The more volatile the underlying or the broad market, the higher will be the premium paid by the option buyer.

No time decay: This is a substantial advantage of futures over options. Options are wasting assets, which means their value declines over time (a phenomenon known as time decay). There are a number of factors that influence the time decay of an option, one of the most important of which is time to expiration. An option trader has to pay attention to time decay, because it can severely erode the profitability of an option position or turn a winning position into a losing one. Futures, on the other hand, do not have to contend with time decay.

Liquidity: This is another major advantage of futures over options. Most futures markets are very deep and liquid, especially in the most commonly traded commodities, currencies and indexes. This gives rise to narrow bid-ask spreads and provides traders reassurance that they can enter and exit positions when required. Options, on the other hand, may not always have sufficient liquidity, especially for options that are well away from the strike price or expire well into the future.

Pricing is easier to understand: Futures pricing is intuitively easy to understand. Under the "cost-of-carry" model of pricing, the futures price should be the same as the current spot price in addition to the cost of carrying (or storing) the underlying asset until maturity of the futures contract. If the spot and futures prices are out of alignment, arbitrage activity would occur and rectify the imbalance. Option pricing, on the other hand, is generally based on the Black-Scholes Model, which uses a number of inputs and is notoriously difficult for the average investor to understand.

Disadvantages of futures contracts

Some brokers may insist clients close positions before delivery

Trade in lots of preset amounts that are inflexible for exact accounting

Mainly traded on US based exchanges

Not as flexible for accounting purposes

Mainly a speculative product

They trade in large amounts that cannot be partially closed

You need to be a professional trader to get the full benefits

 Foreign currency trading, often shortened to Forex, has significantly grown in popularity during the new millennium. You could even invest in various interest rates, hoping that these rates will rise in the future.

Controlling Future Events

 While supply and demand theory suggests the price will increase, the lack of supply can also result in massive losses. Weather disasters, over which you have no control, can wipe out all types of crops. You face similar risks with foreign currency futures, as various factors, all beyond your control, such as political issues or country borrowing defaults, could devalue a country's currency.

Complex Issues for Newer Investors

Along with the obvious risks, such as weather disasters, added risk comes with the complexity of futures contracts. Investors who do not fully understand these complexities can lose substantial money. You must decide if you have the time and inclination to follow national and international weather, political and financial conditions on a regular schedule. New investors must also find experienced professionals registered with the Commodity Futures Trading Commission, as typically licensed stock brokers cannot trade futures contracts.

Leverage Issues

The leverage offered by futures contracts is both an advantage and a disadvantage. The advantage: You can buy futures contracts for only 5 percent or 10 percent of a contract's value. The disadvantage involves the sometimes fast movement of futures prices. Contract prices can tick up or down daily, sometimes within minutes. If lady luck is not smiling on you on a given day, you'll receive a margin call from your broker advising you that your margin account has dropped below minimum levels, meaning you must transfer more cash to your account immediately.

Timing Issues

Futures contracts come with definite expiration dates. Even if you have established fixed prices for the assets in the contract, as the expiration date approaches those prices can become much less attractive to others. At times, this condition can cause futures contracts to expire as worthless investments. Similar to banks that offer too many loans at fixed rates, changes in the market increase the risk that some of their loans will come with well-below market rates. Futures contract expiration dates, as they get closer, come with similar risks.

Answer5.

 For employee A

Actual working time=50x80/400=10 hrs

Time taken per unit=actual time per unitxrating/100 =.12x110/100=0.132 mins

Allowance=0.021 mins

Standard time= normal time + allowance = 0.153 min

For employee B actual working time=40x90/360 = 10 hrs

Time taken per unit = 10x60/5000 = 0.12mins

Normal time taken per unit= 0.12 x 120/100 = 0.144mins

Allowance= 0.023mins

Standard time =.144+.023 = .167 mins

For employee C actual working time = 60x85/340 = 15hrs

Time taken per unit = .18 mins

Normal time taken per unit=0.144 mins

Allowance = 16/100 x 0.144 = 0.023

Standard time = 0.167 min

Therefore standard time for finishing operation = 0.153 + 0.167 + 0.167 = 0.487 mins