

## NYSE Stock Exchange Closing Prices

December 21, 2006

A	Symbol	Open	High	Low	Close	Net		Vol	52	52	Div	Yield	PE	Year-To-
						Chg	%Chg		Week	Week				Date
AAR CORP.	AIR	27.70	28.82	27.43	28.42	1.17	4.29	1,343,000	29.32	19.40	...	...	24	18.7
ABM INDUSTRIES INC.	ABM	23.47	23.80	22.99	23.26	-0.23	-0.98	286,200	24.00	16.11	.48f	2.1	12	19.0
ABN AMRO HOLDING N.V. ADS	ABN	32.41	32.50	32.00	32.23	-0.12	-0.37	446,600	32.85	25.43	1.47e	4.6	...	23.3
ACA CAPITAL HOLDINGS INC.	ACA	13.77	14.65	13.77	14.44	0.67	4.87	51,500	14.90	12.60	...	...	...	12.4
ACCO BRANDS CORP.	ABD	26.98	27.45	26.98	27.32	0.34	1.26	403,900	27.09	17.95	...	...	43	11.5
ACE LTD.	ACE	60.89	61.05	60.52	60.65	0.02	0.03	584,000	61.50	47.81	1.00	1.6	11	13.5
AES CORP.	AES	22.20	22.42	22.19	22.37	0.10	0.45	3,670,000	23.85	15.57	...	...	46	41.3
AFLAC INC.	AFL	45.94	46.15	45.68	45.80	0.01	0.02	1,573,700	49.40	41.63	.74f	1.6	15	-1.3
AGCO CORP.	AG	31.50	31.52	31.04	31.24	-0.13	-0.41	710,900	35.57	16.25	...	...	dd	88.5
AGL RESOURCES INC.	ATG	39.15	39.44	38.77	38.92	-0.27	-0.69	179,100	40.09	34.40	1.48	3.8	13	11.8
AK STEEL HOLDING CORP.	AKS	15.86	15.92	15.62	15.67	-0.18	-1.14	1,957,400	17.14	7.58	...	...	82	97.1
AMB PROPERTY CORP.	AMB	59.02	59.30	58.41	58.45	-0.56	-0.95	609,600	63.02	46.26	1.84	3.1	20	18.9
AMCOL INTERNATIONAL CORP.	ACO	28.24	28.24	27.20	27.24	-0.95	-3.37	96,400	33.50	18.54	.56f	2.1	20	32.7
AMR CORP.	AMR	31.10	31.34	30.43	30.63	-0.42	-1.35	5,466,700	34.40	18.24	...	...	dd	37.8
APT SATELLITE HOLDINGS LTD. ADS	ATS	1.60	1.65	1.51	1.65	0.05	3.13	26,200	2.10	1.20	...	...	...	26.9
AT&T INC.	T	34.98	35.65	34.85	35.17	0.22	0.63	37,786,000	36.00	24.24	1.42f	4.0	19	43.6
AVX CORP.	AVX	14.80	14.89	14.61	14.66	-0.17	-1.15	425,700	19.90	13.09	.15	1.0	20	1.2
AXA S.A. ADS	AXA	40.15	40.17	39.86	40.02	-0.19	-0.47	183,400	40.70	29.25	.62e	1.5	...	26.1
AZZ INCORPORATED	AZZ	51.82	52.55	50.92	52.00	0.18	0.35	54,900	53.00	17.60	...	...	22	188.2
AARON RENTS INC.	RNT	27.96	28.09	27.42	27.67	-0.22	-0.79	636,000	29.99	20.72	.06f	.2	19	31.3
AARON RENTS INC. CL A	RNTA	25.02	25.02	25.02	25.02	-0.25	-0.99	100	26.25	18.90	.06f	.2	18	29.0
ABB LTD. ADS	ABB	17.71	17.72	17.51	17.59	-0.20	-1.12	1,738,400	17.90	9.27	.10	.6	37	81.0
ABBOTT LABORATORIES	ABT	47.86	48.00	47.46	48.00	0.05	0.10	3,833,800	49.87	39.18	1.18	2.5	23	21.7
ABERCROMBIE & FITCH CO. CL A	ANF	70.57	70.75	70.10	70.27	-0.04	-0.06	1,164,200	79.42	49.98	.70	1.0	17	7.8
ABITIBI-CONSOLIDATED INC.	ABY	2.43	2.48	2.41	2.42	-0.02	-0.82	614,800	4.53	2.23	...	...	...	-40.1
ACADIA REALTY TRUST SBI	AKP	24.24	24.74	24.11	24.40	0.24	0.97	229,900	27.12	10.54	0.06	2.2	44	24.7

### Questions

- AGCO had a loss for the last year it reported, as indicated by the “dd” in the PE column. How much has the stock increased since January 1, 2006? Why?
- Which stock traded the most shares on December 21?
- How was the dividend yield for AT&T computed?
- How much did AVX earn per share last year? Hint: use the PE ratio.
- Which stock has the best year-to-date performance and what was its dividend yield?
- Which stock has the highest PE and how much did it increase so far this year?
- Advanced Micro Devices has declined 31.5% this year, yet has a PE ratio of only 20. What might be the explanation?

## Berkshire Hathaway, Inc.

### “A” shares



### “B” shares



The “B” shares are equivalent to 1/30th of the “A” shares. The “A” shares price of \$109,450 divided by 30 equals \$3,648, a little less than the price of the “B” shares. The “B” shares trade at slightly higher than their actual value because investors can more easily afford them and are willing to pay a slight premium for them.

## Technical Analysis

The following statement about technical analysis and the chart at the bottom of the page appears in An Introduction to Technical Analysis at <http://www.stockcharts.com/education/>.<sup>1</sup> I will discuss the chart briefly in class.

Technical analysts consider the market to be 80% psychological and 20% logical. Fundamental analysts consider the market to be 20% psychological and 80% logical. Psychological or logical may be open for debate, but there is no questioning the current price of a security. After all, it is available for all to see and nobody doubts its legitimacy. The price set by the market reflects the sum knowledge of all participants, and we are not dealing with lightweights here. These participants have considered (discounted) everything under the sun and settled on a price to buy or sell. These are the forces of supply and demand at work. By examining price action to determine which force is prevailing, technical analysis focuses directly on the bottom line: What is the price? Where has it been? Where is it going?

Even though there are some universal principles and rules that can be applied, it must be remembered that technical analysis is more an art form than a science. As an art form, it is subject to interpretation. However, it is also flexible in its approach and each investor should use only that which suits his or her style. Developing a style takes time, effort and dedication, but the rewards can be significant.



- ← resistance (horizontal line)
- ← support (horizontal line)

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<sup>1</sup> Do not look at this material unless you are curious; it is highly technical, even for an introduction. To get to the introduction, click Overview in the Chart School Table of Contents, then click Technical Analysis under “More Articles for New Chartists.”

## **Stock funds outperform S&P 500**

By Chet Currier, Bloomberg News  
Insidebayarea.com December 25, 2005

If you happen to hear a mutual-fund manager boasting of beating the stock market in 2005, temper your enthusiasm. Yes, that may come as welcome news. But no, it won't qualify as a rare or astonishing feat. Approaching year-end, the average among more than 4,000 stock funds tracked by Bloomberg has trounced the Standard & Poor's 500 Index, the stock index most commonly used as a performance measuring stick. Through the end of last week, the average equity fund was up 10 percent, while the S&P 500 had gained 6.4 percent, including dividends.

Since the S&P 500 may be viewed as a U.S. rather than a world stock index, suppose we confine our sample to domestic growth, growth-and-income and value funds. Even then, the average fund still prevails, up 8 percent. All this continues a trend that was well under way as the year began. Over the last three years, the average stock fund has gained 18.6 percent a year, according to Bloomberg data, while the S&P 500 returned 13.7 percent a year. In the last five years, the funds averaged a 4.7 percent annual gain while the index edged up 1 percent per annum.

Charts and graphs from 2005 may seldom be seen in all those textbooks describing how fund managers in general can't beat the market. Surprise! Not only have they been doing just that of late, they have made it look almost easy. Cheery as this news may be for many a fund investor, it can tempt us to draw unwarranted inferences.

Compelling reasons have abounded to shy away from stocks, ranging from interest-rate increases by the Federal Reserve to long spells of sluggish behavior by the stock market itself. Secondly, a fundamental common-sense principle of investing hasn't been repealed. It remains impossible for all participants in a market collectively to beat that market. The average result will inevitably be average, and no more than that.

If the average return achieved by market participants manages somehow to exceed the showing of a market index for a sustained period, that may say more about the idiosyncrasies of the index than about the superior skills of the average investor. Get a better index, the random-walkers will say, and we will correctly see once again that investors as a group can't beat the game.

Now, to make a truly fair comparison between funds and an index such as the S&P 500, we shouldn't use a simple average of all the funds. Funds with a lot of assets ought to carry more weight, proportionately, than smaller ones. Yet in one group of big funds I looked at, a clear majority beat the S&P 500.

Among 66 U.S.-based stock funds with assets of \$10 billion or more, 47 had year-to-date gains through the end of last week that exceeded the S&P 500's. Many of these winners focus on something other than the big U.S. blue chips that dominate the S&P 500. Some go the international route, others concentrate on small- or mid-caps.

Indeed, specialized index funds in those niches proved just as able as managed funds to beat the S&P 500. So a skeptic can say the preponderance of market-beaters was a fluke. It just so happens that the big stocks in the S&P 500 have been suffering through a long cold spell, making everybody else look good. My question is, isn't that what investing is all about — being in the right place at the right time? If you define the terms of the game so that picking your spots doesn't count, no wonder it comes out as no contest.

Perfect your portfolio - and take a rest

Picking stocks is hard. ETFs ease the pain while still letting you benefit from the market's potential.

By Howard R. Gold, Money Magazine. *Additional reporting by Carolyn Bigda*

October 20 2006 CNNMoney.com

NEW YORK (Money Magazine) -- Some time after the market collapsed in the spring of 2000, you probably realized there's nothing simple about picking stocks.

To do it right, you need to make sure the company in which you're investing is well managed, financially solid and in an industry with decent prospects. That means plowing through earnings statements, finding good sources of independent research and assessing the integrity of the executive suite. Even stock über-jock Jim Cramer, who pounds the table for his favorites on CNBC, urges viewers to spend an hour a week researching each individual stock they own.

That's a hefty part-time job, and there's even more to it: Should you sell a losing stock? Are you properly diversified? "People are overwhelmed," says Louis P. Stanasolovich, president and chief executive officer of Legend Financial Advisors in Pittsburgh. "They can't pick stocks on a day-to-day basis."

It's no wonder that the percentage of U.S. households that own individual stocks hasn't budged since 1999. And that so-called passive investing in index funds and one-stop investing through target-date retirement funds are gaining in popularity. They're a snap to use, and they work well for most people.

But they're also one-size-fits-all approaches that can have significant shortcomings. Plus, if you like investing, they're not much fun.

What would be great, then, is a way to bridge the gap between easy, plain-vanilla investing and difficult, old-fashioned stock picking.

Enter exchange-traded funds. ETFs are index funds that trade all day just as stocks do and cover everything from equities to bonds to commodities. Your broker can sell you ETFs tied to industries, precious metals, Standard & Poor's 500 index, Treasury bonds, the euro, or growth or value stocks.

"ETFs offer you the chance to be an active investor with less risk than if you picked individual stocks and bonds," says Brian S. Orol, president of Strategic Wealth Group in Raleigh, N.C. "They allow you to take 10% to 20% of a portfolio and let it be actively managed" in a simple, cost-effective fashion.

There are now more than 270 ETFs with total assets exceeding \$350 billion trading on U.S. exchanges. That's a drop in the bucket compared with the \$9.6 trillion invested in mutual funds, but ETFs have grown fourfold in the past five years. Here's how you can use them as a "passive aggressive" investor.

Looking for value

Traditional index funds tied to a total market index like the Wilshire 5000 should make up the core of most people's portfolios. But they can be pretty blunt instruments. That's because they're weighted by the stock market value of their components, so as stocks heat up, they make up an increasingly large portion of the index.

That is, until they turn cold. In the late 1990s, technology stocks became a bigger and bigger part of the market. When the stocks crashed, they took down index funds with them.

In addition, if you held such funds then, you had comparatively little invested in out-of-favor energy and basic-materials stocks, which became the stars of this decade. ETFs allow you to put money into market sectors that look undervalued without having to pick individual stocks or pay the high fees charged by mutual funds that specialize in an industry. Let's say you think that technology stocks, which have underperformed the broader market over the past five years, look like bargains.

You can put an extra sliver - say, 5% - of your equity holdings into the S&P Select Technology SPDR ([XLK](#) ([Charts](#))) or the iShares Goldman Sachs Technology Index ETF ([IGM](#) ([Charts](#))), which hold large tech names such as Apple Computer, Intel and Microsoft, as well as smaller companies. You'll benefit as tech's fortunes improve, but you won't have to bet on how Apple's iPod will fare against coming competition or on whether Intel will win its escalating chip war with AMD.

Or maybe you're convinced that the market as a whole is making a major turn. There's good reason for that belief. Large-company growth stocks were among the best-performing asset classes from 1994 to 1999. In every year since, they have been laggards.

But Money Magazine's Michael Sivy and other commentators have been arguing that these stocks are really undervalued now. If you agree, you might buy the iShares Russell 1000 Growth Index ETF ([IWF](#) ([Charts](#))) or the Vanguard Growth ETF ([VUG](#) ([Charts](#))), which own blue-chip warhorses including General Electric and Johnson & Johnson. (You can also buy mutual funds that track growth indexes.)

#### Widening your options

ETFs can also give you a stake in commodities, including oil, natural gas and industrial metals, as well as precious metals such as gold. Academic studies suggest that an investment in commodities increases a portfolio's diversification, making it less likely that you'll suffer a catastrophic loss when stocks take a dive.

Prior to the advent of exchange-traded funds, there was no easy way for individual investors to invest in "stuff." As a substitute, you could have bought a natural-resources mutual fund, but these funds generally carry high expenses -and they invest in companies, not commodities.

Now, however, you can purchase the iShares GSCI Commodity-Indexed Trust ([GSG](#) ([Charts](#))), which has 74% of its weighting in energy products, or the PowerShares DB Commodity Index Tracking Fund ([DBF](#) ([Charts](#))), with a 55% concentration in energy. (Instead of buying and holding actual commodities, these funds try to mimic an index by trading futures contracts.)

#### Investor, know thyself

Of course, if you had been watching oil prices rise over the past year and then jumped into an ETF that tracks them this spring, you lost a big chunk of your investment in recent months. One of the problems with active investing is that amateurs and pros alike are given to chasing hot performers, only to get burned.

And ETFs certainly make that easy to do. If you can't check those impulses, stick with a passive indexing approach. ETFs also aren't a good way to regularly invest small amounts of money because you have to pay a brokerage fee to buy them. Even if you're paying just \$10 a trade at a discount brokerage, you'll lose 5% of a \$200 investment to a commission.

And you won't hit home runs with exchange-traded funds. There is no Google ETF.

On the other hand, you also are not going to face the kind of meltdown that even blue-chip stocks occasionally undergo. In mid-July, for example, Internet stalwart Yahoo reported earnings in line with Wall Street's estimates as revenue surged 28%. But the company also announced a delay in a new system to serve online search ads, a field in which Yahoo trails Google.

The result: Yahoo's stock tanked 22%, its biggest one-day drop ever. Overnight, shareholders found themselves \$10 billion poorer. (The stock also dropped 11% one day in September when it warned of weak third-quarter advertising sales.)

This kind of volatility makes it hard to stay the course as an active investor and gives rise to the kind of frenetic buying and selling that hurts you in the long run. So it is worth remembering that on the day Yahoo plunged, ETFs tracking technology indexes barely budged.

## APPLYING FINANCIAL PRINCIPLES TO BONDS

The first two paragraphs at ¶ 1,380 read as follows:

### **Relationship Between Interest Rates and Stock and Bond Prices**

A 10-year corporate bond with a \$1,000 face value may be priced at issuance to yield 5%, i.e., to pay \$50 per year. But if, one year after issuance, interest rates have risen so that a comparable newly issued bond would have to pay 10% interest, then in a reasonably efficient market, the price of the original 5% bond will simply fall until the effective interest rate is competitive. That is, no one will buy the 5% bond unless its effective interest rate is the same as other bonds of similar risk that are available in the market—10% in our example. Newly priced and issued bonds will simply have to pay the higher rate as their original interest rate.

In the above example, the newly issued bond would have a face value of \$1,000 and an interest rate of 10%. Assuming the new bond has the same maturity as the original bond, the price of the original bond must drop to \$712.04

In March 1999, Diana purchased a GM 5.25% bond due March 2009 for \$1,000 discussed in the second paragraph on page 35. One year later, she wants to sell the bond, but current market interest rates are 6%. Jeff wants to buy this bond but he is not willing to pay \$1,000 for it because he can buy a new GM bond with a 6% coupon. The market price of Diana's bond will decline until the yield to maturity (YTM) equals the 6% current market rate. The casebook says the price of the bond will be \$948.99. When a bond sells for less than \$1,000, it is selling at a discount.

The following information appeared at <http://www.investopedia.com/calculator/AOYTM.aspx>.

Par Value: 1000  
Market Value: 948.99  
Annual Rate: 5.25 %  
Maturity in Years: 9  
Payments:  Quarterly  
 Semi - Annually  
 Annually  
Calculate  
Yield to Maturity: **6.00%**

**Interpretation:**

A bond that pays 1 coupon(s) of 5.25% per year, that has a market value of \$948.99, and that matures in 9 years will have a yield to maturity of 6.00%.

What does it mean? Well, bond investors don't just buy only newly issued bonds (on the primary market) but can also buy previously issued bonds from other investors (on the secondary market). Depending on whether a bond on the secondary market is bought at a discount or premium, the actual rate of return can be greater or lower than the quoted annual coupon rate. This is why bond investors need to look at YTM, which measures the bond's yield from the day the investor buys it to the day it expires, when the principal is paid to the bondholder.

Ignoring how the amount was calculated, if the bond sells for \$948.99, the YTM is 6%, as indicated above the interpretation Jeff buys the bond from Diana in March 2000 for \$948.99. The bond pays him \$52.50 of interest per year (\$1,000 face value x 5.25% “coupon” rate). The current yield calculated by dividing the annual interest payment by the purchase price of the bond. Jeff's current yield is 5.53% ( $52.50 \text{ interest} \div 948.99 \text{ purchase price}$ ).

If Jeff keeps the bond until maturity, he will receive the \$1,000 face value from GM, which is \$51.01 more than he paid for the bond. This additional profit will bring the YTM up to 6%. The YTM incorporates the current yield and the gain or loss at maturity.

You can estimate the YTM as follows. Divide the \$51.01 profit at the time of sale by nine years remaining to maturity and the result is \$5.67 additional income per year. Add \$5.67 to the \$52.50 interest he will receive each year and the total income is \$58.17 per year. Divide \$58.17 by his \$948.99 cost of the bond and the result is a 6.13% yield.

### Declining Interest Rates

If interest rates decline while an investor holds a bond, the value of the bond will go up. Assume one year after Diana bought the GM 5.25% bond of March 2009, market interest rates fell to 4.23%. Since fresh GM bonds pay only 4.23% interest (\$42.30 per year), Jeff will be willing to pay more than \$1,000 for Diana's bond what will pay him \$52.50 per year. The price of Diana's bond will increase to \$1,075, which will make the YTM 4.23%. This bond is selling at a premium to the \$1,000 par value.

Par Value: 1000  
Market Value: 1075  
Annual Rate: 5.25 %  
Maturity in Years: 9  
Payments:  Quarterly  
 Semi - Annually  
 Annually  
Calculate  
Yield to Maturity: 4.23%

Jeff's current yield on the bond is 4.88% ( $\$52.50$  interest per year  $\div$   $\$1,075$  purchase price of the bond). In addition, Jeff will lose \$75 at maturity because he paid \$1,075 and will receive \$1,000 when the bond is redeemed. To estimate the YTM, divide the \$75 loss by the nine years remaining to maturity and get \$8.33 less income per year. Subtract \$8.33 from the \$52.50 interest he receives each year and the net income from the bond is \$44.17 per year. Divide this amount by the \$1,075 he paid and the YTM is approximately 4.11%.

## Treasury Bond Prices, January 19, 2007

NOTES/BONDS	COUPON	MATURITY DATE	CURRENT PRICE/YIELD	PRICE/YIELD CHANGE
2-YEAR	4.750	12/31/2008	99-22 / 4.92	-0-02 / .035
3-YEAR	4.625	11/15/2009	99-14+ / 4.84	-0-02¾ / .034
5-YEAR	4.625	12/31/2011	99-10+ / 4.78	-0-04+ / .032
10-YEAR	4.625	11/15/2016	98-26+ / 4.78	-0-07½ / .030
30-YEAR	4.500	02/15/2036	94-12 / 4.86	-0-10+ / .022

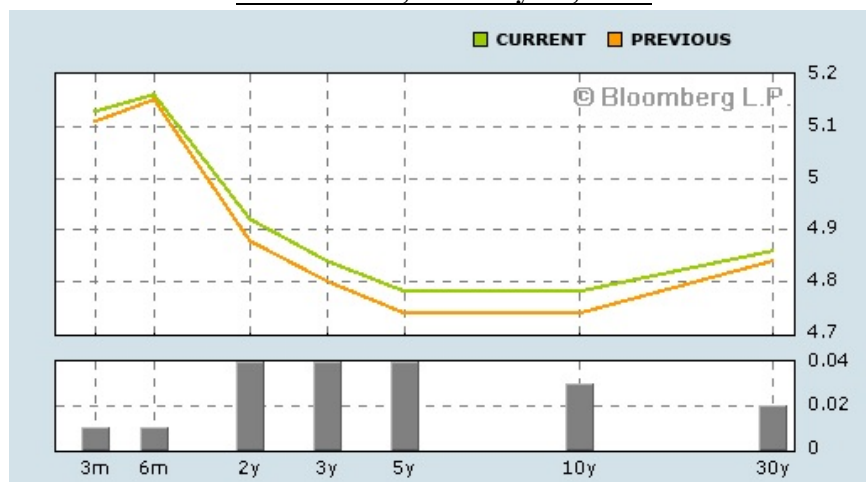
This table shows the prices for U.S. Treasury securities on January 19, 2007. The face value of Treasury bonds is \$1,000. Reading across the 30-year row, the coupon rate is 4.5%, which means the bond pays \$45 of interest each year. Interest is paid in semiannual payments, so the investor gets a check for \$22.50 every six months. The bond matures and the investor will receive the \$1,000 face value on February 15, 2036.

The current quote for the 30-year bond is 94-12; the “-12” is a fraction of a point measured in 32nds. 12 divided by 32 equals .375, making the quote 94.375. Multiply the quote by 1,000 to get the \$943.75 market price of the bond. An easy way to calculate the market price of a bond is to move the decimal point one place to the right of the quoted price (94.375 quote means the bond sells for \$943.75).

The current yield of the bond is 4.77, calculated by dividing the \$45 annual interest by the \$943.75 purchase price. The 4.86% yield shown in the table is the yield to maturity. An investor who pays \$943.75 for the bond will have a \$56.25 profit when the bond is redeemed for \$1,000 at maturity. As discussed above, the higher current yield and the profit at maturity increases the YTM above the current yield.

The next figure to the right shows that the bond closed down 10/32 in that day’s trading. One point equals a \$10 price change; 10/32 of a point equals a change of \$3.125 (11/32 = .3125 x \$10). The closing price of a 30-year bond was down \$3.125 from the previous day. The \$45 annual interest the bond pays remains constant. When the price of the bond declines, the current yield and the yield-to-maturity increase. The last figure in the row shows the YTM increased by .02%.

### Yield Curve, January 19, 2007



## BOND PRICES on January 19, 2007

### Investment Grade Corporate Bonds

#### Most Active Investment Grade Bonds

Issuer Name	Symbol	Coupon	Maturity	Rating Moody's/S&P/ Fitch	High	Low	Last	Change	Yield %
CITIGROUP	C.HEW	6.125%	Aug 2036	Aa2/--/AA	104.057	103.798	103.971	-0.202	5.841
ANADARKO PETROLEUM CORP	APC.HF	6.450%	Sep 2036	Baa2/BBB-/BBB	101.372	99.114	99.924	-1.140	6.455
SPRINT NEXTEL CORP	FON.HM	6.000%	Dec 2016	Baa3/BBB+/BBB	100.500	96.890	97.048	-1.897	6.407
SLM	SLM.HH	5.125%	Aug 2012	A2/A/A+	99.577	97.750	98.753	0.080	5.385
GOLDMAN SACHS GP	GS.WL	5.625%	Jan 2017	A1/--/A+	101.081	99.259	99.821	0.156	5.648
ANADARKO PETROLEUM CORP	APC.HE	5.950%	Sep 2016	Baa2/BBB-/BBB	101.542	99.401	99.593	-0.522	6.000
ONEOK PARTNERS LP	OKE.GQ	5.900%	Apr 2012	Baa2/BBB/BBB	101.764	101.418	101.458	-0.077	5.570
CAPITAL ONE CAPITAL II	COF.HK	7.686%	Aug 2036	Baa2/BBB-/BBB-	114.547	113.000	114.547	0.801	6.564
WACHOVIA CORP	WB.RA	5.625%	Oct 2016	A1/--/A+	101.548	100.200	100.416	-0.082	5.568
MORGAN STANLEY	MWD.XJ	5.450%	Jan 2017	Aa3/--/AA-	100.659	98.460	98.467	-0.199	5.653

### High-Yield (Junk) Bonds

#### Most Active High Yield Bonds

Issuer Name	Symbol	Coupon	Maturity	Rating Moody's/S&P/ Fitch	High	Low	Last	Change	Yield %
FORD MOTOR CREDIT	F.IT	7.250%	Oct 2011	B1/B/BB-	99.665	96.500	98.063	0.032	7.741
DELTA AIR LINES	DAL.GJ	8.300%	Dec 2029	--/--/C	70.250	66.800	70.250	2.250	N/A
GENERAL MOTORS ACCEPTANCE	GMA.IMW	6.750%	Dec 2014	Ba1/BB+/BB+	102.550	101.030	102.438	0.007	6.349
FORD MOTOR CREDIT CO	F.GSG	8.000%	Dec 2016	B1/B/BB-	100.000	98.500	98.875	-1.075	8.166
PPC ESCROW	CHX.GD	9.250%	Nov 2013	B2/B/--	109.750	109.625	109.750	5.750	5.935
GENERAL MOTORS	GM.HB	8.375%	Jul 2033	Caa1/B-/B	96.750	90.966	94.450	0.200	8.924
FORD MOTOR	F.GY	7.450%	Jul 2031	Caa1/CCC+/B-	83.750	78.500	80.750	0.750	9.486
MGM MIRAGE	MGG.HA	7.625%	Jan 2017	Ba2/BB/BB	105.450	100.188	102.750	0.750	7.230
CCH I HLDS	CHTR.HH	9.920%	Apr 2014	Caa3/CCC-/CCC	92.375	91.750	92.125	0.125	11.556
GENERAL MOTORS	GM.HC	8.250%	Jul 2023	Caa1/B-/B	98.388	92.655	94.500	-0.875	8.892

### Convertible Bonds

#### Most Active Convertible Bonds

Issuer Name	Symbol	Coupon	Maturity	Rating Moody's/S&P/ Fitch	High	Low	Last	Change	Yield %
FORD MOTOR CO	F.GSF	4.250%	Dec 2036	Caa1/CCC+/B-	115.179	113.992	115.179	1.179	2.505
BEST BUY	BBY.GE	2.250%	Jan 2022	Baa3/BBB-/BBB	111.605	109.000	111.605	0.171	C
MEDTRONIC	MDT.GJ	1.500%	Apr 2011	A1/AA/--	108.375	106.089	106.125	-1.004	0.048
JDS UNIPHASE CORP	JDSU.GD	1.000%	May 2026	--/--/--	89.000	87.436	88.703	3.822	1.688
AMGEN	AMGN.GM	0.125%	Feb 2011	--/--/--	103.375	101.750	103.250	0.380	-0.671
HEADWATERS	HDWR.GB	2.875%	Jun 2016	--/B/--	103.830	102.500	103.397	1.591	2.466
KING PHARMACEUTICALS	KG.GE	1.250%	Apr 2026	--/--/--	101.284	100.630	100.725	-0.587	1.128
NABORS INDUSTRIES	NBR.GP	0.940%	May 2011	--/--/A-	95.313	94.500	95.313	0.987	2.121
SANDISK CORP	SNDK.GC	1.000%	May 2013	--/BB/--	88.428	87.700	87.988	-0.292	3.112
PRIDE INTL	PDE.GG	3.250%	May 2033	--/BB-/BB	120.687	119.000	120.687	4.664	-11.323

## Tax-Exempt Bonds

### Tax Exempt Bonds

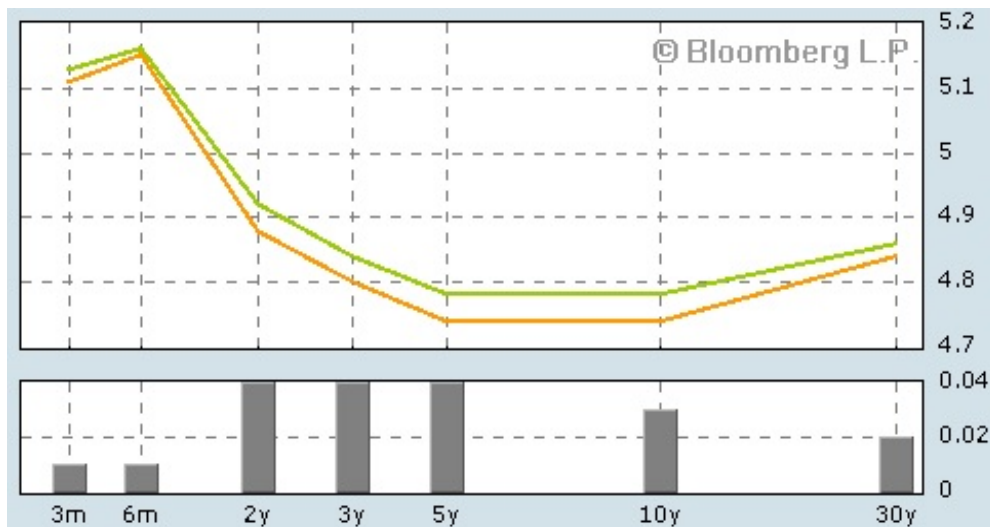
Friday, January 19, 2007

Issue	Coupon	Maturity	Price	Change	Bid Yield
AL St Port Auth doc fac	4.500	10-01-36	96.965	-0.312	4.69
Bay Area TII Ath CA SnFrm	5.000	04-01-31	106.204	-0.080	4.19
CA state var purp gen obl	4.500	09-01-36	98.228	-0.159	4.61
CO HlthFacsAuth revbds06	4.500	09-01-38	98.011	.971	4.62
DallasFtWorthTX JointRv0	5.000	11-01-32	103.006	-0.119	4.48
Harris Co TX toll road Rv b	4.500	10-01-31	99.110	-0.147	4.56
Hudson Yrds Infrastrctr NY	4.500	02-15-47	98.879	-0.364	4.56
LA USD gen oblig ref bds	4.250	01-01-28	97.424	-0.133	4.44
LA USD gen oblig ref bds	4.500	01-01-28	100.578	-0.084	4.43
Lakeland FL hosprevbds 06	5.000	11-15-32	103.126	-0.081	4.60
Long Island Pwr Auth NY	4.250	05-01-33	96.642	-0.151	4.47

## Zero Coupon Tax-Exempt Bonds

State	Moody	S&P	Qty	Issue	Coupon	Maturity	YTM	WCY	Price
FL	B1	B-	415	<a href="#">SANTA ROSA BAY BRDG AUTH FLA</a>	0.00	07/01/2010	4.25	4.25	86.555
FL	AAA	AAA	25	<a href="#">BOCA RATON FLA CMNTY REDEV</a>	0.00	03/01/2012 Pre		3.70	70.007
FL	AAA	AAA	20	<a href="#">LEE CO FL CAP IMPT REV</a>	0.00	10/01/2012	3.70	3.70	81.191
FL	AAA	AAA	25	<a href="#">PALM BEACH CNTY FLA</a>	0.00	10/01/2012	3.70	3.70	81.191
FL		AA	15	<a href="#">SANTA ROSA BAY BRDG AUTH FLA</a>	0.00	07/01/2013	4.00	4.00	77.508
NJ	Aaa	AAA	20	<a href="#">CAMDEN CNTY N J MUN UTILS</a>	0.00	09/01/2014	3.80	3.80	75.119
IL		A	30	<a href="#">CHICAGO IL TAX INCREMENT REV</a>	0.00	11/15/2014	4.10	4.10	72.848
FL	AAA	AAA	30	<a href="#">MIAMI FL SPL REV MBIA INSD</a>	0.00	01/01/2015	5.60	5.60	64.522
TX	AAA	AAA	10	<a href="#">CYPRESS-FAIRBANKS TX</a>	0.00	02/15/2015	3.85	3.85	73.551
IL	AAA	AAA	55	<a href="#">WILL CO IL CMNTY CONS SCH</a>	0.00	01/01/2016	4.00	4.00	70.201
KY	AAA	AAA	170	<a href="#">KENTUCKY ECO DEV FIN AUTH</a>	0.00	10/01/2016	4.15	4.15	67.183

## U.S. Treasury Yield Curve January 19, 2007



## Bond Problems

### Problem 1

How much should your client pay for a 5% bond that matures in three years if current interest rates are 4%. Assume the annual interest is paid only once at the end of each year. (Hint: Use the present value of an annuity calculator to compute the present value of the three annual interest payments, using the current rate of interest. Then use the present value calculator to compute the present value of \$1,000 to be received in three years. The price of the bond is the total of these two amounts.)

### Problem 2

A \$1,000 10-year, 5% bond was issued at par exactly one year ago. Interest rates for a similar bond issued today are 6%. How much should your client pay for the bond issued last year? (Hint: Calculate the present value of the interest payments to be received and add the present value of \$1,000.)

### Problem 3

Your client is trying to choose between two the following two \$1,000 bonds. Which bond should he buy?

- (a) A 7% BB rated bond, maturing in 7 years, selling for \$500 to yield 6.9%
- (b) A 3.5% AA rated bond, maturing in 5 years, selling for \$400 to yield 5.11%.

Use the following steps to solve the problem:

- (1) Calculate the present value of the \$1,000 maturity value for each bond, using the yield rate as the discount rate, for the number of years remaining to maturity.
- (2) Calculate the present value of the interest payments discounted at the yield rate, for the number of years remaining to maturity.
- (3) For each bond, add the results in step (1) and (2) then subtract the cost of the respective bond. The result is the net present value of each bond. The bond with the higher net present value cost is the better buy.

## U.S. Two-Year Treasury Yield Rises Above 10-Year Note Yield

from Bloomberg.com

December 29, 2005

U.S. two-year Treasury yields rose above 10-year yields for the second time this week after a drop in existing home sales bolstered speculation the economy will slow in 2006.

The National Association of Realtors report may reinforce the view that an inverted yield curve, which occurs when short-term yields exceed long-term yields, heralds a slowdown. Treasuries are up this month amid signs a housing boom that Merrill Lynch & Co. analysts estimate accounted for about half of economic growth in the past five years, is nearing an end.

"The housing sector is definitely something everybody is focusing on in 2006," said Rick Klingman, head of U.S. Treasury trading at ABN Amro Inc. in New York. "If people start to see the value of their homes heading lower, there's no doubt we would see a slowdown in consumer spending," the biggest part of the economy, he said. Klingman said he doesn't believe an inverted yield curve foreshadows a recession.

\* \* \*

### Housing

The National Association of Realtors said existing home sales fell to a 6.97 million annual rate in November from 7.09 million in October. Treasuries rose on Nov. 28 after the group said the pace of home sales fell a greater-than-expected 2.7 percent in October. "I see a clear risk that the housing market will cool, which may lead to a drag on consumption, and that will slow the economy," said Peter Mueller, a fixed-income strategist at Commerzbank AG in Frankfurt. "Bond prices may increase if the housing data comes in weak."

### Yield Curve

Two-year yields have closed the gap with 10-year yields after the Fed raised interest rates 13 times since June 2004 to a four-year high of 4.25 percent. Two-year yields on Dec. 27 rose above 10-year yields for the first time since 2000, and exceed five-year note yields by 6 basis points. Longer-term debt usually yields more than shorter-term debt because investors take on more risk the longer they wait for repayment. Over the past 20 years, 10-year yields exceeded two-year yields by 93 basis points on average. "I wouldn't read as much into the flatness of the yield curve" as some do, mainly because Fed's target rate adjusted for inflation remains low by historical standards, said Steve Bohlin, head of corporate and government bonds at Thornburg Investment Management Inc. in Santa Fe, New Mexico. Fed Chairman Alan Greenspan has said a yield-curve inversion may not necessarily portend slower growth.

## Vanguard Life Cycle Funds

### Target 2010 Fund

#### Fund Characteristics as of 12/31/2006

	Target Retirement 2010	Target 2010 Composite Index*
Fund Total Net Assets	\$281.6 Million	—

#### Allocation To Underlying Funds as of 12/31/2006

Ranking By Percentage	Fund	Percentage
1	Vanguard Total Stock Market Index Fund	43.9%
2	Vanguard Total Bond Market Index Fund	41.1%
3	Vanguard European Stock Index Fund	6.4%
4	Vanguard Inflation-Protected Securities Fund	4.0%
5	Vanguard Pacific Stock Index Fund	2.9%
6	Vanguard Emerging Markets Stock Index Fund	1.7%
<b>Total</b>	—	<b>100.0%</b>

### Target 2020 Fund

#### Fund Characteristics as of 12/31/2006

	Target Retirement 2020	Target 2020 Composite Index*
Fund Total Net Assets	\$407.2 Million	—

#### Allocation To Underlying Funds as of 12/31/2006

Ranking By Percentage	Fund	Percentage
1	Vanguard Total Stock Market Index Fund	57.5%
2	Vanguard Total Bond Market Index Fund	28.3%
3	Vanguard European Stock Index Fund	8.3%
4	Vanguard Pacific Stock Index Fund	3.7%
5	Vanguard Emerging Markets Stock Index Fund	2.2%
<b>Total</b>	—	<b>100.0%</b>

### Target 2050 Fund

#### Fund Characteristics as of 12/31/2006

	Target Retirement 2050	Target 2050 Composite Index*
Fund Total Net Assets	\$35.4 Million	—

#### Allocation To Underlying Funds as of 12/31/2006

Ranking By Percentage	Fund	Percentage
1	Vanguard Total Stock Market Index Fund	72.0%
2	Vanguard European Stock Index Fund	10.5%
3	Vanguard Total Bond Market Index Fund	10.0%
4	Vanguard Pacific Stock Index Fund	4.7%
5	Vanguard Emerging Markets Stock Index Fund	2.8%
<b>Total</b>	—	<b>100.0%</b>

## SHORT-SELLING

Google stock began public trading on August 19, 2004 under the stock symbol GOOG. On the first day of trading, GOOG closed at \$100 per share and the price has risen almost steadily since then. On January 19, 2007, GOOG closed at \$489.84.

### A Success Story

On January 25, 2005, the stock closed at \$177.12 and on February 2, 2005, the stock hit a high during the day of \$216.80. This represented a 22% gain in just six trading days. Phil thought the price had risen too fast and that the stock was due for a pullback. He called his broker on February 2, 2005, and told him to sell 100 shares of Google “short” at the current market price. The broker sold 100 shares at \$214 and used shares in the brokerage firm’s inventory to deliver to the buyer. The broker credited Phil’s account for **\$21,350** (\$21,400 selling price minus the \$50 brokerage commission).

Phil instinct was correct and on March 14, 2005, the shares closed at \$174.99. He called his broker shortly before the market closed on March 14 and told her buy 100 shares to “cover his short” and close the position. She bought 100 shares at \$176 and put the shares back into the firm’s inventory. The broker charged Phil’s account **\$17,650** (\$17,600 purchase price minus the \$50 brokerage commission). Phil made \$3,750 on the short sale, calculated as follows:

sales proceeds on 2/2/05 (@ 214)	\$21,350
cost on 3/14/05 (@ 176)	<u>- 17,650</u>
gain	\$ 3,750

### Unlimited Potential Loss

Phil’s brother Bill also sold 100 shares short on February 2, 2005 but when Phil told Bill he was closing his position, Bill said he thought the stock was going lower and was staying short. Things did not go so well for Bill and the stock start climbing. On June 7, the stock hit a high of \$299.59. Bill became nervous because the higher the price climbed, the more he would be losing. In theory, there is no limit to how high a stock can go, and therefore the amount a short-seller can lose. Bill called his broker shortly before the close on June 7 and told her to buy 100 shares to close the position. The broker paid \$296 per share and they charged Bill’s account **\$29,650** for the purchase price plus \$50 commission. Bill lost \$8,300 on the trade:

sales proceeds on 2/2/05 (@ 214)	\$21,350
cost on 6/7/05 (@ 296)	<u>- 29,650</u>
loss	(\$8,300)

Google stock subsequently declined to \$274 on August 22, 2005, but as previously mentioned, it closed at \$489.84 on January 19, 2007. If Bill were still short, he would be losing almost \$28,000 (\$48,984 purchase price minus \$21,350 proceeds).

## Dancing at Google

by Michael Liedtke

Chicago Sun-Times, December 4, 2005

SAN FRANCISCO -- Is Google's incandescent stock a golden opportunity or fool's gold? Investors have been arguing that question since Google's initial public offering in August 2004. The stakes have grown progressively higher as the online search engine company's shares have zoomed past \$200, then \$300 and, most recently, \$400, as the company firmly established itself as the gold standard in Internet advertising. "With every \$100 that goes by, the risk/reward ratio gets less appealing," said Hoefer & Arnett analyst Martin Pyykkonen.

Just seven years after the company's inception in a Silicon Valley garage, Google's market value has soared above \$100 billion -- eclipsing a long list of business icons that includes Coca Cola, Pepsico, Time Warner, Hewlett-Packard and Home Depot. While hordes of investors have been hungrily buying Google's stock, company co-founders Larry Page and Sergey Brin have been busily cashing in on the craze. Through November, Page and Brin, both 32, had each made \$1.3 billion by selling a slice of their controlling interest in the Mountain View, Calif.-based company, according to data compiled by Thomson Financial.

But Google's rapid run-up is making it more difficult to figure out how outside investors can make money on the stock, said Stanford Financial Group analyst Clayton Moran. "I think the current price is justified, but I just can't go out and tell my clients to buy the stock now," Moran said, explaining why he downgraded Google's shares to a "hold" earlier this week.

Moran values Google's shares at \$425 -- higher than more pessimistic analysts like Standard & Poor analyst Scott Kessler, who believes \$364 is a more realistic price. Google's shares closed at \$417.70 on Friday. "I think Google is a great company and it has been a great stock, but I don't have a lot of confidence the shares will continue to ramp up," Kessler said. Google's shares, in fact, would probably tumble badly if the company were to miss the lofty earnings expectations being set by analysts with no guidance from management. Other thorny issues could easily prick the stock.

The company already is locked in a series of legal battles over the search engine's alleged abuse of trademark and copyright laws while mighty Microsoft -- armed with \$40 billion in cash -- continues to invest heavily in a strategy aimed at toppling Google. Some analysts also are worried about Google's ability to manage a rapid expansion that might include a substantial investment in Time Warner's AOL.

Nevertheless, betting against Google so far has proven to be a bad idea. When the company first went public, Google's skeptics believed fierce competition from formidable rivals like Microsoft and Yahoo Inc. would erode the company's search engine leadership and, ultimately, retard its earnings growth. But Google has been widening its lead, giving it more opportunities to serve up moneymaking advertising links alongside its search results.

Through October, Google held a 39 percent share of the U.S. market for online search, up from 34.8 percent at the same time last year, according to comScore Networks. Yahoo's share meanwhile has declined to 29.2 percent from 32 percent a year ago while Microsoft's has decreased to 14.6 percent from 15.8 percent last year, comScore said. That's just one reason most analysts remain optimistic about Google's prospects.

As Google has introduced more intriguing products to complement its search engine, prominent securities analysts like Benjamin Schachter of UBS Securities and Safa Rashtchy of Piper Jaffray have become convinced the company is bound to become an indispensable hub in a global economy increasingly driven by the Internet.

Google "is a paradigm-changing company," Schachter wrote in a research report that outlined why he believes the company's shares might soon reach \$500. Rashtchy, who currently values Google's shares at \$445, also is confident that even more riches lie ahead for the company. In a research report released just before Google's shares first breached \$400 two weeks ago, Rashtchy praised a new database for listing merchandise and information as a potentially lucrative effort designed "to create a new worldwide Web."

To veteran investors like venture capitalist Nick Sturiale, the unwavering enthusiasm for Google's stock is being fueled by "the madness of crowds." "The only way you should touch the stock now is if you think the crowd is still crazy," said Sturiale, a general partner with Sevin Rosen Funds in Palo Alto, Calif.

Other high-profile stocks in the technology industry generated tremendous returns even after tracing a trajectory similar to Google's. Since its IPO, Google's shares have more than quadrupled from their IPO price of \$85. Sixteen months after Microsoft went public, its stock traded at a split-adjusted 30 cents per share -- more than quadrupling from the March 1986 IPO price of 7 cents.

Microsoft's shares now trade in the \$27 to \$28 range, meaning someone who invested \$10,000 16 months after the company's IPO would own a stake worth roughly \$900,000 today. There are a few notable differences between Microsoft then and Google now. For one, Microsoft's market value remained below \$10 billion 16 months after its IPO, leaving plenty of upside for investors.

On the flip side, Microsoft was nowhere near as profitable as Google is today. In its first full year as a public company, Microsoft earned \$72 million on revenue of \$346 million. Adjusted for inflation, that translates, into a profit of about \$121 million on sales of \$582 million. Google is expected to earn about \$1.6 billion on revenue of \$6 billion this year, quadrupling its profit from 2004.

The impressive earnings growth distinguishes Google from the throng of unprofitable dot-coms with stocks that soared during 1999 and 2000, only to crash after investors concluded the valuations were based on goofy math. "Google's value is based on reality," Moran said. "It's not based on the number of eyeballs looking at its Web page or other bubble metrics."

Even so, Google's stock remains fairly expensive by one widely used measure -- its price-to-earnings multiple. An abnormally high p/e multiple is usually interpreted as a sign that a stock has become overpriced. Google is expected to earn \$8.53 per share next year, based on the mean estimate among 29 analysts surveyed by Thomson Financial. That gives Google a p/e multiple of 48, much higher than most stocks.

For instance, the p/e multiple of the benchmark Standard & Poor's 500 index is hovering around 15. But Google's p/e looks more reasonable compared with its closest peer, Yahoo, which recently has been trading at a multiple above 50. Whatever happens next, Kessler thinks it would be a mistake to presume things will continue to go as smoothly for Google as they have over the past 16 months. "It's really dangerous to think a company will have long-term staying power in technology, where things can change so fast and so dramatically," he said. "Investors will respond to any chink in Google's armor by selling."

## OPTIONS

### Call Options

A call option entitles the holder to buy 100 shares of a given stock at a given price (“the strike price”) by a specified date. On December 2, 2005, Google stock closed at \$417.70. Google call options closed at the following prices on that date.

#### 12/2/05 quote on Google Calls Expiring 12/16/05

<u>Strike Price</u>	<u>Quote</u>	<u>Option Cost</u>	<u>Intrinsic Value</u>	<u>Option Value</u>
350	68.20	\$6,820	\$6,770	\$ 50
390	29.40	2,940	2,770	170
400	21.00	2,100	1,770	330
410	13.90	1,390	770	620
420	8.80	880	0	880
450	1.45	145	0	145
470	.45	45	0	45

#### 12/2/05 quote on Google Calls Expiring 1/20/06

<u>Strike Price</u>	<u>Quote</u>	<u>Option Cost</u>	<u>Intrinsic Value</u>	<u>Option Value</u>
350	69.70	6,970	6,770	200
390	38.60	3,860	2,770	1,090
400	32.00	3,200	1,770	1,430
410	26.10	2,610	770	1,840
420	21.40	2,140	0	2,140
450	10.80	1,080	0	1,080
470	6.70	670	0	670

The holder of a December 350 call had the right to buy 100 shares of Google until December 16, 2005 for \$35,000 (100 shares x \$350 per share). If the option holder exercised the option and purchased 100 shares for \$35,000, she could have sold the shares at the \$41,770 market price on December 2, 2005. That was \$6,770 more than the strike price. The excess of the market value over the strike price is the “intrinsic” value of the option. The market value of that option was \$6,820. The remaining \$50 cost of the option is the option value, i.e., the amount an investor was willing to pay for additional upside potential in the stock.

Assume an investor purchased a December 420 call on December 2, 2005. The option had no intrinsic value; the right to buy 100 shares at \$420 per share is worthless when the stock is selling for \$417.70. The entire \$880 the investor paid for the option was for the option value, the chance that the stock would rise significantly above \$420 before expiration in two weeks. This option value declines rapidly as the expiration date nears.

On December 16, 2005, Google closed at \$430.15, which made the December 420 call worth \$1,015 (\$43,015 value of 100 shares Google minus the \$42,000 to buy 100 shares by exercising the call option). If the investor who paid \$880 for the option on December 2, 2005 had not sold it before expiration, she would have made a profit of \$135 minus the commissions. (\$1,015 value of option at expiration - \$880 cost of option).

## Put Options

A put entitles the holder to sell 100 shares of stock at a given price by a specified date. On December 2, 2005, the day Google closed at \$417.70. Google puts closed at the following prices.

### 12/2/05 quote on Puts Expiring 12/16/05

<u>Strike Price</u>	<u>Quote</u>	<u>Option Cost</u>	<u>Intrinsic Value</u>	<u>Option Value</u>
390	1.50	\$ 50	\$ 0	\$ 50
400	2.90	290	0	290
410	5.80	580	0	580
420	10.20	1,020	230	791
430	16.70	1,670	1,230	440
440	24.60	2,460	2,230	230

### 12/2/05 quote on Puts Expiring 1/20/06

390	8.88	\$ 888	\$ 0	\$ 888
400	12.20	1,220	0	1,220
410	16.50	1,650	0	1,650
420	21.30	2,130	230	1,900
430	27.40	2,740	1,230	1,510
440	34.00	3,400	2,230	1,170
450	42.50	4,250	3,230	1,020

The holder of a December 390 put had the right to sell 100 shares of Google at \$390 until December 16, 2005. The option will expire worthless if Google closes above \$390 per share on 12/16/05. On December 2, 2005, Google was selling for \$27.70 below the price. The cost of this option was only \$50 because it would likely expire worthless.

Google closed at the following prices on the days in the table below.

12/2/05 417.70  
 12/16/05 430.15 (date December options expired)  
 1/4/06 445.24  
 1/17/06 467.11  
 1/20/06 399.46 (date January options expired; the stock plunged \$67.65 this day)

The following table shows the price of options on those dates:

<b>Call Options</b>					
<b>Date</b>	<b>12/2/05</b>	<b>Expired</b>	<b>1/4/06</b>	<b>1/17/06</b>	<b>Expired</b>
<b>Stock Price</b>	<b>417.70</b>	<b>12/16/05</b>	<b>443.47</b>	<b>467.11</b>	<b>1/20/06</b>
	<b>417.70</b>	<b>430.15</b>			<b>399.46</b>
Dec 400	2,100	3,000	x	x	x
Dec 420	880	1,000	x	x	x
Dec 450	145	0	x	x	x
Dec 470	45	0	x	x	x
Jan 400	3,200	3,660	4,550	6,730	0
Jan 410	2,610	2,980	3,570	5,750	0
Jan 420	2,140	2,280	2,740	4,730	0
Jan 450	1,080	920	960	1,880	0
Jan 470	670	460	410	520	0
<b>Put Options</b>					
<b>Date</b>	<b>12/2/05</b>	<b>12/16/05</b>	<b>1/4/06</b>	<b>1/17/06</b>	<b>Expired</b>
<b>Stock Price</b>	<b>417.70</b>	<b>430.15</b>	<b>443.47</b>	<b>467.11</b>	<b>1/20/06</b>
	<b>417.70</b>	<b>430.15</b>			<b>399.46</b>
Dec 390	150	0	x	x	x
Dec 410	580	0	x	x	x
Dec 420	1,020	0	x	x	x
Dec 440	2,460	1,000	x	x	x
Jan 390	888	330	6	5	0
Jan 410	1,650	780	195	10	1,005
Jan 420	2,130	1,120	340	20	2,005
Jan 440	3,400	2,080	1,010	200	4,005

The dramatic price swings came on January expiration day. On Friday, January 17, 2006, Google was selling for \$467.11, which made the January 420 calls worth about \$4,670 on that day. By the close on Monday, January 20, 2006, those call options expired worthless.

On the other hand, an investor could have purchased a January 440 put for \$200 on Friday, January 17. The right to sell 100 shares of Google stock at \$440 per share with one day of trading left was practically worthless when Google was selling at \$467 that day. However, by the close on January 20, 2006, that option surged in price to \$4,005. The holder of the option could buy Google stock at its market price of \$399, then sell it to the seller of the option for \$440 per share.

Options offer an opportunity to make substantial profits with a modest investment. If an option expires worthless, the investor loses the entire investment. On the other hand, because the loss is limited to the cost of the option, the investor knows her maximum loss at the outset.

## Covered Calls

An investor can sell a call option to get some downside protection in exchange for limiting the upside potential. The investor who sells a call option is called the “writer” of the call. If the writer owns the shares on which she wrote the option, it is called a “covered call.”

Jennifer purchased 100 shares of Google for \$350 per share. On December 16, 2005, when Google was \$417.70, she sold a Jan 450 call for \$1,080 to Julie. \$1,080 is credited to Jennifer’s account.

Assume Google closed at \$470 on January 20, the expiration date. Jennifer must sell 100 shares of Google to Julie at the \$450 strike price. Jennifer’s net cost of the shares is \$33,920 (\$35,000 she paid minus \$1,080 she received for the option). She sold the shares to Julie for \$45,000, so she has a \$11,080 gain. By selling the call option, Jennifer will have forfeited the additional \$2,000 of gain (the difference between the \$470 current market price and the \$450 strike price she received for her shares).

Julie’s cost for the shares is \$46,080 (\$45,000 she paid to exercise the call plus \$1,080 she paid for the option) and they are now worth \$47,000.

If Google closes at or below \$450 on the expiration date, the option expires worthless. Jennifer pockets the \$1,080 she received for the call and Julie loses her entire \$1,080 investment. In this situation, Jennifer can write another call option for a later month.

Note that Jennifer does not have to keep her call position open until expiration. If the stock starts climbing sharply, she can buy a call and close the transaction. For example, since she sold her call on December 16, Google has risen from \$417 to \$443. If she thinks the stock will keep moving up and does not want to sell at \$450, she could have bought a Jan 450 call on January 4 for \$960 to “close her position.” She will have lost \$120 on the transaction (\$1,080 selling price - \$960 call), and will have the benefit of additional price appreciation.