

Java Application: Options Tool

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General Information

- **option** is a contract which gives the *buyer* (the owner) the right, but not the obligation, to buy or sell an underlying asset or instrument at a specified strike price on or before a specified date.

Main Operations

- Option Strategies
 - control the loss/profit
- Put Call Parity Theorem
 - arbitrage opportunity

EQUITY OPTIONS																															
Option	Calls			Puts			Option	Calls			Puts			Option	Calls			Puts			Option	Calls			Puts						
	Jul	Aug	Sep	Jul	Aug	Sep		Jul	Aug	Sep	Jul	Aug	Sep		Jul	Aug	Sep	Sep	Dec	Mar		Sep	Dec	Mar	Sep	Dec	Mar				
AstraZeneca	4200	140.5	183.5	246.5	0.5	65	148.5	Land Sec Op	1050	0.25	11.75	20.25	13.25	24.25	38	Tesco	270	15	16.25	18	-	1	2.75	Reckitt Bench5000	415	114	145	6.5	119.5	161	
(*4340)	4300	41	122.5	-	1	112	-	(*1037)	1100	-	1.75	6.5	63	64.5	75.25	(*285)	280	5	8.25	11	-	3.25	5.75	(*5035)	5200	3	35.5	67.5	168	253	286
Aiwa	480	9.5	18	22.5	-	8.25	12.5	Legal & Gen	230	4.5	7	8.75	-	2.5	5.75	Vodafone	190	5.25	7.75	10	-	2.25	4.5	Reed Elsevier	920	27.5	42.5	54.5	17.25	30.75	41.25
(*489.5)	490	1.75	11.75	16.5	2.25	12.25	16.75	(*2345)	235	0.75	4	6	1.25	4.5	8.5	(*195.25)	195	1	5	7	0.75	4.5	6.5	(*933.5)	940	17.5	-	-	27.25	-	
BAE Systems	410	7.5	14	17.75	0.25	6.75	10.25	Lloyds Bkg	72	1.5	2.75	3.25	-	1.5	2	Xtrelta	328	32.5	-	-	6	-	-	Rentokil Int	110	7.75	9.25	11.5	2	3.5	5.5
(*417.2)	420	1	8.75	12.5	3.75	11.5	14.75	(*73.420)	74	0.25	1.75	2.5	0.75	2.5	3.25	(*356.9)	393	4.5	-	-	44	-	-	(*116.2)	115	4.5	-	-	4	-	
Bardays	205	6.75	10.5	12.5	-	4.25	6.5	Man Group	120	0.5	5	5.75	1.25	7	8	Option	Sep	Dec	Mar	Sep	Dec	Mar	Role-Royce H1000	54.25	72	86.5	21.25	44.5	58		
(*211.8)	210	2.25	7.5	9.75	0.5	6.5	8.75	(*119.3)	125	-	3	4	5.75	10	11.5	SAB Miller	3300	155	-	-	-	-	102	-	(*1032)	1050	27	-	-	44.25	-
BG Group	1150	30	49.5	61	2	25.5	40	Marks & S	440	0.5	7.75	13	4.75	11.75	16.75	3i Group	392	11.5	19.75	25.75	15.5	25.25	31	SAB Miller	3300	155	-	-	102	-	
(*1178)	1200	1	25	35	23	53	64.5	(*435.7)	450	-	4.25	8.75	14.25	18.5	22.75	(*387.7)	400	8.75	-	-	20.75	-	-	(*339.3)	3400	110.5	174.5	224	160	233.5	279.5
BHP Billiton	1950	61	87.5	103	-	26	61.5	Morrison(Wim)	175	3	6.25	8.75	-	3.25	5.5	Carnival	2000	153.5	184	204.5	21.5	64	93.5	Sage Group	370	16.25	-	-	7.5	-	
(*2011)	2000	155	56	74	4.5	44.5	87	(*178)	180	0.25	3.75	6.25	2.25	5.5	8	(*2139)	2100	79.5	123	-	51.5	105	-	(*378.3)	380	10.75	18.5	22.75	12	19.25	28.75
BP	480	13.75	16.75	18	-	5.75	8.75	Natl Grid	840	24	28.75	34.5	-	4.5	9.75	Compass	985	20	33	44	-	12.75	23.25	Sm & Nephew 1000	65.25	83.75	99	19.25	42.25	56	
(*493.7)	490	4.25	9.75	11.75	0.5	9.75	13	(*86.4)	860	4.75	15.25	22	0.75	11	17.25	(*1005)	1005	3.75	20.5	31.75	3.75	20	31	(*1045)	1050	39.75	-	-	43.75	-	
BAT	3500	36	86	100	4	52.5	104	Rio Tinto	3300	13.5	82.5	102	18.5	120	157	Experian	1000	49	72.75	82.5	15.25	37.25	51	SSE	1500	38.5	55.5	66	64.5	85	114
(*532)	3600	0.5	38	55.5	68.5	105	165	(*3295)	3400	-	38.5	63	105	184.5	220	(*1033)	1050	21.25	-	-	37.5	-	-	(*1528)	1550	17	-	-	98.5	-	
BT Group	370	13.5	18	19	-	7	9.75	Royal Bk Scot	310	9.25	14.75	17.75	-	5.25	8.25	ImpJ Tobacco	2600	141	183	203	51.5	90	165.5	Standard Life	370	15.75	-	-	8.5	-	
(*383.5)	380	3.75	11.25	12.75	0.25	11.25	14.5	(*319.2)	320	1.25	9	12.5	2	9.75	13	(*2687)	2700	84	-	-	95	-	-	(*379.6)	380	9.75	16	22.5	13.25	20.5	26.25
Diageo	1750	67	-	87	-	-	-	R Dch Shell B2400	123.5	131.5	136	-	13	26.5	IntCont Hotels 2412	131	195	225	83.5	146.5	188	Unilever	2500	132	139.5	148.5	-	14.5	31		
(*1817)	1800	18.5	45	55.5	1.5	44.5	63	(*2523.5)	2500	24.5	55	64.5	1	45	61.5	(*2471)	2513	81.5	-	-	1.96	-	-	(*2632)	2600	33	62.5	78.5	0.5	44	64.5
GlaxoSm	1500	99	62.5	67.5	-	9.5	19.5	RSAlms Op	460	1.25	10	14	2.5	11	15	ITV	200	8.5	13.5	17.25	5.75	11.5	15	Util Utilities	880	32.5	46.25	51.25	17.75	36.5	44
(*1559)	1550	10	27.5	34.5	1	30.5	41	(*458.8)	470	-	5.75	9.75	11.25	16.75	20.5	(*202.5)	205	6	-	-	8.5	-	-	(*894)	900	20.25	-	-	25.5	-	
HSBC	580	19.25	23.25	25	-	3.75	9.25	Sainsbury	310	14.75	17.5	20.75	-	2.75	6	Lon Sk Exchgl	950	55.5	-	-	98.5	-	-	Whitebread	4200	195	-	-	78	-	
(*599.2)	600	1.25	10	12.75	2	10.5	18.25	(*324.7)	320	4.75	10.5	14.75	0.25	5.75	10	(*1926)	2000	37.25	74.75	101.25	30.25	173.25	197.5	(*431.3)	4400	90.5	157	211	174	257	304.5
ICA	330	2.25	16	21.25	2.25	16	21	Shire	4600	397	422.5	511.5	1	25	113	Next	6350	338.5	-	-	153	-	-	-	Wolseley	3100	142.5	-	-	74	-
(*329.9)	340	0.25	11.5	16.75	10.25	21.5	26.5	(*4996)	4800	200.5	248	353	4.5	50	154	(*6530)	6500	251.5	-	-	216	-	-	(*3166)	3200	92	133	175.5	123.5	205	244.5
Kingfisher	336	3.75	10.25	15	-	6.5	11.25	Stl Oherid	1200	10.5	31.5	38.5	1.5	31.5	42.5	Pearson	1100	44.75	62.25	78	29.25	48.75	62.25	WPP	1200	56.75	80	98.75	29.75	62	79.5
(*330)	346	-	5.5	-	6.5	11.75	-	(*1209)	1250	-	12.5	19.5	41	66	74.5	(*1128)	1150	21.5	-	-	58.75	-	-	(*1226)	1250	31	-	-	54	-	

* Underlying security price. Premiums shown are based on settlement prices. July 18 Total contracts: Equity & Index options: 288169 Calls: 122912 Puts: 138512 Source: Euronext.liffe

Option	Jul	Aug	Sep	Jul	Aug	Sep
AstraZeneca 4200	140.5	183.5	246.5	0.5	65	
148.5						
(*4340) 4300	41	122.5	-	1	112	-
Aviva 480	9.5	18	22.5	-	8.25	12.5
(*489.5) 490	1.75	11.75	16.5	2.25	12.25	16.75
BAE Systems 410	7.5	14	17.75	0.25	6.75	10.25
(*417.2) 420	1	8.75	12.5	3.75	11.5	14.75
Barclays 205	6.75	10.5	12.5	-	4.25	
6.5						
(*211.8) 210	2.25	7.5	9.75	0.5	6.5	
8.75						
BG Group 1150	30	49.5	61	2	25.5	40
(*1178) 1200	1	25	35	23	53	64.5
BHP Billiton 1950	61	87.5	103	-		26
61.5						
(*2011) 2000	15.5	56	74	4.5	44.5	87
BP 480	13.75	16.75	18	-	5.75	8.75
(*493.7) 490	4.25	9.75	11.75	0.5	9.75	13
BAT 3500	36	86	100	4	52.5	104
(*3532) 3600	0.5	38	55.5	68.5	105	165
BT Group 370	13.5	18	19	-	7	
9.75						
(*383.5) 380	3.75	11.25	12.75	0.25	11.25	14.5
Diageo 1750	67	-	87	-	-	
40						
(*1817) 1800	18.5	45	55.5	1.5	44.5	63
GlaxoSmKl 1500	59	62.5	67.5	-	9.5	
19.5						
(*1559) 1550	10	27.5	34.5	1	30.5	41
HSBC 580	19.25	23.25	25	-	3.75	9.25
(*599.2) 600	1.25	10	12.75	2	10.5	18.25
ICM 330	2.25	16	21.25	2.25	16	21
(*329.9) 340	0.25	11.5	16.75	10.25	21.5	26.5
Kingfisher 336	3.75	10.25	15	-	6.5	
11.25						
(*330) 346	-	5.5	-	6.5		
11.75						
Option Jul	Aug	Sep	Jul	Aug	Sep	
Land Sec Gp 1050	0.25	11.75	20.25	13.25	24.25	38
(*1037) 1100	-	1.75	6.5	63	64.5	
75.25						
Legal & Gen 230	4.5	7	8.75	-	2.5	
5.75						
(*234.5) 235	0.75	4	6	1.25	4.5	8.5
Lloyds Bkg 72	1.5	2.75	3.25	-	1.5	
2						
(*73.420) 74	0.25	1.75	2.5	0.75	2.5	3.25
Man Group 120	0.5	5	5.75	1.25	7	8

Example of Database:

Company[[]]	0	1	2
0	AstraZeneca	Aviva	BAE Systems
1	(*4340)	(*489.5)	(*417.2)

1. Option Strategies

Option Tool

Please choose your option: BAE Systems Buy Sell

.... Calls Puts

Option: Jul Aug Sep Jul Aug Sep

BAE Systems <input checked="" type="radio"/> 410	7.5	14	17.75	0.25	6.75	10.25
(*417.2) <input type="radio"/> 420	1	8.75	12.5	3.75	11.5	14.75

Please choose your option: BAE Systems Buy Sell

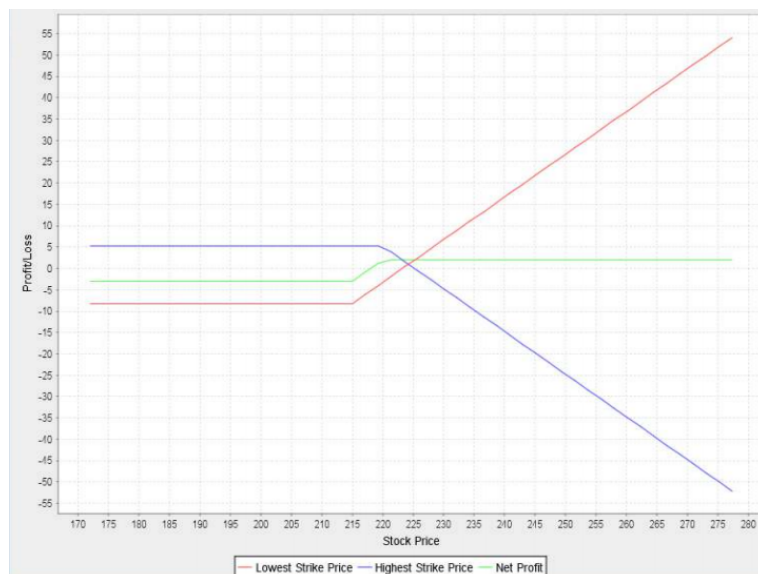
.... Calls Puts

Option: Jul Aug Sep Jul Aug Sep

BAE Systems <input type="radio"/> 410	7.5	14	17.75	0.25	6.75	10.25
(*417.2) <input checked="" type="radio"/> 420	1	8.75	12.5	3.75	11.5	14.75

View Graph Details

Strategy Graph



2. Put Call Parity

$$c - p = S_0 - K e^{-rT}$$

c: call price

p: put price

S_0 : stock price

K: strike price

T: expiration date

r: risk-free rate

Future Work

- Improve the strategy graph
- To have a put call parity panel

Thank You