

Module 3:

Strategy #1: Double,
triple or even quadruple
the return of your
portfolio



Module overview

- A trading strategy that uses options to leverage your portfolio and limits risk to precise levels
- First, a small amount of the theory
- Then, examples

Leverage

- Leverage involves increasing your exposure to the market
- Example: a margin account offers 100% leverage
 - If you own \$10,000 worth of stock, you can buy another \$10,000 worth of stock
 - In a margin account you borrow money from your broker
 - If stocks go up 10%, you make \$2,000, a 20% gain on your \$10,000
 - A 10% decline means there is 20% loss on your \$10,000 and you still owe your broker \$10,000

Margin accounts carry costs

- You pay interest on the money borrowed
 - Can be low at deep discount brokers but larger discount brokers charge a relatively high rate
- This interest compounds and lowers the benefits of margin
- Margin is still useful but is not free

Call options are an alternative

- Call options are equivalent to owning the stock for a period of time
 - All options expire but this can be handled with a trade plan
- Call options cost less than owning the stock
- Call options offer more leverage than a margin account
- Call options provide a strictly defined risk in dollar terms

Example: calls as a short-term strategy

- Scenario: Travelzoo (TZOO) is reporting earnings in one week. On average, the stock gains 6.1% in the week after this announcement. The largest gain and loss have both been more than 25%.
 - We want to find the best trading strategy assuming we can see an average return, a gain of 25% or a loss of 25%

Alternative 1: Long stock

- Buy 100 shares TZOO @ \$8 for \$800
 - Gain of 6.1% results in a gain of \$48.80
 - Gain of 25% results in a gain of \$200
 - Loss of 25% results in a loss of \$200
- Risk is high

Alternative 2: Long on margin

- Buy 200 shares TZOO @ \$8 for \$800 using margin
 - Gain of 6.1% results in a gain of \$97.60
 - Gain of 25% results in a gain of \$400 (50%)
 - Loss of 25% results in a loss of \$400 (50%)
- Risk is even higher

Alternative 3: use calls options

- Option expiring in one month with a strike price of \$8 is trading for \$0.35. Ignore commissions in example
- Buy 1 \$8 call for \$35
 - Gain of 6.1% moves TZOO to \$8.49. Call is worth at least \$0.49 with a \$0.14 profit, results in a gain of \$14 (40%)
 - Gain of 25% moves TZOO to \$10. Call is worth at least \$2.00 with a \$1.65 profit, results in a gain of \$165 (371%), nearly quadrupling the rewards
 - Loss of 25% moves TZOO to \$6. Call is worth at nothing, results in a loss of \$35 (100%)
- You could trade multiple contracts to boost potential returns
- Risk is low and fixed in dollar terms

Example: Calls as a long-term strategy

- Scenario: AAPL is trading at \$110 and you believe the stock should increase to at least \$150 in one year
 - We want to find the results for different trading strategies assuming AAPL is unchanged, gains 35% or loses 10%.

Alternative 1: long stock

- 100 shares @ \$110 costs \$11,000
- If AAPL is unchanged, you collect \$2.08 in dividends for a return of \$208 (1.9%)
- If AAPL gains 35%, the stock price goes to \$148.50 and you earn \$4,058 (36.9%) including dividends
- If AAPL loses 10%, the stock falls to \$99 and you have a loss of 8.1% after dividends

Alternative 2: Long on margin

- Buy 200 shares AAPL @ \$110 for \$11,000 using margin
- If AAPL is unchanged, you collect \$4.16 in dividends for a return of \$416 and pay \$176 in interest, a total return of 2.2%
- If AAPL gains 35%, the stock price goes to \$148.50. Your 200 shares are worth \$29,700 - \$29.940 after dividends and interest. You owe \$11,000 so your gain is 72.2%
- If AAPL loses 10%, the stock falls to \$99 and you have a loss of 21.2% after dividends and interest

Alternative 3: long-term options

- This is April 2016. You believe the stock will gain more than 35% in the next year. There is an option expiring in June 2017 that allows you to trade this idea
- The \$110 call is trading at \$11.75 and will cost \$1,175
 - If AAPL is unchanged or trading below \$121.75, you lose \$1,175
 - If AAPL gains 35%, with the stock at \$148.75 the call is worth at least \$28.75, a gain of \$2,700 (130%) and your rewards are doubled

Selecting options

- There will always be different expiration dates and different strike prices
 - The decision of which one is best truly depends on your risk tolerance and market opinions but we can provide a general framework
- Expiration dates: if you have a short-term opinion, use short-term options to minimize time premium. Long-term opinions should use long-term options if they provide adequate potential returns
 - If the potential gains are not high enough, find another trade

Strike prices

Strike	Symbol	Last	Bid	Ask
90.00	AAPL170616C00090000	24.10	23.85	24.40
92.50	AAPL170616C00092500	23.66	22.00	22.70
95.00	AAPL170616C00095000	20.65	20.35	20.65
97.50	AAPL170616C00097500	19.50	19.25	19.75
100.00	AAPL170616C00100000	18.52	17.15	17.65
105.00	AAPL170616C00105000	15.05	14.25	14.85
110.00	AAPL170616C00110000	11.95	11.60	11.90
115.00	AAPL170616C00115000	9.85	9.50	9.80
120.00	AAPL170616C00120000	8.40	7.60	7.90
125.00	AAPL170616C00125000	6.20	6.05	6.25
130.00	AAPL170616C00130000	4.80	4.65	4.90

Selecting strike prices: one common technique is to consider the reward/risk ratio

- Set a target price for the stock
 - Subtract strike price from target to find minimum value of option at target price
- Subtract current price of option from minimum value to determine potential reward
 - Use midpoint of bid and ask to find current price
- Divide potential reward by price of call (risk)
- Highest ratio shows highest potential reward per unit of risk

Example calculation

- Target price of \$148.75
- \$90 call:
 - Min value: $\$148.75 - \$90 = \$58.75$
 - Current price: $(\$23.85 + \$24.40) / 2 = \$24.13$
 - Potential reward: $\$58.75 - \$24.13 = \$34.62$
 - Reward to risk: 1.43

90.00	AAPL170616C00090000	24.10	23.85	24.40
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Example table

Strike price	Min value of call with AAPL @ \$148.75	Current price of call	Potential reward	Reward: Risk ratio
\$90	\$58.75	\$24.13	\$34.62	1.43
\$95	\$53.75	\$20.50	\$33.25	1.62
\$100	\$48.75	\$17.40	\$31.35	1.80
\$105	\$43.75	\$14.55	\$29.20	2.01
\$110	\$38.75	\$11.75	\$27.00	2.30
\$115	\$33.75	\$9.65	\$24.10	2.50
\$120	\$28.75	\$7.75	\$21.00	2.71
\$125	\$23.75	\$6.15	\$17.60	2.86
\$130	\$18.75	\$4.78	\$13.97	2.92

Higher strike prices offer higher potential rewards because there is more risk that the option will expire worthless

This will always be true

- Considering the potential reward relative to potential risk offers little new information
 - We know potential rewards rise as we move out-of-the money
 - We know out-of-the-money options costs less than in-the-money options
- Finding the probability of success might be the best way to find the best option for you to trade
 - Define your comfort level and trade at that risk level

Probability of success

- Options pricing models allow us to determine the probability an option will be in-the-money at expiration
 - Expressed as a percentage
- Balance the potential rewards with the probability of success to find your personal comfort zone
 - For example, require an 80% probability of success

Finding the probability of success

- This is based on a floor trader method
- Use the delta of the option to find the likelihood of success
- Delta is calculated in the options calculator
<http://goo.gl/0WThht>
- Delta of a call will be between 0.00 and 1.00; puts are between -1.00 and 0.00
- The probability a call will be in-the-money at expiration is equal to the delta as a percentage
- The probability of a put being in-the-money at expiration is equal to the absolute value of the delta of the put

Options Calculator

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The IVolatility.com Options Calculator is an educational tool intended to assist individuals in learning how options work. It is not intended to provide investment advice, and users of the Options Calculator should not make investment decisions based upon values generated by it.

Symbol: ☒ Stock or Index Symbol ☐ Option symbol

AAPL: NASDAQ - APPLE INC Closing prices as of: 04/14/2016 Today's date: 04/15/2016

[? Calculators Help](#) [? FAQ](#)

Style: American Price: 110 Strike: 90 Expiration Date: Jun 16, 2017 Days to Expiration: 427 Volatility %: 29 Interest Rate%: 1.2208 Dividends Date (mm/dd/yy): 02/04/16 Dividends Amount: 0.52 Dividends Frequency: Quarterly	Calculate →	<table border="1"> <thead> <tr> <th></th> <th>Call</th> <th>Put</th> </tr> </thead> <tbody> <tr> <td>Symbol:</td> <td>AAPL 170616C</td> <td>AAPL 170616P</td> </tr> <tr> <td>Option Value:</td> <td>24.1657</td> <td>5.0805</td> </tr> <tr> <td>Delta: ?</td> <td>0.7966</td> <td>-0.2226</td> </tr> <tr> <td>Gamma: ?</td> <td>0.0094</td> <td>0.0089</td> </tr> <tr> <td>Theta: ?</td> <td>-0.0145</td> <td>-0.0109</td> </tr> <tr> <td>Vega: ?</td> <td>0.3417</td> <td>0.3491</td> </tr> <tr> <td>Rho: ?</td> <td>0.5560</td> <td>-0.3068</td> </tr> </tbody> </table> Implied Volatility <table border="1"> <thead> <tr> <th></th> <th>Option Price</th> <th>Vola %</th> </tr> </thead> <tbody> <tr> <td>Call ▾</td> <td> </td> <td> 0.00 </td> </tr> </tbody> </table> Calculate		Call	Put	Symbol:	AAPL 170616C	AAPL 170616P	Option Value:	24.1657	5.0805	Delta: ?	0.7966	-0.2226	Gamma: ?	0.0094	0.0089	Theta: ?	-0.0145	-0.0109	Vega: ?	0.3417	0.3491	Rho: ?	0.5560	-0.3068		Option Price	Vola %	Call ▾		0.00
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Call has a 79.66% probability of being in the money
 Pout has a 22.26% probability of being in the money
 Calculator is at <http://goo.gl/OWThht>

Risk increases as potential rewards increase

Strike price	Reward: Risk ratio	Delta	Probability of expiring in the money
\$90	1.43	0.7966	80%
\$95	1.62	0.7394	74%
\$100	1.80	0.6797	68%
\$105	2.01	0.6194	62%
\$110	2.30	0.5540	55%
\$115	2.50	0.4908	49%
\$120	2.71	0.4307	43%
\$125	2.86	0.3640	36%
\$130	2.92	0.3081	31%

“sweet spot” of trading

Bottom line

- You can use a call option instead of owning a stock
 - This could double, triple or even quadruple the return of your portfolio
- Trade selection requires
 1. Determine your time frame (short-term or long-term)
 - For short-term, use options expiring in 6 months or less
 2. Determine your comfort with risk
 - Conservative traders might want a probability of expiring in the money of 80% or more. Aggressive traders might want a probability of 40%

To implement Strategy #1

- Use call options expiring in 1-4 weeks when trading earnings or news-related events
- Use calls expiring in 1-6 months when looking for a short-term bull market gain
- Use calls expiring 1 year or more from now for longer-term investments
 - This maximizes your use of capital for long-term trading
- Use calls with strike prices that are nearly at-the-money to balance risk and reward (about a 50% probability trade)

What's next?

- Strategy #2: Buy stocks at a discount: Selling naked puts