



PREMIER
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Options 101

Options 101

- What is an option?
- Why trade options?
- What types of options?
- What style of options?
- What is an option's relationship to price?
- How are options priced?

Definition of an Option

- **An option is a contract between two people to buy and sell stock at a fixed price over a given period of time.**
- Traded security
 - Subject to security trading laws and regulations
- Derivative
 - Value is based on or derived from the value of the underlying asset or index
 - Stocks
 - Indexes
 - Futures
 - Forex
 - Treasuries
- Depreciating Asset
 - It loses value (all else being equal) over time
 - It has a limited life, all options expire

Call Options

- **Call option**
 - A contract between a buyer and a seller for a specific period of time
 - Buyer has the right, but not the obligation, to purchase 100 (or 10 with a mini contract) shares of stock at a specific price by a specific date. This has the effect of locking in the purchase price for a period of time.
 - The buyer has rights
 - The buyer is considered long the option.
 - The buyer is considered long the position
 - Seller has the obligation to sell 100 (or 10 with a mini contract) shares of stock at a specific price, when requested, up until a specific date.
 - The seller has obligations
 - The seller is considered short the option.
 - The seller is considered short the option.

Put Options

- **Put option**
 - A contract between a buyer and a seller for a specific period of time
 - Buyer has the right, but not the obligation, to sell 100 (or 10 with a mini contract) shares of stock at a specific price by a specific date. This has the effect of locking in the sales price for a period of time.
 - The buyer has rights
 - The buyer is considered long the option.
 - The buyer is considered short the position.
 - Seller has the obligation to buy 100 (or 10 with a mini contract) shares of stock at a specific price, when requested, up until a specific date.
 - The seller has obligations
 - The seller is considered short the put option.
 - The seller is considered long the position.

Financial Option Types

- Exchange-traded (listed) options
 - Standardized contracts
 - Settled through a clearing house
 - Includes
 - Stock/ETF options
 - Index options
 - Bond options
 - Futures options
- Over-the-counter (OTC)
 - Unrestricted
 - Loosely regulated
 - Includes
 - Forex (currency) options
 - Interest rate options

Standard Options Contract

- Standard option contract:

- 100 shares of a stock

- Number of Contracts

Number of shares of stock

1

100

2

200

5

500

20

2000

- Option price quote is per share
- Commission quoted per contract
- Cost of an option trade:

Total cost = (number of contracts) x (\$ per contract) x 100 + commissions

Example: 10 contracts quoted at \$1.25 with \$1.50 commission

$(10 \times \$1.25 \times 100) + (10 \times \$1.50) = 1,250 + 15.00 = \$1,265.00$

equivalent to 1000 shares of stock

Mini Options Contract

- Mini option contract:
 - 10 shares of a stock

Number of Contracts	Number of shares of stock
1	10
2	20
5	50

- Available on select products: AAPL, GOOG, AMZN, GLD, SPY
- Option price quote is per share
- Commission quoted per contract
- Cost of an option trade:

Total cost = (number of contracts) x (\$ per contract) x 10 + commissions

Example: 10 contracts quoted at \$1.25 with \$1.50 commission

$(10 \times \$1.25 \times 10) + (10 \times \$1.50) = 1,25 + 15.00 = \$126.50$

equivalent to 100 shares of stock

Options Expiration

- **Monthly options**
 - expire on 3rd Friday of the month
 - Front month
 - Next month
 - plus about 6 out months
 - LEAPS®: Long-term Equity Anticipation Securities, longer term options expiring a year to up to 2 years and 8 months out
- **Weekly options, also called Weeklys, short-term or short-dated options**
 - Recent product first released for major indexes
 - First released for stocks in June 25, 2010: AAPL, BAC, BP, C
 - Listed on Thursday 8 days before expiration
 - More released each month
 - Available products: <http://www.cboe.com/micro/weeklys/availableweeklys.aspx>

End of Option Rights and Obligations

- **Rights of the buyer and obligations of the seller ends when**
 - The option position is closed
 - Call option holder sells the option
 - Put option holder sells the option
 - Call writer buys call back
 - Put writer buys put back
 - The option is exercised
 - Call owner exercises option thus buying 100 shares of stock
 - Put owner exercises option thus selling 100 shares of stock
 - The option expires
 - Call option may be automatically exercised if the underlying stock price is greater than the option strike price
 - Put option may be automatically exercised if the underlying stock price is less than the option strike price

Options Clearing Corporation

- Founded in 1973, the same year that CBOE started to list options
- World's largest options clearing organization
- Provides clearing and settlement services to 14 exchanges for options
- Under jurisdiction of
 - Securities and Exchange Commission (SEC)
 - Commodity Futures trading Commission (CFTC)
- Ensures that all option contract obligations are met – buyer does not need to worry about seller failing to meet obligations

Options Definitions

- The specific price is known as the **strike price** or the **exercise price**
- The specific date is known as the **expiration date**
- The **buyer** is known as the **holder** of the option.
 - The option holder's risk is limited to the premium paid for the option.
- The **seller** of an option is also known as the **writer** of the option.
 - The writer accepts the risk of losing more than the premium received for the option.
 - If the option is not hedged, the option is called a **naked option** because the seller assumes "unlimited risk"
 - Options are never worth less than zero, therefore risk of naked put is the strike price minus the premium

Options Definitions - continued

- **Exercise:** Applies to option buyer
 - This is the process of converting the option into a long position for a call or a short position for a put
 - Call holder: buys 100 shares of the underlying stock for the strike price
 - Put holder: sells 100 shares of the underlying stock for the strike price
- **Assignment:** Applies to option writer
 - This is the process by which the seller of the option is notified of the buyer's intention to exercise the option
 - Call writer: required to sell 100 shares of the underlying stock for the strike price
 - Put writer: required to buy 100 shares of the underlying stock for the strike price

Options Definitions - continued

- **Strike Price or Exercise Price**
 - The price at which the option buyer/owner has the right to buy the underlying stock for a call or sell the underlying stock for a put
 - The price at which the option seller/writer is required to sell the underlying stock for a call or buy the underlying stock for a call
- **Long positions**
 - Go up in value as the underlying stock goes up in value
 - Long call
 - Short put
- **Short positions**
 - Go up in value as the underlying stock goes down in value
 - Long put
 - Short call

Why Trade Options

- Hedging
 - Protect the profits/value of a stock
 - Protect against sudden moves in price of an asset
 - Protect against sudden moves against an option position
- Premium collection
 - Collect premiums from an option sale
 - Covered call and buy-write positions
 - Naked options
 - Credit spreads
- Speculation
 - Long calls
 - Long puts



Chart of IBM



Hedging and protecting gains – Buy a put

IBM International Business Machines Corp. ETB B: 142.50 145.05 +.69
A: .00 +0.48%

UNDERLYING

Last X	Net Chng	Bid X	Ask X	Size	Volume	Open	High	Low
145.05 N	+.69	142.50 Q	0 Q	1 x 0	5,015,957	144.38	145.35	143.99

TRADE GRID

OPTIONS Spread: Single Layout: Theta, Delta Exchange: Composite

CALLS						PUTS					
Theta	Delta	Bid X	Ask X	Exp	Strike	Bid X	Ask X	Theta	Delta		
NOV4 10 (6) 100 (Weeklys) 19.72%											
DEC 10 (27) 100 19.23%											
JAN 11 (62) 100 23.04%											
-0.02	.91	20.40 C	20.70 C	JAN 11	125	.53 C	.55 C	-0.02	-0.08		
-0.02	.87	15.65 C	16.00 C	JAN 11	130	.84 N	.87 I	-0.02	-.12		
-0.03	.79	11.40 C	11.50 C	JAN 11	135	1.40 N	1.44 X	-0.03	-.20		
-0.03	.67	7.45 C	7.55 C	JAN 11	140	2.43 C	2.48 X	-0.03	-.32		
-0.03	.50	4.25 C	4.35 C	JAN 11	145	4.20 C	4.30 I	-0.04	-.50		
-0.03	.32	2.07 C	2.12 X	JAN 11	150	7.00 C	7.15 C	-0.03	-.70		
-0.02	.17	.87 I	.91 I	JAN 11	155	10.70 C	10.95 C	-0.02	-.87		
-0.01	.08	.33 C	.37 X	JAN 11	160	14.95 C	15.60 C	.00	-1.00		
-0.01	.04	.12 C	.16 C	JAN 11	165	19.40 C	22.50 C	-0.02	-.90		
APR 11 (146) 100 23.22%											
JAN 12 (426) 100 25.33%											
JAN 13 (790) 100 23.63%											

- Protect some of the gains in a stock by buying a put
- Buy one Jan 11 135 Put for 100 x 1.44 = \$144

Premium Collection – Sell a covered call

IBM International Business Machines Corp. ETB B: 142.50 145.05 +.89
A: .00 +0.48%

UNDERLYING

Last X	Net Chng	Bid X	Ask X	Size	Volume	Open	High	Low
145.05 N	+.69	142.50 Q	0 Q	1 x 0	5,015,957	144.38	145.35	143.99

TRADE GRID

OPTIONS Spread: Single Layout: Theta, Delta Exchange: Composite

CALLS						PUTS					
Theta	Delta	Bid X	Ask X	Exp	Strike	Bid X	Ask X	Theta	Delta		
NOV4 10 (6) 100 (Weeklys) 19.76%											
DEC 10 (27) 100 19.24%											
.00	1.00	19.45 C	20.35 C	DEC 10	125	.15 X	.18 C	-.02	-.03		
-.02	.93	15.05 C	15.40 C	DEC 10	130	.22 X	.25 X	-.02	-.05		
-.02	.89	10.25 C	10.55 C	DEC 10	135	.40 X	.42 X	-.03	-.10		
-.04	.76	5.90 C	6.05 C	DEC 10	140	.94 X	.97 I	-.04	-.23		
-.04	.50	2.48 B	2.55 C	DEC 10	145	2.47 N	2.51 N	-.05	-.50		
-.03	.21	.68 I	.71 N	DEC 10	150	5.55 C	5.75 C	-.03	-.82		
-.01	.06	.14 C	.17 X	DEC 10	155	10.00 C	10.35 C	-.01	-.97		
-.01	.02	.03 X	.06 X	DEC 10	160	14.90 C	15.25 C	-.01	-1.00		
.00	.01	0 C	.04 C	DEC 10	165	19.85 C	20.20 C	.00	-1.00		
JAN 11 (62) 100 23.05%											
APR 11 (146) 100 23.22%											
JAN 12 (426) 100 25.33%											
JAN 13 (790) 100 23.63%											

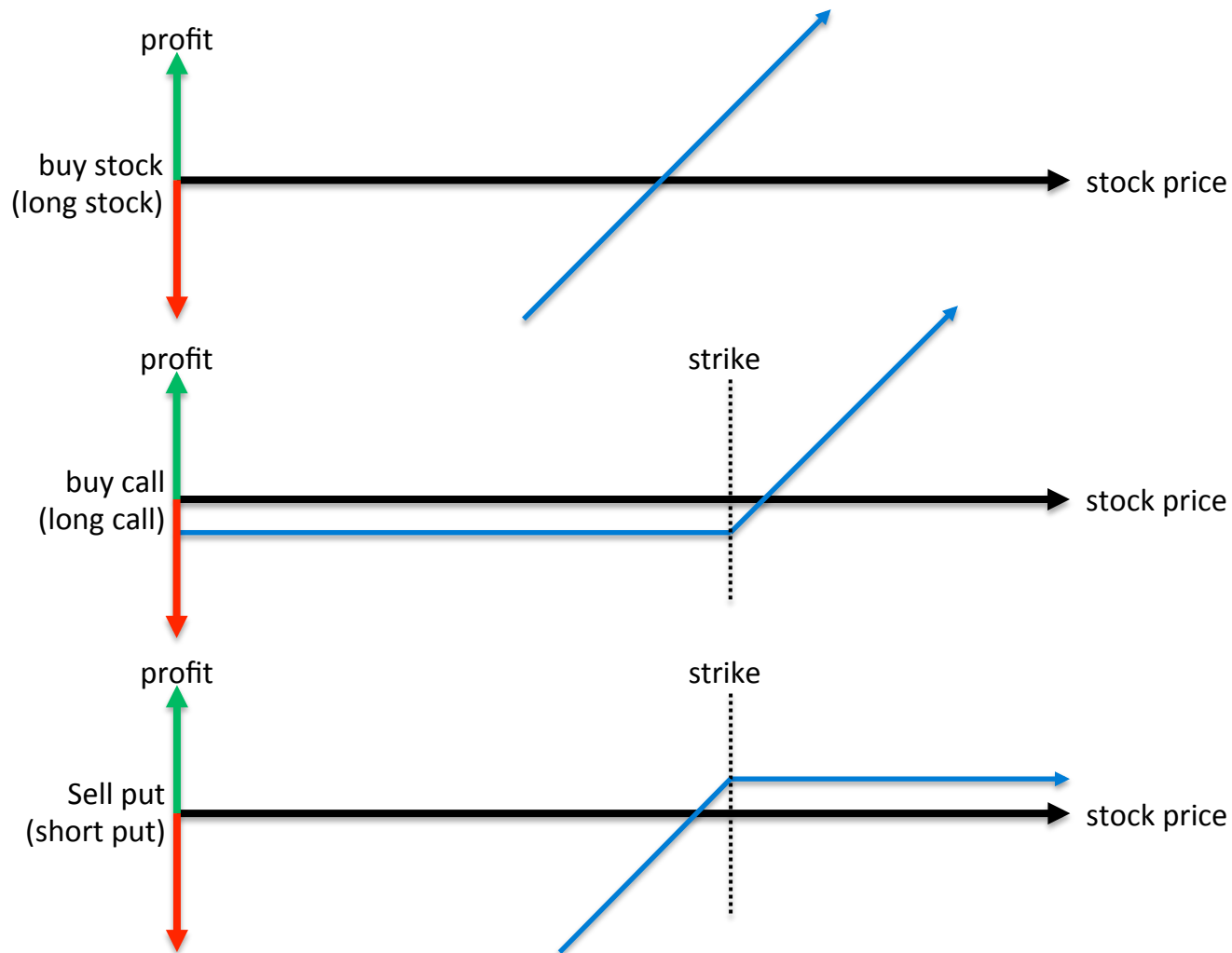
- Collect some premium on IBM stock by selling a call
- Sell one Dec 10 150 Call for 100 x 0.68 = \$68

Speculation - Buy IBM call

IBM International Business Machines Corp. ETB B: 143.90 A: 143.92 143.90 -1.15 -0.79												
UNDERLYING												
	Last X	Net Chng	Bid X	Ask X	Size	Volume	Open	High	Low			
	143.90 N	-1.15	143.90 Z	143.92 Z	1 x 2	1,679,039	144.00	145.04	143.61			
TRADE GRID												
OPTIONS												
CALLS												
	Theta	Delta	Bid X	Ask X	Exp	Strike	Bid X	Ask X	Theta	Delta		
NOV 4 10 (4) 100 (Weeklys) 21.65%												
DEC 10 (25) 100 19.21%												
	-0.03	.94	19.00 C	19.15 C	DEC 10	125	.13 I	.16 X	-0.02	-0.03		
	-0.03	.92	14.10 X	14.25 C	DEC 10	130	.21 X	.24 X	-0.02	-0.06		
	-0.03	.86	9.30 C	9.50 C	DEC 10	135	.43 X	.45 X	-0.03	-0.11		
	-0.04	.72	5.00 C	5.05 X	DEC 10	140	1.08 C	1.10 X	-0.04	-0.27		
	-0.04	.43	1.85 X	1.88 X	DEC 10	145	2.94 Z	2.97 I	-0.05	-0.58		
	-0.02	.15	.43 X	.45 I	DEC 10	150	6.45 X	6.55 C	-0.02	-0.89		
	-0.01	.04	.08 X	.10 N	DEC 10	155	10.70 C	11.25 X	.00	-1.00		
	-0.01	.02	.03 Q	.05 I	DEC 10	160	16.00 C	16.20 C	.00	-1.00		
	.00	.01	0 Z	.03 C	DEC 10	165	20.60 N	21.45 Q	.00	-1.00		
JAN 11 (60) 100 23.32%												
APR 11 (144) 100 23.35%												
JUL 11 (235) 100 23.19%												
JAN 12 (424) 100 25.40%												
JAN 13 (788) 100 23.72%												

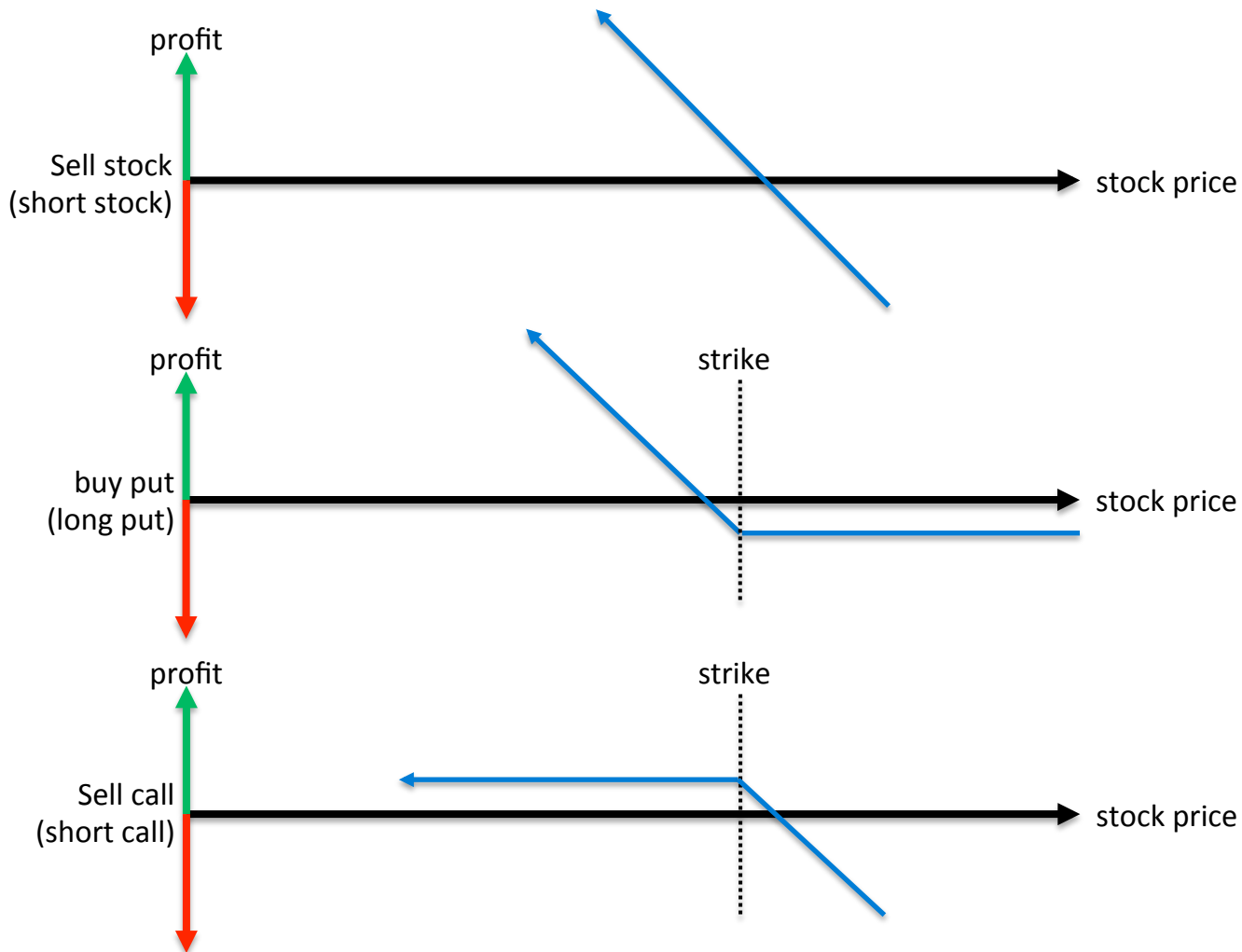
- Object is to profit from rising stock price
- Buy one Dec 10 145 call for 100 x 1.88 = \$188
- If IBM goes to 148 before Dec 18, call worth at least (148-145) x 100 = \$300
- Gain of 300-188 = \$122 Profit: 60%

Long Positions Using Options





Short Positions Using Options



How Options are Identified

- Option class – the identification of the underlying stock or security that the option is based on, e.g. IBM
- Option series – the option type (call or put) expiration month (or week) and the strike price, e.g. Dec 120 call
- Examples:
 - IBM Dec 130 call
 - IBM Jan 130 put
 - IBM Jan 12 130 call
 - IBM Nov4 130 put
- Option Chain – the collection of all options currently available for the underlying stock



Options Chain for IBM

IBM International Business Machines Corp. ETB B: 143.94 A: 143.96 143.98 -1.07 -0.74%											
UNDERLYING											
	Last X	Net Chng	Bid X	Ask X	Size	Volume	Open	High	Low		
	143.98 Q	-1.07	143.94 P	143.96 P	2 x 1	926,922	144.00	145.04	143.69		
TRADE GRID											
OPTIONS											
Spread: Single			Layout: Theta, Delta			Exchange: Composite					
CALLS						PUTS					
	Theta	Delta	Bid X	Ask X	Exp	Strike	Bid X	Ask X	Theta	Delta	
Strikes: 9											
NOV4 10 (4) 100 (Weeklys) 21.61%											
DEC 10 (25) 100 19.60%											
JAN 11 (60) 100 23.57%											
	-02	.90	19.50 C	19.60 C	JAN 11	125	.56 C	.61 X	-02	-08	
	-02	.85	14.80 C	15.00 A	JAN 11	130	.93 X	.96 X	-02	-13	
	-03	.77	10.45 C	10.60 A	JAN 11	135	1.57 A	1.61 X	-03	-22	
	-03	.64	6.65 C	6.80 X	JAN 11	140	2.75 X	2.79 X	-04	-35	
	-03	.46	3.70 I	3.75 Q	JAN 11	145	4.75 I	4.80 I	-04	-54	
	-03	.28	1.74 X	1.77 N	JAN 11	150	7.75 I	7.85 X	-03	-74	
	-02	.14	.71 X	.74 A	JAN 11	155	11.65 X	11.85 C	-02	-90	
	-01	.07	.27 X	.30 I	JAN 11	160	14.10 C	17.75 C	.00	-1.00	
	-01	.03	.10 X	.13 X	JAN 11	165	19.05 C	22.55 C	.00	-1.00	
APR 11 (144) 100 23.48%											
JUL 11 (235) 100 23.24%											
JAN 12 (424) 100 25.49%											
JAN 13 (788) 100 23.77%											

GE Dec 10 Calls

GE Dec 10 Puts



General Electric Co												HTB	B: 15.49	16.22	+18		
UNDERLYING												A: .00		+1.12%			
Last X	Net Chng	Bid X	Ask X	Size	Volume	Open	High	Low									
16.22	N	+18	15.49	J	0	K	1 x 0	49,265,775	16.06	16.23	15.95						
TRADE GRID																	
OPTIONS												Spread: Single	Layout: Theta, Delta	Exchange: Composite			
CALLS						Strikes: 9	PUTS										
Theta	Delta	Bid X	Ask X	Exp	Strike	Bid X	Ask X	Theta	Delta								
▶ NOV4 10 (6) 100 (Weeklys)																30.37%	
▶ DEC 10 (27) 100																30.68%	
.00	1.00	5.05	C	5.25	X	DEC 10	11	0	W	.02	A	.00	-.01				
.00	.94	3.70	C	3.75	X	DEC 10	12.5	.02	X	.03	A	.00	-.03				
.00	.93	2.23	C	2.27	C	DEC 10	14	.04	X	.05	I	.00	-.06				
.00	.84	1.29	C	1.33	X	DEC 10	15	.10	X	.11	X	-.01	-.15				
-.01	.58	.53	C	.54	C	DEC 10	16	.32	I	.34	X	-.01	-.41				
-.01	.24	.14	I	.15	N	DEC 10	17	.93	I	.96	C	-.01	-.77				
.00	.10	.05	A	.06	I	DEC 10	18	1.83	A	1.86	I	.00	-.93				
.00	.05	.02	X	.03	A	DEC 10	19	2.81	I	2.86	C	.00	-.95				
.00	.03	.01	I	.03	A	DEC 10	20	3.80	X	3.85	C	.00	-.98				
▶ JAN 11 (62) 100																32.28%	
▶ FEB 11 (90) 100																32.29%	
▶ MAR 11 (118) 100																36.76%	
▶ JUN 11 (209) 100																37.64%	
▶ JAN 12 (426) 100																39.65%	
▶ JAN 13 (790) 100																36.82%	