CNMV Comisión Nacional del Mercado de Valores

GUIDE

CNMV information guide

What you should know about...

Futures and Options

This CNMV guide is for investors. It explains the essential terms, helps you to ask the right questions, sets out the information that an investor must request and tells you what to do if you have doubts.

What you should know about...

Futures and Options

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Introduction

FUTURES AND OPTIONS, THOUGH WE MAY NOT KNOW IT, are present in our daily lives, and we are already practised hands at valuing this type of contracts. These could involve something as familiar as agreeing a deferred payment for the purchase of a home, or taking out household or car insurance. However when we talk about options and futures in financial markets, most people see them as distant from their own reality. But this is not actually the case. Many of us will at some point have held derivatives contracts without ever having traded in them directly; for instance, if we have entrusted our assets to a portfolio manager, specifying an aggregate risk limit, or subscribed to a guaranteed mutual fund.

INTROD

For these instruments play a pivotal role in investment management. The returns offered by many products are earned by buying, selling or following multilegged strategies in derivative product markets- though in certain cases the same effect can be achieved through spot market operations. This means it is important to understand the key concepts behind futures and options, the way they work and how risk is transferred between market participants; whether or not you decide to trade in them directly.

The widespread view that “futures and options equal limitless risk” is not strictly correct. The buyer of options, as we will see in these pages, has simply bought a right. And his maximum loss will be

the price paid for that right, and the percentage it represents in his total investments. In other words, there is one position where we have foreknowledge of the maximum loss.

It is always a good thing to understand the workings of the products you invest in. But in the case of derivatives in general and futures and options in particular, it is necessary and all but obligatory. Helping you to do so is the purpose of this guide, which is intended for the general public. Our goal is to teach some basic notions about futures and options in an intuitive way, using examples close to hand, without going into the sophisticated portfolio strategies that can be achieved with derivatives, alone or combined with other products. The information provided could also help investors not operating in derivatives to understand how their intermediary goes about managing their portfolio, or how a mutual fund that has caught their eye obtains the results described in its prospectus.

This is just the start of a longer learning process. Later guides in our series will return to this important subject, to examine the derivative products most geared to the retail investor public. These include warrants and the structured products traded on regulated markets, such as certificates and the new turbowarrants, along with the over-the-counter credit derivatives attracting increased notice from investors.

1 What are derivatives and what kinds might we encounter?

Derivatives **are financial instruments whose value *derives* from the price movements of other assets, known as underlying assets**. The nature of these underlyings can vary widely: shares, share baskets, fixed-income securities, currencies, interest rates, stock indices, commodities and more sophisticated products, including inflation or credit risk.

But what lies behind this definition? The heart of the matter is how the price is derived and the kind of transaction these instruments give rise to. In other words, how and when the asset is exchanged for its monetary price.

In standard spot transactions, like when we go supermarket shopping, the product is exchanged for its price at the time of the agreement. However **a derivative is an agreement where the terms are set today, but —and here lies the difference— the actual transaction goes through at a future date.**

This idea of agreeing a sale or purchase that will materialise at some later date is as old as trade itself; derivative contracts were already a feature of financial markets in seventeenth-century Holland, the assets in question being tulip bulbs. At around the same time, the Japanese were setting up the first organised markets for contracts based on future rice deliveries. The fact of knowing beforehand how much a given crop would cost or fetch allowed both buyer and producer to plan for the future with more confidence. In these examples, the bulbs and the rice are the underlying assets.

It was not until the nineteenth century that the first modern derivatives market was born in Chicago, where even today contracts are traded on assets like corn or wheat. As the years went by the market broadened its repertoire to other types of underlying, and other countries set up their own organised markets on commodities. In 1973, also in Chicago, the first currency contract was launched, marking the advent of the financial derivative. Others soon followed, supporting the sale and purchase of financial assets such as equities, bonds, indexes, interest rates, etc. at a point later than the agreement date.

As a rule, then, derivatives serve to transfer risk from some agents (who wish to sell it) to others (willing to buy it). They can therefore be used for opposing purposes.

Types of derivatives

Although the present guide deals with futures and options, it is worth taking a general look at the range of derivatives in existence. Our next table lists some of the most popular products along with the entities authorised to broker trades and, where appropriate, the official agency empowered with their authorisation and supervision.

Type	Category	Authorised intermediaries	Supervisor
Derivative products	Traded on regulated markets: • Financial (MEFF)[1] and non financial (MFAO)[2] futures and options • Warrants	• Securities brokers and broker-dealers • Authorised foreign ISFs[3] • Spanish credit institutions • Authorised foreign credit institutions	CNMV
OTC derivatives	Products traded on OTC secondary markets[4]: • Forwards • FRAs[5] • Swaps • Options ...	• Securities brokers and broker-dealers • Authorised foreign ISFs[3] • Spanish credit institutions • Authorised foreign credit institutions	Not supervised
Structured products	Traded on regulated markets: • Certificates • Turbowarrants ...	• Securities brokers and broker-dealers • Authorised foreign ISFs[3] • Spanish credit institutions • Authorised foreign credit institutions	CNMV
	Not traded on regulated markets: Credit derivatives[6]		Not supervised
Other non marketable products	• Hybrid products • Reverse convertibles	• Spanish credit institutions • Authorised foreign credit institutions	CNMV

[1] Mercado Español de Futuros Financieros.
[2] Mercado de Futuros del Aceite de Oliva (olive oil futures market).
[3] Investment Services Firms.
[4] Over-the-counter: products not traded on official markets.
[5] Forward rate agreement.
[6] Not currently available in Spain to retail investors.


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2 What is the purpose of derivatives?

We already know that a derivative is a kind of forward arrangement for which all the details are set at the time of the agreement, with the actual exchange taking place at a later date. But what advantages does this bring over closing a transaction straight away? The answer is that both buyer and seller have certain knowledge of the price they will pay or receive for the product on the agreed future date.

The uncertainty about the future movements of asset prices is known as **price risk**, and it is one all investors assume when they acquire an asset and its depreciation causes them losses (fig. 1), or when they postpone buying today in the belief that prices will fall, and finally they move higher (fig. 2), so they have to pay more than if they had purchased at once. This risk can be seen most clearly in stock markets. If we decide to buy shares in company X and later sell them more expensively, we face the risk that the price may fall and leave us with losses. Conversely, if we wait to buy the shares believing they will be cheaper in the future, we face the risk that their price will go on rising and they will eventually cost us more.

- Buy today
- RISK: Fall in price

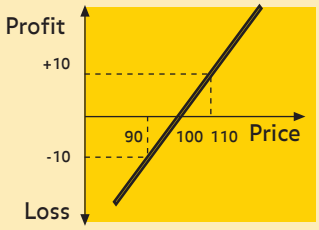


fig. 1

- Wait and buy in future
- RISK: Rise in price

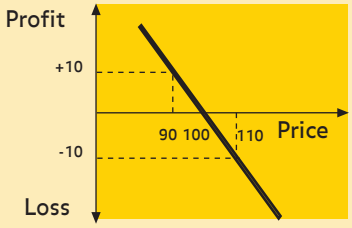


fig. 2

Derivative contracts help us to manage this risk by two main routes:

- **Reducing it by what we call hedge transactions**, when the person holding the asset wishes to shield it from adverse price movements.
- **As an investment in themselves**, when an investor bets on the direction and scale of the price movement of a given asset over a pre-set time.

We must not forget that derivatives are **sophisticated products that expose us to total loss** when they are not used for hedging purposes. Investing in them demands **not only a precise knowledge of their characteristics and trading systems, but also a predisposition to accept high risk and the wherewithal to meet the bill, as well as devoting time and care to tracking their progress.**

3 What are futures?

The forerunners: forward agreements

Before examining the characteristics of futures contracts, we take a look back at their forerunners —the so-called forward agreements.

There follows a practical example of a forward agreement:

Let's suppose Mrs Gómez receives the news that her family will have a new member in nine months' time. After the initial euphoria, she is brought down to earth by a look round their cramped apartment. It is time to buy a bigger house. A few days later, she signs an agreement to pay 180,000 euros for a new flat.

In one of her conversations with the seller she remarks that she won't need the flat for another nine months, but that with housing prices rising so fast she felt it was wisest to buy now.

The seller replies that he has no objection to waiting nine months to hand over the flat. So the possibility arises of entering into a contract which specifies that the property will be transferred in nine months' time but at a price agreed on the date of signing. This is what we call a forward agreement.

Mrs Gómez is happy about the idea but concerned that the seller might set a contract price that includes the 17% appreciation expected for residential property prices in the next nine months.

If the seller took this decision, the contract price would be 210,600 euros.

Price of the flat = 180,000 x (1 + 0.17) = 210,600 euros (current price plus expected increase).

Should Mrs Gómez accept this price? The answer is No.

Why?

Mrs Gómez has the choice of:

- buying the flat today for 180,000 euros
- signing a forward agreement.

If she decides to buy the flat today, she will have to apply for an 180,000 euro loan. Assuming the bank charges her an annual 2% on this amount, by the end of nine months she will have paid 2,700 euros in interest.

Interest = 180,000 × 0.02 × 9/12 = 2,700 euros

So if the buyer pushes for a contract price above 182,700 euros, Mrs Gómez will simply buy spot i.e. today (borrowing the money), as this would be her cost in nine months' time.

Is this a good price for the seller?

If he agrees to sell today, he will receive 180,000 euros which he can use to invest in some risk-free asset. Assuming the interest on this asset is an annual 2%, he will earn a return of 2,700 euros.

The equilibrium price for both sides in this scenario is accordingly 182,700 euros.

But isn't there a factor missing from these calculations? What about the costs and the possible returns the house might generate between now and the agreed settlement date?

The seller could argue, understandably, that the forward price should include the costs the house incurs in the intervening period, while the buyer could insist with equal justice on subtracting any interim earnings.

Continuing with our example, the seller calculates that maintaining the house for another nine months will cost him 540 euros in owners' association payments; a sum he wouldn't have to pay if he sold the house today.

So from his point of view, the price should now be:

182,700 euros + 540 euros = 183,240 euros

This argument seems fair to Mrs Gómez, but she contends that the seller could also earn an income on the property by letting it for nine months, and that this return should be discounted from the forward price. Otherwise, she would rather buy the house today and, as she wouldn't be needing it for another nine months, rent it out herself and raise, let's say, a total income of 1,700 euros.

The time comes to sign the agreement and the two parties agree to compute these circumstances in the forward price. Their calculations run as follows:

Price of the house today	180,000 euros
Investment/financing at 2%	+ 2,700 euros
Owners' association costs	+540 euros
Rental income	– 1,700 euros
	181,540 euros

The end result is that Mrs Gómez has signed an agreement obliging her to buy the property in nine months' time for 181,540 euros, whatever the market price that then prevails.

The seller, meantime, has undertaken to sell the house in nine months' time, regardless of its market price, for a sum equivalent in financial terms to what he was asking for today.

So what happens once the nine months are up?

On that day, Mrs Gómez and the seller close the transaction under the conditions agreed nine months before. Mrs Gómez hands over 181,540 euros for the ownership of her new home, and the seller gets his money.

But it could also transpire that one of the parties fails to meet his or her obligation, causing serious economic harm to the other. This risk is known as **counterparty or insolvency risk** and is present in any economic transaction. It also increases the longer the term between the agreement and the settlement date (when the asset or goods are delivered).

In our example, if the seller failed to hand over the house on the agreed date, Mrs Gómez would be forced to buy another property at the market price prevailing (independently of any legal action she might take). This could cause her a loss equating to the difference between the price agreed in the forward contract and the market price of the acquired property (assuming the market price at that moment is higher than the sum stipulated in the agreement).

The seller too is exposed to this risk, for if Mrs Gómez refuses to pay the agreed price, he will have to find another buyer. The loss, in this case, would materialise if the new buyer was only willing to pay a lower price than agreed with Mrs Gómez.

It was to eliminate this counterparty risk, and others, that organised markets came into being.

The above example gives us an intuitive grasp of what a forward contract is and how its price is arrived at, which we can now apply to the case of financial futures.

A future is a forward agreement traded on an organised market whereby the parties agree the sale or purchase of a given quantity of a certain security (the underlying asset) on a predetermined future date (settlement date) at a predetermined price (the price of the future). In other words we have a kind of forward agreement whose subject is a financial instrument (shares, indexes, loans or deposits...) or a commodity (i.e. goods like farm produce or raw materials).

The difference between a forward agreement as dealt with in our example and a future contract is basically that in the former the parties set their own conditions according to their needs, while the futures contract is subject to standardised conditions. So purchasing a forward agreement could be compared to ordering a bespoke suit, while purchasing a future is more like buying off-the-peg in a department store, with no alterations available.

Main characteristics

The operational features that define a future are as follows:

- Contract conditions are standardised as regards face value, object and expiry date.
- The contracts are quoted on organised markets, so can be bought and sold at any time during trading hours with no need to wait until the expiry date.
- Both buy and sell parties in futures transactions are obliged to establish guarantees (to post margin) with the market. This is a kind of good-faith deposit whose sum will depend on the open position maintained in each case, and whose purpose is to avoid counterparty risk.

The futures investor should be aware that it is possible to sell a future without having previously acquired it, since what is actually being sold is the contract position which the seller will be bound by. The market calls this “to open short positions” or “to go short”.

The theoretical price of a future

The way a futures price is formed is similar to the way we set a price for a forward contract. The price of a futures contract on equities, for instance, is calculated as their market price capitalised[1] to the expiry date less the value of the associated dividends likewise capitalised to expiry.

For example, to ascertain the price of a three-month futures contract on a share of the company *XYZ* trading on the stock market at 45 euros, which does not pay dividends, and knowing that the market interest rate for this term is 2.5%, we can use the following simple formula:

$$\text{Futures price} = \text{Current market price} \times [1 + (r \times t/360)] - D \times [1 + (r' \times t'/360)]$$

in which:

r = the market interest rate for t days,
t = no. of days from today till the contract's expiry,
D = dividend receivable,
r' = market interest rate for t' days,
t' = no. of days elapsing from the dividend payment date to the contract expiry date.

$$\text{Futures price} = 45 \times [1 + (0.025 \times 90/360)] - 0 = 45.28 \text{ euros}$$

Mrs Gómez and her seller agreed a fair price for their contract by summing the financing of the investment and the possible maintenance costs (owners' association expenses) and subtracting the amount of rental income. Transferring this example to a real futures contract, the financing and maintenance costs would be equivalent to working out the value of today's investment at the expiry date, while the rental income would equate to the dividends receivable in the intervening period.

The difference between the price of the share in three months' time and its price on today's date is known as the net cost of financing or the cost of carry.

Note that this cost of carry can be positive or negative depending on whether dividend yield is less or greater than the financing cost.

[1] For an explanation of this concept, consult the guide "What you should know about fixed-income products".

Buying a futures contract

Having worked out the theoretical futures price for *XYZ*, if we believe the company's shares will rise sharply between now and three months we have two courses to choose from:

1. Buy the share today for 45 euros.
2. Buy a three-month futures contract on the share at a price of 45.28 euros on expiry.

If we take the second option, remembering that a futures contract binds us to buy at the agreed price (45.28 in this case) on the date of expiry, the profit or loss will be the difference between the price of *XYZ* shares on the expiry date and the price of the futures contract.

If *XYZ* is trading at, say, 50 euros on the expiry date, we will have pocketed 4.72 euros (50 – 45.28) from the transaction. Conversely, if the share is changing hands for 35 euros we will have lost 10.28 euros (we have had to pay 45.28 euros for something worth 35 euros on that date).

The following table sets out possible values for the *XYZ* share on the day of expiry, and the resulting profit or loss to the contract holder.

Price of *XYZ* on expiry date	Price of the futures contract	Profit/Loss
41.28	45.28	–4
42.28	45.28	–3
43.28	45.28	–2
44.28	45.28	–1
45.28	45.28	0
46.28	45.28	1
47.28	45.28	2
48.28	45.28	3
49.28	45.28	4

The graphical representation would be:

So the purchaser of this particular contract will make a profit if the underlying assets, the shares of the company *XYZ*, are priced higher than the amount the contract cost (45.28).

Selling a futures contract

Conversely, if our expectations are bearish, i.e. we believe the price of *XYZ* will fall in the next three months, our goal will be to sell the three-month futures contract. The results of this position on expiry vis à vis possible share prices and the contract price would be:

Price of *XYZ* on expiry date	Price of the futures contract	Profit/Loss
41.28	45.28	4
42.28	45.28	3
43.28	45.28	2
44.28	45.28	1
45.28	45.28	0
46.28	45.28	–1
47.28	45.28	–2
48.28	45.28	–3
49.28	45.28	–4

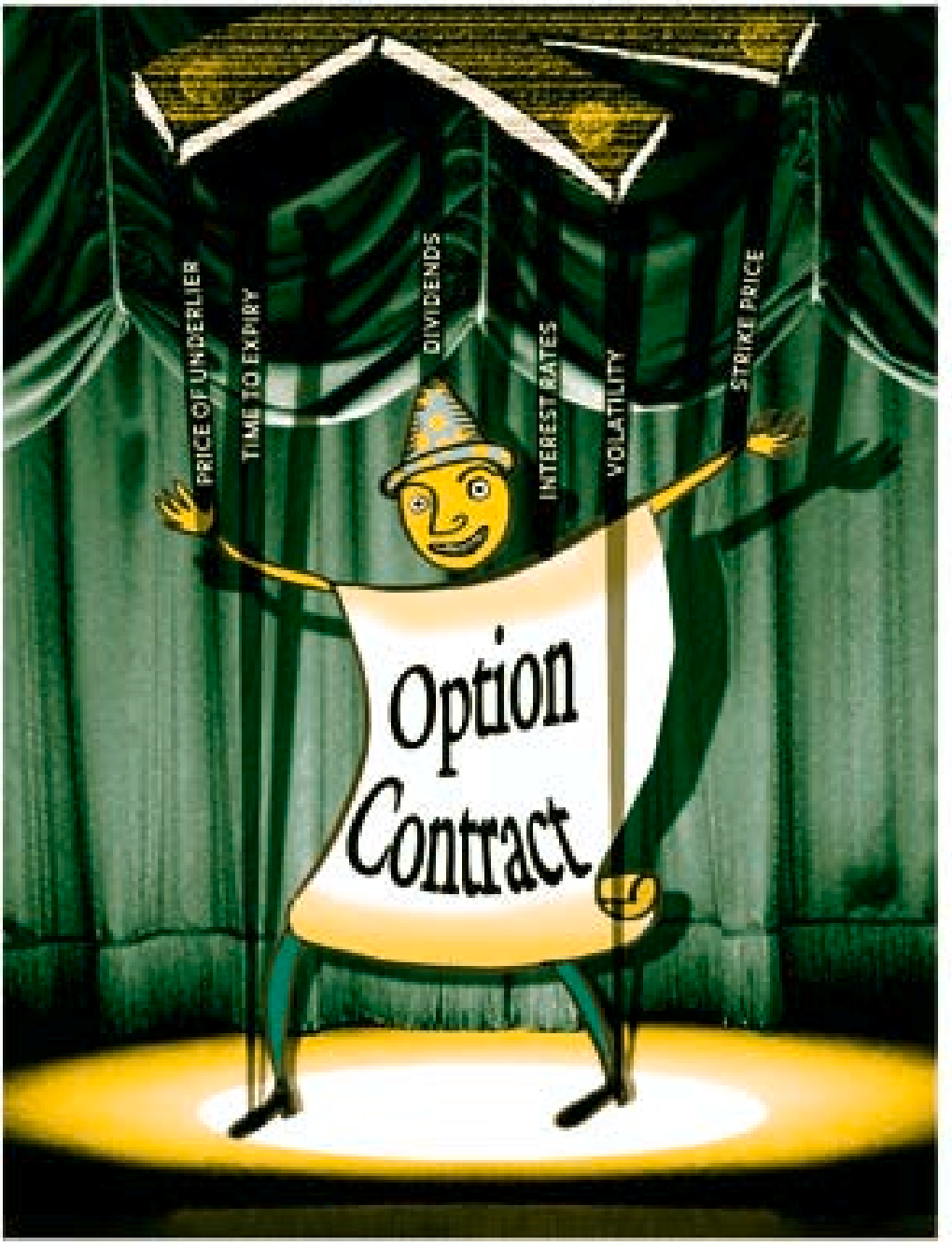
The futures seller will have a profit/loss position symmetrical with that described for the contract buyer (see graph). We can see that losses have no limit once the share is trading above 45.28 euros.

Three types of futures contract are currently available in Spain:

- On commodities: olive oil
- On financial assets: futures on the IBEX 35, the Mini IBEX 35, the 10Y bond and shares (12 in all).

How profits or losses are settled depends on the particularities of each contract[2].

[2] The general characteristics of contracts must be approved by the CNMV.


PRICE OF UNDERLIER
TIME TO EXPIRY
DIVIDENDS
INTEREST RATES
VOLATILITY
STRIKE PRICE
Option
Contract

What are options?

4

The Mrs Gómez of our example receives a legacy valued at 3,000 euros the day after signing her forward contract on the house. As this agreement assures her a set price for her future property she decides to spend the windfall on a nice restful holiday.

She has always wanted to go on a cruise and, after enquiring at several travel agencies, finds one to her liking with the departure date three months ahead. The travel agent offers her the following alternatives:

1. To close the price at 3,000 euros, to be paid 300 on the spot as a deposit and the rest one week before the cruise (if she cannot go for any reason she loses the deposit).
2. To pay 3,500 euros a week before the cruise without having to make any down payment.

Mrs Gómez isn't sure if she'll want to go on the cruise in three months time **given her condition**, plus she cannot afford more than 3,000 euros. It therefore suits her better to acquire the right, but not the obligation, to take the cruise for 3,000 euros by paying 300 euros on the spot (even at the risk of losing them). The travel agency, meantime, collects Mrs Gómez's 300 euros, undertaking to sell her the cruise when the time comes at a fixed price of 2,700 euros, the remaining amount.

Mrs Gómez has completed a **forward transaction that, unlike a future, entails no obligation for the buyer**. What she has in fact purchased is an option[3], that is, a right which allows her several possibilities:

- If she decides to shop around when the departure date is near, but cannot find a cheaper product, the fact that she has paid 300 euros means she can conserve the cruise that she has booked.
- If she finds a cruise that is identical but cheaper (2,000 euros), she can buy it and forfeit the 300 euros of her deposit. She will still pay a total cost of just 2,300, and she has also conserved her right to exercise the other alternative with the 300 euros as a kind of "purchase insurance".

[3] In options markets, the premium paid is not subtracted from the final price, as in this example.

- If the travel agency has raised the price to 4,000 euros and Mrs Gómez prefers not to travel, she can sell her right to the cruise for 600 euros and pocket the difference. Mrs Gómez, in this scenario, would make a profit of 300 euros, while the buyer would pay just 3,300 (2,700+600) euros, saving 700 euros on the market price.

An option is a contract **granting its buyer** the right, but not the obligation, to buy or sell a stated quantity of the underlying asset at a given price, known as the **exercise or strike price**, before a pre-agreed **expiry date**.

Options are **contracts** not securities, so you don't need to buy before you can sell. In fact it is perfectly possible to sell first and, if you wish to, buy later. This means it is very important to distinguish between the situation of the option buyer and that of the option seller.

The *buyer* (or holder) has the right, *but not the obligation*, to buy or sell on the contract's expiry (depending on the type of option), while the ***option seller* (or writer) *is obliged* to buy or sell if the option buyer exercises his right.**

When the expiry date comes, the buyer can decide whether it is worthwhile or not to exercise his right, depending on the difference between the price set for the transaction (the exercise or strike price) and the current spot market price of the underlying asset (in the case of shares, their stock market quotes).

The price of an option, known as the premium, is the amount the buyer pays to have this right. And it is in fact the premium that is being traded. The option buyer only has rights and no obligations, so his potential losses are confined to the premium paid-the price for offloading the risk onto a third party. Conversely the option seller, who collects the premium, has only obligations, and, in fact, is open to the risk of unlimited losses. That is why the seller always keeps the premium, whether or not the option is exercised, and regardless of the losses he may incur through having acquired someone else's risk.

Types of options

Options can be classified according to different criteria, but the most straightforward ways are:

a. According to the right conferred:

Call options

The buyer gains the right, but not the obligation, to acquire the underlying asset at a fixed price on the agreed expiry date, i.e. leaving the obligation to the seller.

An investor buying a call is speculating that the underlying asset will rise in price, that is, he has bullish expectations. If he is proven right, and the underlier is priced higher on expiry than the strike price set in the option contract, he will normally exercise the option and, therefore, buy cheaper. Conversely, if the price of the underlying asset rises less than expected and ends up lower than the exercise price, he will let the option expire and forfeit his investment (the premium).

In our own example, Mrs Gómez decides finally not to make the trip and to invest the money instead. She talks it over with her niece, who suggests that she invests in options and explains to her how they work.

The shares of company *XYZ* are trading at 5 euros. There are bullish expectations around the stock, and the hope is that in one month's time the price will be 6 euros. Mrs Gómez acquires a call option on these shares entitling her to buy them at 5.5 euros on the expiry date. The premium she pays is 0.5 euros.

When should Mrs Gómez exercise the right she has acquired with the call option? Whenever the shares of *XYZ* are trading at a higher price on the expiry date.

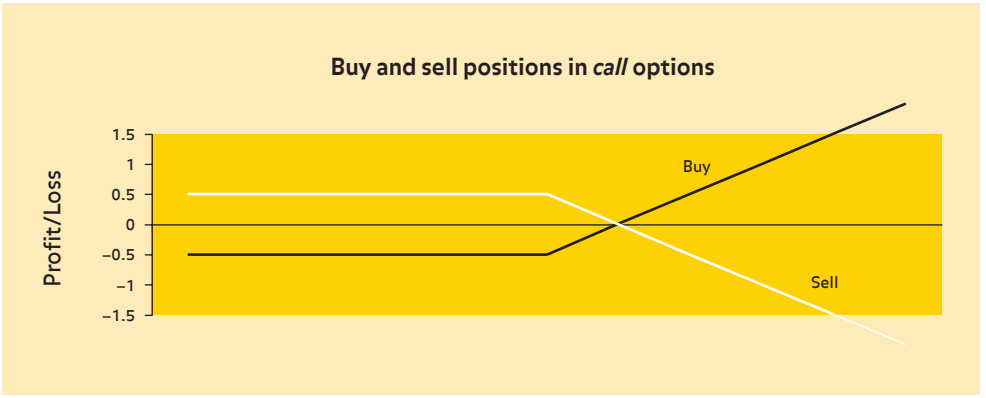
- If the *XYZ* share is at 5 euros on the expiry date: **she will not exercise her right.**
  It would make no sense to pay 5.5 euros for the shares when their market price is 5. In this case, she loses the premium she paid for the contract, i.e. 0.5 euros per option acquired.
- If the *XYZ* share is at 6 euros on the expiry date: **she will exercise her right.**
  That way she gets the shares for 5.5 euros when their market price is higher. How does this operation work out?
  Profit/loss on the transaction: 0.5 euros profit (6-5.5).
  Cost of the transaction: 0.5 euros.
  Total profit/loss: 0

– If the *XYZ* share is at 6.5 euros on the expiry date: **she will exercise her right**.
  She again gets to buy the shares for 5.5 euros when their market price is higher. And the result in this case?
  Profit/loss on the transaction: 1 euro profit (6.5 - 5.5).
  Cost of the transaction: 0.5 euros.
  Total profit/loss: 0.5 euros

Thus far we have been looking at the operation from the standpoint of the call buyer. But we should also consider what happens with his counterparty, the call seller. Initially, it may be hard to imagine that someone can sell an option (whether put or call) without having previously acquired it, so remember that what is really being sold is a contract whereby one party assumes an obligation. This is something like a car insurance policy. The insurance company sells the policyholder the right to have his car repaired in the event of accident, undertaking to pay the cost of such repair. The option seller takes a similar role to the insurer, but, in this case, the object of the contract is not repair work on a car but the underlying asset, and he receives the premium the moment the contract is made.

Going back to our previous example, the call option seller collects the premium and, in exchange, undertakes to deliver an agreed number of *XYZ* shares on the expiry date at the strike price set (assuming the buyer decides to exercise his right). The higher the *XYZ* share is priced at the time of expiry, the worse the deal works out for the call seller, who is obliged to deliver these securities for an exercise price that may be far lower than the market rate, and absorb the corresponding losses.

The call seller is exposed to limited profits and unlimited losses, while the case of a call buyer is just the reverse.



Put options

The buyer of a put option has the right, but not the obligation, to sell the underlying asset at an agreed strike price on the date set for expiry. The seller of the put is obliged to buy.

A put purchase makes sense when an investor believes that market prices are going to fall. If this fall materialises, he will usually exercise his option and sell at the strike price agreed, which will be higher. Otherwise, he will refrain from exercising and will lose his premium.

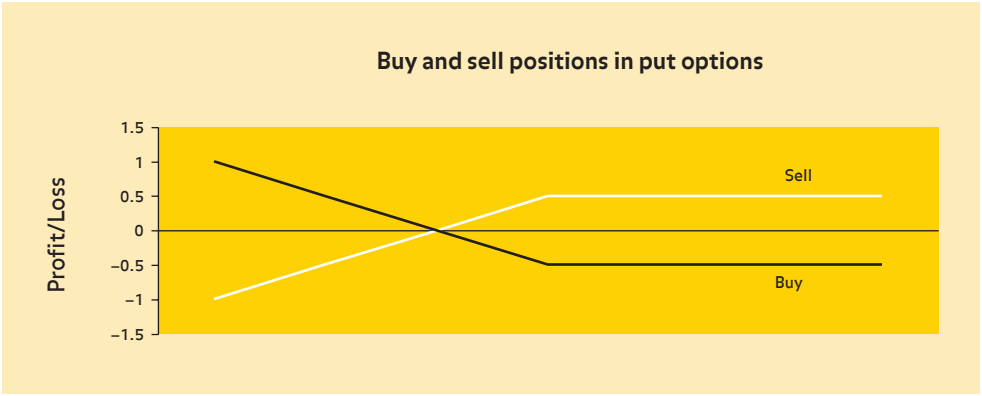
Let's suppose expectations are bearish for *XYZ* and the share is currently trading at 5 euros. Our investor might consider buying a put option with one month to expiry on the prospect of prices falling to around 4 euros.

A good alternative in this case would be to arrange a contract today guaranteeing a sale price on expiry of, let's say, 4.5 euros. Buying a put, like buying a call, involves the payment of a premium (we take the case here of a strike price of 5 euros with a premium of 0.5 euros). The payment of this premium leaves us free to decide if we wish to sell *XYZ* on expiry for 5 euros per share.

Now we have paid the premium, but when should we choose to exercise the option? Whenever the shares of company *XYZ* are trading at less than 5 euros on the expiry date.

Price of *XYZ* on expiry date	Exercise the Option?	Profit/loss on the transaction
3.50	YES	(5.00 – 3.50) – 0.50 = 1.00
4.00	YES	(5.00 –4.00) – 0.50 = 0.50
4.50	YES	(5.00 –4.50) – 0.50 = 0
5.00	NEUTRAL	–0.50
5.50	NO	–0.50
6.00	NO	–0.50
7.00	NO	–0.50

The put seller is obliged to buy the shares for 5 euros if the buyer elects to sell, in return for the premium received on entering the arrangement.



The following table sets out the four basic positions that exist in options trading:

	Premium	Acceptance	Expectations	Profit	Loss
Call buyer	Pays →	Right	Bullish	Unlimited	Limited (the premium)
Call seller	Collects →	Obligation	Bearish	Limited (the premium)	Unlimited
Put buyer	Pays →	Right	Bearish	Unlimited	Limited (the premium)
Put seller	Collects →	Obligation	Bullish	Limited (the premium)	Unlimited

Option sellers, as we can see, are far more exposed than option buyers, as there is no limit to their potential losses (remember they are obliged to sell or buy if the buyer exercises) while their gains are circumscribed to the premium received.

b. By the timing of the exercise right:

European options can only be exercised on the date of expiry, whereas **American options** can be exercised any time up to expiry. The options presently traded on Spanish market MEFF are of the American variety when the underlying asset is an individual share, and European when it is the IBEX 35 stock index.

The price of an option: the premium

The premium is the price of the option and is accordingly paid by the buyer to the seller.

The price of an option has two components: intrinsic value and extrinsic value (usually known as time value).

Premium = Intrinsic value + Time value

To take an example from the realm of the concrete, suppose we want to sell a racehorse and decide the best course is to auction it. The starting price of the auction could be set by reference to the average prices fetched by horses of the same race and age but lacking the necessary conditions to compete at the top level; this is basically what we mean by intrinsic value. The auction itself, however, will end with a price higher than the starting price. The difference between both will reflect bidders' expectations that the horse may win some races during its career, that it will not fall ill and their estimate of other factors that may intervene in its success or failure. This difference is close to what we mean by time value.

Intrinsic value (IV)

An option's intrinsic value is the difference at a given moment between its exercise or strike price and the market price of the underlying asset. Its time value is the difference between the option price (the premium) and intrinsic value.

Intrinsic value = Price of underlying – strike price (call) (always greater than
Intrinsic value = Exercise price – price of underlying (put) or equal to zero)

The intrinsic value, as such, equates to what the option is worth if we exercise it at that moment. Let's take another example:

Suppose a stationer sells ballpoint pens at 1 euro each and it is possible to trade call options on ballpoint pens.

If the pen's price is 1 euro, how much would I be willing to pay for the right to buy one today for 0.9 euros? Logically the most I would lay out would be 0.1 euros. Paying any more would not be rational-the moment the call price reached or surpassed 0.1 euros, I would go straight to the shop and buy the ballpoint there. And how much would I be willing to pay for the right to buy a pen today at 1.10 euros? If the right is only good for **today** then the answer must be zero euros.

What we have based ourselves on in both cases is the intrinsic value of the two call options, the first with a strike price of 0.9 euros and the second with a strike price of 1.10 euros.

We can see that intrinsic value derives from the option's strike or exercise price and the price of the underlying asset (in this case, of ballpoint pens). It is therefore easy to calculate and can be ascertained at any time. In the case of call options, it will be equal to the price of the underlying minus the strike price, and if the result is a negative number the option has the value of zero (that is, no value).

For puts, it is the strike price less the price of the underlying asset, and any negative difference again gets assigned a zero value.

Extrinsic or time value (TV)

Carrying on with our example, we can pose the following question: how much would you be willing to pay for the right to buy a pen at 1.10 euros one year from now? Someone might be happy to take up the opportunity, for what if ballpoint pens in one year's time are selling at 1.25 euros?

This is where time value comes in, that is, the increase that might take place in an option's intrinsic value in the time remaining to its expiry date. We can deduce from the above example that future prices are by no means sure- we do not know what a pen will cost in a year; at most we could hazard a good guess. But what we know exists is the possibility that the price may vary, either up or down (we are in the presence of uncertainty).

Note that the chances of an increase in intrinsic value are more or less knowable depending on the asset in question. This is clear enough if we compare a call option on the pen in our example and a call option on an asset like oil. As oil prices are far more volatile than those of ballpoints, the time value and, therefore, the option premium must be higher in the former case.

The *volatility*[4] of the underlying asset is one of the parameters affecting the value of options, or, more specifically, their time value. The greater the volatility the greater the value of the option, whether call or put.

The way time affects the value of options is not that hard to analyse. If it were possible to buy and sell calls on pens at one month and one year, which term would have the higher price? Logically, the one-year term, since under equal conditions of volatility (we are talking about the same underlier, the ballpoint pen), the chance of the intrinsic value rising is greater in a year than in a month.

[4] The rate of variation in underlying asset prices.

The *time to arrival of the expiry date* is one of the parameters affecting an option's value. The longer the remaining term, the higher the time value of the option, whether call or put, as there is more chance that the underlying asset will respond to the buyer's expectations. Time value has accordingly shrunk to zero by the time the option expires.

The other factors influencing an option's time value are volatility, *short-term interest rates* and *dividend payments*.

Descriptively, options outstanding can be in any one of the following situations:

In the money-: meaning they would generate a profit for their holder if they could be exercised at current prices. That is, the strike price is lower than that of the underlying asset in a call, and above it in a put. Their intrinsic value is positive.

At the money-: the strike price is near to coinciding with the current price of the underlying asset, i.e. exercising at that moment would generate no profits. These options have time value only.

Out of the money-: options in this situation would not be exercised because market prices are against, i.e. lower than the strike price (in a call) or higher (in a put). They have no intrinsic value.

An option can shift from one to other status throughout its lifetime, in tune with the price movements of the underlying asset.

Variables affecting the premium and how they work

An option's price formation depends basically on the following factors: the price of the underlying asset, the strike or exercise price, the volatility of the underlying asset, interest rates, any dividends paid on the underlying up to the exercise date, and the term remaining to expiry.

- **Price of the underlying asset and strike price.**
  We have already seen that the difference between the two gives the option's intrinsic value. This intrinsic value fluctuates along with the market price of the underlying asset (the strike price remains constant over the option's lifetime). Hence an option can be in the money one day and out of it the next.

- **Volatility** is a measure of the price variability of the underlying asset (market risk). **Increases in volatility push up the premiums of both call and put options.** The reason is that if a security's market price fluctuates sharply, it is harder to predict the range it will be moving in on expiry than in the case of an underlying asset whose price tends not to vary (the extreme case would be a share that always traded at the same price; in which case its volatility would be zero). So the greater the price fluctuation of the underlying asset, the more chance there is that it will end up favouring the option buyer and the higher the premium charged by the put or call seller.
  Obviously an asset's volatility varies with time and in some periods more than in others.
  Any easing of volatility should translate as a reduction in the option premium. We can even find cases where an option buyer has rightly judged the direction an underlier will move in, but because volatility is lower the price has fallen and his position is in losses.
  When talking about volatility or price variability, it is important to know if we are referring to the past, the present or the future (which is the time frame for options):
  Historical volatility: the pattern of the past, which need not necessarily repeat in the future.
  Implied volatility: the degree of volatility of underlying asset prices implied by market expectations at that instant in time.
  The volatility of the underlying asset is the key factor in option valuation because it is the only unknown quantity. This means each intermediary is free to offer a subjective opinion on its level. They usually do so with reference to both historical volatility (how prices have fluctuated in the past) and implied volatility (the market's view on how they will fluctuate in future). However we can never say for sure how prices will move. In fact, **trading in options is primarily a bet on a certain degree of volatility.**
  In general, volatility is said to be high when implied volatility exceeds historical volatility, and vice versa.

- **Interest rates** (in the term corresponding to the lifetime of the option) are perhaps the least influential valuation input. As movements in interest rates affect financing costs, it follows that any rise will automatically reduce the present value of the exercise price, causing the premium of call options to augment and that of put options to decrease. The reference most widely used is the risk-free rate (usually that of Treasury bills).

- **Share dividends** influence the price of an option because their payment reduces market prices. This lesser value of the underlying share causes a decline in the price of calls and an increase in the price of puts. As such, option prices are reactive to market expectations vis à vis dividend payments on the underlier.

- We have already discussed the importance of the **time to arrival of the exercise date.** The longer the remaining term, the higher the time value of the option, as there is more chance that the underlying asset will respond to buyer expectations. Time value is zero on the option's expiry.

The effects of all these factors must be analysed simultaneously. Remember, even though the price of the underlier performs to expectations, the value of the option premium could be impaired by an adverse movement in any of the remaining variables. And, of course, the opposite also holds true.

In any event, after buying or selling an option with payment or collection of the corresponding premium, we can trade in it freely at any time without having to wait till the exercise date. It is normal , in fact, not to hold options to maturity.

How different factors affect the value of an option

The higher the...	Call option	Put option
Price of the underlying asset	↑	↓
Strike price	↓	↑
Volatility	↑	↑
Interest rate	↑	↓
Dividends	↓	↑
Time to expiry	↑	↑

There are different valuation models which use these variables, the best known being the Black & Scholes method developed in 1973.

Of course, investors need not spend time calculating how much a premium is worth. Premiums are quoted on the market, and their traders have tools to hand for estimating their "theoretical" or "fair" prices. When these prices are higher or lower than the market rate, an option is said to be expensive or cheap respectively.

As well as being familiar with the variables influencing option pricing (the premium), it is interesting to know how much each one weighs in the final outcome. The **sensitivity** of option prices to variations in these factors is represented by **Greek** letters. You can find out more about how this works through the websites of most option specialists, and learning its main features will certainly help in your decision-making process:

- **Delta:** measuring the premium's sensitivity to changes in the market price of the underlying asset. Mathematically it is a first derivative, indicating the ratio of the change in an option premium to every unit change in the underlying asset price. If you have bought an option, delta tells you how much it will rise or fall with the movements of the underlier.
- **Gamma:** measures how fast delta rises or falls with changes in the underlying asset price. It is the second derivative of the premium's value vs. the underlier price, so indicates the variation rate of delta, i.e. the acceleration of the option premium.
- **Vega:** indicates the rate of change of an option premium relative to changes in volatility. Can be used to ascertain how much option prices will rise or fall in consequence.
- **Theta:** a measure of how premiums change with time. All else being equal, the mere passage of time causes premiums to reduce, which is bad news for the option buyer and good news for the writer. The speed at which the premium loses value (time decay) picks up progressively as the expiry date approaches.

In the Spanish market, options are currently available on the shares of 20 listed companies. These are usually companies belonging to the IBEX 35 index which stand out for their high liquidity and market capitalisation. Option contracts, which are of the American type, expire on the third Fridays of March, June, September and December. Their face value is 100 shares per contract, so the price of a share option contract with a premium of 1.55 euros would be: 100 x 1.55 = 155 euros.

IBEX 35 options are also available. In this case, the underlying asset is a mini future on the IBEX 35 with the same expiry date. Options are of the European type and mature every month, again on the third Friday.


RENTALS
Deposit

Before you invest... 5

How do I buy and sell futures and options?

Derivatives, like any other marketable financial product, can be bought and sold on the secondary market without waiting to maturity. In Spain, the official markets for derivatives trading are: for financial derivatives, Mercado Español de Productos Financieros Derivados (MEFF) forming part of Holding Bolsas y Mercados Españoles (BME); and, for olive oil, Mercado de Futuros del Aceite de Oliva (MFAO).

Buying or selling contracts —**taking a position in the market**— can only be done through a financial intermediary. Specifically, only financial entities meeting determined requirements who are also members of the MEFF exchange can enter client orders directly into the market. Investors wishing to trade on the olive oil futures market MFAO must also do so through a member. Full lists of member institutions can be consulted on the website of each market[5].

Before choosing an intermediary to process your orders, check both the fees they are charging and the services included. It is vitally important to have real-time information —especially for option sellers— and the tools to hand to complete transactions swiftly and smoothly. You will have to sign an agreement with your selected entity which also binds you to MEFF rules.

[5] MEFF: www.meff.com
MFAO: www.mfao.es

Trading in derivatives, as we mentioned earlier, imposes rights and obligations on the contracting parties which give rise to counterparty risk (the risk that one side will not keep the bargain). The **Clearing House** removes this risk by guaranteeing the proper performance at all times of buy and sell transactions.

The Clearing House ensures the fulfilment of contracts on expiry dates by standing simultaneously as buyer to the seller party, and as seller to the buyer (i.e. it acts as a central counterparty). When the trade date arrives, it undertakes to transfer the asset at its price, delivering the sum or quantity agreed to each transaction party. Delivery will be in cash in the case of netting, and assets in the case of physical handover.

In our example of Mrs Gómez and her home purchase operation, the Clearing House would guarantee the seller's collection of the sum agreed after the 9 months had elapsed even if Mrs Gómez couldn't pay. And if the seller failed to deliver the property, it would sell Mrs Gómez an identical house to the one figuring in the agreement. Thanks to the Clearing House, each party is assured the safe completion of its own transaction leg whether or not the other complies.

How does the guarantee system work?

As it is the Clearing House that assumes the counterparty risk of both buyer and seller, it needs to have mechanisms for managing this risk so it doesn't end up shouldering all the losses caused by defaults. These mechanisms are as follows:

Daily settlement of positions: every day, all open positions in futures contracts are marked to market at closing prices, with settlement of the gains or losses generated during the day's trading. In the event that a client fails to meet a payment, the Clearing House unwinds the corresponding positions, so the maximum loss that can occur equates to one day's operations.

The course this settlement takes is described below, using the IBEX 35 contract as an example.

The futures contract on the IBEX 35 expires on the third Friday of each month, can be traded right up to the day of maturity and is quoted with a tick of one point. A multiplier is used to convert each point into a number of euros, in this case 10. Settlement would therefore proceed as follows:

If a buyer has acquired one IBEX 35 future at 10,000 and the day-end settlement price is 10,020, we have a gain of 20 points which the multiplier converts into 200 euros.

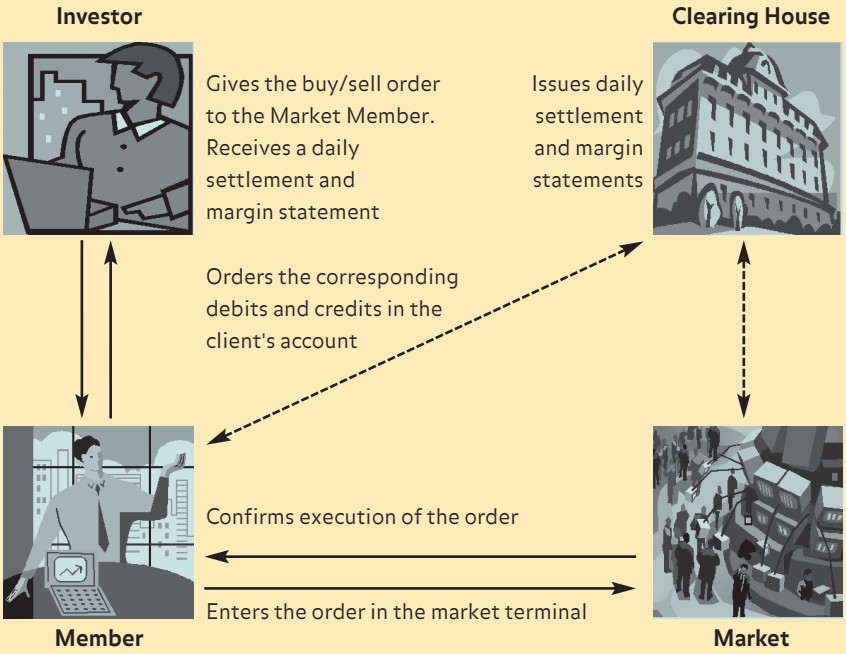
(10,020 - 10,000) x 10 = +200 euros. Had the day-end price been 9,980, the buyer would face a settlement charge of 200 euros. (9,980-10,000) x 10= –200 euros.

Before you make these calculations with the Mini IBEX 35, 10-year bond or individual share futures, check out their particular product specifications which will explain how gains and losses should be settled.

Posting margin: The Clearing House obliges members to deposit a cash sum or quantity of IBEX 35 shares before 9.15 the following morning for each open position entailing an obligation (futures purchases and sales and option sales), to cover against losses in that session due to adverse price movements. The amount or quantity depends on the type of contract and the underlier, and is returned when the debit with the Clearing House disappears. Members usually request it from investors the day before.

The minimum guarantee or margin to be posted is set by MEFF, though each intermediary can increase it by a given percentage. Not every entity requires the same guarantees from clients, and this is something you should look at before deciding which to work with. The matter is of some importance, because the more margin you have to deposit the more of your available assets you will be tying up.

Our next diagram summarises the stages involved from placing an order with a MEFF member to the time the Clearing House informs the latter, and the latter the client, about the amounts to be paid or charged after marking to market, and the margin to be posted.



What does closing a position mean?

Closing a position is when you no longer hold positions with the Clearing House on either the credit or the debit side.

If you have opened a position as a buyer, this means taking a sale or short position in a contract with the same characteristics, and vice versa if you are a seller; concluding as many transactions as required.


OBJECTIVE


OBJECTIVE

What is the leverage effect?

6

Leverage basically is the relationship between the return on an investment and the capital invested.

$$\text{Leverage effect} = \frac{\text{Investment return}}{\text{Invested capital}}$$

Investors in derivatives must be aware at all times of the **multiplying effect on losses and gains** of a correct or incorrect guess on a future price trend. Remember the greater the leverage, the more risk you are assuming and therefore the greater the chances of economic loss if your predictions don't work out.

In the case of futures, their symmetrical movement with the generation of profits or losses means the multiplier effect is the same on both transaction sides, only working in the opposite direction. You must therefore keep a constant eye on your positions, because if the trend moves against you the potential losses are unlimited.

For option buyers the disbursement is the premium, so risk is circumscribed to its amount. Conversely, because of the leverage effect, a small investment can generate large returns.

We can see the leverage effect in action if we compare the result of buying shares in a given company with the result of buying calls with these same shares as their underlying asset:

If Mrs Gómez's next investment move is to buy 100 shares in *XYZ* at 11.5 euros and, in addition, call options on the same company with a strike price of 11.5 euros and a cost of 0.89 euros per contract, the leverage of the option purchase materialises as follows:

- If *XYZ* climbs to 13 euros
  Result of the share purchase = (1 3 – 11.5)/11.5 = 13.04%
  Result of the option = (13 – 11.50 – 0.89)/0.89= 68.54%

- If *XYZ* drops to 10 euros
  Result of the share purchase = (10 – 11.5)/11.5= -13.04% (her loss equates to the market fall)
  Result of the option = –100%, because she does not exercise the option and loses the premium paid in its entirety (–0.89 €).

In the case of sell or short positions in options, a premium is collected and a margin deposited in respect of the unlimited risk assumed.

The leverage effect shows how crucial it is for investors using these products for speculative or investment ends *to keep a close and constant track of their positions,* and the exposure they face at each instant in time.


PROTECTION
INVESTMENT

Futures and options as a hedge or an investment

7

Futures and options as a hedge

Hedging is a strategy whereby investors seek to mitigate the market risk of a portfolio, that is, the potential loss occasioned by an adverse movement in its prices.

A hedge works by taking the opposite position to the one you wish to cover, so the results of the two are mutually offsetting, protecting your total investment against market price fluctuations.

The idea basically is to compensate the potential losses of an equity portfolio from the gains obtained in derivative products.

a. Hedging with futures

To hedge an equity portfolio with futures, we would have to sell a number of contracts equivalent to our position. The following example gives a simplified picture of how this works:

Let's suppose Mrs Gómez holds 100 shares in *XYZ*. The company is trading on the market at 11.50 euros and she is worried that its price will fall. One way of covering this price risk would be to **sell a futures contract on *XYZ*** at 11.57 euros. The positions ensuing on its date of expiry would be:

Asset price on expiry	Result of spot position	Result of position in futures	Total
11.00	–50	+57	+7
11.50	0	+7	+7
12.00	+50	–43	+7

b. Hedging with options

Hedging a portfolio with options is comparable to taking out an insurance policy. By paying a premium in options we ensure sufficient earnings to offset the potential losses caused by portfolio depreciation.

If Mrs Gómez wishes to hedge her portfolio with options, she must choose one of the following possibilities:

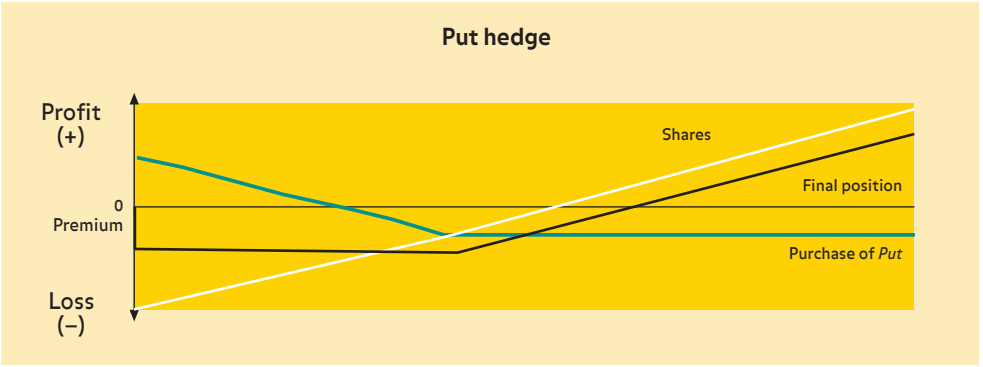
1. A put hedge
2. A call hedge

The put hedge

As the owner of 100 shares in *XYZ* share, she can opt for a hedge strategy comprising the purchase of a put option whose strike price is as close as possible to the current price of the underlier.

The resulting position is a curve with unlimited potential for gains, yet with losses confined to the amount of the premium.

This strategy has the following graphical expression.

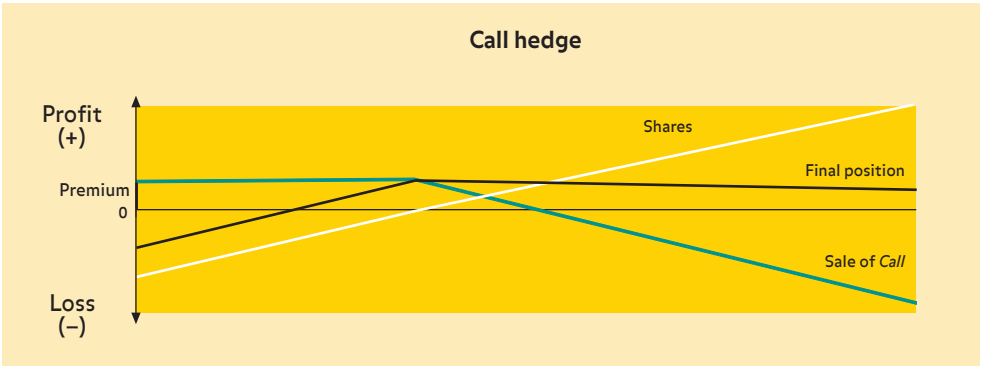


The call hedge

In this case, Mrs Gómez will sell a number of call options equivalent to the number of shares in her portfolio. As she holds 100 shares in *XYZ*, it will suffice to sell one contract (the face value of a contract is 100 shares) in return for the corresponding premium.

This strategy:

- Generates an immediate monetary flow deriving from the sale of the options (the premium received).
- **Delays the entry to losses** caused by share price falls, as she will not start until the fall runs deeper than the amount of the premium collected. The call hedge, as such, only offsets loses until this point is reached.
- Nets an additional return if the share price holds stable.



Futures and options as an investment

We have seen in the preceding sections that trading with derivatives is largely independent of whether the underlier rises or falls. And an investor with a shrewd idea of where prices might head can use them to turn a profit on these movements.

Without going into the sophisticated strategies that these instruments allow, we can summarise their main investment guidelines as follows:

- In the event of bullish expectations for an asset, buy either futures contracts or call options on the same.
- In the event of bearish expectations for an asset, sell futures contracts or buy put options.
- If you believe the underlier's price will stay more or less flat, one strategy could be to sell options and pocket the premium (without forgetting the potentially limitless losses inherent to this position).

Remember that as derivatives are packaged in **standard contracts**, you have to find the ones that best suit the transaction you have planned, i.e. whose strike price and expiry dates fit your investment strategy. This will activate the profit leverage these instruments provide, assuming that your bet was good.


Time
Monitoring
Analysis
Knowledge
Risk
Consistency

Tips for investors

8

In these chapters we have looked at the general characteristics of derivative products and of how they function on the market. Although the general ideas are not hard to grasp, remember that these are sophisticated instruments as regards both price formation mechanisms and the variety of strategies that can be built around them. Investors planning to operate in futures or options should make an effort to master the principles, and attempt to inform and educate themselves selecting from the varied sources at their disposal.

In this section we offer a few tips for investing in derivative products:

- **Devote all the time necessary** to learning how these products work. It is a good idea to run simulations to see if you have mastered the trading rules before you make your first real transaction.
- Collect information from different market members:
  - Compare their fees, information quality and speed as regards both sending orders to the market and providing execution statements.
  - If you decide to operate through Internet, make use of any demonstration features on the service you require. Also, assess the relative facility of order processing, the quality of the information given, etc.
  - Compare each member's margin requirements, as these may be higher than the minimum laid down by MEFF.
- Never lose sight of contract expiry dates:
  - If expiry is approaching and your position is in losses, you will have little time left to react.
  - If expiry is a long way off, you may find the position you have opened is lacking in liquidity.
  - Take note of the maturity terms of contracts (monthly, quarterly…) and the actual time that they expire.

- In general.....
  - When weighing up investment alternatives, it is wise to **first put a limit on the losses you are willing to accept.** It makes little sense to open a position thinking only about succulent profits, without considering the reverse situation.
  - Be aware how long your orders are good for and the times they will be processed. If you decide to place stop-limit orders[6] as a protective strategy, make sure you are confident of how they work to avoid the losses that can follow from their incorrect use.
  - Inform yourself about the futures multiplier and the face value of options.
  - Before choosing a derivatives contract, make a study of the underlying asset and the market it is traded on.
  - Don't just think about market movements in the underlier; remember corporate operations also have a large influence on prices.
  - Make an effort to calculate spreads –the difference between the bid and ask price of a security– in percentage terms. A lower spread signals a lower transaction cost, i.e. higher liquidity, for that particular contract.
  - **Don't forget the leverage effect.** Keep close track of your exposure and monitor your positions at all times. Remember the greater the leverage the greater the risk.
  - **Once you have established a strategy, it is a good idea to stick to it.**
  - Make sure you are out of the market when you want to be, i.e. that you have no orders pending execution, and vice versa.
  - **Investing in derivatives demands knowledge, good judgment and constant surveillance.**
- Keeping positions open overnight can occasion heavy losses....
  - The market may close today at one level and open tomorrow at quite another (higher or lower), leaving a price gap whose effects you will feel in your investment.
  - When prices move against you as an option seller, hanging on until the tide turns may only magnify your losses. The wisest course is to decide on a daily basis whether it is worth staying in the market.

[6] The different types of orders the market accepts can be consulted in the Information Guide "What you should know about securities orders".

- If you are an option buyer....
  - Your goal is for the underlying asset to move in the projected direction, either upwards or downwards. Otherwise, the passage of time and any drop in volatility will harm the value of your option.
  - Remember you may be well in profit in an option poised to expire, but you also carry more risk than the holders of other options with the same features and expiring at a later date.
  - Keep constant track of contract liquidity. Spreads and the number and scale of bid and ask positions will tell you if a contract is more or less liquid. The lower the spread, the more cheaply you can undo your position when the time comes.
  - Be aware that contract liquidity can also vary over time.
  - In general, remember that investing in low-price options means a high spread in percentage terms, i.e. you are paying a high cost of trade relative to the contract price.
  - Leverage may be accentuated by choosing out-of-the-money options.
  - It is wise to monitor the performance of all the factors weighing in an option's price.


FUTURES AND OPTIONS
GUIDE
What you should know about...
Futures and Options
MEFF
FINANCIAL INTERMEDIARY

Where can I go if I have doubts?

9

Your financial intermediary will be happy to answer any doubts you have about the characteristics or workings of futures and options. You can also address your enquiries to the Investor Relations Offices that entities must now run (as of July 2004).

Financial derivatives market MEFF provides guidance on contract types and trading procedures. On its website (*www.meff.com*) you will find training sections, specialist publications, and even transaction simulators that let you test your command of the concepts before putting them into real-life practice. Information on olive oil futures is available from MFAO (*www.mfao.es*).

Investors wishing to know more about the listed companies serving as contract underliers will find the relevant economic, financial and corporate information on their respective websites. Alternatively, you can look them up on the web pages of the stock exchanges where they are listed.

The CNMV Investors Division, through its Investor Assistance Office, will be glad to help with your enquiries. You may contact us by phone (902 149 200) between 9:00 and 19:00 from Monday to Friday, by fax, ordinary mail or e-mail (*inversores@cnmv.es*), or make a prior appointment to be personally attended by one of our staff. Copies of the other CNMV investor guides can be requested from these same sources.

On the CNMV website you will find a full description of the rules of conduct governing entities' relations with their clients, along with the standard contracts and fee brochures filed by investment services companies and other useful information. Our "Investor's Corner" offers a dedicated section on futures and options, as well as general information and advice on other aspects of securities market operations.

CNMV

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Guides published:

What you should know about futures and options

What you should know about securities orders

What you should know about the rights and responsibilities of shareholders

What you should know about fixed-income products

What you should know about fly-by-night operations

What you should know about mutual funds and collective investment

What you should know about investment service companies

The aim of this guide is to inform the public in general about different aspects of the securities markets. The text is for information purposes only and, as such, cannot constitute a support for subsequent legal interpretations. The prevailing regulations are the only ones applicable for these purposes.

CNMV Comisión Nacional del Mercado de Valores