# McMillan Analysis Corporation

# Early Exercise
# Strengthen Your Position

Presented by

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# D I S C L A I M E R

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- There are multiple risks inherent to options trading that may expose investors and traders to potentially rapid and substantial losses. You agree that McMillan Analysis Corp is NOT LIABLE for any trading losses or other consequential damages you may incur.

- Option trading is not suitable for everyone. To learn more about the risks of trading options, see: www.optionsclearing.com/about/publications/character-risks.jsp

# McMillan Analysis Corporation


Stan comes to us from the Floor of the American Stock Exchange where he traded options for his own account from 1994-2001. He was a Market Maker for the options on several popular equities including DuPont, Schering Plough, Walgreen's, CBS, U.S. Surgical and Biovail.

His knowledge of the rules and regulations of the Exchange, combined with his reputation for honesty, integrity, and fairness enabled him to be appointed as a Floor Official where he served on several Exchange Committees, including the Minor Violations Committee. He says it wasn't always easy settling disputes between traders when thousands of dollars were at stake.

Prior to starting his professional trading career, Stan was a pension actuary for 20 years. After graduating from the State University of New York at Stony Brook as a double major in pure and applied mathematics, Stan became one of the youngest members of the prestigious Society of Actuaries. In 1993 he was a Principal of a pension consulting firm where he ran the small plan department. When his company was sold, Stan used the proceeds to obtain a seat on the Exchange and set up a trading company. He never looked back and the rest is history.

After leaving the Floor, Stan became the risk manager for LaBranche Structured Products, Inc. a subsidiary of one of the largest specialist firms on the NYSE. Preferring to trade himself, rather than monitor the trades of others, he left LaBranche to trade options full time in his NJ office.

When he is not trading or thinking about trading, Stan relieves his stress by playing competitive squash, competing in local road rallies with his Ferrari Cabriolet and tutoring local high school students for the SAT's. He is a long-time MENSA member who lives in NJ with his wife. His son and college aged daughter keep him forever young.

# Types of Exercise

- American style
  - options can be exercised at any time up until expiration
- European style
  - options can only be exercised at expiration.
- Settlement
  - options settle to either stock or cash
- Automatic Exercise
  - At expiration, options ITM by ≥ .01 are automatically exercised.

# Exercising Options

| | |
|---|---|
| **Exercise Type** | • American<br>  • options can be exercised at any time up until expiration<br><br>• European<br>  • options can only be exercised at expiration. |
| **Settlement Type** | • Cash<br><br>• Stock |

- At expiration, options ITM by ≥ .01 are automatically exercised.

# Ways To Close A Long Option Position

- Sell the option,
- The option expires worthless at expiration,
- Automatic exercise at expiration, or
- Early exercise

If you are long Calls (Puts) you have the right to buy (sell) stock if you exercise the option.

# Ways To Close A Short Option Position

- Buy back the option,
- The option expires worthless at expiration,
- Assignment at expiration, or
- Early Assignment

If you are short Calls (Puts) you have an obligation to sell (buy) stock if assigned

# Dividends

Determined by the Company:

1) Declaration date
   – Board of Directors announces dividend

2) Record date
   – date you must be a shareholder of record on the company's books

3) Payable date
   – date the dividend is actually paid out

4) Dividend amount

# Dividends

Calculated Dates:

1) Ex-divd date
   – 2 business days before the record date

2) CUM date
   – day before the ex-divd date

NOTE: On the Ex-divd date, the stock price decreases by the amount of dividend

# Early Exercise and Assignment

Calls:

S = 52, X = 50,  C = 2.50

| | | | |
|---|---|---|---|
| Buy 1 Call | -250 | Sell 1 Call | +250 |
| Exercise | -5000 | Assigned | +5000 |
| Sell Stock | +5200 | Buy Stock | -5200 |
| | 50 Loss | | 50 Gain |
| Lose time premium | | Gain time premium | |

# Early Exercise and Assignment

Puts:

S = 47, X = 50,  P = 3.25

| | | | | |
|---|---|---|---|---|
| Buy 1 Put | -325 | | Sell 1 Put | +325 |
| Exercise | +5000 | | Assigned | -5000 |
| Buy Stock | -4700 | | Sell Stock | +4700 |
| | 25 Loss | | | 25 Gain |

Lose time premium

Gain time premium

# Early Exercise of Calls

$$+C - C = 0$$

$$+C^{x} - C > 0$$

$$S + d - i - C > 0$$

$$S - C + d - i > 0$$

$$-P + d - i > 0$$

C = Call

S = Stock

d = dividend

i = cost of carry

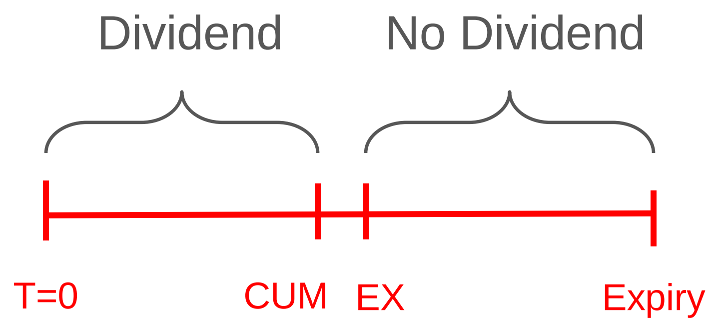
= X*R*T

P = Put

Resultant formula: $d - i > P$

# When to Early Exercise

<u>CALLS</u>




1. For an exercise to make sense: $d - i > P$

2. If there is no dividend, you should not exercise

3. If there is a dividend, only need to check on CUM date

NOTE: CUM date is the day before the ex-divd date

# Early Exercise of Puts

$$+P - P = 0$$

$$+P^{X} - P > 0$$

$$-S + i - d - P > 0$$

$$-S - P + i - d > 0$$

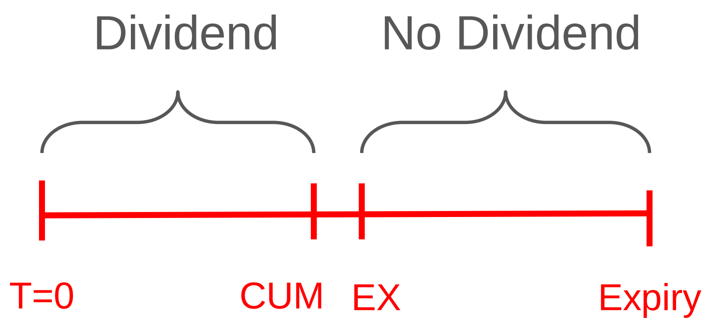
$$-C + i - d > 0$$

P = Put
S = Stock
d = dividend
i = cost of carry
= X*R*T
C = Call

Resultant formula: $i - d > C$

# When to Early Exercise

<u>PUTS</u>




1. For an exercise to make sense: $i - d > C$

2. If there is no dividend, always need to check

3. If there is a dividend, check on ex-dividend date and then go to #2

# Risk Free Rate Interest Rate

Exercise Call on CUM date?

S = 60, X = 50, d = .20, t = 30 days, P = 0 or .05

- If r = 1%, then i = 50*.01*30/365 = .04
  and d – i = .16 -> exercise

- If r = 6%, then i = 50*.06*30/365 = .25
  and d – i = -.05 -> don't exercise

Calls are more likely to be exercised in a low versus high interest environment.

Puts are less likely to be exercised in a low versus high interest environment.

# Time to Expiration

<u>Exercise Call on CUM date?</u>

S = 60, X = 50, d = .20, r = 6%, P = 0 or .05

- If t = 7 days, then i = 50*.06*7/365 = .06
  and d – i = .14 -> exercise

- If t = 30 days, then i = 50*.06*30/365 = .25
  and d – i = -.05 -> don't exercise

Near term Calls are more likely to be exercised than far term Calls.

Near term Puts are less likely to be exercised than far term Puts.

# Reasons Why Someone Might Not Early Exercise When They Should

1) Don’t know criteria
2) Don’t have capital
3) Not aware of dividend
4) Forget
5) Already made profit
6) Commissions and Expenses
7) Part of a spread
8) Gain from exercising is small

NOTE: None of these (maybe #6,8) should keep you from exercising.

# Assignment "Risk"?

- You should know when to expect to be assigned.
- You find out about the assignment the next day.
- May need to take immediate action.
- Not too much of a risk, since option was DITM with delta close to 100, replaced by stock.
- If you are assigned when not expecting to be, that is usually good.
- Position can be reversed for small cost.

# Real Assignment Risk

- If part of a spread, cash settled American style options have a REAL assignment risk.
- Example:

  OEX = 895

  Trader is long 865/890 Call vertical

  If assigned on the 890 Calls, position is
  then long the 865 Calls, short $89,000

  If OEX tanks, Calls fall and cash position doesn't
  provide any hedge
- May be better to use XEO

# Trading Disaster

On Friday:

S=183

trader buys 100 181/182 Call spreads @ .90 expiring next Friday.

On following Thursday:

S goes ex-divd for .85

trader finds out he was assigned on the 182 Calls.

On expiration Friday:

S=185

trader exercises the 181 Calls.

Ignoring commissions, exercise, and assignment fees, how much money did the trader make or lose?

# Result of Trade

The cost of the trade was $9,000.

The trader was hoping that the stock would stay above 182 at expiration and that he would make .10*100*100=$1,000.

Trader was not aware of the .85 dividend. Being assigned he had to pay out the dividend costing him $8,500. Netting that against the $1,000 he made, his net loss was $7,500. SAD!

# Was it Avoidable?

YES!

- Unwind position on Wednesday, or
- Exercise the 181 Calls on Wednesday.

Finding out about the assignment on Thursday, his fate was sealed.

# Final Thoughts

- For long Call options only need to check for EE on CUM date
- For long Put options only need to check for EE after
  Ex-divd date
- ITM Short options can be assigned at any time.
- Be very careful if doing spreads with cash settled American style options like OEX, may consider XEO instead.

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