Exam questions

Finance

4. Options a) i) Describe the 2 component parts (values) of an options premium. The options premium has two main components. These are time value / extrinsic value and intrinsic value.

Time / Extrinsic value – Time value is the difference between the options intrinsic price and its market price. It is the opposite of intrinsic value. Extrinsic value also refers to the section of the option's worth that is assigned to it by external factors.

Intrinsic value – This refers to the inherent worth of an item, in this case, the options premium. It refers to the difference between the actual price of the underlying security and the strike price of the option. The strike price is the reference price at which the option may be traded.

ii) Analyse the above premiums into their component values

Time value = Option premium – Intrinsic value

Intrinsic value = Actual price – strike price

Therefore:

Strike price 360p analysis

Strike price

July

Oct

Jan

Intrinsic value

Extrinsic value

Total premium

Intrinsic value

Extrinsic value

Total premium

Intrinsic value

Extrinsic value

Total premium

360p

20

10

30

20

18

38

20

22

42

Strike Price 410p analysis

The actual price remains at 380p but the strike price of the Call option is 410p and therefore out of the money.

In the money options will have intrinsic value and perhaps some time value, while out of the money options will have no intrinsic value and time value only in the premium. Therefore:

Strike price

July

Oct

Jan

Intrinsic value

Extrinsic value

Total premium

Intrinsic value

Extrinsic value

Total premium

Intrinsic value

Extrinsic value

Total premium

410p

0

15

15

0

18

18

0

24. 5

24. 5

b) Using the information given above, what is the maximum profit or loss for a contract in the 360 series in each of the following situations :

An option that gives the right to ultimately procure it at a prearranged price is called a " call" option. If the right is bought, it is called a long call; if the right is sold, it is called a short call. An option that gives the right in due course make a sale at a predetermined price is called a " put" option. If the right is bought, it is called a long put; if the right is sold, it is called a short put.

i) A long call

Maximum Profit = Unlimited

Profit Achieved When Price of Underlying >= Strike Price of Long Call +

Premium Paid

Profit = Price of Underlying - Strike Price of Long Call - Premium Paid

Max Loss = Premium Paid + Commissions Paid

Max Loss Occurs When Price of Underlying = Strike Price of Long Put

Formula

July

Oct

Jan

Price of underlying (a)

380

380

380

Strike price (b)

360

360

360

Premium paid (c)

30

38

42

Profit d = b - c

330

322

318

Loss e = c

30

38

42

c) What are the advantages to someone who holds shares in Idler in using options to hedge their investments?

i) Flexibility - Options are an extremely flexible tool. Options can be bought or sold in many different combinations for many different investment opportunities (i. e. Stocks, indices) . This allows for an investor to take advantage of varied market conditions available at a time. Options can be traded to address rising or declining markets, quiet markets or volatile markets with uncertain price directions.

ii) Increased trading opportunities – There are a great number of strategies that can be adopted while trading options. These create additional profit and risk management opportunities for traders thus an increase in returns.

iii) Limited risk with unlimited profits – If one buys a call option, they benefit from unlimited profit potential as the stock moves higher while the investor who buys a put option, has the benefit of unlimited profit potential as the stock moves lower.

iv) Leverage – Another advantage of options trading is the ability to leverage the capital by allowing a small amount of capital to control a larger amount of the underlying asset.

d) Briefly explain what is meant by index options and under what circumstances someone holding up equities might use such an option to hedge

Index options are financial derivatives that give the possessor the right, but not the obligation, to buy or sell a basket of stocks, such as the Nasdaq – 100

index options, at an agreed-upon price and before a certain date. An index option is comparable to other options contracts, the difference being the underlying instruments are indexes.

Index options, like other options contracts, allow investors to profit from an expected market move or to reduce the risk of holding the underlying instrument.

One may use index options to hedge when there is need to protect the value of the portfolio of mixed stocks in case of a market decline. Index puts are utilised in this instance. Index puts are generally used to protect unrealised profits stemming from an investor's portfolio. There may be various classes of options that are available from which puts can be chosen to provide the downside protection that the portfolio may require.

Index puts normally increase in value as the market declines, offsetting the loss in a stock portfolio. By procuring index puts, the trader can still take part in the upside of the market through their long stock position, while insuring against pullbacks.

2. Sedate Ltd

a) Explain the three different categories of exchange risk that a company can be exposed to

Managing foreign exchange risk is key to ensure successful investments in the forex market. There are three types of foreign exchange risks / exposure. These are:

i) Translation exposure – this refers to accounting exposure. This refers to the impact of changes in the exchange rate on the financial statements of a company. It is the sensitivity of the real domestic currency value of financial statement items to unanticipated changes in exchange rates.

ii) Operating exposure – also known as economic exposure (long term transaction exposure). This refers to the sensitivity of the domestic currency value of assets and liabilities, or future operating incomes to unexpected changes in exchange rates. Such exposure to foreign exchange results in an impact on the market value of the company as the risk is inherent to the company and impacts its profitability over the years.

iii) Transaction exposure – also known as contractual exposure or short term economic exposure. This refers to the sensitivity of the real domestic currency value of financial statement items when assets and liabilities are liquidated with respect to unforeseen changes in exchange rates for firms that trade across regions.

b) Describe the internal methods for reducing the impact of foreign exchange risk which are available to Sedate.

i) Forward exchange contracts – This method enables the business to protect itself from adverse movements of exchange rates by agreeing on a set exchange rate to be used for transacting until an agreed date. This may however work against the business of the rates movement is favourable to it.

ii) Foreign currency options – These options would enable the company, Sedate, to sell or buy foreign currency under an agreement that allows for the right, but not the obligation to carry out the transaction at an agreed future date.

iii) Hedging – A hedging transaction is one which protects as asset or liability against fluctuations of foreign exchange rates.

The hedging of foreign exchange risk refers to procedures carried out by a firm in order to mitigate the impact of adverse exchange rate fluctuations on

the value of the firm. Sedate can use financial hedging as protection against unforeseen exchange rate movements so as to minimize the impact of foreign exchange rate fluctuations on future cash flows.

Hedging provides support to planning on budgets and decisions on capital allocation through the continuous management of forecasted transactions and by increasing the certainty of cash flows. The firm should work toward the ability to generate forecasts of exchange rate that can then be used to develop a hedging strategy.

Below are some hedging methods that Sedate can use to manage foreign exchange risk. These are:

a) Natural hedging – this refers to reducing the difference between receipts and payments in a certain foreign currency. Sedate can opt to search for suppliers in other countries whereby there won't be large foreign exchange differences upon transacting. As this process may take time, natural hedging has been known to be slow – acting.

b) Financial hedging – This involves buying foreign exchange hedging instruments that are sold by foreign exchange brokers and banks.

c) Selective hedging – This involves hedging on only some of the organizations foreign transactions. This requires that the company should have performed a risk analysis to have an idea of which currencies are likely to fluctuate