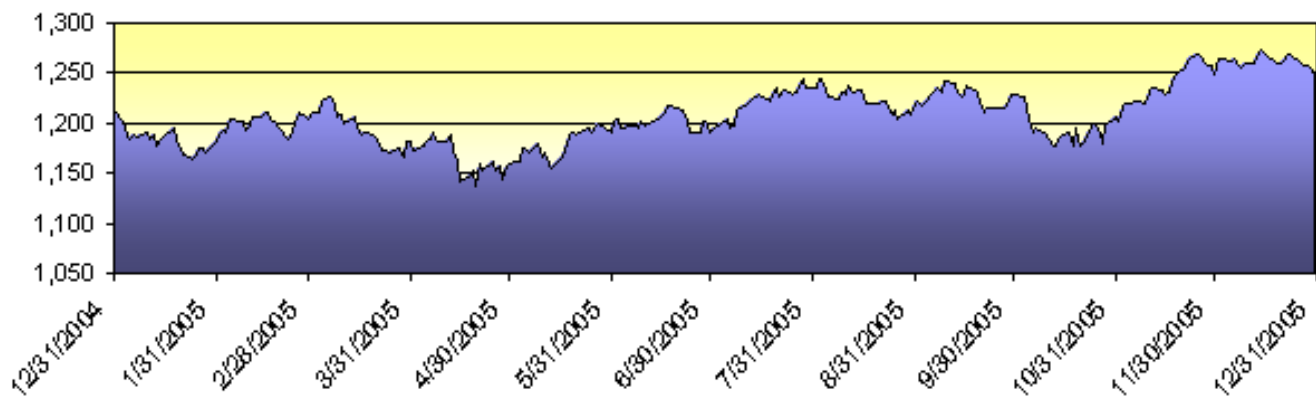


VALUE Quarterly is VALUE Incorporated's quarterly market review. VALUE Incorporated provides consulting services focused on the valuation of businesses, securities, intellectual property and assets for transaction, reporting and litigation purposes.

As 2005 came to a close, investors watched the Dow fall 166 points in the final week of trading to end 66 points below where it began the year. The yield curve inverted for the holiday season, a feat not seen since 2000. The Fed continued to increase its target for short-term rates as the longer-term bond yields were flat to down throughout 2005. On December 13, the Fed has increased its target for the fed funds rate to a four-year high of 4.25%, and investors are predicting an 88% probability of a 25 bp target rate hike on January 31. Spot prices for gold rose 18% in 2005, reaching prices not seen since 1981. West Texas Crude closed the year at a 40% gain to \$61 per barrel, down almost 8% in the fourth quarter.

S&P 500

<u>Year Ended 12/31/05</u>		<u>Quarter Ended 12/31/05</u>		<u>As of 12/31/05</u>	
12-Mo. Low	1,137.5	3-Mo. Low	1,137.5	Current Level	1,248.3
12-Mo. High	1,272.7	3-Mo. High	1,272.7	30-Day Avg.	1,259.7
12-Mo. Δ	3.0%	3-Mo. Δ	1.6%	200-Day Avg.	1,210.2



<u>As of 12/31/04</u>		<u>As of 9/30/05</u>		<u>As of 12/31/05</u>	
Price to Earnings	20.37	Price to Earnings	19.17	Price to Earnings	18.27
Price to Book	2.93	Price to Book	2.84	Price to Book	2.82
Price to Sales	1.53	Price to Sales	1.47	Price to Sales	1.46
Dividend Yield	1.9%	Dividend Yield	2.0%	Dividend Yield	1.8%

U.S. Stock Market Indices

	<u>Current</u>	<u>30-Day Avg.</u>	<u>200-Day Avg.</u>	<u>Quarterly Δ:</u>	<u>12-Month Δ:</u>
S&P Barra Value Index	647.5	652.4	624.9	1.6%	3.5%
S&P Barra Growth Index	596.5	603.0	581.1	1.6%	2.5%
Dow Jones Industrial Avg	10,717.5	10,831.7	10,513.1	1.4%	-0.6%
Russell 1000 Index	679.4	685.0	656.0	1.6%	4.4%
Russell 2000 Index	673.2	680.8	644.3	0.8%	3.3%
CBOE SPX Volatility Index	12.1	11.3	12.9	1.3%	-9.2%

U.S. Stock Market Sectors

	Current	30-Day Avg.	200-Day Avg.	Quarterly Δ :	12-Month Δ :
S&P 500 Aerospace & Defense	305.0	301.3	290.8	3.0%	14.0%
S&P 500 Airlines Index	156.5	156.8	143.1	10.6%	-5.1%
S&P 500 Automobiles Index	94.5	100.5	117.0	-19.4%	-40.6%
S&P 500 Chemicals Index	224.7	225.7	222.4	8.5%	-3.0%
S&P 500 Computers & Peri.	391.3	401.8	376.9	2.1%	-3.9%
S&P 500 Div. Financials Index	655.6	656.9	597.3	8.6%	7.2%
S&P 500 Energy Index	372.7	379.5	358.4	-7.7%	29.1%
S&P 500 Food/Staples Retail	178.5	185.2	182.5	2.1%	-5.2%
S&P 500 Health Care Index	367.5	363.6	360.9	1.0%	4.9%
S&P 500 Insurance Index	359.8	361.8	326.8	6.4%	12.5%
S&P 500 Real Estate Index	130.3	132.5	126.4	0.1%	7.4%
S&P 500 Software Index	478.2	493.7	474.2	0.0%	-4.2%
S&P 500 Semiconductor & Equip.	392.5	405.0	381.3	-0.5%	10.0%

Macro-Economic Indicators

	Money Supply (M2)	New Orders (Durables)	Housing Starts	Consumer Confidence	Personal Income	GDP (Chain Wtd.)	CPI-U
	12/19/05	11/30/05	11/30/05	11/30/05	11/30/05	9/30/05	11/30/05
Quarterly Δ :	1.4%	7.5%	-1.7%	12.3%	0.8%	1.0%	-2.7%
12-Month Δ :	3.9%	12.1%	17.5%	6.2%	5.2%	3.6%	2.7%

Interest Rates (December 31, 2005)

	1-Year	5-Year	10-Year	20-Year	30-Year
US Treasury	4.42%	4.34%	4.41%	4.55%	4.48%
AA Corporate	4.69%	4.82%	5.04%	5.37%	5.31%
A Corporate	4.87%	4.99%	5.25%	5.68%	5.68%
B Corporate	6.23%	7.46%	7.82%	7.98%	8.00%

Interest Rates (September 30, 2005)

	1-Year	5-Year	10-Year	20-Year	30-Year
US Treasury	4.10%	4.22%	4.40%	4.61%	4.53%
AA Corporate	4.35%	4.63%	4.93%	5.32%	5.32%
A Corporate	4.53%	4.84%	5.15%	5.67%	5.66%
B Corporate	6.08%	7.22%	7.63%	8.00%	8.03%

Federal Reserve Watch

Current Rate (Overnight)	4.25%
Current Target (12/31/05)	4.25%
Next Meeting	11/1/05
Fed Funds Futures (Feb.)	4.47%

US Dollar LIBOR Rates

	12/31/05	9/30/05
7-Day	4.32%	3.82%
1-Month	4.39%	3.86%
3-Month	4.54%	4.07%
6-Month	4.70%	4.23%

Currency & Commodity Spot Prices

	Current (\$)	Quarterly Δ :	12-Month Δ :
Euro Spot	\$ 1.18	-1.5%	-12.6%
Japanese Yen Spot	117.75	3.7%	14.7%
Gold Spot \$/oz	517.00	10.2%	17.9%
Silver Spot \$/oz	8.82	18.3%	29.3%
Bloomberg West Texas Intermediate	61.13	-7.7%	40.7%
USDA Cattle	93.43	7.8%	6.5%
USDA Middling Grade Cotton Avg.	55.39	1.8%	16.1%

Top Quarterly Merger and Acquisition Announcements

Date	Target	Acquiror	Offer (\$MMs)
12/12/05	Burlington Resources Inc.	Conocophillips	\$ 36,089.2
12/ 5/05	Guidant Corp.	Boston Scientific Corp.	22,351.0
11/13/05	Georgia-Pacific Corp.	Koch Industries Inc.	20,445.1
12/19/05	Constellation Energy Group.	FPL Group Inc.	14,834.7
10/ 3/05	Dex Media Inc.	R.H. Donnelley Corp.	9,719.2
10/ 7/05	Innovene Inc.	Ineos Group Holdings PLC	9,000.0
12/ 9/05	Alltel Wireline Business	Valor Communications Group	8,990.4
10/ 2/05	Texas Genco LLC	NRG Energy Inc.	8,323.5
10/10/05	Jefferson-Pilot Corp.	Lincoln National Corp.	7,660.5
11/18/05	GE Insurance Solutions Business	Swiss Re	6,800.0
10/24/05	Nextel Partners Inc.	Sprint Nextel Corp.	6,516.0
11/18/05	Scientific-Atlanta Inc.	Cisco Systems Inc.	5,236.1
12/22/05	Arden Realty Inc.	General Electric Co.	4,680.9
10/13/05	Vintage Petroleum Inc.	Occidental Petroleum Corp.	4,158.3
11/21/05	Alamosa Holdings Inc.	Sprint Nextel Corp.	4,028.8

Source: Bloomberg LP

Ask VALUE...

Question:

Does the Black-Scholes or the binomial model produce higher call option prices?

Answer:

The short answer is both methods produce the same value. The long answer depends on the context of the question.

The Black-Scholes model is a complex formula that calculates the option value in one calculation and therefore cannot account for interim events, such as early exercise. The binomial model, or sometimes referred to as a lattice model, is a series of many simple formulas that can account for interim events.

There are two styles of options: American and European. This refers only to how the options are exercised. American options can be exercised at any time and European options can only be exercised upon expiration of the contract. Therefore, the Black-Scholes model can only calculate a European-style option value, while the binomial model can calculate either. If the underlying stock does not pay dividends, then the value calculated will be the same whether it is American- or European-style. But if the stock does pay dividends, then the value will be slightly higher if the option is American-style, reflecting the benefit of the ability to exercise early. In this instance, the binomial model can produce a slightly higher call option value.

But from a CFO's point of view, because the Black-Scholes model cannot account for interim events, it also cannot account for employee attrition and other employee behaviors that affect the call option value for FAS 123-R purposes. Under this scenario, the binomial model will produce lower values and more accurately reflect the options exercised and the expense incurred by the company.

[-Bob Bridges, Senior Manager, VALUE Incorporated](#)

To submit a question for an upcoming VALUE Quarterly, please contact us via email or call us directly.

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