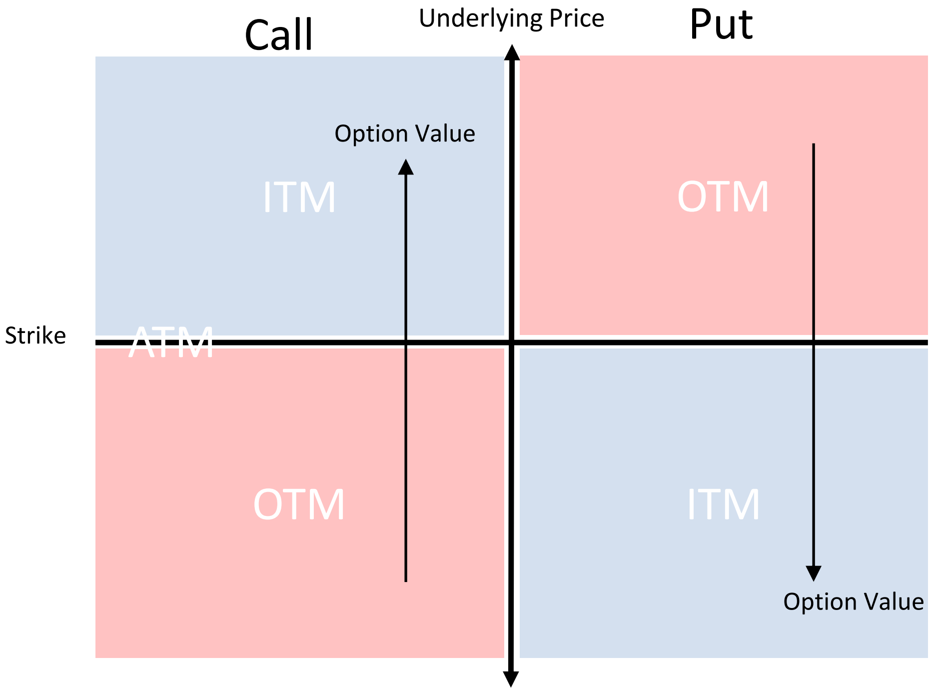
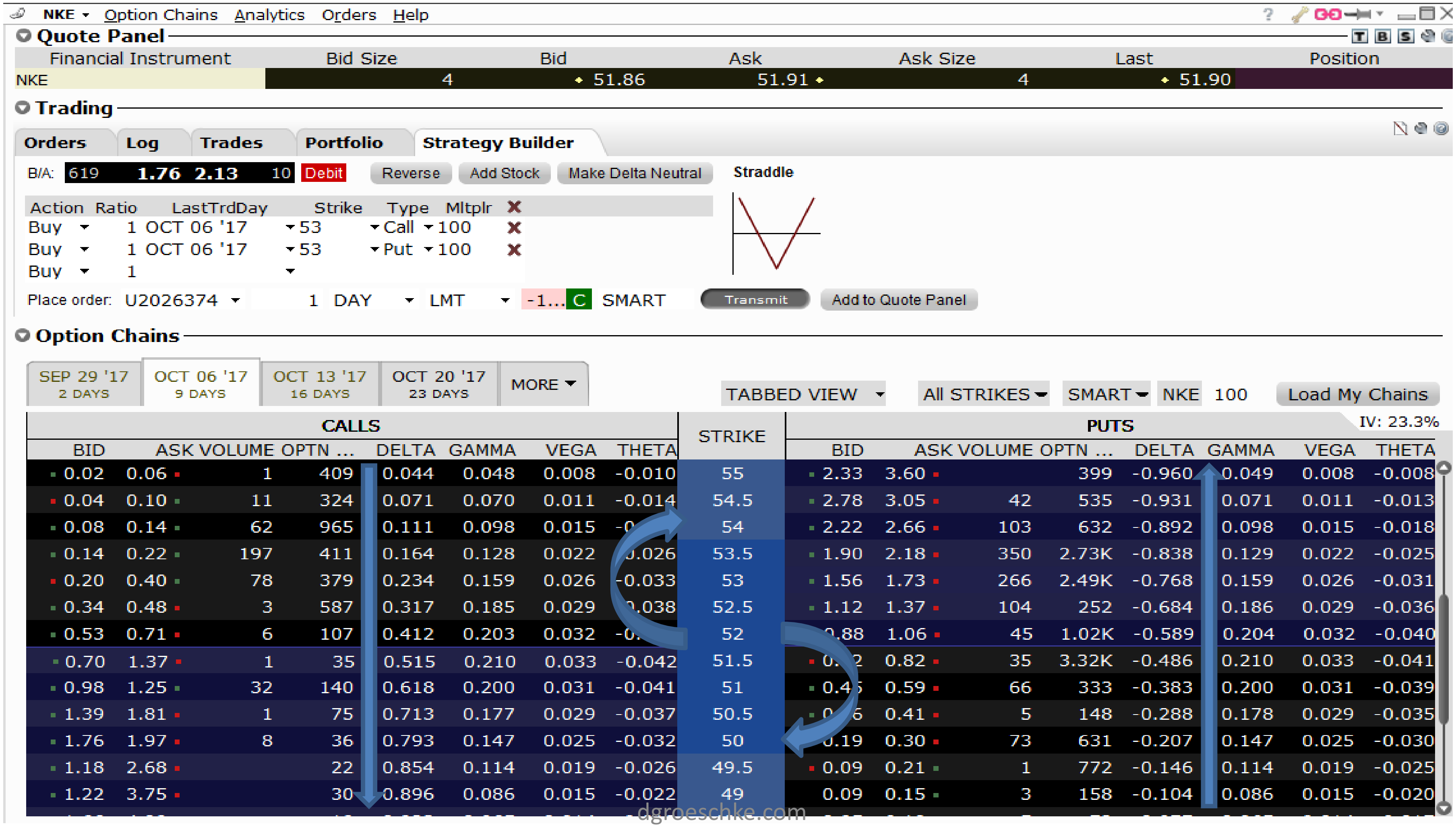
# Option Basics Options Pricing

Relation of Options Price to the Price of its Base Instrument

# Option Price Development in Relation to Base Price

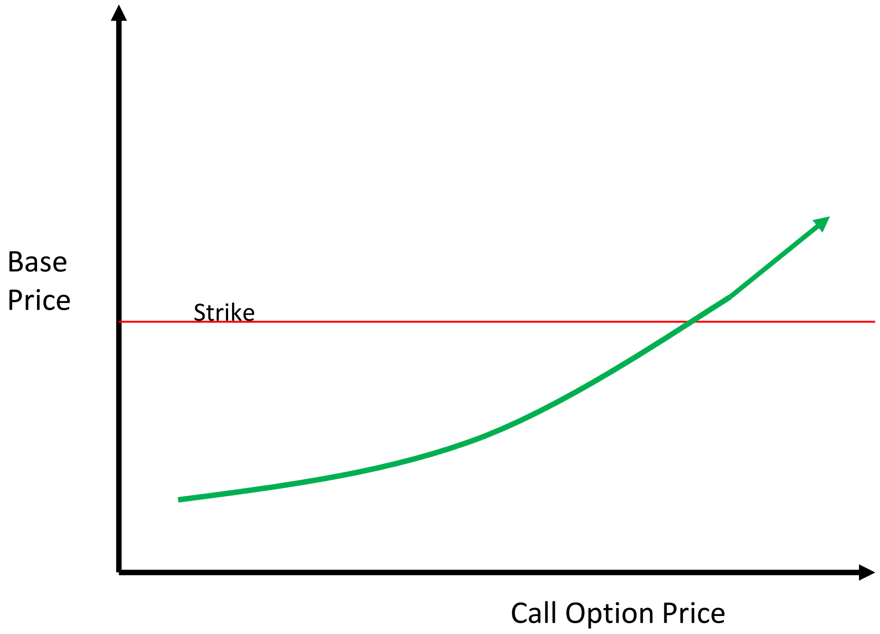



- Base Price increase: call Option Value increases, put option value decreases
- Base Price decrease: call Option Value decreases, put option value increases
- Delta expresses the value of change for $ 1 movement in price
- More ITM, more Delta factor
- ATM Options have 0.5000 Delta
- Delta is an Option Greek. Some use it interchangeably as Probability ITM of an Option



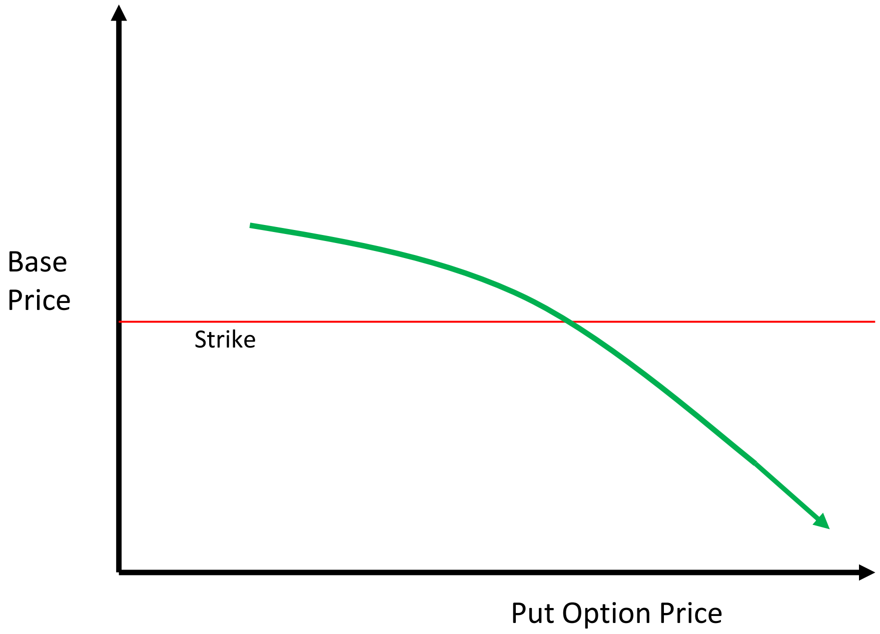

| CALLS BID | CALLS ASK | CALLS VOLUME | CALLS OPTN ... | CALLS DELTA | CALLS GAMMA | CALLS VEGA | CALLS THETA | STRIKE | PUTS BID | PUTS ASK | PUTS VOLUME | PUTS OPTN ... | PUTS DELTA | PUTS GAMMA | PUTS VEGA | PUTS THETA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.02 | 0.06 | 1 | 409 | 0.044 | 0.048 | 0.008 | -0.010 | 55 | 2.33 | 3.60 | | 399 | -0.960 | 0.049 | 0.008 | -0.008 |
| 0.04 | 0.10 | 11 | 324 | 0.071 | 0.070 | 0.011 | -0.014 | 54.5 | 2.78 | 3.05 | 42 | 535 | -0.931 | 0.071 | 0.011 | -0.013 |
| 0.08 | 0.14 | 62 | 965 | 0.111 | 0.098 | 0.015 | [illegible] | 54 | 2.22 | 2.66 | 103 | 632 | -0.892 | 0.098 | 0.015 | -0.018 |
| 0.14 | 0.22 | 197 | 411 | 0.164 | 0.128 | 0.022 | [illegible] | 53.5 | 1.90 | 2.18 | 350 | 2.73K | -0.838 | 0.129 | 0.022 | -0.025 |
| 0.20 | 0.40 | 78 | 379 | 0.234 | 0.159 | 0.026 | -0.033 | 53 | 1.56 | 1.73 | 266 | 2.49K | -0.768 | 0.159 | 0.026 | -0.031 |
| 0.34 | 0.48 | 3 | 587 | 0.317 | 0.185 | 0.029 | [illegible] | 52.5 | 1.12 | 1.37 | 104 | 252 | -0.684 | 0.186 | 0.029 | -0.036 |
| 0.53 | 0.71 | 6 | 107 | 0.412 | 0.203 | 0.032 | [illegible] | 52 | [illegible] | 1.06 | 45 | 1.02K | -0.589 | 0.204 | 0.032 | -0.040 |
| 0.70 | 1.37 | 1 | 35 | 0.515 | 0.210 | 0.033 | -0.042 | 51.5 | [illegible] | 0.82 | 35 | 3.32K | -0.486 | 0.210 | 0.033 | -0.041 |
| 0.98 | 1.25 | 32 | 140 | 0.618 | 0.200 | 0.031 | -0.041 | 51 | [illegible] | 0.59 | 66 | 333 | -0.383 | 0.200 | 0.031 | -0.039 |
| 1.39 | 1.81 | 1 | 75 | 0.713 | 0.177 | 0.029 | -0.037 | 50.5 | [illegible] | 0.41 | 5 | 148 | -0.288 | 0.178 | 0.029 | -0.035 |
| 1.76 | 1.97 | 8 | 36 | 0.793 | 0.147 | 0.025 | -0.032 | 50 | [illegible] | 0.30 | 73 | 631 | -0.207 | 0.147 | 0.025 | -0.030 |
| 1.18 | 2.68 | | 22 | 0.854 | 0.114 | 0.019 | -0.026 | 49.5 | 0.09 | 0.21 | 1 | 772 | -0.146 | 0.114 | 0.019 | -0.025 |
| 1.22 | 3.75 | | 30 | 0.896 | 0.086 | 0.015 | -0.022 | 49 | 0.09 | 0.15 | 3 | 158 | -0.104 | 0.086 | 0.015 | -0.020 |

# Price Development Call




- The price development of a call as to underlying price is not linear
- The nearer an OTM strike is to the underlying, the more worth it will carry due to the chance of the option ending up ITM
- Deep ITM Options have a Delta near 1
- This is a point where the call option is so deep ITM that it reacts 1:1 for every $1 move
- ATM Calls have a Delta value of 0.5000

# Price Development Put




- The price development of a put as to underlying price is not linear
- The nearer an OTM strike is to the underlying, the more worth it will carry due to the chance of the option ending up ITM
- Deep ITM Options have a Delta near 1
- This is a point where the put option is so deep ITM that it reacts 1:1 for every $1 move
- ATM Puts have a Delta value of -0.5000

NKE Option Chains Analytics Orders Help

## Quote Panel

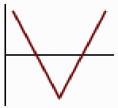
| Financial Instrument | Bid Size | Bid | Ask | Ask Size | Last | Position |
|---|---|---|---|---|---|---|
| NKE | 4 | 51.86 | 51.91 | 4 | 51.90 | |

## Trading

Orders | Log | Trades | Portfolio | Strategy Builder

B/A: 619 1.76 2.13 10 Debit | Reverse | Add Stock | Make Delta Neutral

Straddle



| Action | Ratio | LastTrdDay | Strike | Type | Mltplr |
|---|---|---|---|---|---|
| Buy | 1 | OCT 06 '17 | 53 | Call | 100 |
| Buy | 1 | OCT 06 '17 | 53 | Put | 100 |
| Buy | 1 | | | | |

Place order: U2026374 1 DAY LMT -1... C SMART | Transmit | Add to Quote Panel

## Option Chains

SEP 29 '17 2 DAYS | OCT 06 '17 9 DAYS | OCT 13 '17 16 DAYS | OCT 20 '17 23 DAYS | MORE

TABBED VIEW | All STRIKES | SMART | NKE 100 | Load My Chains

IV: 23.3%

| CALLS | | | | | | | | | PUTS | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BID | ASK | VOLUME | OPTN ... | DELTA | GAMMA | VEGA | THETA | STRIKE | BID | ASK | VOLUME | OPTN ... | DELTA | GAMMA | VEGA | THETA |
| 0.02 | 0.06 | 1 | 409 | 0.044 | 0.048 | 0.008 | -0.010 | 55 | 2.33 | 3.60 | | 399 | -0.960 | [illegible] | [illegible] | -0.008 |
| 0.04 | 0.10 | 11 | 324 | 0.071 | 0.070 | 0.011 | -0.014 | 54.5 | 2.78 | 3.05 | 42 | 535 | -0.931 | 0.071 | 0.011 | -0.013 |
| 0.08 | 0.14 | 62 | 965 | 0.111 | 0.098 | 0.015 | -0.020 | 54 | 2.22 | 2.66 | 103 | 632 | -0.892 | 0.098 | 0.015 | -0.018 |
| 0.14 | 0.22 | 197 | 411 | 0.164 | 0.128 | 0.022 | -0.026 | 53.5 | 1.90 | 2.18 | 350 | 2.73K | -0.838 | 0.129 | 0.022 | -0.025 |
| 0.20 | 0.40 | 78 | 379 | 0.234 | 0.159 | 0.026 | -0.033 | 53 | 1.56 | 1.73 | 266 | 2.49K | -0.768 | 0.159 | 0.026 | -0.031 |
| 0.34 | 0.48 | 3 | 587 | 0.317 | 0.185 | 0.029 | -0.038 | 52.5 | 1.12 | 1.37 | 104 | 252 | -0.684 | 0.186 | 0.029 | -0.036 |
| 0.53 | 0.71 | 6 | 107 | 0.412 | 0.203 | 0.032 | -0.041 | 52 | 0.88 | 1.06 | 45 | 1.02K | -0.589 | 0.204 | 0.032 | -0.040 |
| 0.70 | 1.37 | 1 | 35 | 0.515 | 0.210 | 0.033 | -0.042 | 51.5 | 0.62 | 0.82 | 35 | 3.32K | -0.486 | 0.210 | 0.033 | -0.041 |
| 0.98 | 1.25 | 32 | 140 | 0.618 | 0.200 | 0.031 | -0.041 | 51 | 0.45 | 0.59 | 66 | 333 | -0.383 | 0.200 | 0.031 | -0.039 |
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| 1.76 | 1.97 | 8 | 36 | 0.793 | 0.147 | 0.025 | -0.032 | 50 | 0.19 | 0.30 | 73 | 631 | -0.207 | 0.147 | 0.025 | -0.030 |
| 1.18 | 2.68 | | 22 | 0.854 | 0.114 | 0.019 | -0.026 | 49.5 | 0.09 | 0.21 | 1 | 772 | -0.146 | 0.114 | 0.019 | -0.025 |
| 1.22 | 3.75 | | | 0.896 | 0.086 | 0.015 | -0.022 | 49 | 0.09 | 0.15 | 3 | 158 | -0.104 | 0.086 | 0.015 | -0.020 |