

# Montecarlo Simulation

This function allows to estimate some value of interesting throught the [Metodo Montecarlo](#). The window is composed by two sections. One with the Simulation Parameters and the other with their graphs.



## Simulation Parameters

**Simulation Parameters**

Initial Price

Simulation Days

Hist. Volatility

Upside Break-Even

Downside Break-Even

Simulations

Below there are the parameters to insert for starting the simulation:

- Initial Price: starting price from which the launch will be made;
- Simulation Days: number of days of the simulation;
- Standard Deviations: value of 1 standard deviation relative to the performance of the underlying price calculated over 21 days;
- Upside Break-Even: upper limit with its probability percentage;
- Downside Break-Even: lower limit with its probability percentage ;
- Simulations: number of launches that will be executed. Please remember that 25,000 deployments are a minimum number in order to obtain statistically significant results.

If the Monte Carlo simulation is initiated by the strategy, fields are automatically compiled with the values of the strategy, which available.

## Results

At Expiry (European style options)	
Above Upside Break-Even	1.1 %
Below Downside Break-Even	0.9 %
Between Up and Down BEPs	98.0 %
Above Up or Below Down BEPs	2.0 %
Highest Value	15.44
Lowest Value	11.78

At Expiry (European style options)

- Above Upside Break-Even: It indicates the percentage of probability that at expiry the price of the underlying is higher of Upside Break-Even Point;
- Below Downside Break-Even: It indicates the percentage of probability that at expiry the price of the underlying is lower of Downside Break-Even Point;
- Between Up and Down BEPs: It indicates the percentage of probability that at expiry the price of the underlying is between the Break-Even Points;
- Above Up or Below Down BEPs: It indicates the percentage of probability that at expiry the price of the underlying is out of Break-Even Points.

Any Moment (American style options)	
Above Upside Break-Even	1.0 %
Below Downside Break-Even	1.0 %
Between Up and Down BEPs	98.0 %
Always Between BEPs	98.0 %
Above Up OR Below Down BEPs	2.0 %
Above Up AND Below Down BEPs	0.0 %
Highest Value	15.52
Lowest Value	11.78

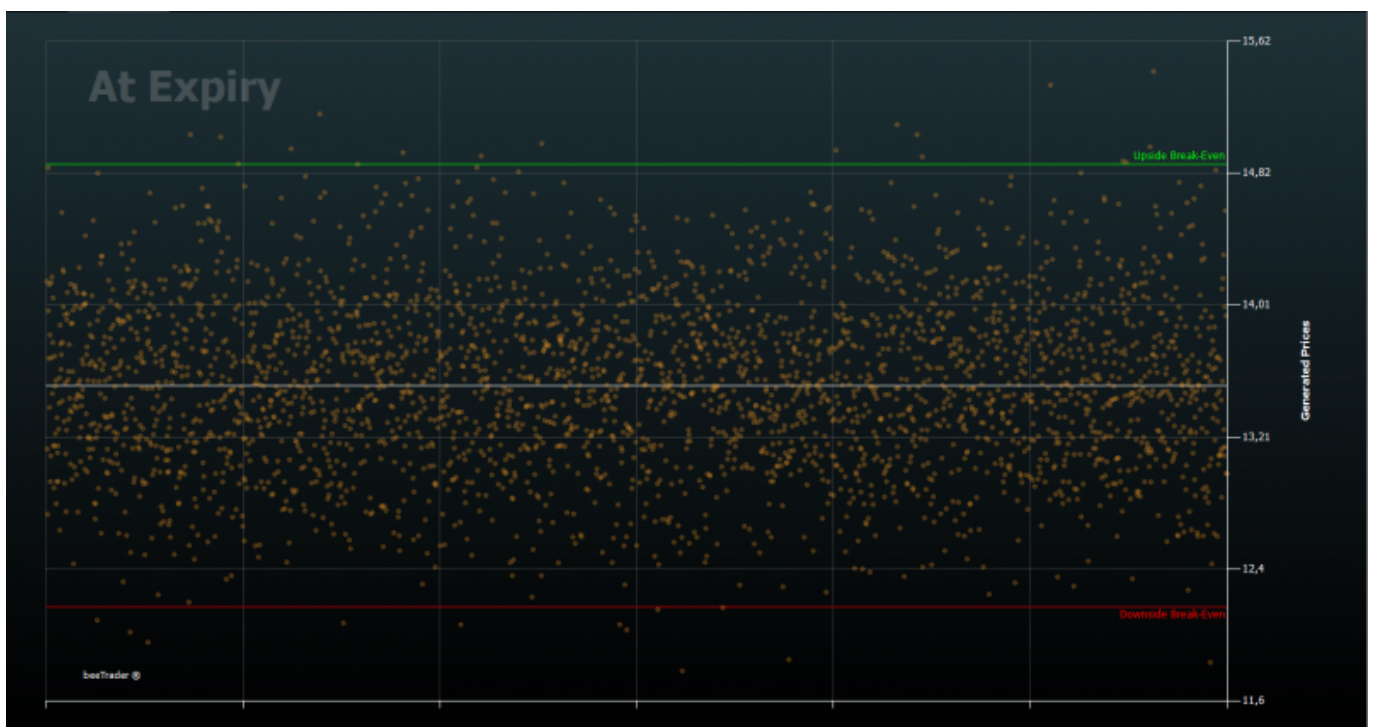
Any Moment (American style options)

- Above Upside Break-Even: It indicates the percentage of probability that the price of the underlying is higher of Upside Break-Even Point in the time frame set in the Simulation Days;
- Below Downside Break-Even: It indicates the percentage of probability that the price of the underlying is lower of Downside Break-Even Point in the time frame set in the Simulation Days;
- Between Up and Down BEPs: It indicates the percentage of probability that the price of the underlying is between the Break-Even Points in the time frame set in the Simulation Days;
- Always Between BEPs: It indicates the percentage of probability that the price of the underlying is always between the Break-Even Points in the time frame set in the Simulation

Days;

- Above Up OR Below Down BEPs: It indicates the percentage probability that the price of the underlying has been **at least one time** higher of Upside Break-Even Point **OR** lower of Downside Break-Even Point in the time frame set in the Simulation Day;
- Above Up AND Below Down BEPs: It indicates the percentage probability that the price of the underlying has been **at least one time** higher of Upside Break-Even Point **AND** lower of Downside Break-Even Point in the time frame set in the Simulation Day;

## Chart "At Expiry"



In this chart are represented the launches of Monte Carlo simulation, at every launch corresponds to a point. It is then displayed the simulation expiration price.

This chart generates the percentages shown in the box "At Expiry".

## Chart "Any Moment"



In this chart is indicated viene indicato the maximum and the minimum for each day of the simulation, not only for the expiry. This is for options with American style (like stocks).

This chart generates the percentages shown in the box “Any Moment”.

### Data Grid

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27	Day 28	Day 29	Day 30
1	13,62	13,76	13,79	13,91	14,05	14,03	13,91	14,01	14,12	14,1	14,11	14,17	14,1	14,02	13,95	14,1	14,16	14,03	13,96	14	13,9	13,87	13,92	13,97	14	13,91	13,96	13,87	14,01	
2	13,61	13,74	13,84	13,84	13,9	14,04	14,08	14,06	14,19	14,05	13,99	14,04	13,89	13,74	13,68	13,62	13,57	13,45	13,44	13,37	13,48	13,58	13,58	13,52	13,47	13,33	13,22	13,35	13,27	
3	13,55	13,65	13,57	13,43	13,3	13,36	13,21	13,33	13,22	13,1	13,01	13,04	13,19	13,13	13,07	13	12,86	12,86	12,78	12,68	12,52	12,58	12,53	12,62	12,59	12,6	12,61	12,74	12,75	
4	13,64	13,59	13,67	13,58	13,59	13,5	13,49	13,41	13,38	13,47	13,56	13,71	13,84	13,76	13,91	13,94	13,93	14,04	14,16	14,29	14,33	14,48	14,63	14,53	14,53	14,45	14,57	14,68	14,76	
5	13,57	13,55	13,41	13,52	13,64	13,69	13,83	13,85	13,71	13,57	13,67	13,57	13,62	13,61	13,67	13,78	13,81	13,86	13,92	13,97	14,06	14,08	14,18	14,33	14,17	14,33	14,17	14,02	13,95	
6	13,47	13,47	13,44	13,29	13,19	13,05	13,1	13,06	13,04	13,12	13,14	13,19	13,27	13,28	13,31	13,18	13,11	13,14	13,18	13,17	13,26	13,41	13,43	13,55	13,42	13,53	13,55	13,69	13,64	
7	13,39	13,38	13,33	13,22	13,28	13,4	13,3	13,31	13,37	13,25	13,18	13,25	13,4	13,29	13,34	13,46	13,44	13,47	13,57	13,69	13,71	13,8	13,89	14,01	13,97	13,84	13,8	13,91	14,04	
8	13,37	13,48	13,34	13,28	13,21	13,22	13,1	13,21	13,08	12,96	12,81	12,78	12,82	12,84	12,99	13,12	13,27	13,27	13,31	13,21	13,08	13,18	13,07	12,97	13,1	13,17	13,2	13,27	13,32	
9	13,62	13,63	13,73	13,86	13,77	13,75	13,78	13,69	13,76	13,89	13,91	13,88	13,75	13,77	13,85	13,8	13,93	13,78	13,79	13,95	13,82	13,81	13,69	13,72	13,7	13,77	13,91	13,91	13,89	
10	13,68	13,53	13,38	13,23	13,21	13,17	13,08	12,97	12,97	13,06	13,05	13,13	13,06	12,92	12,78	12,7	12,69	12,56	12,58	12,57	12,68	12,82	12,74	12,76	12,82	12,96	12,99	13	12,84	
11	13,45	13,6	13,64	13,53	13,51	13,37	13,5	13,48	13,55	13,7	13,81	13,68	13,59	13,54	13,46	13,3	13,29	13,37	13,24	13,21	13,28	13,21	13,11	12,98	12,9	12,79	12,89	13,02	13,13	
12	13,64	13,73	13,72	13,62	13,65	13,79	13,79	13,87	13,93	14,06	14,19	14,24	14,2	14,08	14,22	14,25	14,27	14,29	14,27	14,35	14,51	14,57	14,46	14,45	14,35	14,21	14,07	14,17	14,24	
13	13,4	13,26	13,12	12,97	12,88	13,02	12,94	12,85	12,78	12,81	12,87	12,86	13	13,08	13,19	13,19	13,25	13,25	13,34	13,45	13,6	13,62	13,64	13,59	13,7	13,72	13,8	13,75	13,71	
14	13,5	13,57	13,67	13,6	13,51	13,58	13,69	13,67	13,69	13,52	13,55	13,56	13,45	13,47	13,55	13,41	13,49	13,58	13,72	13,88	13,93	13,97	13,97	14,02	13,9	13,95	14,08	14,12	14,2	
15	13,61	13,59	13,58	13,73	13,77	13,63	13,6	13,59	13,53	13,39	13,3	13,33	13,39	13,46	13,53	13,37	13,24	13,32	13,17	13,31	13,37	13,46	13,5	13,59	13,64	13,78	13,67	13,68	13,61	
16	13,56	13,71	13,6	13,59	13,62	13,55	13,45	13,3	13,43	13,57	13,43	13,37	13,34	13,33	13,48	13,35	13,49	13,64	13,72	13,85	13,86	13,8	13,69	13,77	13,66	13,63	13,53	13,65	13,64	
17	13,6	13,72	13,77	13,7	13,74	13,88	13,79	13,94	13,86	13,75	13,71	13,86	13,88	13,92	13,93	13,94	14,05	13,98	14,08	14,09	14,12	14,14	14,24	14,22	14,29	14,22	14,12	14,13	14,05	
18	13,45	13,43	13,6	13,5	13,42	13,56	13,58	13,57	13,64	13,59	13,6	13,63	13,58	13,7	13,61	13,56	13,47	13,59	13,75	13,68	13,57	13,61	13,54	13,39	13,25	13,18	13,24	13,12	13	
19	13,68	13,66	13,55	13,5	13,47	13,47	13,56	13,43	13,32	13,33	13,39	13,26	13,21	13,06	13	13,07	13,18	13,28	13,27	13,29	13,26	13,19	13,11	13,17	13,14	13,04	12,94	12,9	12,98	
20	13,66	13,69	13,84	13,91	13,95	13,95	14,11	14,09	14,09	14,03	13,87	13,97	13,83	13,79	13,7	13,62	13,72	13,7	13,63	13,67	13,54	13,59	13,5	13,36	13,36	13,42	13,42	13,36	13,19	
21	13,44	13,59	13,62	13,78	13,73	13,64	13,6	13,63	13,57	13,63	13,73	13,82	13,69	13,69	13,82	13,94	14,1	14,2	14,2	14,2	14,07	14,13	14,13	14,23	14,24	14,15	14,22	14,08	13,86	
22	13,37	13,5	13,54	13,62	13,7	13,79	13,77	13,8	13,84	13,96	14,11	14,17	14,07	14,23	14,29	14,15	14,12	14,2	14,1	13,94	13,94	13,89	13,92	13,85	13,93	13,81	13,66	13,49	13,56	
23	13,53	13,53	13,48	13,63	13,78	13,63	13,64	13,5	13,39	13,48	13,37	13,24	13,26	13,42	13,32	13,3	13,21	13,36	13,39	13,24	13,36	13,22	13,32	13,25	13,4	13,33	13,45	13,37	13,33	
24	13,39	13,32	13,17	13,12	13,04	13,08	13,18	13,33	13,27	13,36	13,36	13,38	13,49	13,55	13,42	13,42	13,33	13,32	13,17	13,2	13,31	13,21	13,32	13,44	13,59	13,56	13,7	13,81	13,68	
25	13,54	13,62	13,58	13,42	13,3	13,22	13,22	13,24	13,21	13,22	13,26	13,25	13,37	13,39	13,34	13,22	13,17	13,12	13,12	12,97	12,81	12,84	12,98	12,98	12,88	13,03	12,99	12,97	12,94	
26	13,47	13,39	13,37	13,49	13,36	13,2	13,28	13,28	13,39	13,41	13,46	13,4	13,32	13,26	13,29	13,33	13,31	13,24	13,19	13,31	13,22	13,11	13,12	13,11	12,95	13,16	13,28	13,2	13,25	13,22
27	13,49	13,36	13,33	13,42	13,49	13,58	13,72	13,62	13,64	13,68	13,74	13,78	13,76	13,61	13,59	13,44	13,39	13,3	13,27	13,25	13,19	13,29	13,39	13,37	13,23	12,81	13,22	13,15	13,21	
28	13,4	13,3	13,28	13,22	13,18	13,09	12,97	12,99	13,1	13,06	12,90	12,93	12,84	12,83	12,96	12,94	13,07	13,12	13,13	13,2	13,2	13,15	13,12	13,08	13,18	13,13	13,04	13,03	12,96	
29	13,52	13,56	13,59	13,67	13,77	13,87	13,82	13,73	13,57	13,41	13,41	13,57	13,66	13,7	13,79	13,65	13,65	13,58	13,44	13,32	13,26	13,42	13,27	13,16	13,28	13,28	13,2	13,25	13,22	
30	13,36	13,27	13,24	13,39	13,25	13,3	13,43	13,54	13,64	13,76	13,61	13,75	13,63	13,69	13,63	13,47	13,53	13,38	13,28	13,12	13,03	13,1	12,95	12,94	12,92	12,93	12,85	12,92	12,94	
31	13,44	13,56	13,42	13,3	13,4	13,54	13,62	13,5	13,6	13,71	13,75	13,69	13,63	13,54	13,49	13,57	13,57	13,46	13,57	13,64	13,52	13,42	13,54	13,43	13,37	13,25	13,19	13,23	13,18	
32	13,38	13,41	13,38	13,32	13,13	13,04	13,03	13,16	13,32	13,47	13,34	13,34	13,12	13,17	13,21	13,34	13,48	13,62	13,54	13,46	13,35	13,38	13,42	13,54	13,38	13,31	13,45	13,33	13,48	

The table shows the prices generated by the launches set for each day of the simulation.

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