

Call Option pricing Using Simple Binomial Model

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Target Asset
Edwards Lifesciences Corporation (EW)

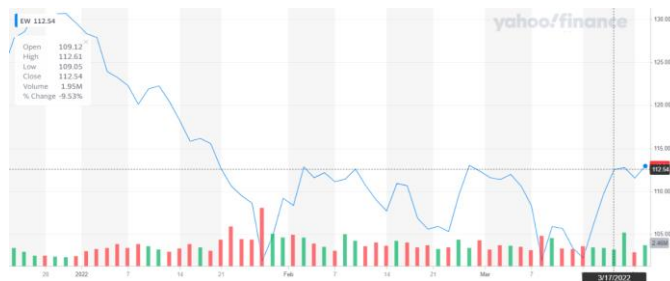
Today Price
112.95

Company Type
A medical technology company in United States.

summary of important properties of the selected asset	
Property	Value
Market Cap	70.263B
Previous Close	111.55 \$
Avg. Volume	2,539,128
Forward Dividend & Yield	N/A
Ex-Dividend Date	N/A
Gross Profit (ttm)	3.98B
52-Week Change	39.84%
S&P500 52-Week Change	14.08%

Main Holders

Holder	Shares	Date Reported	% Out
Blackrock Inc.	57,040,983	Dec 30, 2021	9.14%
Vanguard Group, Inc. (The)	49,076,649	Dec 30, 2021	7.86%
State Street Corporation	26,920,713	Dec 30, 2021	4.31%
Bank Of New York Mellon Corporation	22,190,221	Dec 30, 2021	3.55%
Capital International Investors	21,931,225	Dec 30, 2021	3.51%



price of asset during last three months

Date	Price (\$)
21/12/2021	124.4
21/01/2022	112.65
21/02/2022	105.94
21/03/2022	111.55



price of asset during last three years

Date	Price (\$)
21/03/2019	64.05
21/03/2020	55.48
21/03/2021	79.66
21/03/2022	111.55

The procedure of the call option pricing has been followed based on the instruction and the numbering for step has been mentioned base on it.

There was not any option with maturity 3 in the market for this asset

Step 3	Maturity (months)	Step 4	Target price (\$)	Last Option price (\$)
	2		105	9.8

Date	Open	High	Low	Close	Adj Close	Volume	Step 7	Daily Return
12/20/2021	120.440002	120.959999	117.879997	120.029999	120.029999	3263500		
12/21/2021	121.07	124.559998	120.870003	124.400002	124.400002	2223600		0.03640759
12/22/2021	124.199997	128.020004	124.199997	127.830002	127.830002	2185700		0.027572347
12/23/2021	128	129.119995	127.650002	128.570007	128.570007	1732200		0.005788977
12/27/2021	129.070007	130.600006	128.179993	130.580002	130.580002	1254000		0.015633467
12/28/2021	130.830002	130.899994	128.979996	129.350006	129.350006	1298100		-0.009419482
12/29/2021	129.669998	131.190002	129.600006	130.639999	130.639999	1137400		0.009972887
12/30/2021	130.820007	131.729996	130.389999	130.679993	130.679993	1112400		0.000306139
12/31/2021	130.309998	130.940002	129.270004	129.550003	129.550003	1193700		-0.008647001
1/3/2022	129.070007	129.509995	126.43	128.339996	128.339996	1765700		-0.009340077
1/4/2022	128.369995	129.529999	126.940002	127.889999	127.889999	2020300		-0.003506288
1/5/2022	127.550003	128.360001	123.919998	123.919998	123.919998	2201700		-0.03104231
1/6/2022	124.349998	125.400002	122.970001	123.230003	123.230003	2602100		-0.005568068
1/7/2022	122.160004	123.809998	121.019997	122.300003	122.300003	2172000		-0.007546863
1/10/2022	120.529999	121.220001	117.720001	120.120003	120.120003	2652600		-0.01782502
1/11/2022	120.599998	122.190002	118.540001	121.940002	121.940002	2389400		0.015151506
1/12/2022	121.190002	123.769997	121.190002	122.260002	122.260002	2006900		0.002624241
1/13/2022	122.57	122.900002	120.050003	120.459999	120.459999	1696000		-0.014722746

1/14/2022	119.440002	120.209999	116.699997	118.260002	118.260002	2112800	-0.018263299
1/18/2022	115	116.519997	114.169998	115.830002	115.830002	2601200	-0.020547945
1/19/2022	116.25	118.150002	115.970001	116.160004	116.160004	2245300	0.00284902
1/20/2022	117.199997	119.559998	115.339996	115.559998	115.559998	1825500	-0.005165341
1/21/2022	115.519997	115.550003	112.230003	112.650002	112.650002	3144900	-0.02518169
1/24/2022	110.300003	110.75	105.139999	110.599998	110.599998	4692000	-0.018197993
1/25/2022	107.940002	111.120003	106.529999	109.489998	109.489998	3211900	-0.010036167
1/26/2022	111.050003	112.160004	107.370003	108.629997	108.629997	3144300	-0.007854608
1/27/2022	100	106.040001	99.620003	101.959999	101.959999	6876000	-0.06140107
1/28/2022	102.370003	105.019997	96.389999	104.870003	104.870003	3828600	0.028540644
1/31/2022	105.32	109.410004	105	109.199997	109.199997	3398300	0.041289157
2/1/2022	109.589996	110.540001	107.019997	108.370003	108.370003	3731900	-0.007600678
2/2/2022	111.790001	112.989998	109.769997	112.839996	112.839996	3385300	0.041247512
2/3/2022	110.800003	113.910004	110.589996	111.589996	111.589996	2655300	-0.011077632
2/4/2022	110.599998	113.209999	110.260002	112.18	112.18	2303700	0.005287248
2/7/2022	111.599998	113.339996	110.610001	111.129997	111.129997	1833500	-0.009359984
2/8/2022	110.349998	111.809998	108.830002	111.419998	111.419998	3798300	0.002609565
2/9/2022	113.040001	114.120003	111.959999	112.589996	112.589996	3025500	0.01050079
2/10/2022	110.160004	112.769997	110.059998	110.639999	110.639999	2338200	-0.017319452
2/11/2022	110.800003	112	108.82	109	109	2797300	-0.01482284
2/14/2022	108.339996	109.480003	106.419998	107.730003	107.730003	2405100	-0.011651349
2/15/2022	108.550003	110.970001	108.550003	110.93	110.93	3034700	0.029703861
2/16/2022	110.209999	111.110001	108.5	110.660004	110.660004	2823700	-0.002433931
2/17/2022	109.639999	109.800003	106.699997	106.879997	106.879997	2269000	-0.034158746
2/18/2022	106.660004	107.269997	104.910004	105.620003	105.620003	2525600	-0.011788866
2/22/2022	104.989998	107.269997	104.809998	105.940002	105.940002	2074600	0.00302972
2/23/2022	106.459999	107.599998	105.07	105.330002	105.330002	2235000	-0.005757976
2/24/2022	103.260002	110.040001	102.57	109.639999	109.639999	3112000	0.040918987
2/25/2022	109.580002	113.110001	108.550003	113.029999	113.029999	2157300	0.030919373
2/28/2022	111.07	113.139999	110.290001	112.370003	112.370003	3072400	-0.005839122
3/1/2022	112.349998	112.970001	110.550003	111.610001	111.610001	2001300	-0.006763389
3/2/2022	112.510002	112.82	110.830002	111.379997	111.379997	2486500	-0.002060783
3/3/2022	112.309998	113.400002	110.32	111.980003	111.980003	2405400	0.005387018
3/4/2022	111.360001	111.459999	108.470001	110.639999	110.639999	2280400	-0.011966458
3/7/2022	110.330002	110.809998	107.220001	108.349998	108.349998	1887500	-0.020697768
3/8/2022	107.599998	107.769997	101.839996	102	102	3553200	-0.058606351
3/9/2022	104.910004	106.379997	103.230003	105.910004	105.910004	3320800	0.038333373
3/10/2022	104.089996	106	104.07	105.699997	105.699997	2091400	-0.001982882
3/11/2022	106.809998	106.980003	103.400002	103.449997	103.449997	2030400	-0.021286661
3/14/2022	104.209999	105.150002	100.970001	102.25	102.25	2391300	-0.011599778
3/15/2022	104.709999	106.220001	103.830002	106.150002	106.150002	2251100	0.038141829
3/16/2022	108.419998	109.839996	106.620003	109.790001	109.790001	2144500	0.034291087
3/17/2022	109.120003	112.610001	109.050003	112.540001	112.540001	1952000	0.025047818
3/18/2022	113.010002	113.230003	111.080002	112.769997	112.769997	3975000	0.002043682

I think considering more data does not have any penalty in our calculation, I don't change my data and I considered the data of last three months.

Step 8	Daily Volatility	Step 9	Annual Volatility	Today's price (\$)
	0.022285633		0.353773454	

Step 10	Up price	Step 10	Down price
	1.193495895		0.837874688

Step 11

USD LIBOR

0.007045

Because the maturity was between two numbers, I considered a linear combination of them for maturity 2

3/22/2022

euribor

libor

more

table

charts

Rate	percentage	date
USD LIBOR - overnight	0.327 %	03-22-2022
USD LIBOR - 1 month	0.455 %	03-22-2022
USD LIBOR - 3 months	0.954 %	03-22-2022

Step 13

q (some kind of probability)

0.459194997

Last Option price (\$) [Market Price]	9.8	Step 14	Call Price (\$) [Predicted]	error (%)
			6.688822874	31.74670537

There was not any option with maturity 6 in the market for this asset

Step 3	Maturity (months)	Step 4	Target price (\$)	Last Option price (\$)
	5		105	

Date	Open	High	Low	Close	Adj Close	Volume	Step 7	Daily Return
9/20/2021	118.169998	118.93	116.360001	117.989998	117.989998	2448400		
9/21/2021	118.949997	120.150002	118.419998	118.5	118.5	1360200		0.004322417
9/22/2021	118.639999	120.410004	118.029999	119.660004	119.660004	1579200		0.009789063
9/23/2021	120.360001	121.790001	119.650002	121.019997	121.019997	1518400		0.011365477
9/24/2021	120.459999	120.900002	119.099998	120.07	120.07	1672500		-0.007849918
9/27/2021	119.309998	119.830002	115.760002	117.07	117.07	1804700		-0.024985425
9/28/2021	115.709999	115.790001	112.959999	113.860001	113.860001	2422900		-0.027419484
9/29/2021	114.230003	115.400002	113.290001	113.519997	113.519997	2934400		-0.002986158
9/30/2021	114	115.489998	113.169998	113.209999	113.209999	2987300		-0.002730779
10/1/2021	113.32	113.580002	110.639999	112.279999	112.279999	4396100		-0.008214822
10/4/2021	111.720001	111.959999	105.660004	106.370003	106.370003	5127900		-0.052636231
10/5/2021	106.959999	110.580002	106.830002	108.830002	108.830002	2851800		0.023126811
10/6/2021	107.910004	109.599998	107.540001	109.480003	109.480003	2250600		0.005972627
10/7/2021	110.769997	112.519997	110.709999	110.889999	110.889999	2289600		0.012879028
10/8/2021	110.910004	111.18	108.620003	108.730003	108.730003	1962400		-0.019478727
10/11/2021	108	109.360001	107.699997	108.489998	108.489998	1762900		-0.002207348
10/12/2021	109.330002	109.849998	108.18	108.809998	108.809998	1534100		0.002949581
10/13/2021	109.32	110.610001	109.019997	109.099998	109.099998	2151600		0.002665196
10/14/2021	111.080002	113	110.690002	111.57	111.57	1656000		0.022639799
10/15/2021	111.959999	112.489998	111.540001	112.160004	112.160004	1666900		0.005288196
10/18/2021	110.910004	111.529999	109.639999	111.089996	111.089996	1813900		-0.009540014
10/19/2021	112.050003	115.690002	111.940002	115	115	2154200		0.035196725
10/20/2021	115.75	116.260002	114.339996	115.599998	115.599998	2026600		0.005217374
10/21/2021	115.540001	116.080002	114.75	115.739998	115.739998	1764600		0.001211073
10/22/2021	115.93	116.970001	115.510002	116.589996	116.589996	1963300		0.00734403
10/25/2021	116.93	118.07	115.589996	117.300003	117.300003	1876900		0.006089776
10/26/2021	117.699997	117.839996	116.360001	116.989998	116.989998	1661700		-0.002642839
10/27/2021	116.599998	116.900002	114.690002	116.07	116.07	1785600		-0.007863903
10/28/2021	110	116.839996	110	116.510002	116.510002	4373900		0.003790833
10/29/2021	115.769997	120.110001	114.379997	119.82	119.82	3340900		0.028409561
11/1/2021	120.410004	120.620003	115.239998	115.559998	115.559998	3219700		-0.035553347
11/2/2021	115.889999	117.25	114.889999	116.940002	116.940002	2822500		0.011941883
11/3/2021	117.099998	117.860001	115.349998	117.25	117.25	2166900		0.002650915
11/4/2021	117.730003	118.32	116.529999	117.370003	117.370003	1724200		0.001023348
11/5/2021	116.629997	119.089996	116.400002	118.650002	118.650002	2214500		0.010905674
11/8/2021	119.400002	119.800003	118.540001	119.540001	119.540001	1449800		0.007501045
11/9/2021	119.230003	120.489998	118.919998	120.040001	120.040001	1553400		0.0041827
11/10/2021	119.790001	120.790001	118.379997	118.769997	118.769997	1665300		-0.01057984
11/11/2021	119	119.160004	114.040001	114.309998	114.309998	2471200		-0.037551563
11/12/2021	114.889999	116.529999	114.610001	116	116	1772100		0.014784376
11/15/2021	116.349998	117.139999	115.610001	116.690002	116.690002	1704000		0.005948293
11/16/2021	116.809998	119.540001	116.129997	119.040001	119.040001	2285700		0.02013882
11/17/2021	119.080002	119.5	117.239998	118.349998	118.349998	2062300		-0.005796396
11/18/2021	118.879997	118.879997	116.379997	117.029999	117.029999	1741500		-0.01115335
11/19/2021	117.620003	117.82	116.010002	117.029999	117.029999	2438300		0
11/22/2021	117.389999	117.75	114.790001	114.839996	114.839996	1848300		-0.018713176
11/23/2021	114.139999	115	111.300003	112.629997	112.629997	2391800		-0.019244158
11/24/2021	112.230003	114.870003	112.230003	114.489998	114.489998	2147900		0.01651426
11/26/2021	114.139999	114.860001	109.25	109.519997	109.519997	2249400		-0.043409914
11/29/2021	110.580002	112.879997	110.199997	110.709999	110.709999	3791100		0.010865614
11/30/2021	110.059998	111.559998	107.120003	107.309998	107.309998	6271400		-0.030710876
12/1/2021	108.410004	109.949997	107.260002	107.43	107.43	3497900		0.001118274
12/2/2021	107.629997	110.300003	107.120003	109.82	109.82	2527300		0.022247045
12/3/2021	110.690002	111.440002	107.150002	108.480003	108.480003	3146800		-0.012201757
12/6/2021	110.5	113.099998	108.790001	111.959999	111.959999	2643600		0.032079608
12/7/2021	113.769997	116.43	113.370003	115.519997	115.519997	2727000		0.031797053
12/8/2021	116.040001	119.620003	115.699997	119.459999	119.459999	3381100		0.034106666
12/9/2021	120	121.919998	119.489998	120.339996	120.339996	2841200		0.007366457
12/10/2021	121.489998	122.339996	120.550003	121.839996	121.839996	2227600		0.012464684
12/13/2021	121.830002	122.029999	120.269997	120.739998	120.739998	1757900		-0.009028218
12/14/2021	119.489998	119.489998	115.739998	116.900002	116.900002	2275200		-0.031803843
12/15/2021	118.779999	120.389999	117.059998	119.910004	119.910004	2531000		0.02574852
12/16/2021	120.629997	122.5	118.879997	119.57	119.57	2866600		-0.002835493
12/17/2021	121.239998	123.559998	120.419998	122.120003	122.120003	6488800		0.021326445
12/20/2021	120.440002	120.959999	117.879997	120.029999	120.029999	3263500		-0.017114346
12/21/2021	121.07	124.559998	120.870003	124.400002	124.400002	2223600		0.03640759
12/22/2021	124.199997	128.020004	124.199997	127.830002	127.830002	2185700		0.027572347
12/23/2021	128	129.119995	127.650002	128.570007	128.570007	1732200		0.005788977
12/27/2021	129.070007	130.600006	128.179993	130.580002	130.580002	1254000		0.015633467
12/28/2021	130.830002	130.899994	128.979996	129.350006	129.350006	1298100		-0.009419482
12/29/2021	129.669998	131.190002	129.600006	130.639999	130.639999	1137400		0.009972887
12/30/2021	130.820007	131.729996	130.389999	130.679993	130.679993	1112400		0.000306139
12/31/2021	130.309998	130.940002	129.270004	129.550003	129.550003	1193700		-0.008647001
1/3/2022	129.070007	129.509995	126.43	128.339996	128.339996	1765700		-0.009340077
1/4/2022	128.369995	129.529999	126.940002	127.889999	127.889999	2020300		-0.003506288

1/5/2022	127.550003	128.360001	123.919998	123.919998	123.919998	2201700	-0.03104231
1/6/2022	124.349998	125.400002	122.970001	123.230003	123.230003	2602100	-0.005568068
1/7/2022	122.160004	123.809998	121.019997	122.300003	122.300003	2172000	-0.007546863
1/10/2022	120.529999	121.220001	117.720001	120.120003	120.120003	2652600	-0.01782502
1/11/2022	120.599998	122.190002	118.540001	121.940002	121.940002	2389400	0.015151506
1/12/2022	121.190002	123.769997	121.190002	122.260002	122.260002	2006900	0.002624241
1/13/2022	122.57	122.900002	120.050003	120.459999	120.459999	1696000	-0.014727246
1/14/2022	119.440002	120.209999	116.699997	118.260002	118.260002	2112800	-0.018263299
1/18/2022	115	116.519997	114.169998	115.830002	115.830002	2601200	-0.020547945
1/19/2022	116.25	118.150002	115.970001	116.160004	116.160004	2245300	0.00284902
1/20/2022	117.199997	119.559998	115.339996	115.559998	115.559998	1825500	-0.005165341
1/21/2022	115.519997	115.550003	112.230003	112.650002	112.650002	3144900	-0.02518169
1/24/2022	110.300003	110.75	105.139999	110.599998	110.599998	4692000	-0.018197993
1/25/2022	107.940002	111.120003	106.529999	109.489998	109.489998	3211900	-0.010036167
1/26/2022	111.050003	112.160004	107.370003	108.629997	108.629997	3144300	-0.007854608
1/27/2022	100	106.040001	99.620003	101.959999	101.959999	6876000	-0.06140107
1/28/2022	102.370003	105.019997	96.389999	104.870003	104.870003	3828600	0.028540644
1/31/2022	105.32	109.410004	105	109.199997	109.199997	3398300	0.041289157
2/1/2022	109.589996	110.540001	107.019997	108.370003	108.370003	3731900	-0.007600678
2/2/2022	111.790001	112.989998	109.769997	112.839996	112.839996	3385300	0.041247512
2/3/2022	110.800003	113.910004	110.589996	111.589996	111.589996	2655300	-0.011077632
2/4/2022	110.599998	113.209999	110.260002	112.18	112.18	2303700	0.005287248
2/7/2022	111.599998	113.339996	110.610001	111.129997	111.129997	1833500	-0.009359984
2/8/2022	110.349998	111.809998	108.830002	111.419998	111.419998	3798300	0.002609565
2/9/2022	113.040001	114.120003	111.959999	112.589996	112.589996	3025500	0.01050079
2/10/2022	110.160004	112.769997	110.059998	110.639999	110.639999	2338200	-0.017319452
2/11/2022	110.800003	112	108.82	109	109	2797300	-0.01482284
2/14/2022	108.339996	109.480003	106.419998	107.730003	107.730003	2405100	-0.011651349
2/15/2022	108.550003	110.970001	108.550003	110.93	110.93	3034700	0.029703861
2/16/2022	110.209999	111.110001	108.5	110.660004	110.660004	2823700	-0.002433931
2/17/2022	109.639999	109.800003	106.699997	106.879997	106.879997	2269000	-0.034158746
2/18/2022	106.660004	107.269997	104.910004	105.620003	105.620003	2525600	-0.011788866
2/22/2022	104.989998	107.269997	104.809998	105.940002	105.940002	2074600	0.00302972
2/23/2022	106.459999	107.599998	105.07	105.330002	105.330002	2235000	-0.005757976
2/24/2022	103.260002	110.040001	102.57	109.639999	109.639999	3112000	0.040918987
2/25/2022	109.580002	113.110001	108.550003	113.029999	113.029999	2157300	0.030919373
2/28/2022	111.07	113.139999	110.290001	112.370003	112.370003	3072400	-0.005839122
3/1/2022	112.349998	112.970001	110.550003	111.610001	111.610001	2001300	-0.006763389
3/2/2022	112.510002	112.82	110.830002	111.379997	111.379997	2486500	-0.002060783
3/3/2022	112.309998	113.400002	110.32	111.980003	111.980003	2405400	0.005387018
3/4/2022	111.360001	111.459999	108.470001	110.639999	110.639999	2280400	-0.011966458
3/7/2022	110.330002	110.809998	107.220001	108.349998	108.349998	1887500	-0.020697768
3/8/2022	107.599998	107.769997	101.839996	102	102	3553200	-0.058606351
3/9/2022	104.910004	106.379997	103.230003	105.910004	105.910004	3320800	0.038333373
3/10/2022	104.089996	106	104.07	105.699997	105.699997	2091400	-0.001982882
3/11/2022	106.809998	106.980003	103.400002	103.449997	103.449997	2030400	-0.021286661
3/14/2022	104.209999	105.150002	100.970001	102.25	102.25	2391300	-0.011599778
3/15/2022	104.709999	106.220001	103.830002	106.150002	106.150002	2251100	0.038141829
3/16/2022	108.419998	109.839996	106.620003	109.790001	109.790001	2144500	0.034291087
3/17/2022	109.120003	112.610001	109.050003	112.540001	112.540001	1952000	0.025047818
3/18/2022	113.010002	113.230003	111.080002	112.769997	112.769997	3975000	0.002043682

I think considering more data does not have any penalty in our calculation, I don't change my data and I considered the data of last six months.

Step 8	Daily Volatility	Step 9	Annual Volatility	Today's price (\$)
	0.02064318		0.327700322	

Step 10	Up price	Step 10	Down price
	1.260765555		0.793168877

Step 11	USD LIBOR	3/22/2022	USD	03-22-2022	
	0.0124095		USD LIBOR - overnight	0.32743 %	
Because the maturity was between two numbers, I considered a linear combination of them for maturity 5			USD LIBOR - 1 month	0.45486 %	
			USD LIBOR - 3 months	0.95371 %	
			USD LIBOR - 6 months	1.38457 %	
			USD LIBOR - 12 months	2.01257 %	
3					

Step 13	q (some kind of probability)
	0.453385915

Step 14	Last Option price (\$) [Market Price]	Call Price (\$) [Predicted]	error (%)
	14.2		49.55187928
		7.163633142	