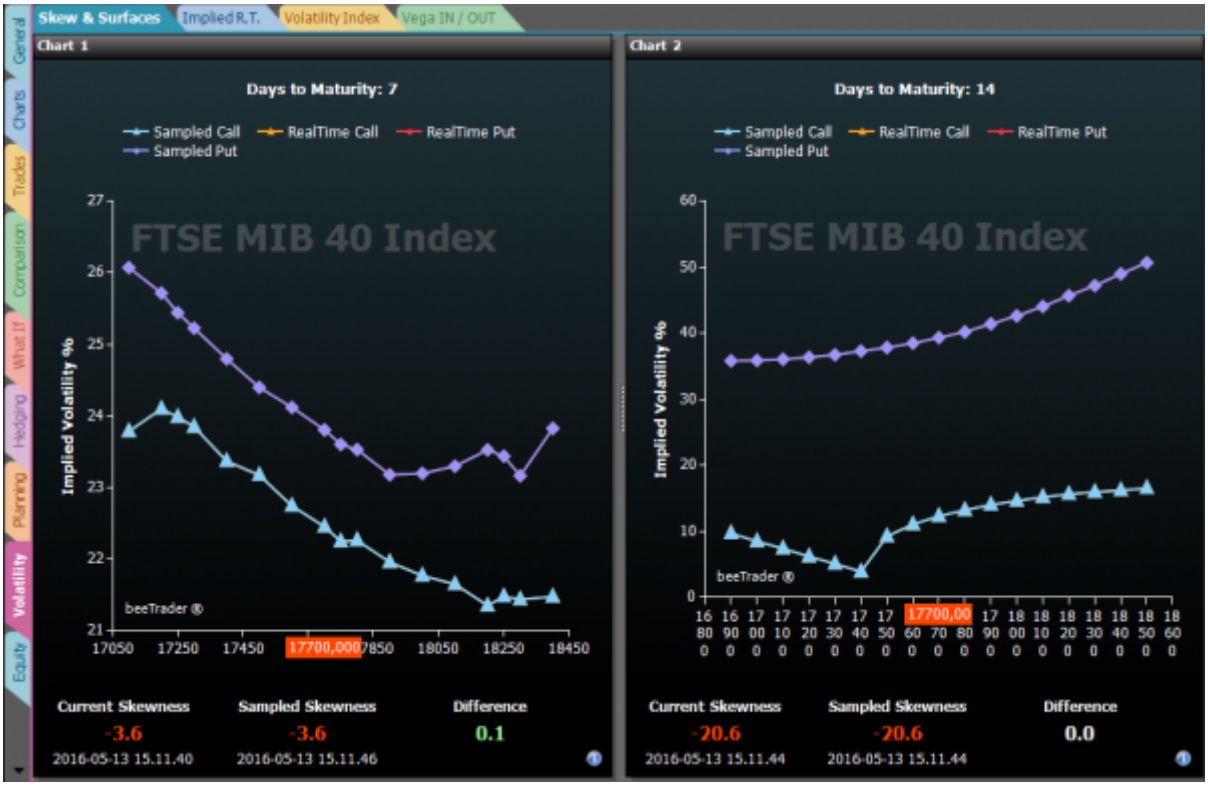
Dividends & Moneyness

Premise: it is essential to know the exact price of the underlying which options refer and therefore their moneyness.
The dividends detachment lowers the value of the financial instrument.
In absence of arbitrage, the holder of a call or put option must not have advantages or disadvantages. To ensure that happen the dividend value is already embedded into option's price which expiry is next to dividend's detachment date.

In the image below you can see the impact of dividends on volatility: chart 1 shows the volatility smile of the options which expire the week before dividend is paid. Chart 2 shows the options smile of options which expires the next week after dividend detachment.
In the Chart 2 we can see a very low volatility on options ATM Call (17700), this happen because the real value would be 17200 , The Call curve should be shifted to the left by the points of dividend, as well as that Put.



In Iceberg is necessary to align the moneyness to dividends. To do this there are three ways that are explained below.

Video Tutorial

	20/04/2016	Strategy - Gestione dei dividendi	5:40	

Click here to watch other Iceberg Video

Align Moneyness to Dividends

In Iceberg there are three ways to adjust the value of moneyness to dividends of an underlying, accessible from the button Settings of the Strategy:

1. Underlying Alternative (futures with expire after dividend detachment);
2. Put / Call Parity;
3. Underlying with Dividends.

The basic configuration includes the use of the Underlying without dividends.

Underlying Alternative

As we said earlier the detachment of dividend decrease the instrument's value equal to the amount of the dividend.

Therefore it's foundamental to know the value of the underlying at the expiry of the options. The correct method is explained above with the inclusion of dividends in the underlying, otherwise in Iceberg there is also another method, faster and easier, and that does not imply the knowledge of the dividend. It is sufficent to use the future of the first expiry after dividend detachment. Indeed after the dividend is paid the underlying price will be closer to the price of the futures minus the risk free rate.

The underlying of reference is always written in bold, and the moneyness calculation mode is reported in head.
Here's the procedure:

Starting Situation

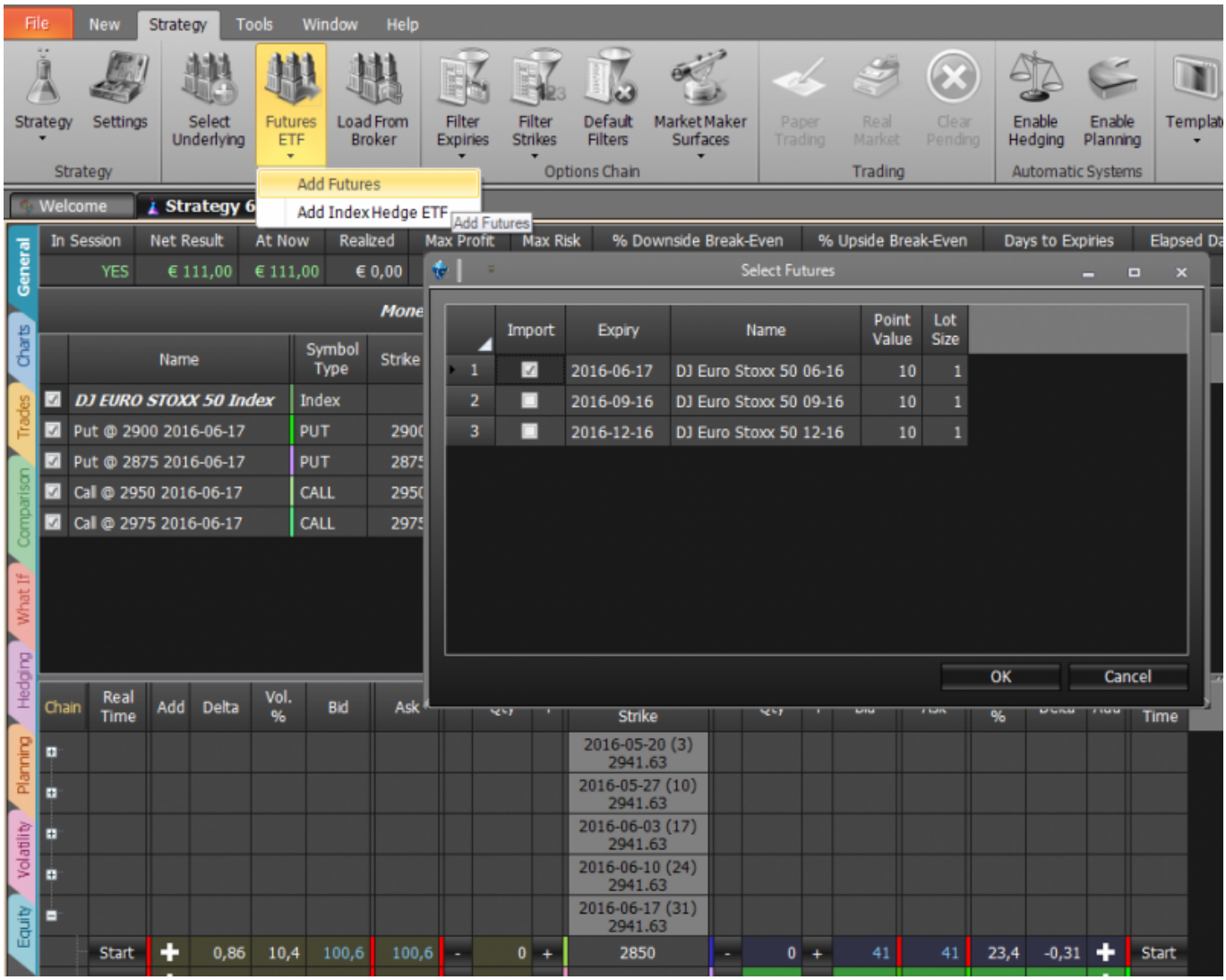
In the initial situation of the strategy we have the DJ EURO STOXX 50 index as the underlying reference.

Moneyness: Underlying with Dividends - DJ EURO STOXX 50 Index

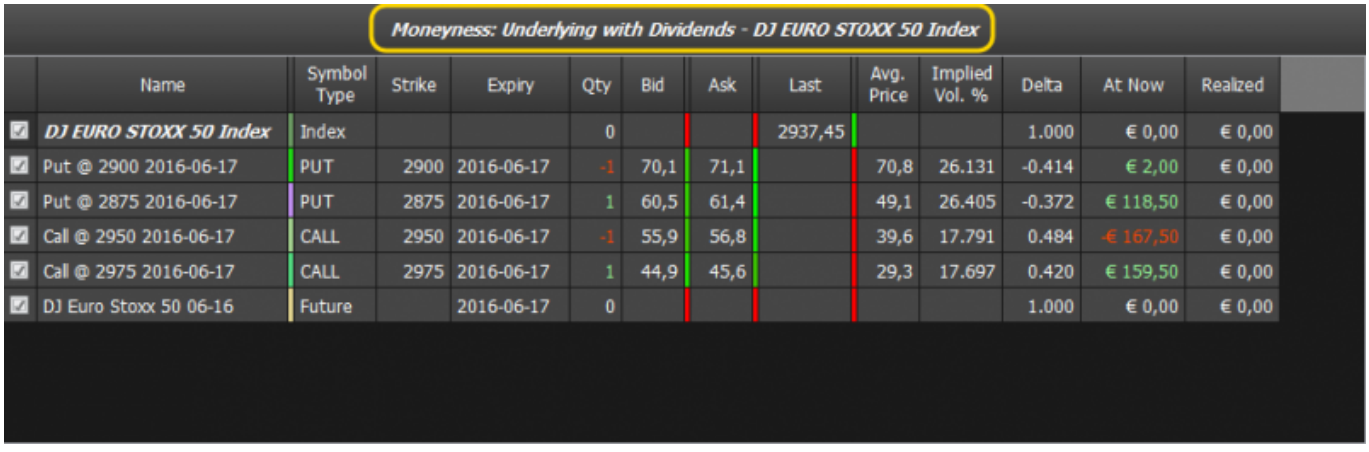
Name	Symbol Type	Strike	Expiry	Qty	Bid	Ask	Last	Avg. Price	Implied Vol. %	Delta	At Now	Realized
DJ EURO STOXX 50 Index	Index			0			2942,32			1.000	€ 0,00	€ 0,00
Put @ 2900 2016-06-17	PUT	2900	2016-06-17	-1	70,9	72		70,8	26.981	-0.408	-€ 6,50	€ 0,00
Put @ 2875 2016-06-17	PUT	2875	2016-06-17	1	61,2	62,2		49,1	27.187	-0.367	€ 126,00	€ 0,00
Call @ 2950 2016-06-17	CALL	2950	2016-06-17	-1	55,1	56		39,6	16.864	0.496	-€ 159,50	€ 0,00
Call @ 2975 2016-06-17	CALL	2975	2016-06-17	1	44,2	44,9		29,3	16.878	0.428	€ 152,50	€ 0,00

Adding Future to the Strategy

First, click on Add Futures to insert future with first expiry after dividend detach in the strategy.

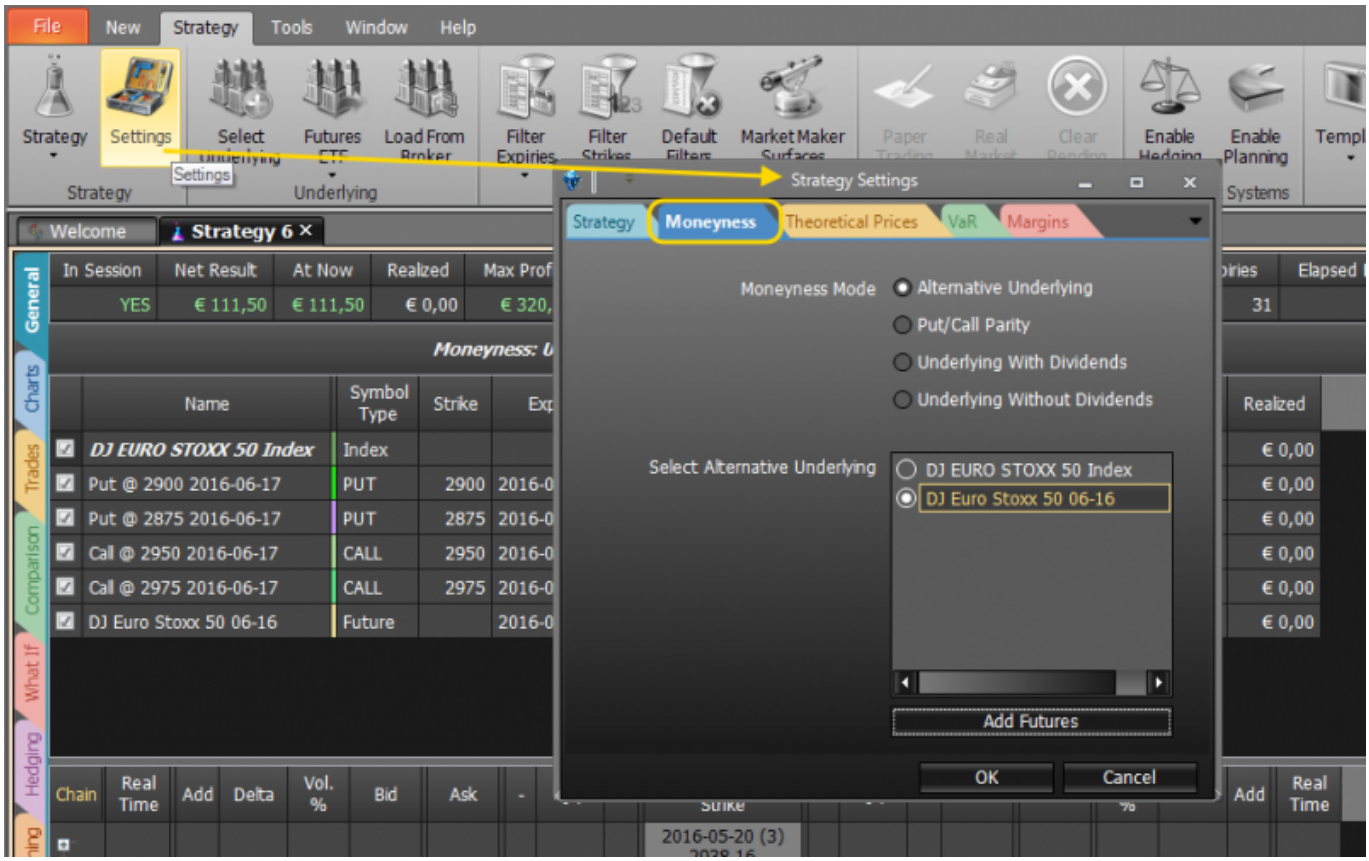


Which is added to the list of instruments included in the strategy.



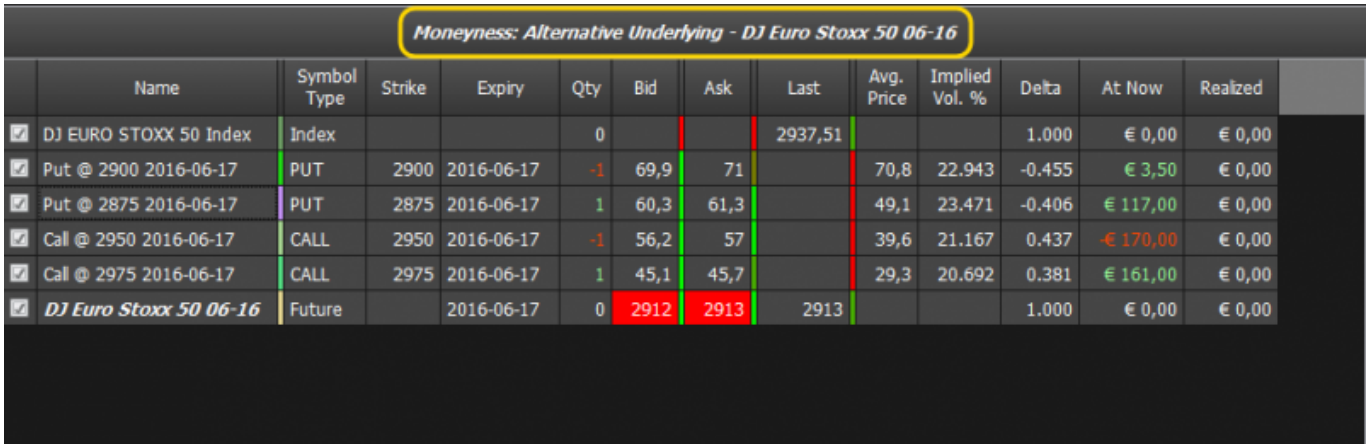
Setting Future as Reference Underlying

Clicking the right mouse button on the future and set “Use as Main Underlying”.



Final Situation

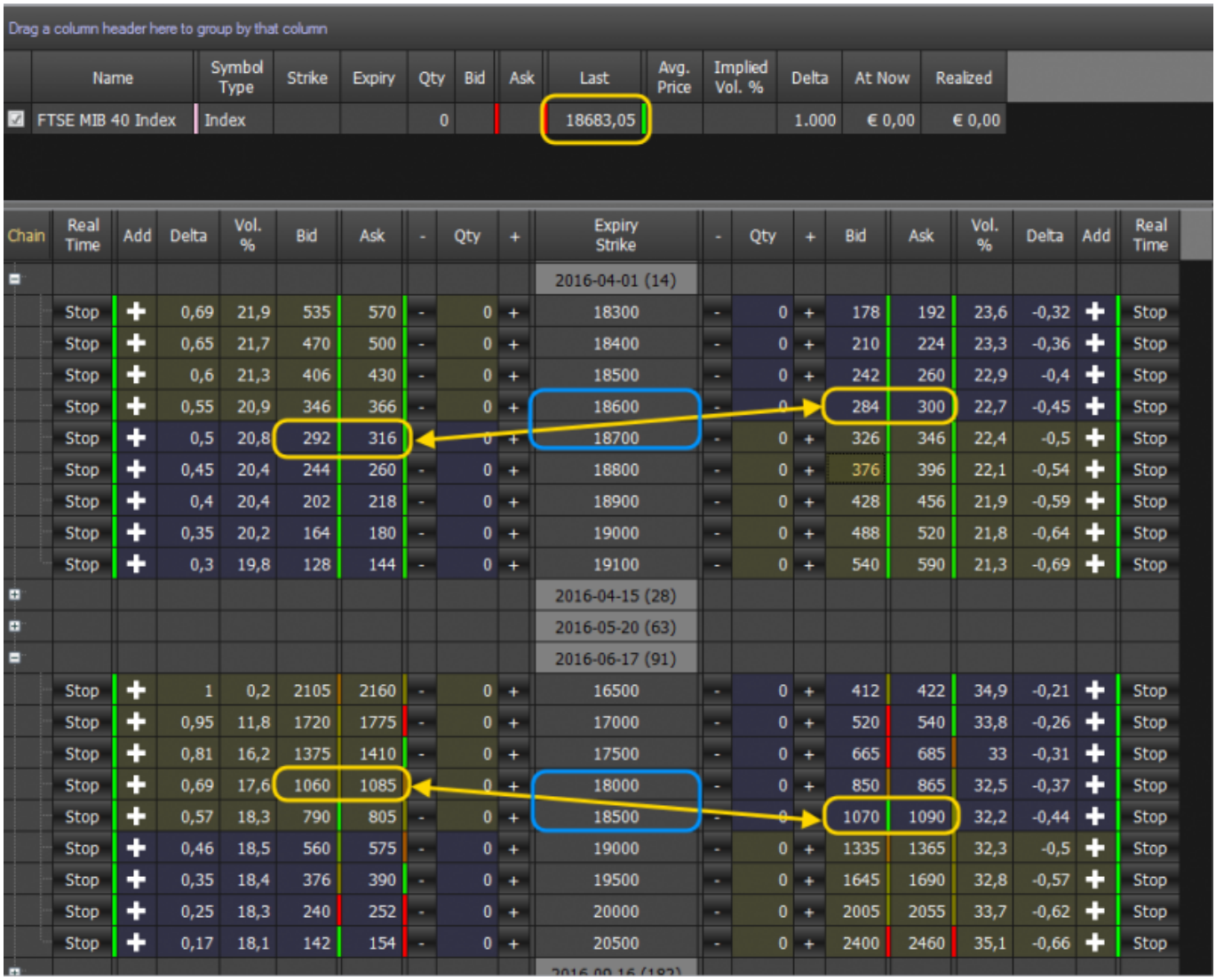
Now the underlying reference of the strategy is the future.



Put / Call Parity

Another method is to verify the Put-Call parity on the option chain with expires subsequent the

dividend detach :
in absence of dividends the ATM call and put option estimate the same risk, so the difference between the premium of a call and the premium of a put is equal to the difference between the current price of the underlying and the present value of the strike price of the options (omitting the marginal value of capitalization's interest).
Given this axiom, if you analyze the options chain of subsequent expiry after the dividend detach you can see that the quotation parity between Call and Put is not on ATM but next to OTM put side. Indeed at expiry the underlying will quote a lower price.



As you can see from the 04.01.2016 expire (before the dividend payment date) put-call parity is situated approximately between highlighted strike (18600-18700) next to underlying price 18683. \ \
The calculation to arrive at the exact value is made on the ATM strike, 18700:
Call 18700: 292 + 316/2 = 304
Put 18700: 326 + 346/2 = 336
Underlying Strike = (Call - Put), therefore 18700 + (304-336) = 18668

The difference between 18668 (obtained from the calculation) and 18683 (actual value) is due to the fact that we don't consider the interest on the capital and as option price, we used the average bid / ask but we dont know if the real price is in the middle.

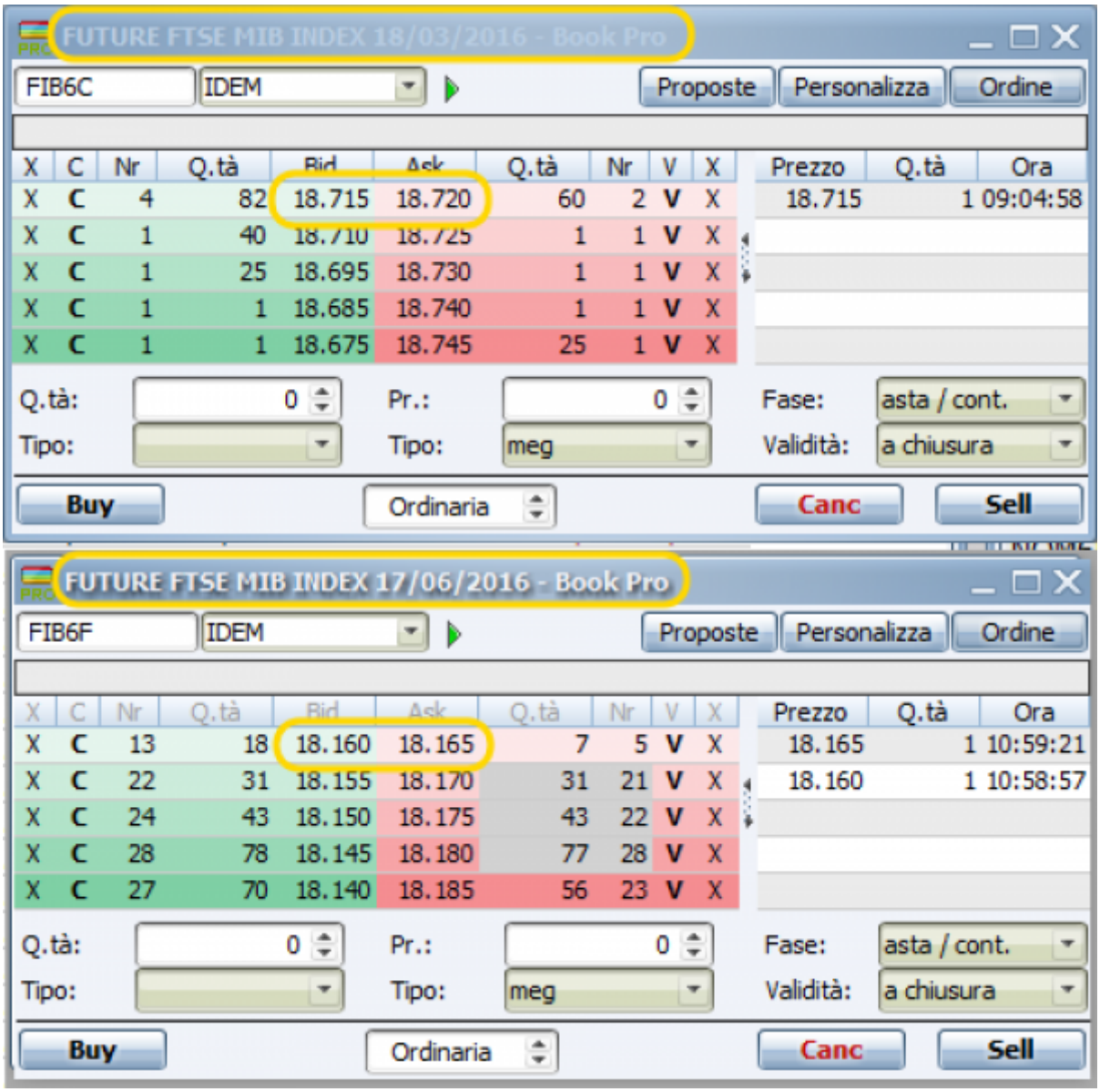
While on th expiry 17/06/2016 the call-put premium parity is between the strike highlighted

(18000-18500) below the current price of the underlying. That is the price ATM.
The dividend payment date is different from company to company, however,the majority is paid between the third and fourth week of March. So the date we're going to be charged for the detachment of the dividend will be May 23, 2016. This date is not 100% accurate but it still provides a good approximation.

Underlying with Dividends

The first thing to do is to identify the amount of the dividend and the date.

Omitting interests on the capitalization which are marginal if the duration of the two futures in comparison are close, the easiest way to know the amount of the dividend is to see the difference in pricing that is between the future instrument before detachment of the dividend and the future that expires after the dividend:

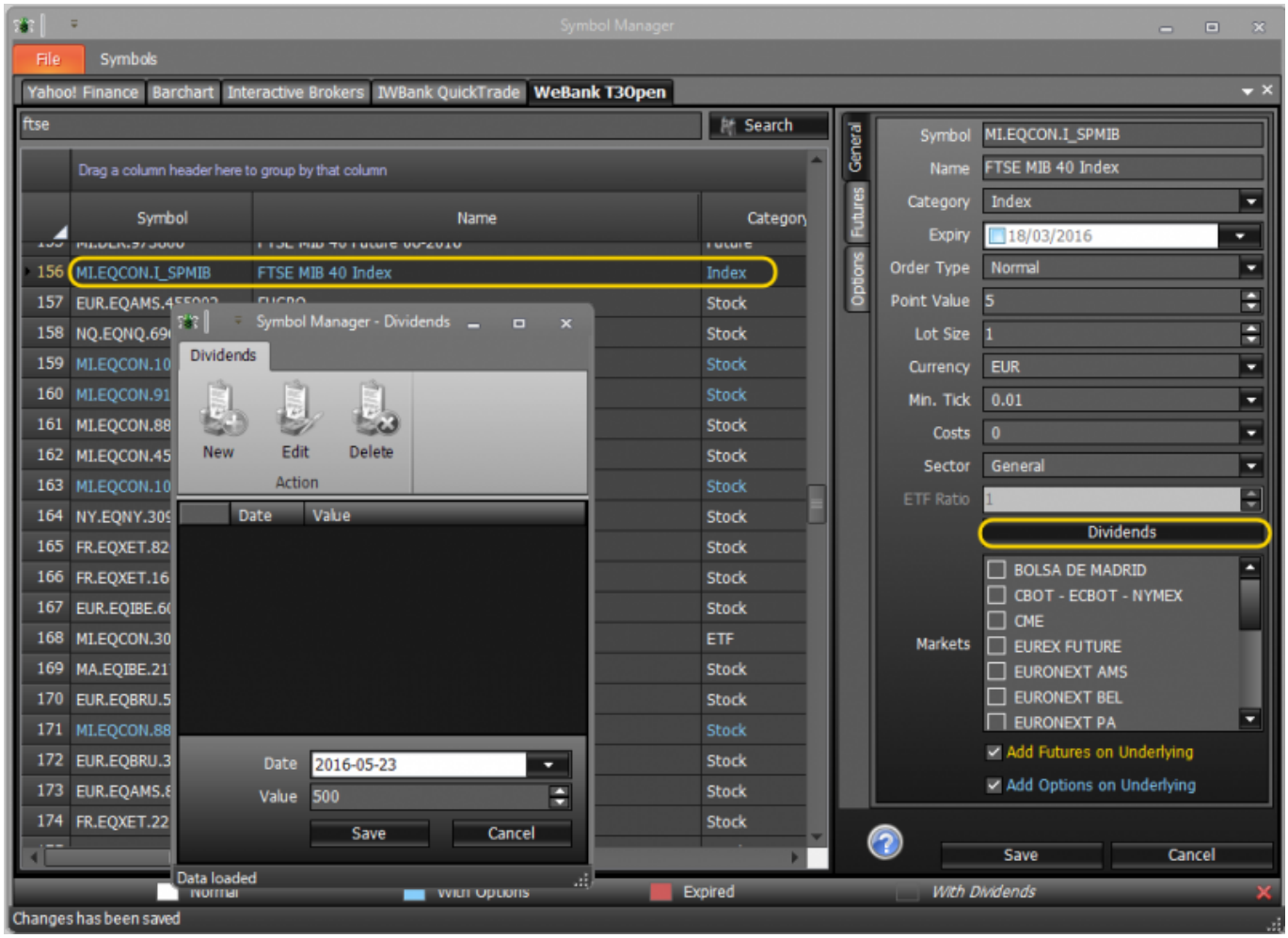


As can clearly see from the picture of the future of March (18,720 points) and the June futures (18165

points) there is a difference of 555 points. This difference is the weighted sum of the dividends that will be paid by the companies that make up the FTSE MIB 40 between March and June.

Once identified, the dividends and the date have to be included in the Symbol Manager

The first way to enter the dividends of a financial instrument is to insert them directly into the instrument encoding of Symbol Manager in the page of the broker in use.



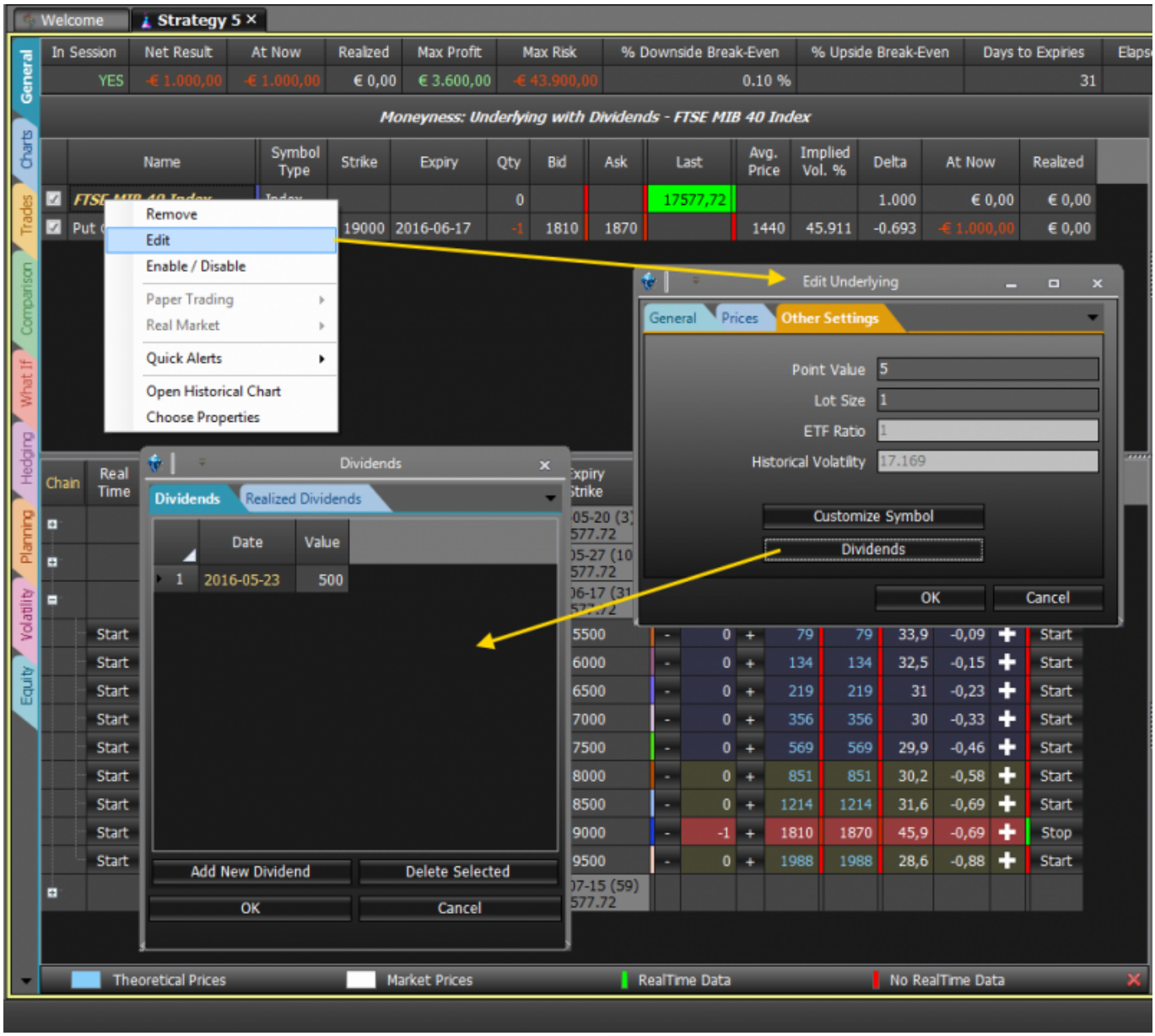
Once the tool is opened it appears on the right sidebar in which are included all of the instrument's parameters, there is also the Dividends button in which you can insert the quantity and the date. \ \

Once the dividend is inserted in the underlying, it will be considered for any strategy that will be created on that instrument and with that broker. In order to recognize instruments with dividend they are written in cursive.

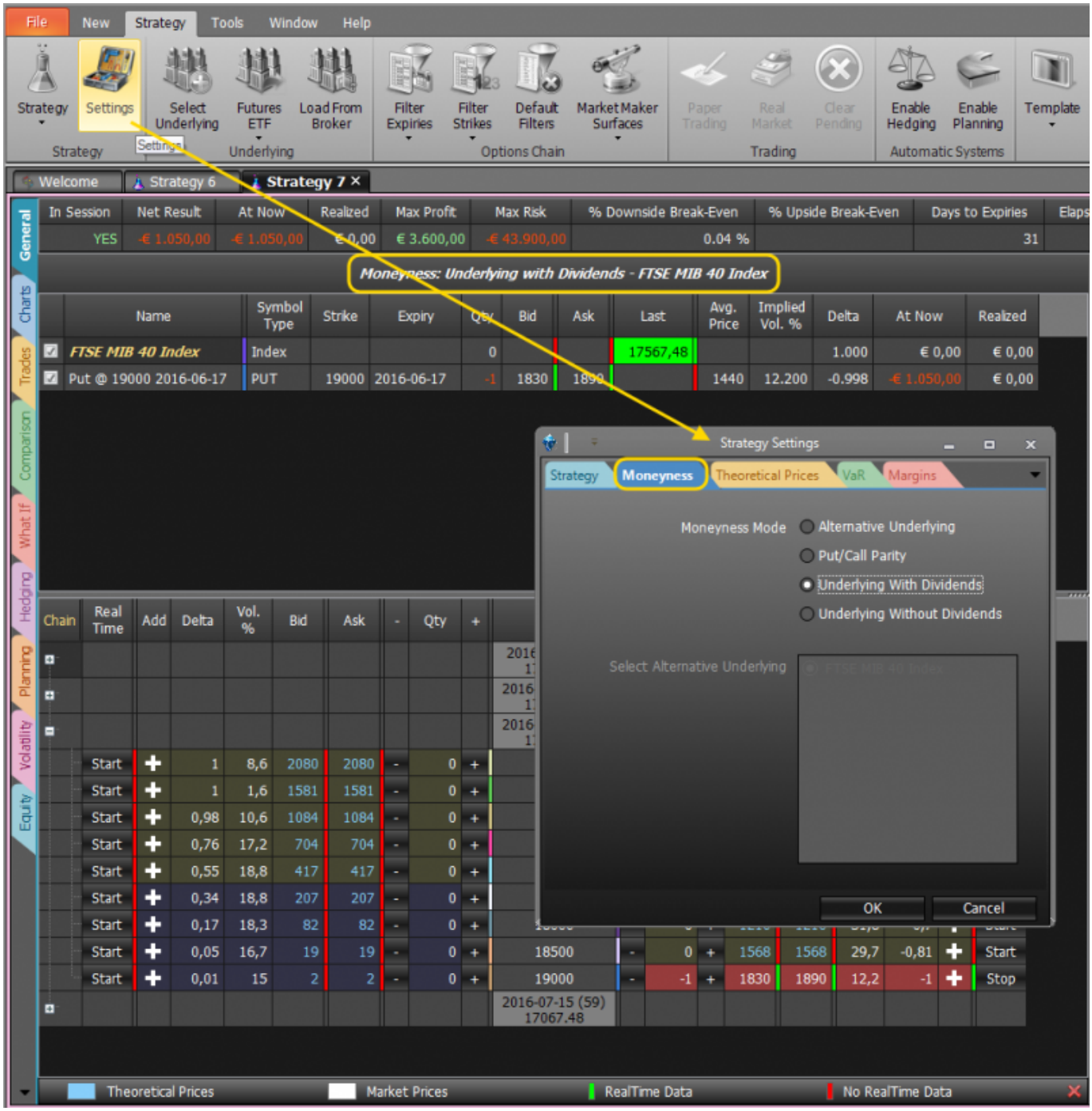
Alternatively, dividends may also be inserted directly into the Strategy

Another possibility is to insert the dividend into the Strategy. In this case the dividend will be considered ONLY into the Strategy in which it is inserted and not in other although on the same

underlying.



Clicking the right mouse button on the underlying and clicking Edit it opens the window Edit Underlying, from the O“ther Settings” tab it is possible to click on Dividends and insert the dividend with the amount and the detachment date.



Subsequently we need to set the use of the “Underlying with Dividend” and from this moment Iceberg is set correctly, the moneyness used is always shown at the top of the pillars.

Payoff with Dividend

Taking a practical example let's say you sell a put 18500 expiry 06/2016 while the underlying FTSEMIB is 18700, a slightly OTM put option.
After entering the 555 points of dividend , calculated before, with the date of May 23, 2016, Iceberg plot on the payoff one point and one green diamond, the former represents te actual price of underlying the latter represents the price of underlying at expiry in june 2016.

From:
http://manuals.playoptions.it/Iceberg_old/ - **Iceberg Options Solutions**

Permanent link:
http://manuals.playoptions.it/Iceberg_old/en/dividends_moneyness

Last update: **2018/03/29 10:52**