آشنایی با قراردادهای اختیار معامله

شرکت بورس كالاي ايران

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آشنایی با قراردادهای اختیار معامله

Hedging with Futures

Profit and Loss Profiles

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Long futures position

Short futures position

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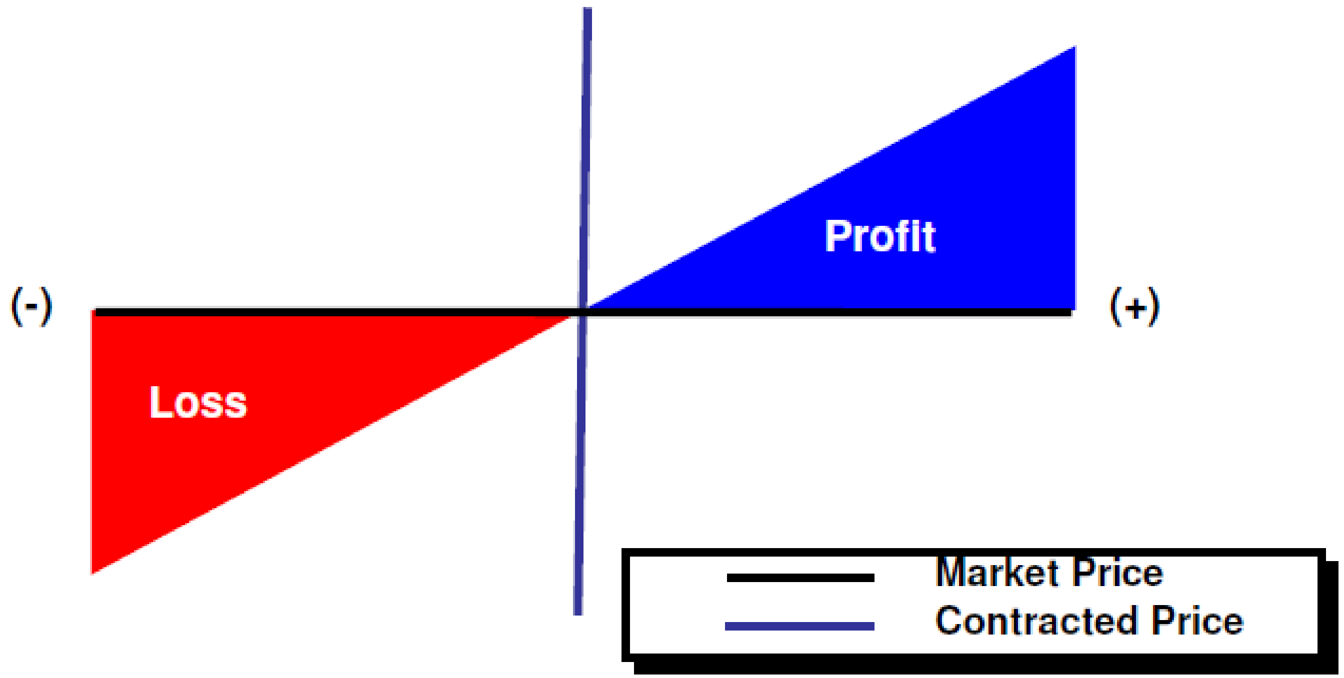
Long futures position



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Agreements to buy or sell specific amounts of commodity on specific prompt date

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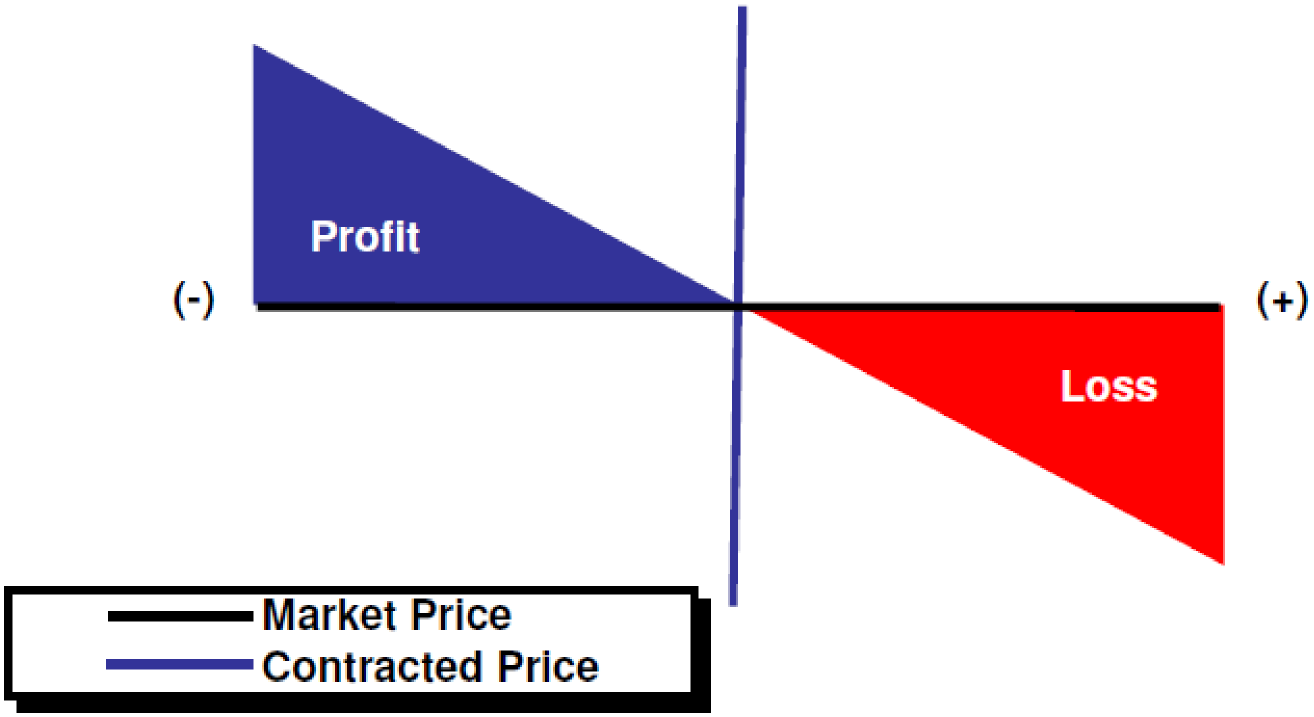
Short futures position



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Futures Contracts

The party has an obligation

to make or take delivery of metal

or to close their position

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Options Contracts

“The purchase of an option gives the buyer (of the option) the right but not the obligation to buy or sell an underlying futures contract for a fixed delivery date at a fixed price”

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A call option

The Right to Buy

A put option

The Right to Sell

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Strike Price

The price at which the underlying futures contract is fixed

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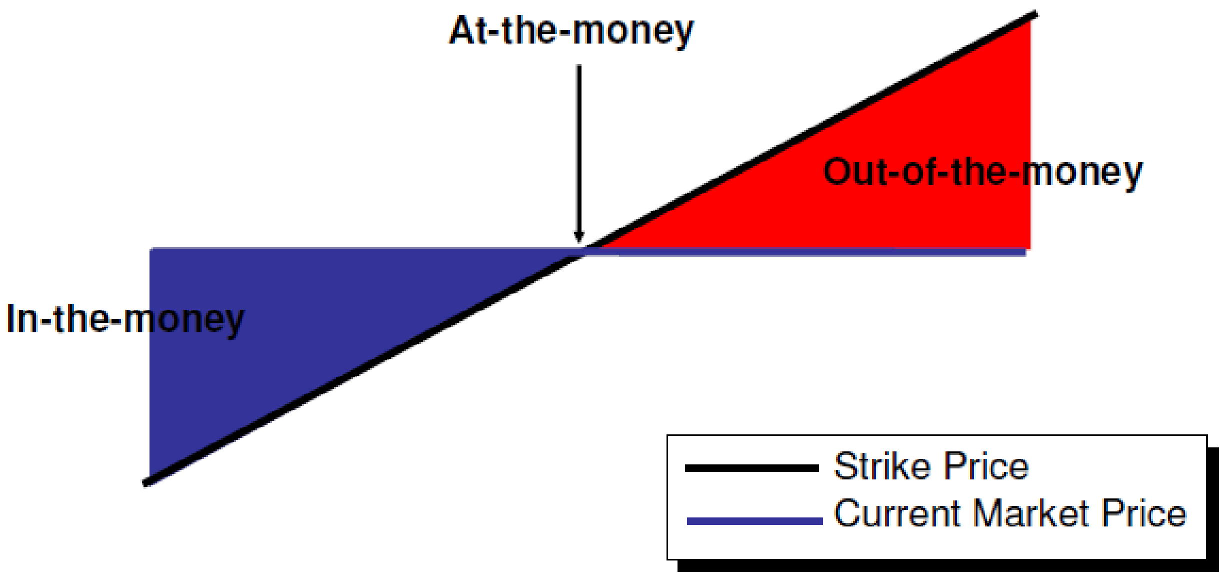
Call option (right to buy)



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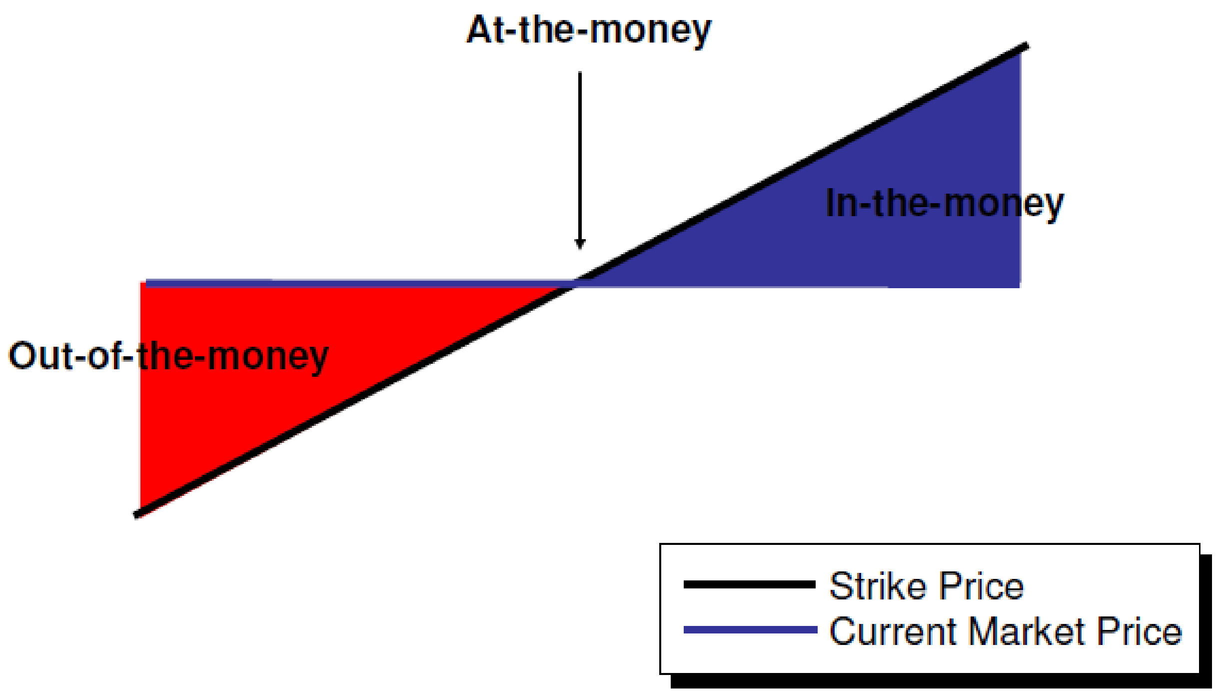
A put option (right to sell)



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In-the-money

(Has <u>intrinsic value</u> and therefore commands a higher premium)

A call option with a strike price below the current market price
Or a put option with a strike price above the current market price

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Out-of-the-money

(Has no intrinsic value and therefore commands a lower premium. It is not necessarily worthless, however, as it may have time value)

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Declaration – declare the right to buy or sell metal at the strike price (up to 1st Wednesday)

Abandon – option which is not declared is abandoned

Traded – Can be bought or sold up to the declaration date

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Declaration date

(expiry date or exercise date)

The first Wednesday of the prompt month
i.e. 2 weeks prior to the value date

LME options are in fact known as
'American Options'
They can be declared at any time
up to the declaration date

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Type of Options Contracts

American Options

European Options

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The grantor

(The Writer or seller of the option)

The taker

The buyer of the option

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OPTION TERMINOLOGY

The premium

A one-off payment,paid at the outset,
to purchase an option.

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Risk implications

Long option position	
<u>Put</u> May sell futures	<u>Call</u> May buy futures

Taker

Grantor

Short option position	
<u>Put</u> Obliged to buy futures	<u>Call</u> Obliged to sell futures

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The granting of
naked
options is
a high risk
venture

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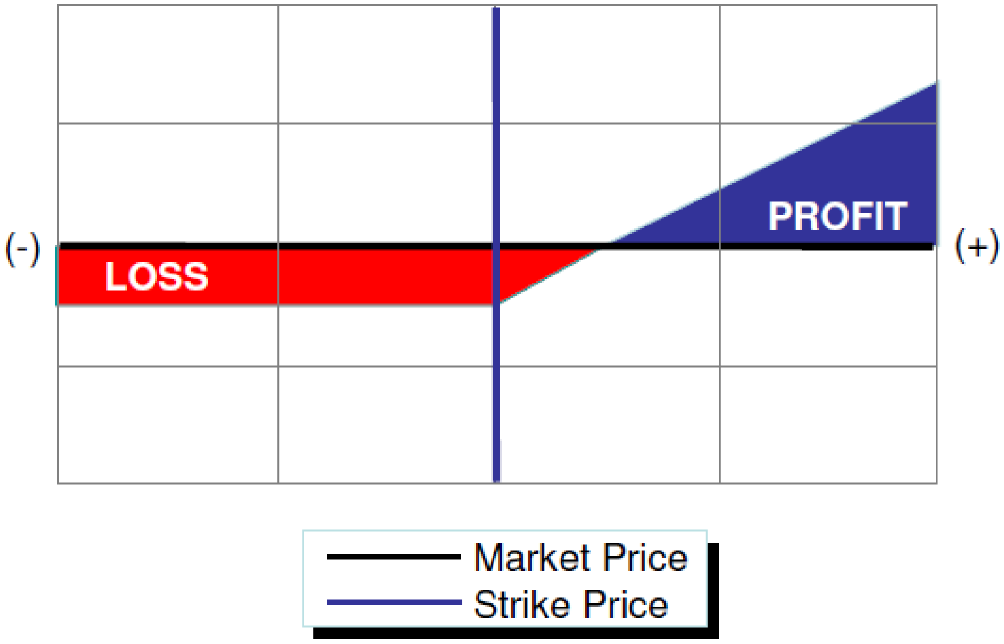
Long call position (Taker's risk)



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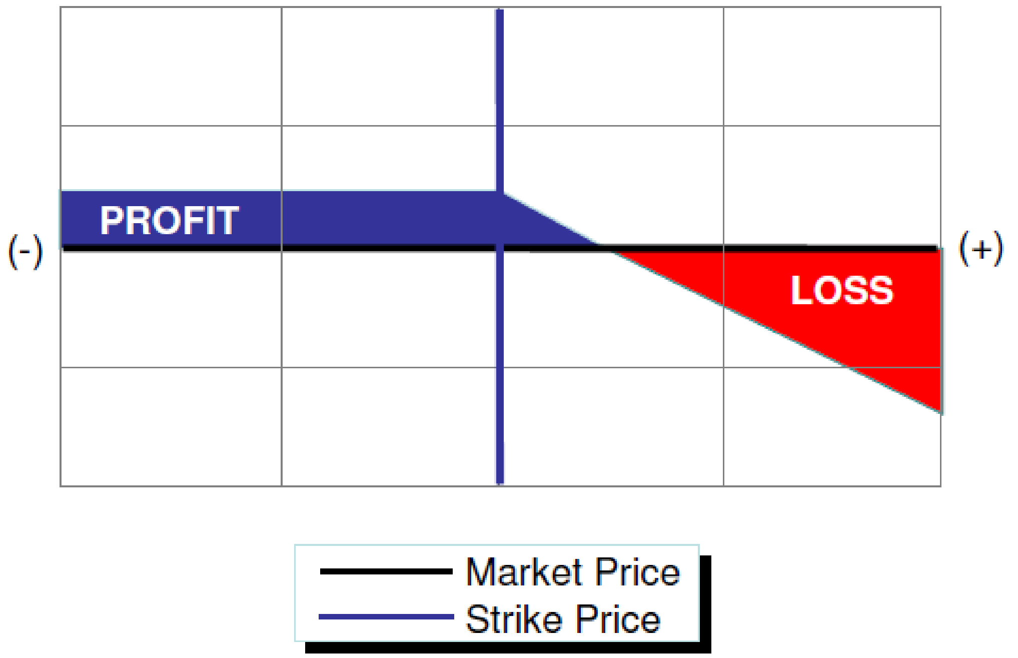
Short call position (Grantor's risk)



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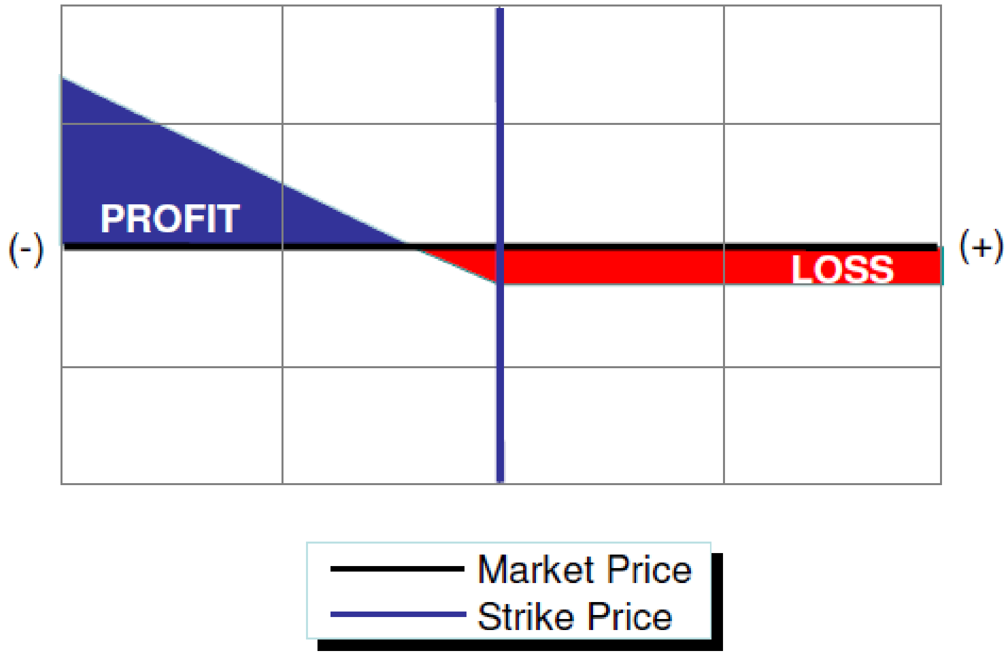
Long put position (Taker’s risk)



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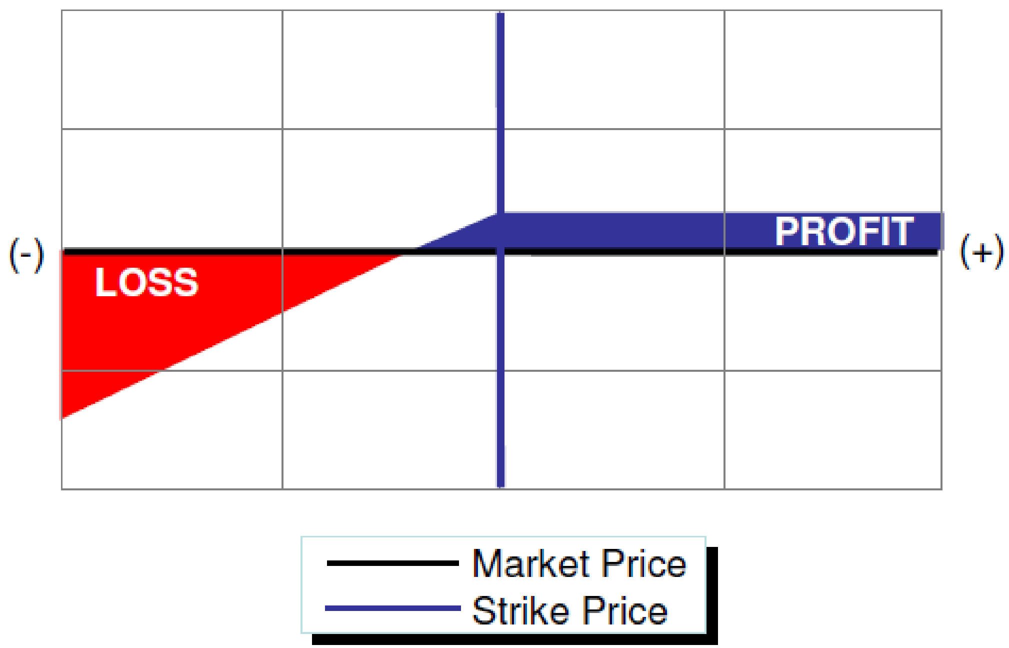
Short put position
(Grantor’s risk)



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Hedging combinations

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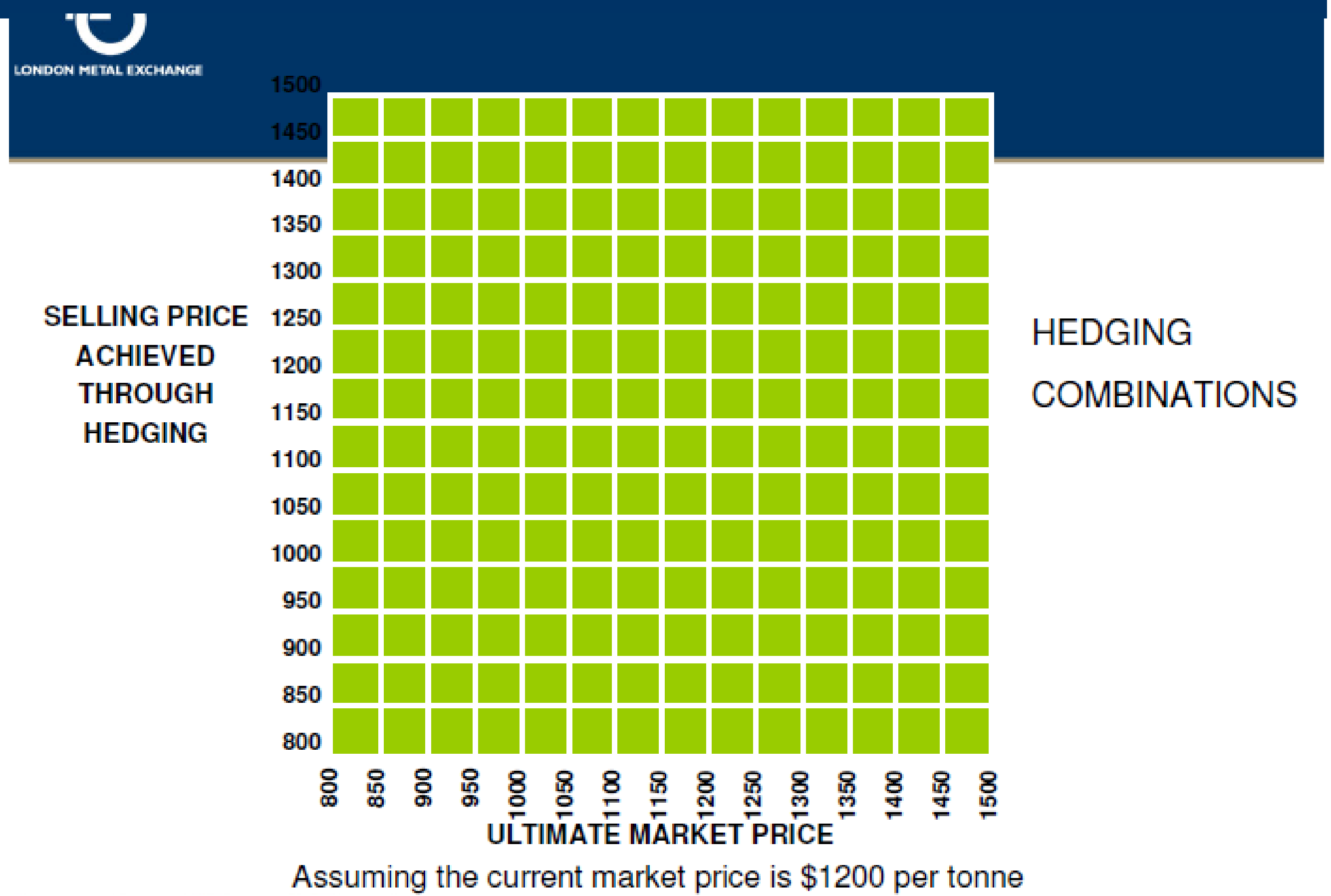

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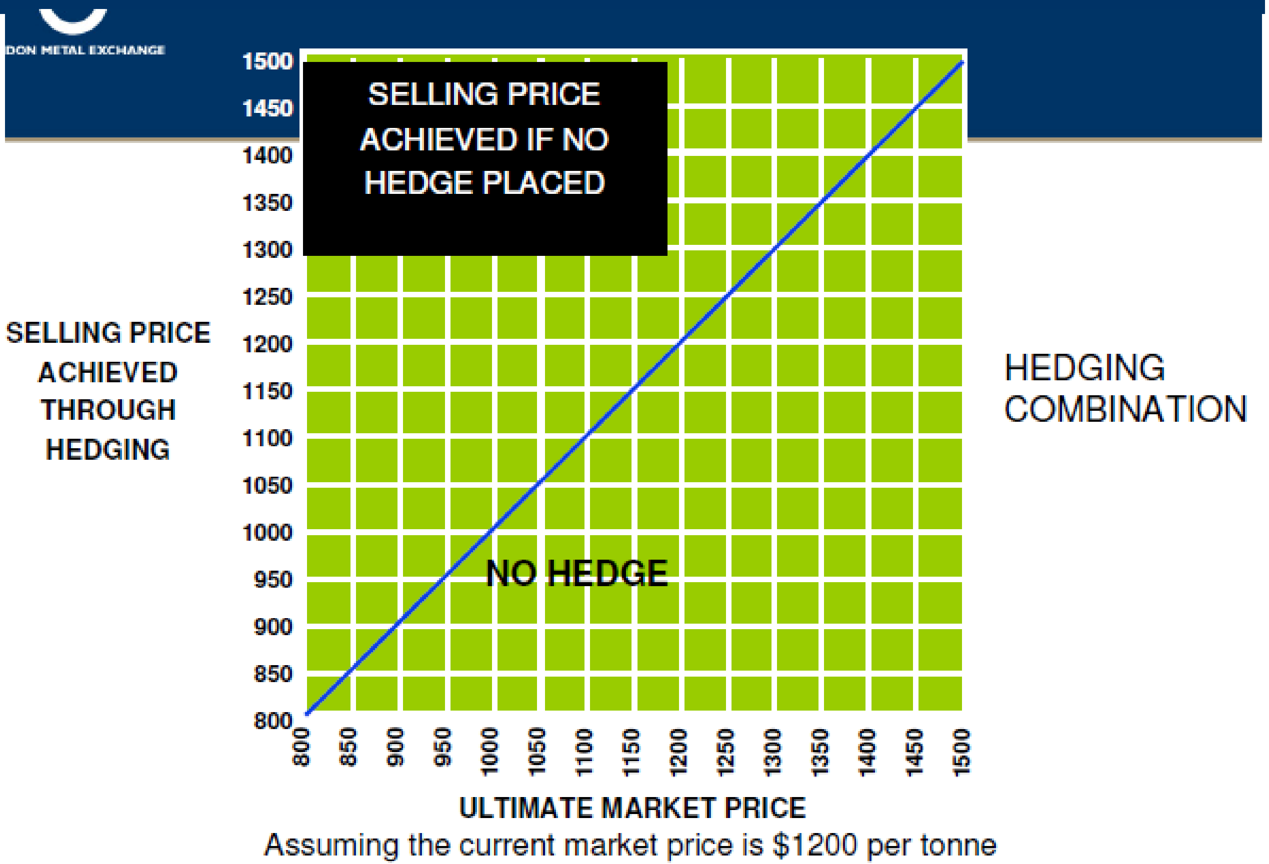
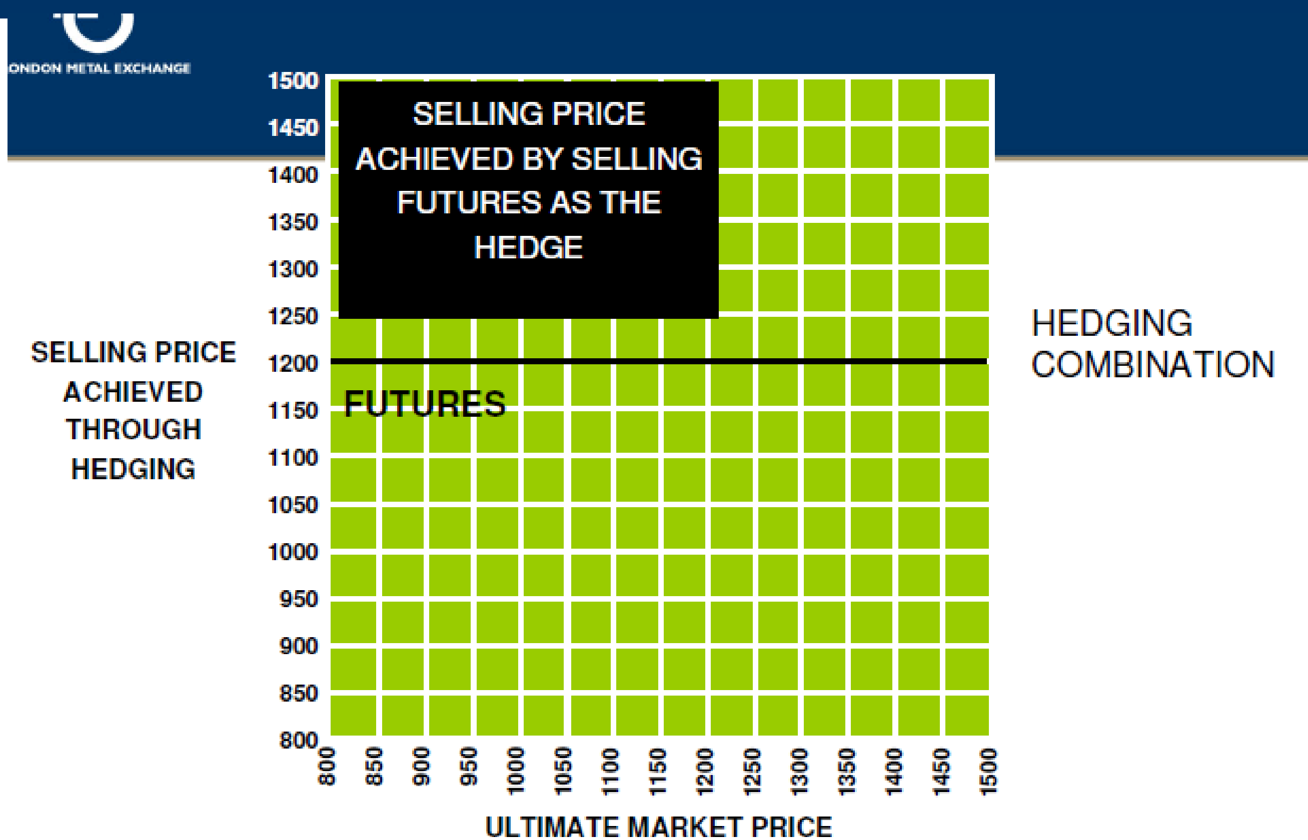
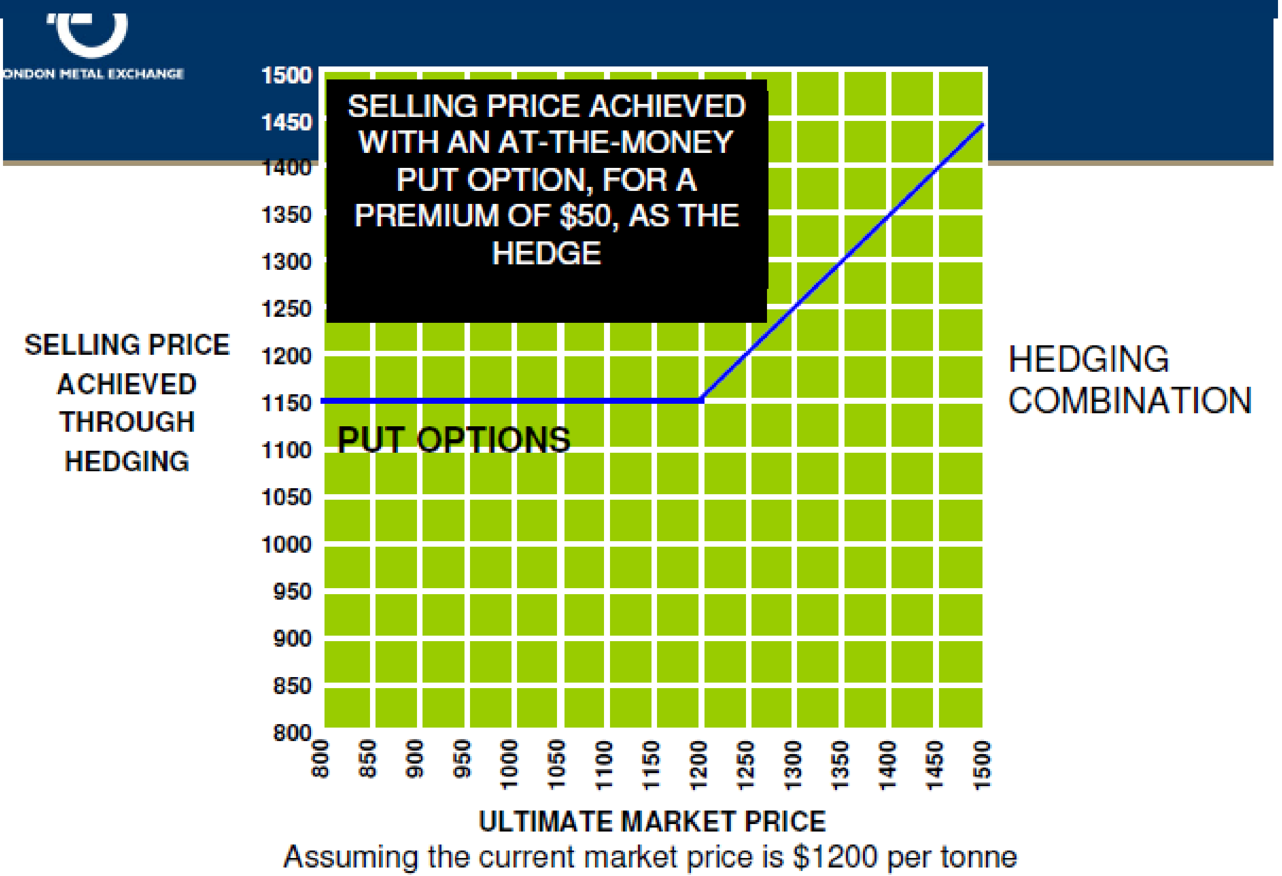


آشنایی با قراردادهای اختیار معامله



Assuming the current market price is $1200 per tonne

آشنایی با قراردادهای اختیار معامله



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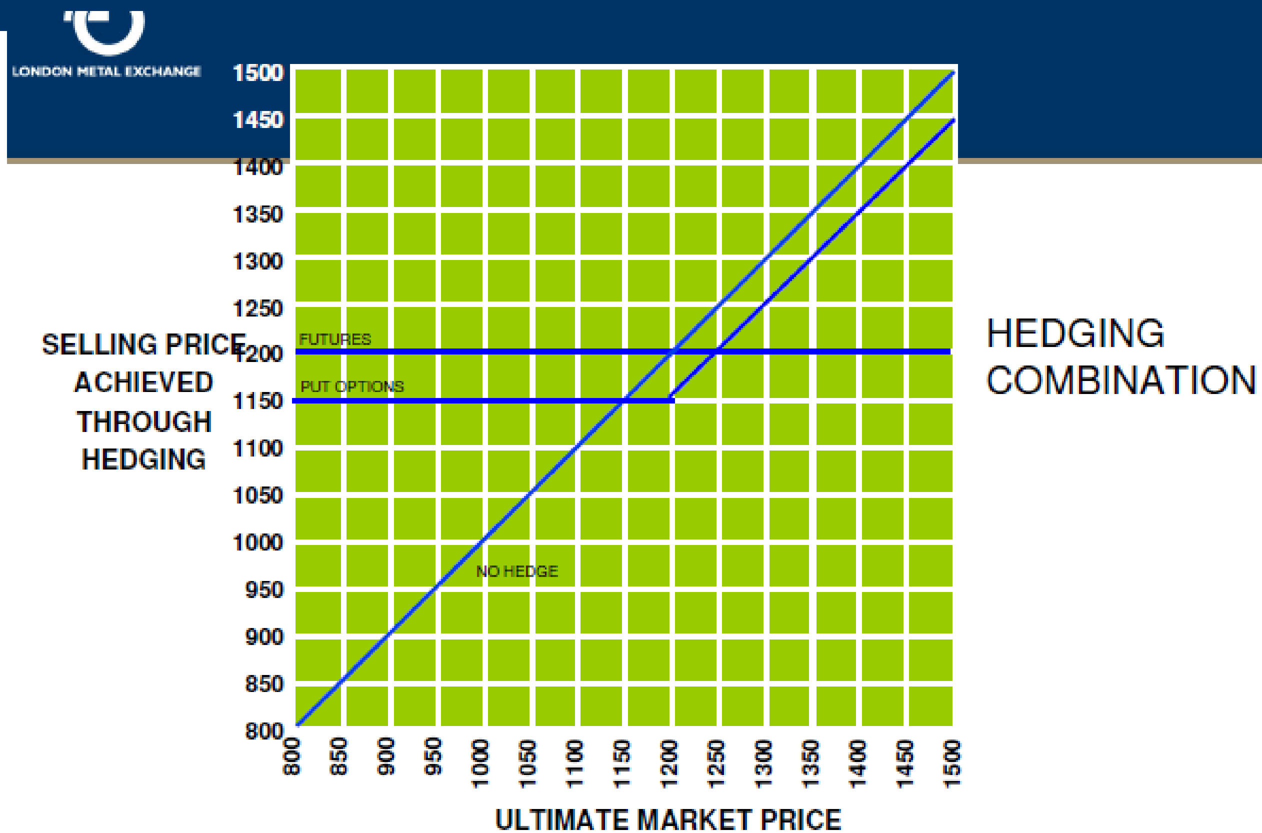

Assuming the current market price is $1200 per tonne

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Market Price	Futures	Nothing	Options
950.00	1200.00	950.00	1150.00
1200.00	1200.00	1200.00	1150.00
1450.00	1200.00	1450.00	1400.00

آشنایی با قراردادهای اختیار معامله

Market Price	Futures	Nothing	Options
950.00	1200.00	950.00	1150.00
1200.00	1200.00	1200.00	1150.00
1450.00	1200.00	1450.00	1400.00

Market Price	1/3 Futures	1/3 Nothing	1/3 Options	Price Achieved
950.00	400.00	316.67	383.33	1100.00
1200.00	400.00	400.00	383.33	1183.33
1450.00	400.00	483.33	466.67	1350.00

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Strong indication price will rise

Market Price	1/4 Futures	1/2 Nothing	1/4 Options	Price Achieved
950.00	300.00	475.00	287.50	1062.50
1200.00	300.00	600.00	287.50	1187.50
1450.00	300.00	725.00	350.00	1375.00

Strong indication price will fall

Market Price	1/2 Futures	1/4 Nothing	1/4 Options	Price Achieved
950.00	600.00	237.50	287.50	1125.00
1200.00	600.00	300.00	287.50	1187.50
1450.00	600.00	362.50	350.00	1312.50

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Selling an option

MINMAX'S

Another major reason for selling options, is to reduce the cost of buying other options. Assuming that this option purchase is the primary hedge objective

Maybe suitable for both hedge buyers and sellers

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- The Consumer MinMax

Buys Calls and sells Puts

Setting a maximum price that can be paid but limits any downside participation

- The Producer MinMax

Buys Puts and sells Calls

Setting a minimum hedge sale price but limits any upside price participation

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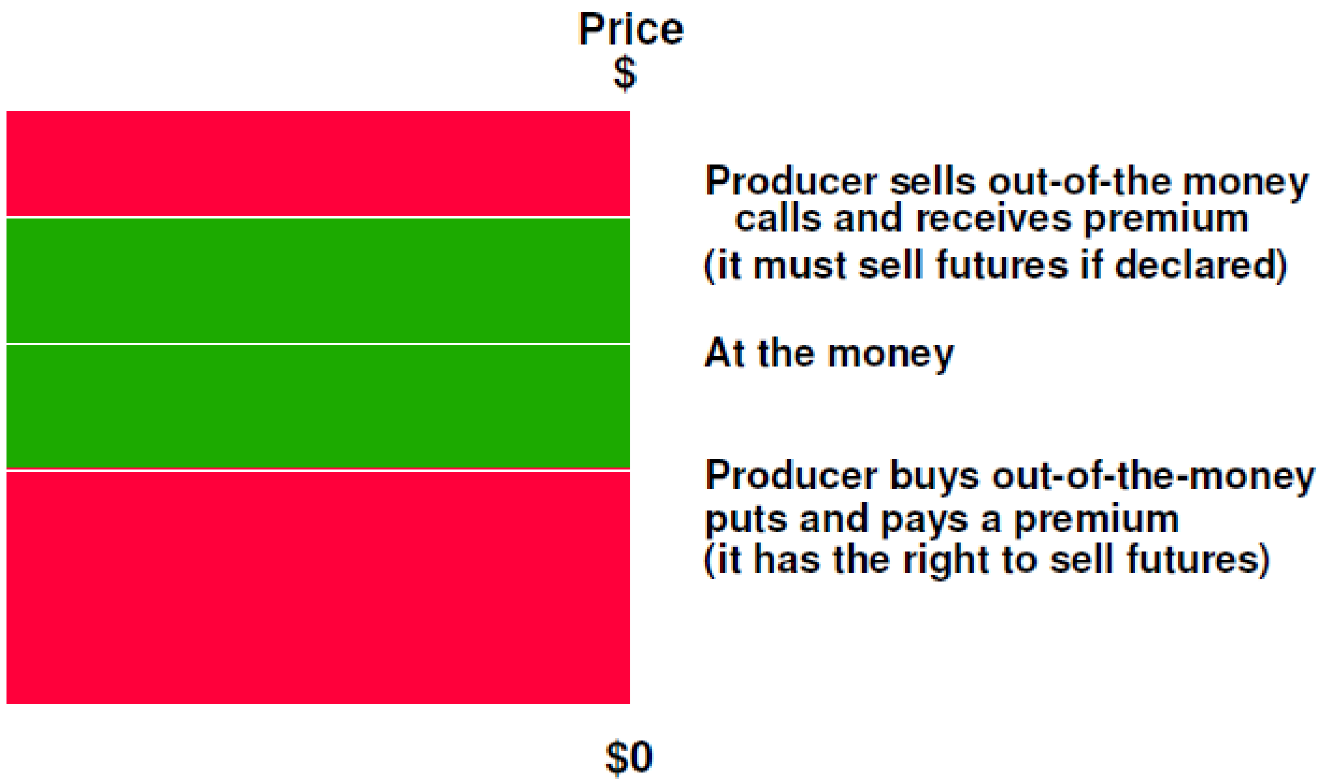

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Variations and Variables :

Zero - Cost	the norm but not essential
Ranges	the further from being ATM the wider the range available
Ratios	doesn’t have to be 1 : 1

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Dec 2009 Current forward market 2010 $6,900

A. Zero cost hedge:

Buy 1000 tonnes of $6000 puts and sell 1000 tonnes of $7,800 calls for 2010

B. 50% cost hedge:

Buy 1000 tonnes of $6,000 puts at $340 and sell 1000 tonnes of $9000 calls for $170

C. 50% tonnage hedge:

Buy 1000 tonnes of $6,000 puts and sell 500 tonnes of $6,900 calls (zero cost)

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Delta hedge

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Short of 100 lots at-the-money puts.

50% chance option will be declared. So sells

50% of the tonnage

i.e. 50 lots

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Market falls. Now short of in-the-money puts.

60% chance will be declared.

So sells a further 10 lots of futures.

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The market now rises and the delta is now 45% so the option seller has to buy back 15 lots as there is only a 45 % chance the option will be declared so is overhedged

Synthetics

A combination of futures and options, used to synthesize an option position.

Synthetic Put

Sell forward and buy a Call

Synthetic Call

Buy forward and buy a Put

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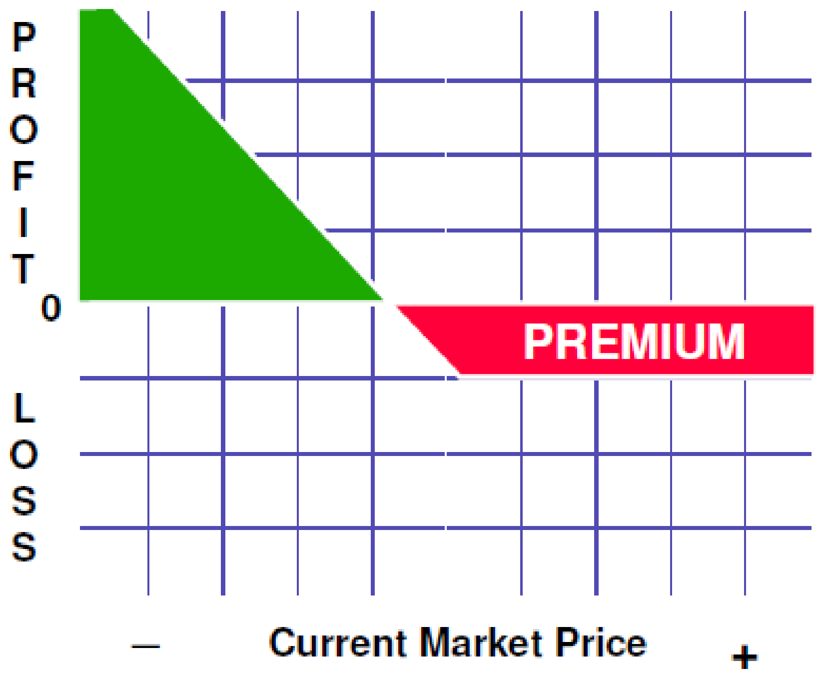
Synthetic long put



<u>Sentiment</u>

Overall bearish, but nervous of short term rallies

Action

Purchase a call option against current short futures position

Risk

Limited to premium

Profit

Unlimited

Break Even

Strike price less premium

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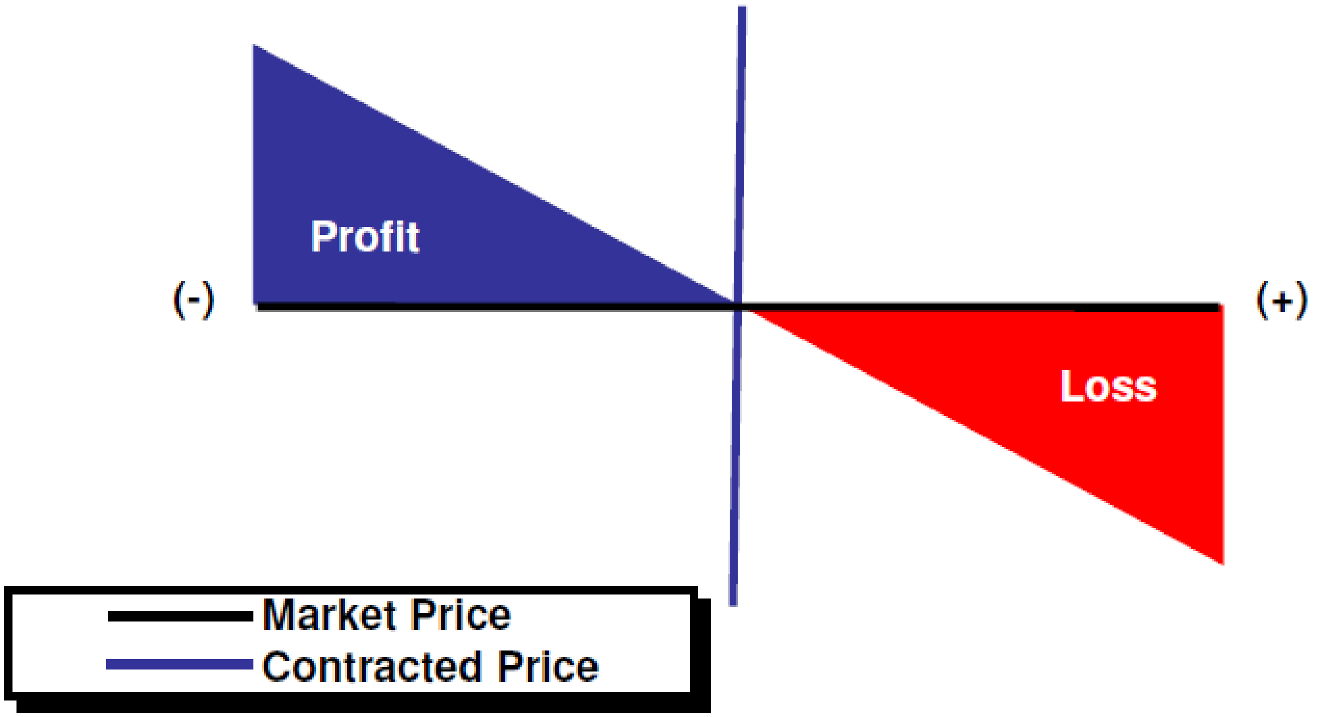
Short futures position



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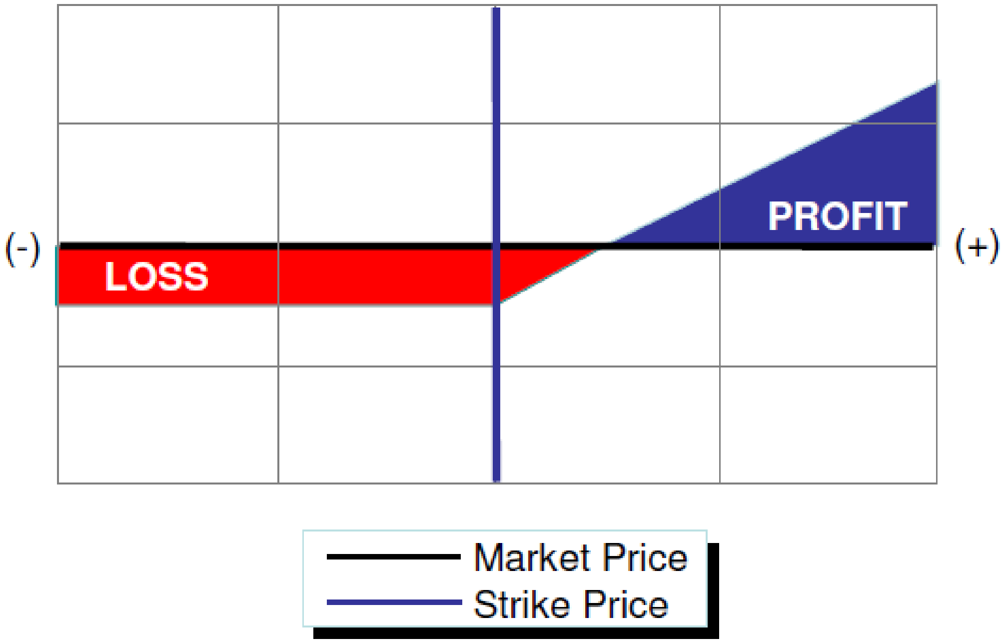
Long call position (Taker's risk)



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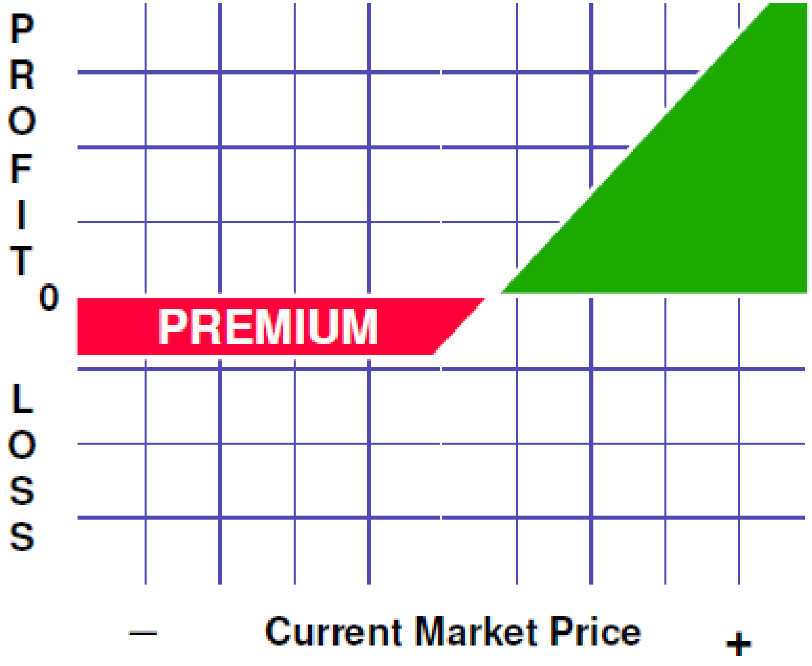
Synthetic long call



<u>Sentiment</u>

Overall bullish but nervous of Short Term Setbacks

Action

Purchase a put option against current long future position

Risk

Limited to premium

Profit

Unlimited

Break Even

Strike price plus premium

Only cost effective if low vega

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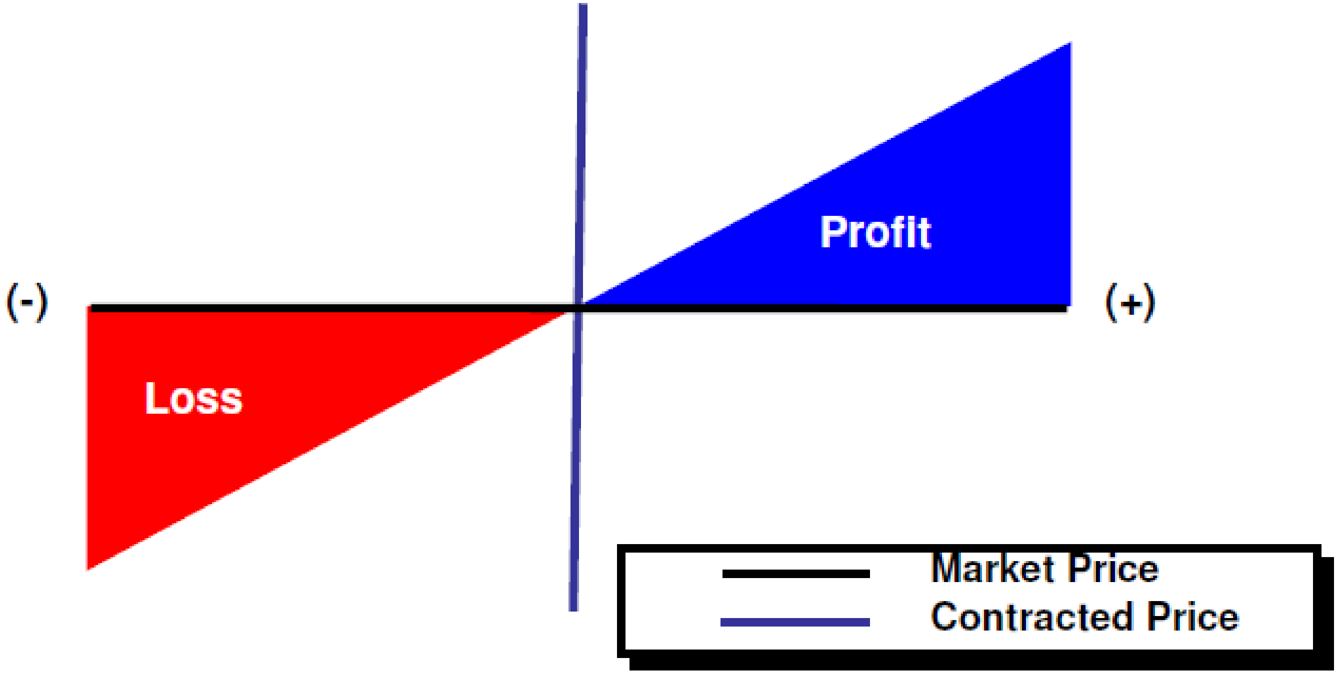
Long futures position



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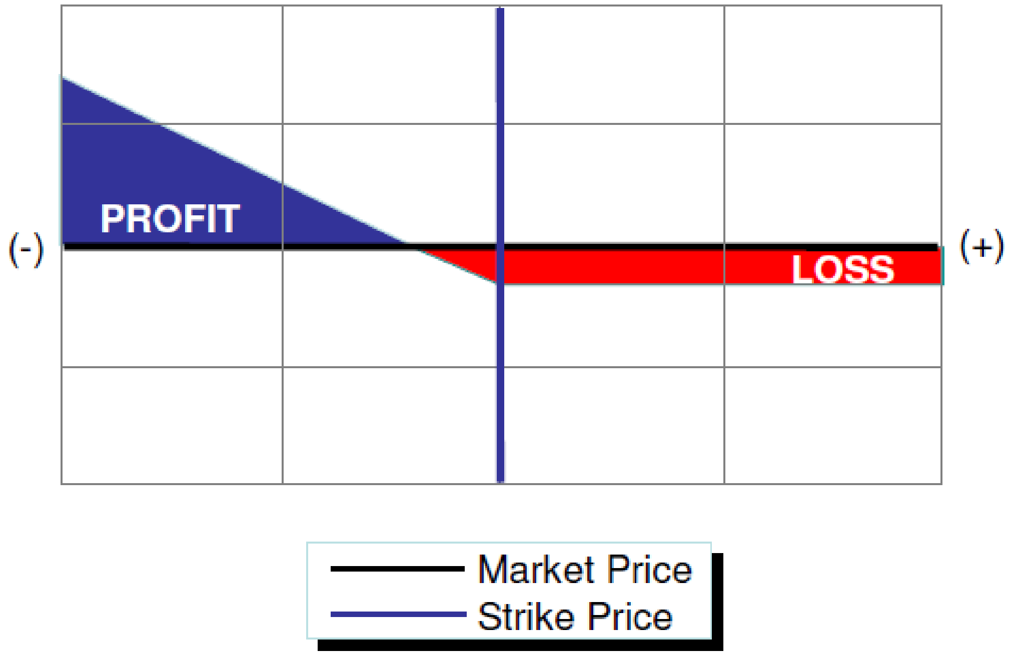
Long put position
(Taker's risk)



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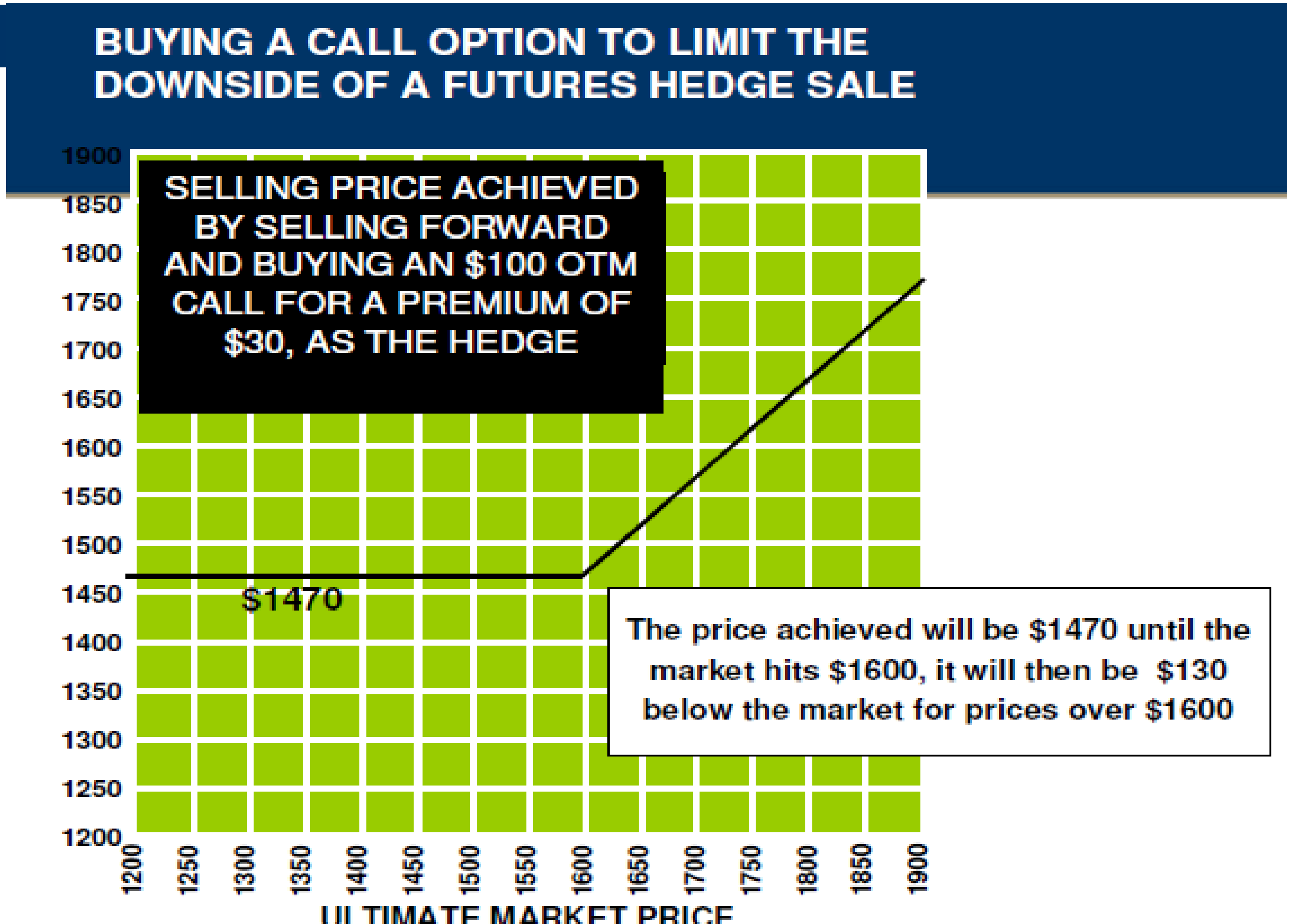

forward market price was $1500 per tonne at the time the hedge was placed

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Strategies

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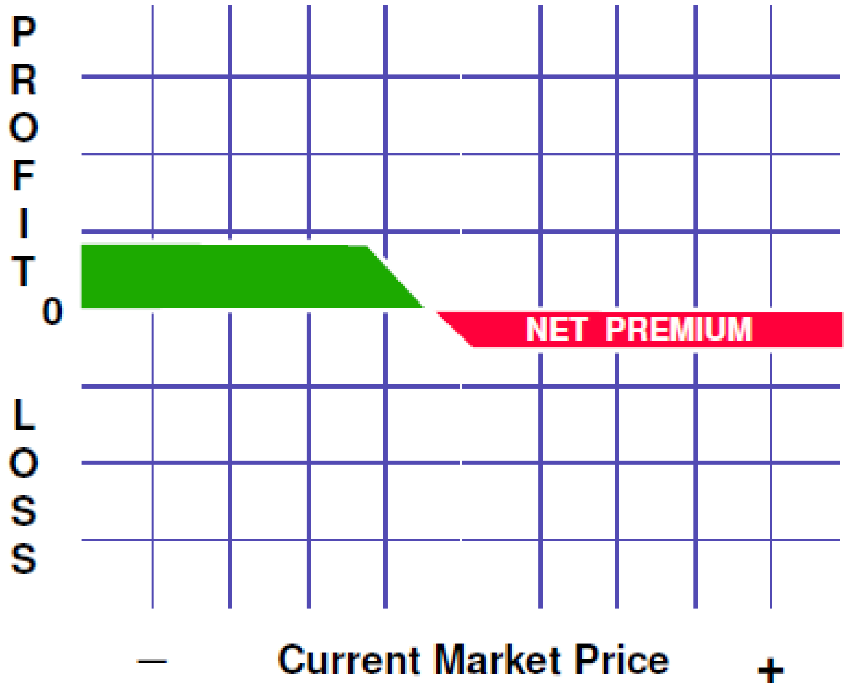
Bear put spread



<u>Sentiment</u>
Bearish for a limited move

Action
Buy puts at higher strike
Sell puts at lower strike
(Equal number of puts in both cases)

Risk
Limited to net premium paid

Profit
Limited to difference between the two strikes less premium paid

Break Even
Higher strike price less net premium

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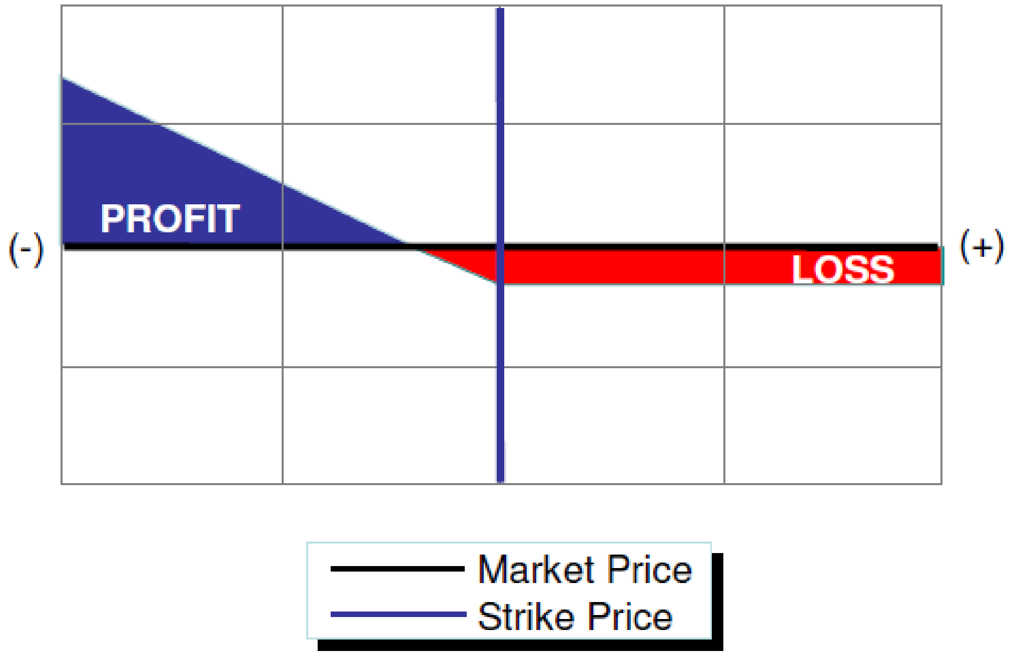
Long put position (Taker’s risk)



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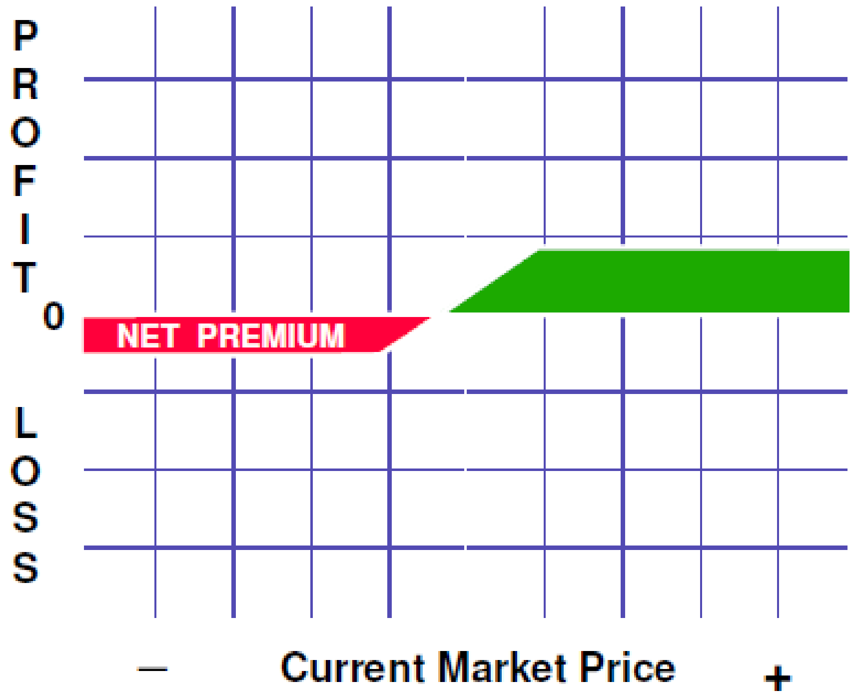
Bull call spread



<u>Sentiment</u>
Bullish for a limited move

Action
Buy calls at lower strike
Sell calls at higher strike
(Equal number of calls in both cases)

Risk
Limited to net premium paid

Profit
Limited to the difference between the two strikes less the premium paid

Break Even
Lower strike price plus net premium

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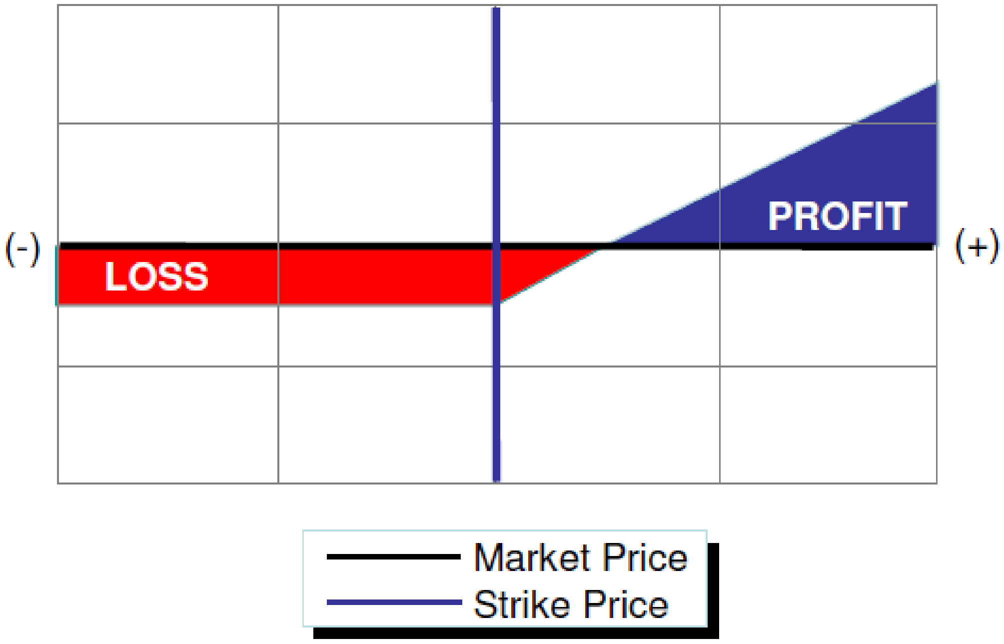
Long call position (Taker’s risk)



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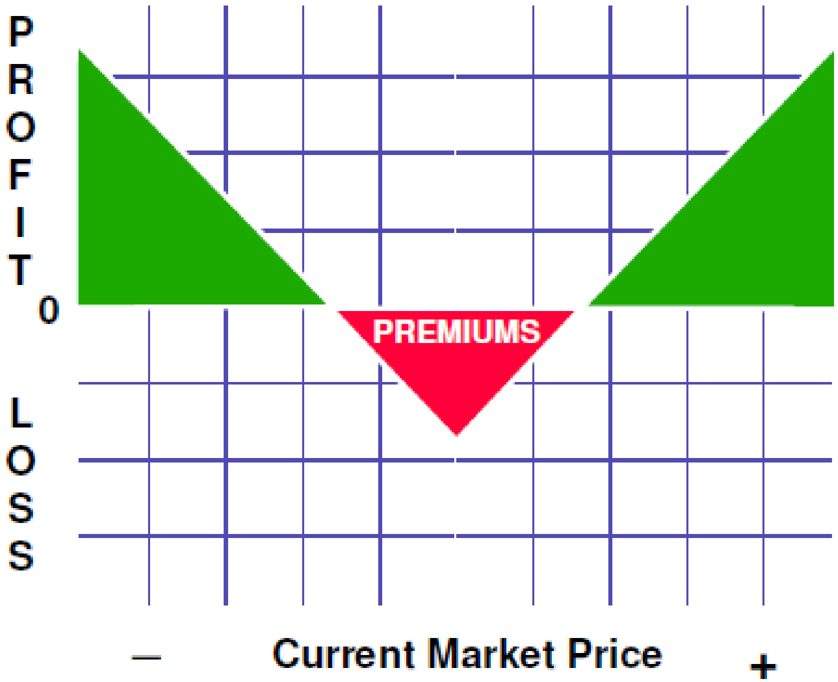
Long straddle



<u>Sentiment</u>
Nervous of increase in volatility currently showing in market

Action
Buy at the money call
Buy at the money put

Risk
Limited to premiums paid

Profit
Unlimited

Break Even
Call strike price plus total premium
Or put strike price less total premium

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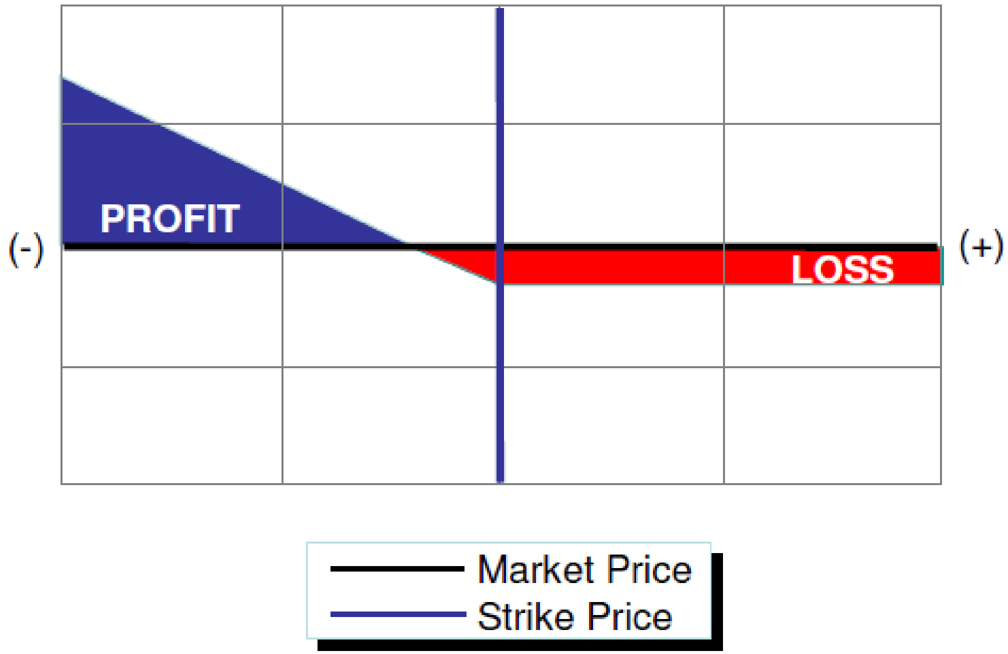
Long put position (Taker’s risk)



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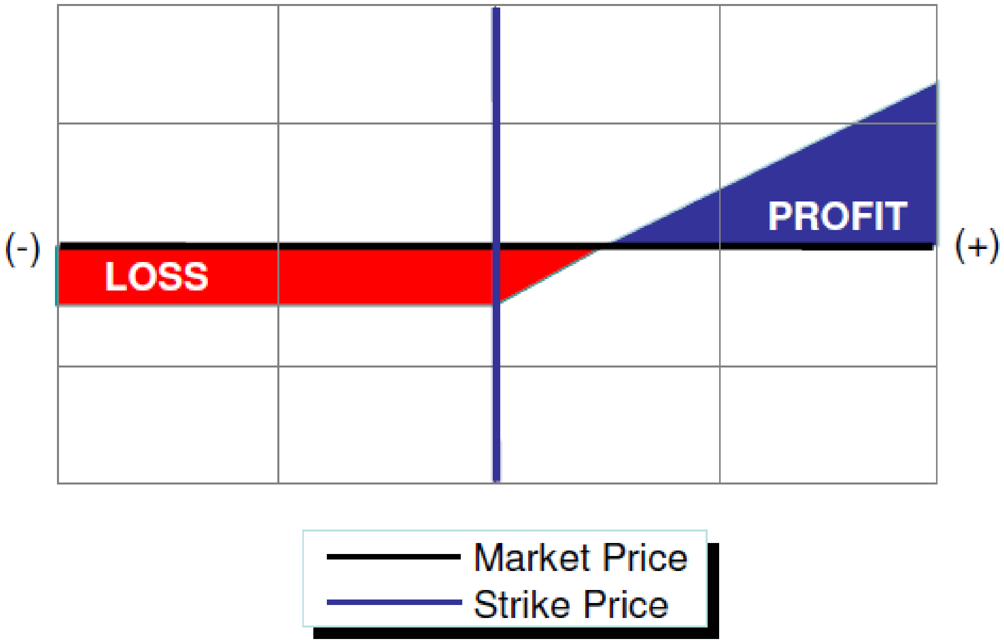
Long call position (Taker's risk)



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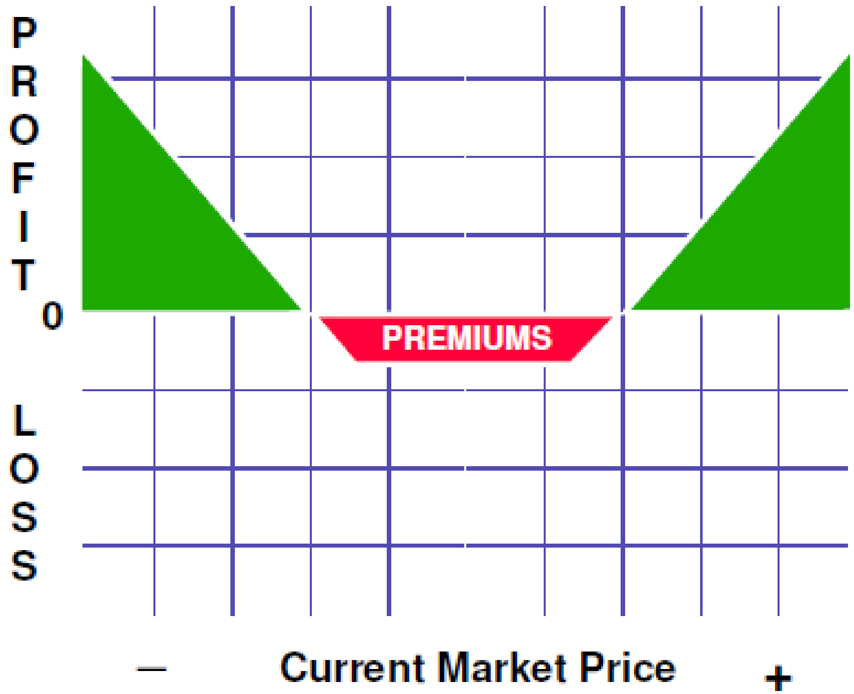
Long strangle



Sentiment
Nervous of high volatility
Action
Buy out of the money call
Buy out of the money put
Risk
Limited to premiums paid
Profit
Unlimited

Break Even
Call strike price plus total premium
Or put strike price less total premium

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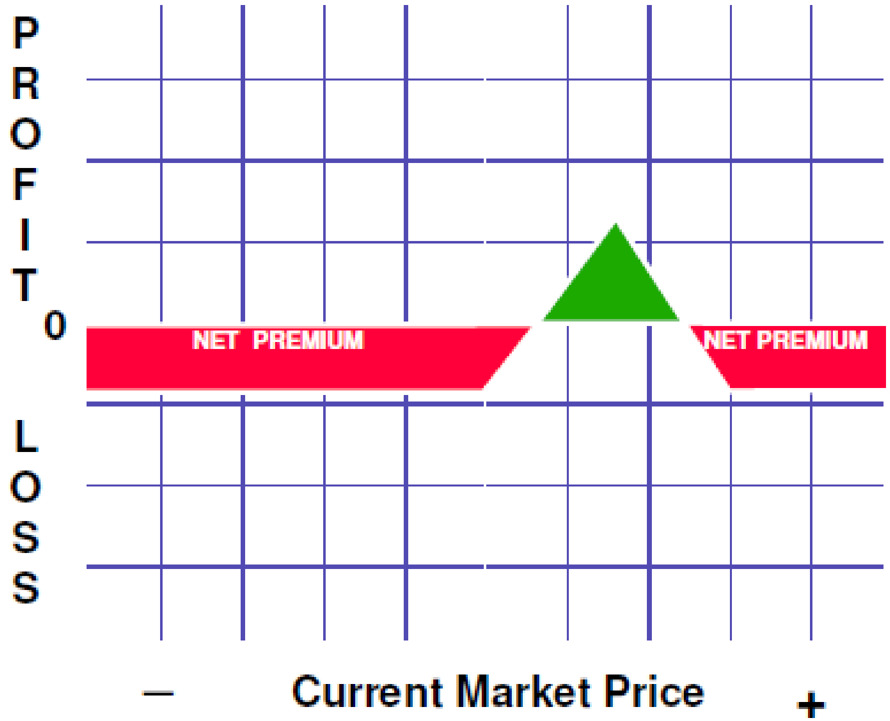
Long butterfly



<u>Sentiment</u>
Bullish to limited rise
Action
Buy one at the money call
Sell two out of the money calls
Buy one call further out of the money
Risk
Limited to net premium
Profit
Limited

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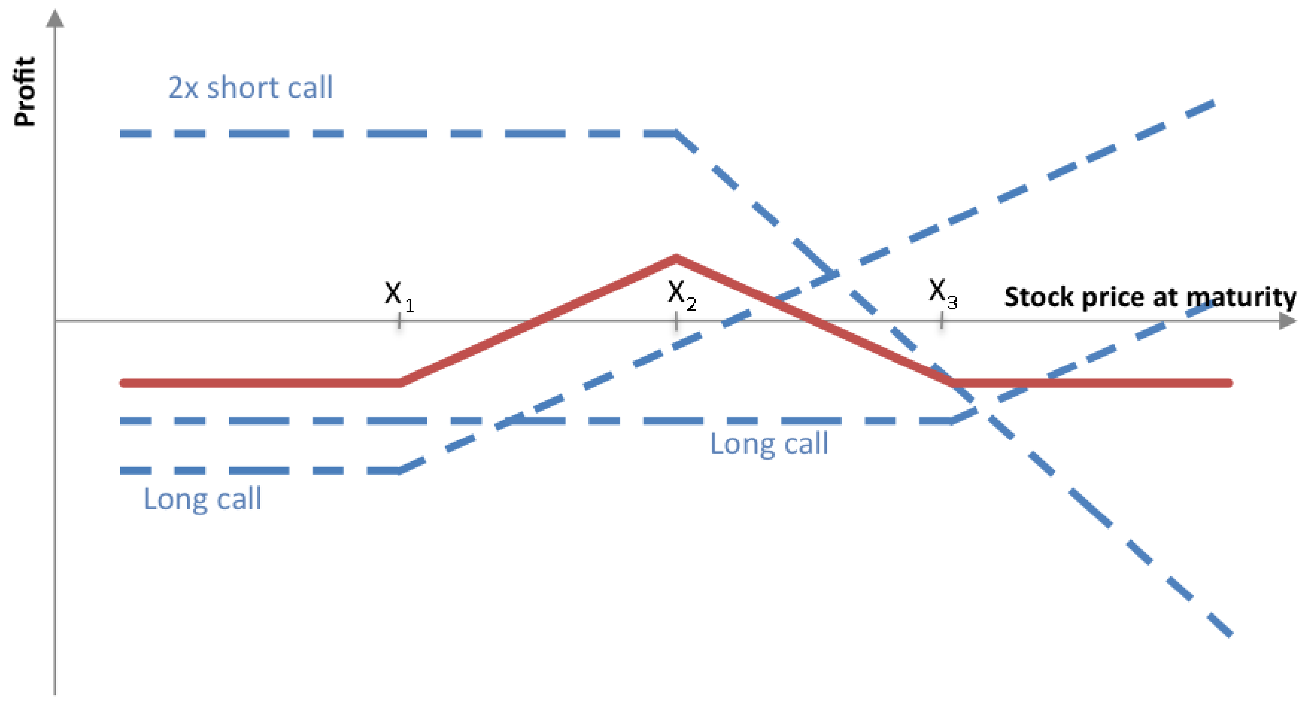
Profit from butterfly spread using call options



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با تشکر از شما

پایان

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