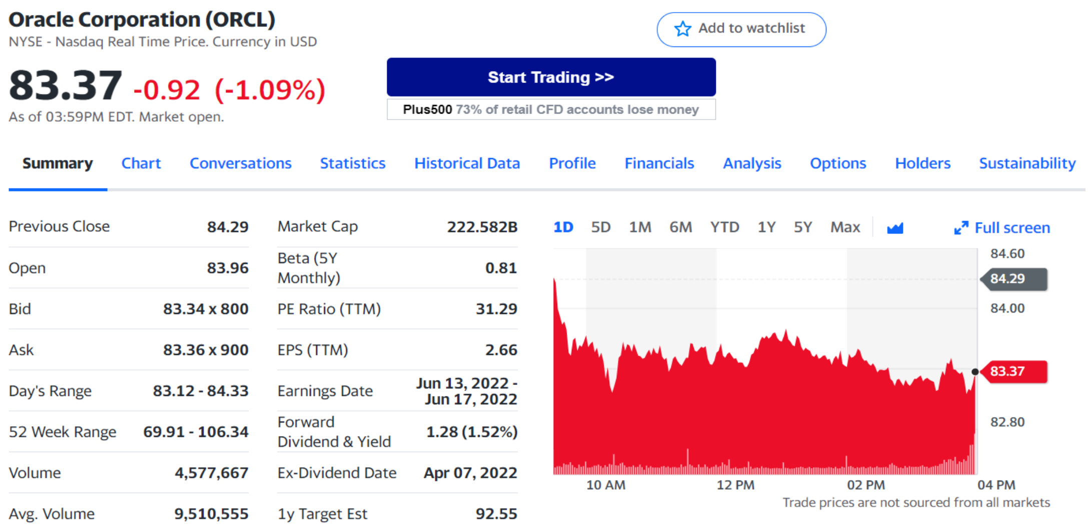
REPORT 2, Dividend Estimation using Box Spread and Call-Put parity Strategy

Bahador Amjadi
2040470

A dividend is the distribution of company profits to the shareholders. In this report we try to estimate the implicit dividend of a specific underlying using box spread and call put parity method. Yahoo Finance website is used as our data source.

First, we should choose a dividend-paying underlying. We choose Oracle Corporation (ORCL).



Choosing a fixed maturity, 1,3,6, or 12 months, we look through the call and put contracts of the underlying. Two strike prices, k1 and k2 should be specified subject to k2>k1l; otherwise, the model would not lead to proper results. The list of strike prices for each maturity date, and the prices of call or put options corresponding to each strike price is listed below:

T (months)	K1	K2	S
1	70	84	83.35
3	70	90	83.35
6	70	90	83.35
12	70	100	83.35

Now we can calculate the corresponding discount factor for each maturity data using box spread method:

T (months)	CK1	CK2	PK1	PK2	Discount Fac.
1	11.33	1.7	0.13	2.57	**86%**
3	14.2	1.56	0.91	7.55	**96%**
6	15.31	3.4	2	9.75	**98%**
12	20.34	6.85	7.07	22.44	**96%**

Finally we are able compute the dividend for different maturity times

T (months)	K (ATM)	Call	Put	Dividend	Dividend Rate
1	82.5	2.28	2.2	14.08492129	**17%**
3	82.5	5.25	14.15	13.19502075	**16%**
6	82.5	7	5.85	1.121566633	**1%**
12	82.5	14	16.5	6.741164241	**8%**