

**UGBA 98/198**

# **Introduction to Investment**

**Spring 2009**



**Jack Wei**

**Lecture 3 – Data Analysis**

# No Cell Phones!



# Administrative Issues

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# Announcement

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Lectures now available on:

**[Dailycow.org/decal/955](https://www.dailycow.org/decal/955)**

# Investing Tip

Cash is king



# Personal Finance Tip

## Purchase options

3 month - \$1500

6 month - \$1500

9 month - \$1500

12 month - \$1500

18 month - \$1500

Rates and APYs			Top Questions	The Details
Online CD rates for accounts opened in BERKELEY, CA <sup>1</sup>				
Terms (Months)	Interest Rate <sup>2</sup>	Annual Percentage Yield (APY) <sup>3</sup>		
6	1.24%	1.25%		
8	1.49%	1.50%		
12	1.74%	1.75%		
13	1.74%	1.75%		
18	1.74%	1.75%		
24	1.74%	1.75%		
36	1.74%	1.75%		
48	1.74%	1.75%		
60	2.96%	3.00%		

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## **More Basic Terms**

# Share Buyback

## Company purchases outstanding shares

↓ Shares outstanding

↑ EPS

- Provides backstop
- Sign of confidence among management



**MOTOROLA**





# Share Buyback - Example

## Before

**Net Income** = \$5,000,000,000

**Shares Outstanding** = 1,000,000,000

**Share Price** = \$60



$$\text{EPS} = \frac{\$5,000,000,000}{1,000,000,000} = \$5 \text{ (TTM)}$$



$$\text{P/E} = \$60 / \$5 = 12x$$



## After

**Net Income** = \$5,000,000,000

**Shares Outstanding** = 500,000,000

**Share Price** = \$60



$$\text{EPS} = \frac{\$5,000,000,000}{500,000,000} = \$10 \text{ (TTM)}$$

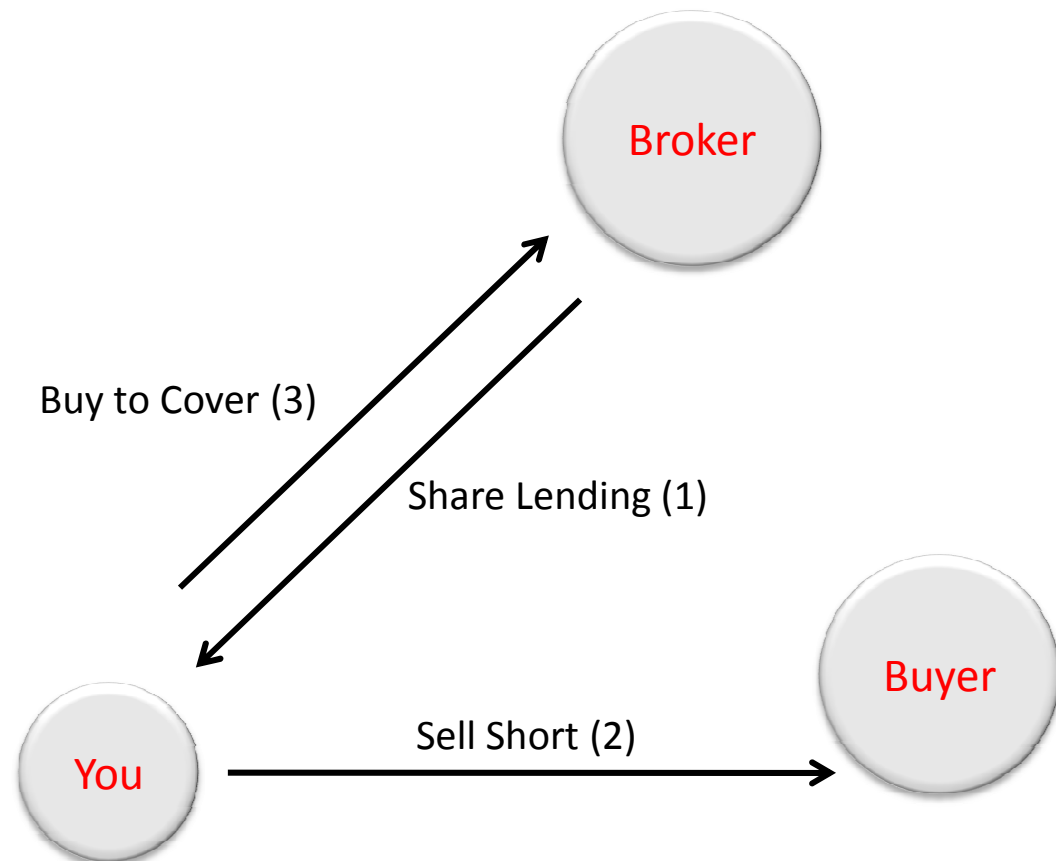


$$\text{P/E} = \$60 / \$10 = 6x$$



# Short-Selling

- Opposite of long positions
  - Betting against growth
  - The worse the better
- Return same number of shares
- Broker's reserved rights - call



# Short-Selling - Example



Share Price = \$100

Purchase 100 Shares



Total = \$10,000

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↑ Share Price = \$200

Total = \$200 x 100  
= \$20,000

Gain/Loss = \$10,000 - \$20,000  
= **(\$10,000)**

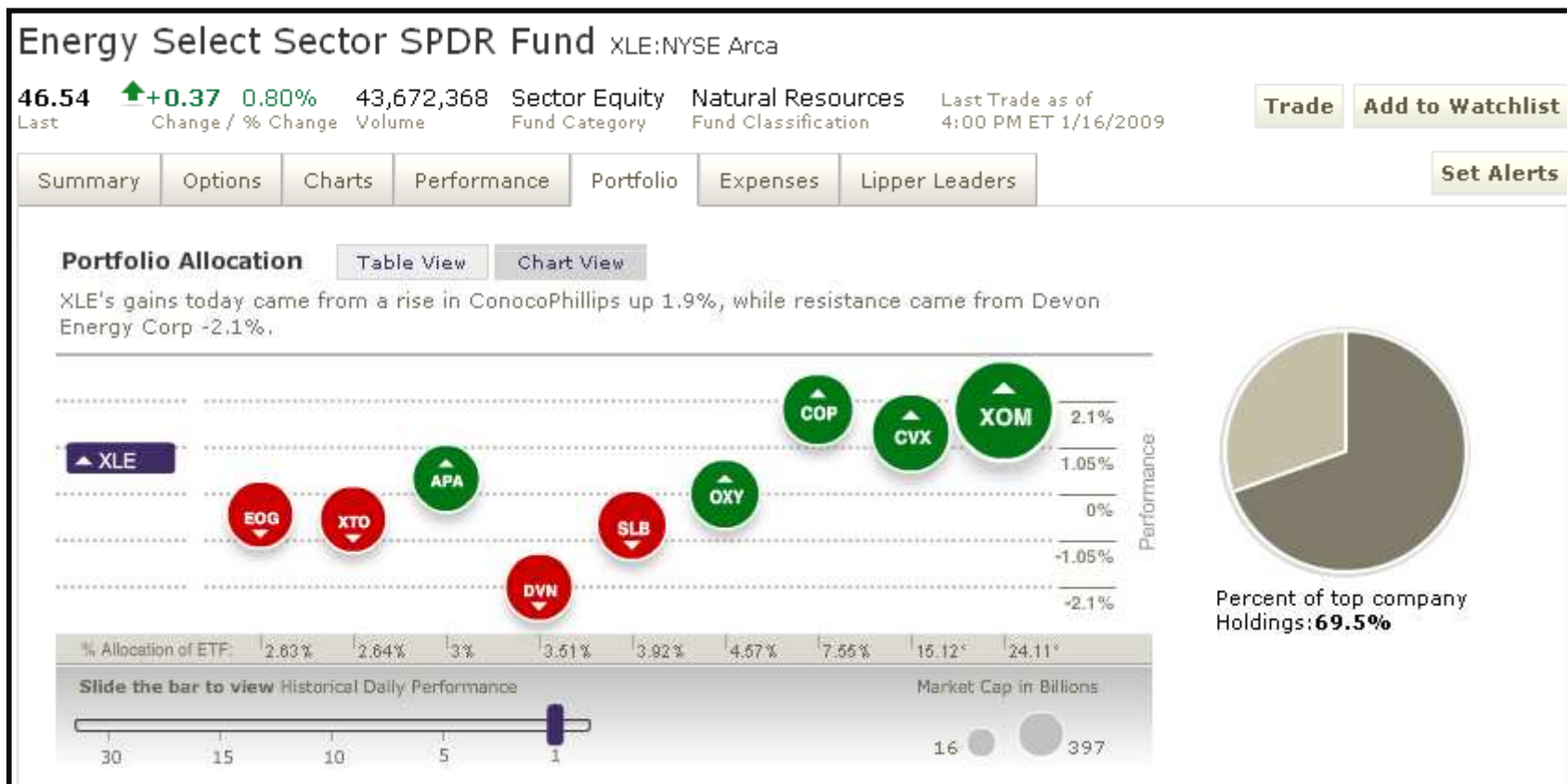
↓ Share Price = \$10

Total = \$10 x 100  
= \$1,000

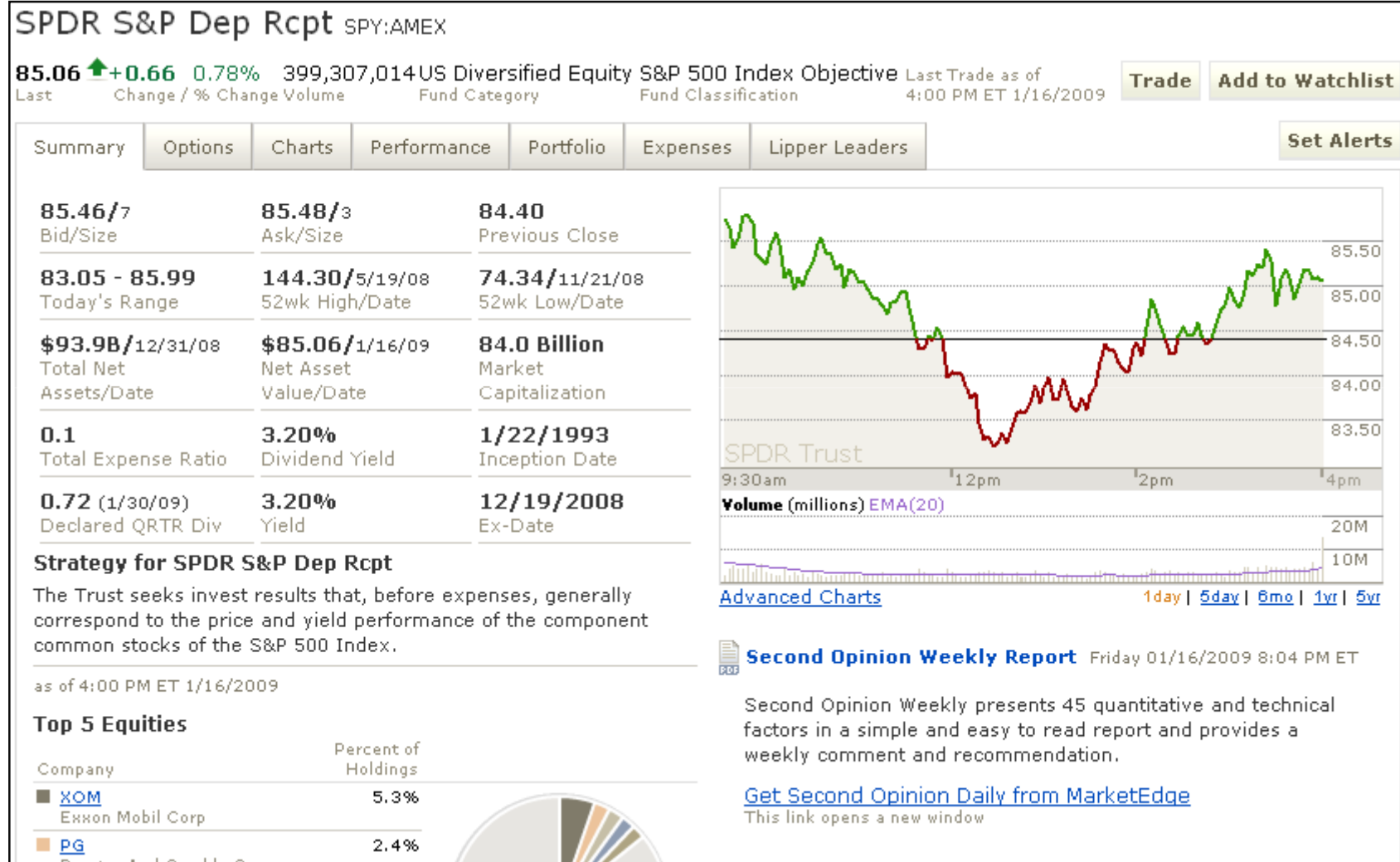
Gain/Loss = \$10,000 - \$1,000  
= **\$9,000**

# Exchange Traded Funds (ETFs)

- A security that tracks an index or a basket of assets
- Traded on exchanges like stocks
- **Distribution of risk**



# Exchange Traded Funds (ETFs)



# Select Sector SPRDs

**XLV** (Consumer Discretionary)

**XLP** (Consumer Staples)

**XLE** (Energy)

**XLF** (Financial) .....➤

**XLV** (Healthcare)

**XLI** (Biotech)

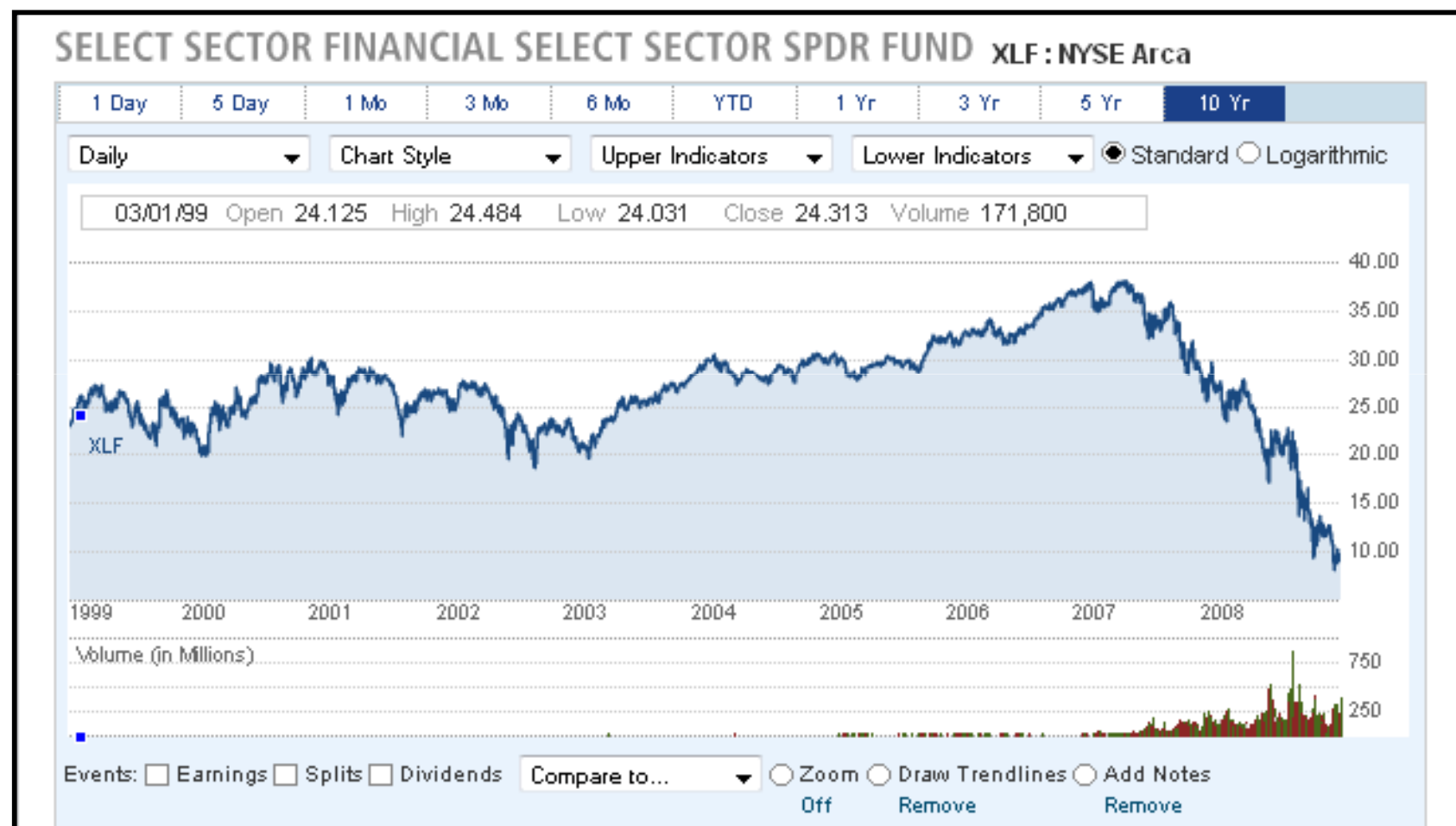
**XLB** (Materials)

**XLK** (Technology)

**XLU** (Utilities)

	Name	Symbol	Index Weight
1	JPMorgan Chase & Co.	JPM	12.63%
2	Wells Fargo & Co.	WFC	9.89%
3	Goldman Sachs Group Inc.	GS	5.23%
4	Bank of America Corp.	BAC	4.80%
5	Bank of New York Mellon Corp.	BK	3.99%
6	U.S. Bancorp	USB	3.48%
7	MetLife Inc.	MET	3.04%
8	MORGAN STANLEY	MS	2.97%
9	Travelers Cos. Inc.	TRV	2.84%
10	Citigroup Inc.	C	2.61%
11	American Express Co.	AXP	2.55%
12	Chubb Corp.	CB	1.88%
13	PNC Financial Services Group Inc.	PNC	1.71%
14	Northern Trust Corp.	NTRS	1.68%
15	Charles Schwab Corp.	SCHW	1.67%
16	State Street Corp.	STT	1.61%
17	Prudential Financial Inc.	PRU	1.56%
18	CME Group Inc. Cl A	CME	1.55%
19	Allstate Corp.	ALL	1.49%
20	AON Corp.	AOC	1.34%
21	BB&T Corp.	BBT	1.29%
22	Simon Property Group Inc.	SPG	1.27%
23	Marsh & McLennan Cos.	MMC	1.25%
24	AFLAC Inc.	AFL	1.24%
25	Loews Corp.	L	1.11%
26	Progressive Corp.	PGR	1.08%
27	Franklin Resources Inc.	BEN	1.05%
28	PUBLIC STORAGE	PSA	1.00%
29	T. Rowe Price Group Inc.	TROW	0.91%
30	VORNADO REALTY TRUST	VNO	0.89%

# XLF



# Insider Trading

- Indicator of management's confidence
  - > \$1M: vote of confidence
  - < \$1M: no good



- Deception?
- Underlying fundamentals

Top 10 Insider buys of the week, Updated January 16, 2009 (page 1 of 5) (Actually top 50 issuers are included)

Symbol	Issuer	Insider Name	Shares	Price	Value(\$)	Trade Date
RSG	Republic Services Inc	Gates William H Iii (10% Owner)	440,000	22.74	10,003,884	2009-01-14
		Gates William H Iii (10% Owner)	371,500	23.85	8,861,500	2009-01-13
		Gates William H Iii (10% Owner)	500,000	24.33	12,167,100	2009-01-12
		Gates William H Iii (10% Owner)	500,000	25.43	12,715,900	2009-01-09
		Gates William H Iii (10% Owner)	460,100	25.39	11,683,181	2009-01-08
JRCC	James River Coal Co	Klein Brian Katz (Other)	1,625	13.48	21,905	2009-01-14
		Klein Brian Katz (Other)	93,093	13.19	1,227,691	2009-01-15
		Steelhead Navigator Master, L.p. (10% Owner)	1,625	13.48	21,905	2009-01-14
		Steelhead Navigator Master, L.p. (10% Owner)	93,093	13.19	1,227,691	2009-01-15
		Steelhead Navigator Master, L.p. (10% Owner)	319,400	14.56	4,648,994	2009-01-12
		Klein Brian Katz (Other)	319,400	14.56	4,648,994	2009-01-12
		Klein Brian Katz (Other)	54,100	15.44	835,287	2009-01-09
		Steelhead Navigator Master, L.p. (10% Owner)	54,100	15.44	835,287	2009-01-09



# Insider Trading – Fake?



Bank of America



JPMorgan

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# **Placing Orders**



# Limit Order

## Definition

Buy or sell a set number of shares at specified price or better

*Note:* avoid being ripped off by brokers

## Examples

Ticker: Monsanto (MON)	Desired Quantity: 100 shares	}	<div>Buy</div>
Share Price: \$80	Desired share price: \$78		

If triggered → \$7,800

If triggered → \$4,500

<div>Sell</div>	{	Ticker: Agrium (AGU)	Holding: 100 shares
		Share Price: \$40	Desired share price: \$45

# Stop Order

## Definition

Buy/sell a security once the price of the security has climbed above (or dropped below) a specified

*Note:* avoid being ripped off by brokers

## Examples

Ticker: Proctor & Gamble(PG)	Desired Quantity: 100 shares	}	<div>Buy</div>
Share Price: \$55	Desired share price: \$60		

If triggered → \$6,000

If triggered → \$3,800

<div>Sell</div>	{	Ticker: US Steel(X)	Holding: 100 shares
		Share Price: \$40	Desired share price: \$38

# Visual Demonstration

***Scotttrade***<sup>®</sup>

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# **Data Analysis**



# Financial Statements

## ▲ Balance Sheet

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- $\text{Assets} = \text{Liabilities} + \text{Equity}$
- Cash
- Debt

## ▲ Cash Flow

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- Operating activities
- Financing activities
- Investing activities
- Increase, decrease in cash

## ▲ Income Statement

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- Total revenue
- Net income
- Dividend payout
- EPS

# Income Statement

PERIOD ENDING	31-Oct-08	26-Oct-07	28-Oct-06
<b>Total Revenue</b>	<b>3,418,934</b>	<b>2,547,322</b>	<b>2,401,710</b>
Cost of Revenue	2,428,929	1,720,634	1,646,591
<b>Gross Profit</b>	<b>990,005</b>	<b>826,688</b>	<b>755,119</b>
Operating Expenses			
Research Development	441,527	358,538	321,831
Selling General and Administrative	(2,726)	-	-
Non Recurring	-	(5,125)	-
Others	-	-	-
Total Operating Expenses	-	-	-
<b>Operating Income or Loss</b>	<b>551,204</b>	<b>473,275</b>	<b>433,288</b>
Income from Continuing Operations			
Total Other Income/Expenses Net	10,120	7,693	15,913
Earnings Before Interest And Taxes	561,324	480,968	456,023
Interest Expense	34,237	31,909	5,666
Income Before Tax	527,087	449,059	450,357
Income Tax Expense	153,950	169,275	35,501
Minority Interest	-	-	-
Net Income From Continuing Ops	373,137	279,784	408,034
Non-recurring Events			
Discontinued Operations	1,141	-	-
Extraordinary Items	-	-	6,822
Effect Of Accounting Changes	-	-	1,565
Other Items	-	-	-
<b>Net Income</b>	<b>374,278</b>	<b>279,784</b>	<b>416,421</b>
Preferred Stock And Other Adjustments	-	-	-
<b>Net Income Applicable To Common Shares</b>	<b>\$374,278</b>	<b>\$279,784</b>	<b>\$416,421</b>



# Balance Sheet

PERIOD ENDING	31-May-08	31-May-07	31-May-06
<b>Assets</b>			
Current Assets			
Cash And Cash Equivalents	1,960,700	420,600	173,300
Short Term Investments	-	-	-
Net Receivables	1,296,100	592,000	556,300
Inventory	1,350,900	787,400	760,900
Other Current Assets	201,800	155,500	89,900
<b>Total Current Assets</b>	<b>4,809,500</b>	<b>1,955,500</b>	<b>1,580,400</b>
Long Term Investments	353,800	384,900	318,900
Property Plant and Equipment	4,648,000	4,449,400	4,416,600
Goodwill	1,875,200	2,283,800	2,347,100
Intangible Assets	-	-	-
Accumulated Amortization	-	-	-
Other Assets	123,200	90,000	57,600
Deferred Long Term Asset Charges	10,100	-	-
<b>Total Assets</b>	<b>11,819,800</b>	<b>9,163,600</b>	<b>8,720,600</b>
<b>Liabilities</b>			
Current Liabilities			
Accounts Payable	1,612,600	1,064,600	904,000
Short/Current Long Term Debt	176,400	542,400	222,100
Other Current Liabilities	397,100	22,700	-
<b>Total Current Liabilities</b>	<b>2,186,100</b>	<b>1,629,700</b>	<b>1,126,100</b>
Long Term Debt	1,375,000	1,818,100	2,388,100
Other Liabilities	917,000	875,200	980,200
Deferred Long Term Liability Charges	587,100	634,400	675,000
Minority Interest	23,400	22,300	20,400
Negative Goodwill	-	-	-
<b>Total Liabilities</b>	<b>5,088,600</b>	<b>4,979,700</b>	<b>5,189,800</b>

# Balance Sheet

## Stockholders' Equity

Misc Stocks Options Warrants	-	-	-
Redeemable Preferred Stock	-	-	-
Preferred Stock	-	-	-
Common Stock	4,400	4,400	3,900
Retained Earnings	3,485,400	1,402,600	982,900
Treasury Stock	-	-	-
Capital Surplus	2,450,800	2,318,000	2,244,800
Other Stockholder Equity	790,600	458,900	299,200
<b>Total Stockholder Equity</b>	<b>6,731,200</b>	<b>4,183,900</b>	<b>3,530,800</b>
<b>Net Tangible Assets</b>	<b>\$4,856,000</b>	<b>\$1,900,100</b>	<b>\$1,183,700</b>

# Statement of Cash Flow

PERIOD ENDING	31-Dec-07	31-Dec-06	31-Dec-05
<b>Net Income</b>	<b>1,061,500</b>	<b>625,800</b>	<b>532,700</b>
<b>Operating Activities, Cash Flows Provided By or Used In</b>			
Depreciation	282,800	234,000	242,400
Adjustments To Net Income	151,700	67,800	75,000
Changes In Accounts Receivables	(154,600)	11,000	(107,600)
Changes In Liabilities	250,900	(269,100)	238,100
Changes In Inventories	59,600	15,800	(119,900)
Changes In Other Operating Activities	7,000	(1,800)	(5,800)
<b>Total Cash Flow From Operating Activities</b>	<b>1,658,900</b>	<b>683,500</b>	<b>865,100</b>
<b>Investing Activities, Cash Flows Provided By or Used In</b>			
Capital Expenditures	(595,600)	(508,600)	(382,700)
Investments	(163,200)	(352,500)	(185,700)
Other Cashflows from Investing Activities	12,300	21,400	13,100
<b>Total Cash Flows From Investing Activities</b>	<b>(746,500)</b>	<b>(839,700)</b>	<b>(555,300)</b>
<b>Financing Activities, Cash Flows Provided By or Used In</b>			
Dividends Paid	(93,600)	(60,900)	(65,400)
Sale Purchase of Stock	26,600	47,300	(758,000)
Net Borrowings	(470,000)	388,300	148,600
Other Cash Flows from Financing Activities	18,400	13,300	-
<b>Total Cash Flows From Financing Activities</b>	<b>(518,600)</b>	<b>388,000</b>	<b>(674,800)</b>
Effect Of Exchange Rate Changes	-	-	-
<b>Change In Cash and Cash Equivalents</b>	<b>\$393,800</b>	<b>\$231,800</b>	<b>(\$365,000)</b>

# Fundamental Analysis

## Gilead Sciences Inc GILD:NASDAQ

Sector: [Healthcare](#) Industry: [Biotechnology & Drugs](#)

**51.18**

Last



**-1.27 -2.42%**

Change / % Change

3,346,618

Volume



S&P Ranking

Last Trade as of 12:35 PM

Summary

News

Charts

Options

Fundamentals

Insiders

Earnings

Financials

### Profitability

Gross Margin (TTM)

**78.9%**

Operating Margin (TTM)

**50.2%**

Net Profit Margin (TTM)

**37.7%**

Pretax Margin (TTM)

**51.2%**

# Fundamental Analysis

## Valuation

P/E excluding extraordinary items (TTM)	<b>25.0x</b>
P/E Normalized (MRFY)	<b>24.9x</b>
P/Sales (TTM)	<b>9.0x</b>
P/Tangible book (MRQ)	<b>11.5x</b>
P/Cash Flow (TTM)	--

## Management Effectiveness

Return on Assets (TTM)	<b>31.3%</b>
Return on Equity (TTM)	<b>52.8%</b>
Return on Investments (TTM)	<b>37.4%</b>

## Income Statement

Revenue (MRQ)	<b>1.4B</b>
EBITDA (MRQ)	<b>711.1M</b>
Earnings before taxes (MRQ)	<b>729.7M</b>
Net Income (MRQ)	<b>568.2M</b>
Normalized earnings before taxes (MRQ)	<b>729.7M</b>
Normalized Net Income (MRQ)	<b>568.2M</b>

## Financial Strength

Current Ratio (MRQ)	<b>4.25</b>
Quick Ratio (MRQ)	<b>3.49</b>
LT Debt/Equity (MRQ)	--
Total Debt/Equity (MRQ)	--
Payout Ratio (TTM)	--

## Growth

Sales (5Yr)	<b>43.8%</b>
Earnings Per Share (EPS)(TTM)	<b>25.4%</b>
Dividend Growth (5Yr)	--

## Per Share Data

EPS excluding extraordinary items (TTM)	<b>2.10</b>
EPS Normalized (MRFY)	<b>2.11</b>
Rev per share (TTM)	<b>5.56</b>
BV per share (MRQ)	<b>4.56</b>
Tangible BV per share (MRQ)	<b>4.56</b>
Cash per share (MRQ)	<b>3.56</b>
Cash flow per share (TTM)	--
Indicated Annual Dividend (US)	<b>0.00</b>

# Fundamentals

## Know the company

- Operations
- Competitions
- Financial strength
- Management

# Visual Demonstration



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# **Value Investing**



# Definition

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- Buying stock priced lower than its intrinsic value
  - “Undervalued” stocks
- Gauging company valuation and inherent quality based on quantitative (financial ratios) and qualitative measures (business model, industry, etc.)

# Assumptions

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- T currently trading at \$25
  - After due diligence, you conclude it is worth \$28
- **Assumption 1:** Price of stock may not reflect its true value
  - “Intrinsic value”
- **Assumption 2:** Stock market will reflect this true value in the long-run

# Comparison

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- ↓ P/E relative to competitors, industry, market
- ↑ High ROE (relative) – hopefully, showing increasing trend
- ↓ Low debt / equity ratio
- ↑ Profit margins – increasing trend
- ↑ Current assets > current liabilities (~2x)

Mature companies that have stood the test of time, but currently undervalued

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# **Online Simulation**

# Investopedia.com



# Register

The screenshot shows a web browser window displaying the Investopedia Stock Simulator interface. The user is logged in as 'runningking7'. The page features a navigation menu with links like Home, Dictionary, Articles, Tutorials, Exam Prep, Ask Us, Simulator, Community, Stock Ideas, and Free Tools. A search bar is available for keywords and symbols. The main content area includes a 'Portfolio Summary - Investopedia Competition (No End)' section showing a rank of 12700 and an account value of \$102,874.84. It also lists two games: 'Investopedia Competition (No End)' and 'IF12009S'. A 'FREE TEST DRIVE' button is visible. A sidebar on the right promotes 'optionsXpress' with the text 'LEARN HOW TO GENERATE INCOME IN A VOLATILE MARKET'. The bottom of the browser window shows a Windows taskbar with various application icons.

Investopedia Stock Simulator

Hi runningking7 (Sign Out) Free Investing Newsletters

enter keywords Search enter symbol Get Quote

**Investopedia**  
A Forbes Digital Company

[Firsttrade Online Brokerage Triple 100 Promotion](#) [Futures at optionsXpress](#)

**Stock Simulator** My Home Portfolio Trade Rankings Games Help optionsXpress

[Edit Profile](#) | [Add/Edit Games](#) | [What's New](#)

Welcome to the Simulator, runningking7!

**runningking7**  
Investing Style: N/A  
Total Takes: 0

**FREE Tools** Products

One account for all your investment needs:

- » Options
- » Stocks
- » Futures
- » Mutual Funds
- » Bonds

**Get up to: \$100 Cash Back**

**FREE TEST DRIVE**

**Portfolio Summary - Investopedia Competition (No End)**

Rank: 12700 Account Value: \$102,874.84

Game 1: [Investopedia Competition \(No End\)](#) (USD) \$102,874.84  
Game 2: [IF12009S](#) (USD) \$10,000.00

[Add/Edit Game](#)

**Game: Investopedia Competition (No End) - USD Rankings**

(\*Rankings are evaluated overnight. Following rankings are as on 2/7/2009 8:22:52 PM)

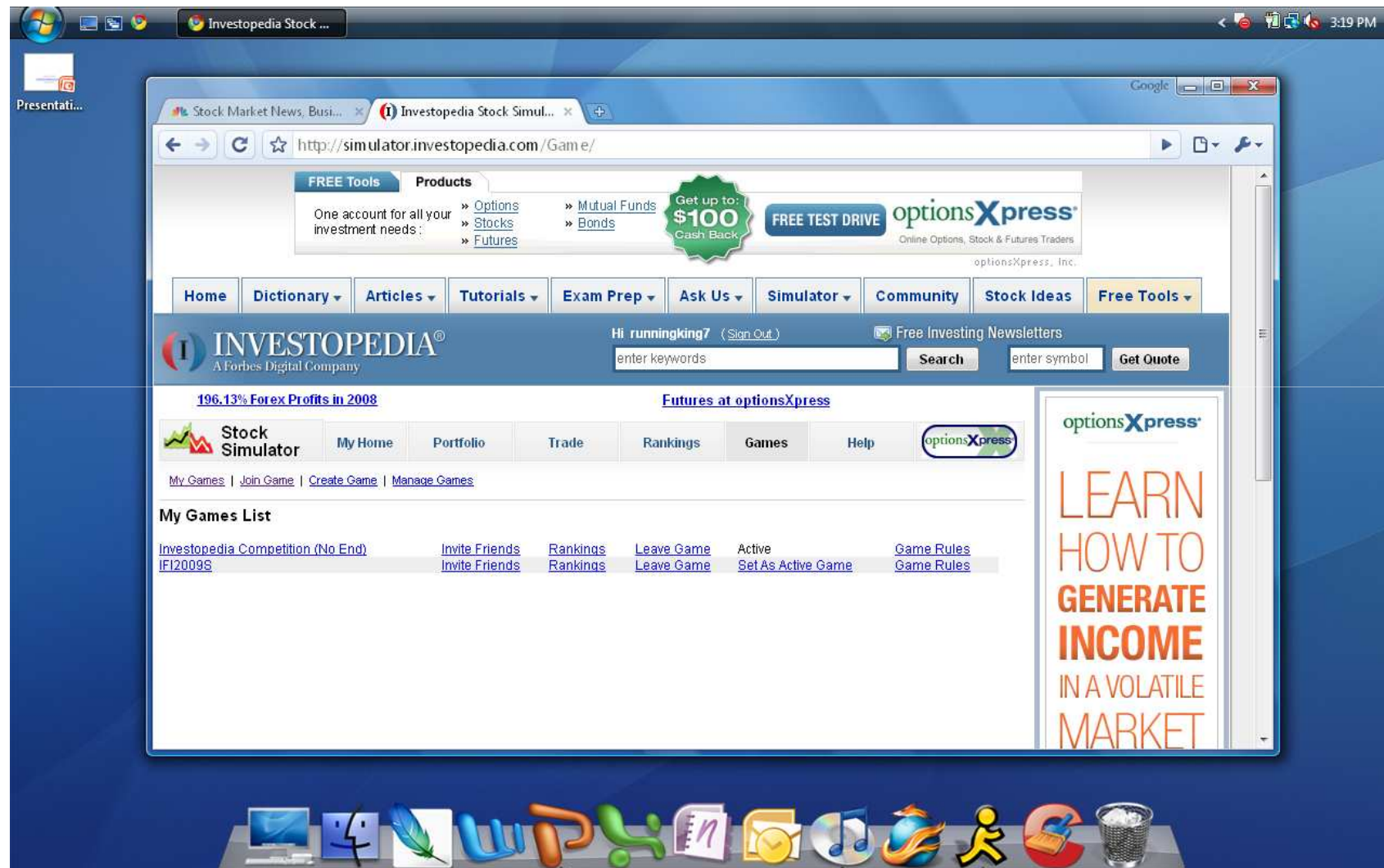
Rank	Overall	Account Value (USD)
1. <a href="#">Locke11</a> (history)	183988.73%	\$184,068,730

**optionsXpress**

LEARN HOW TO GENERATE INCOME IN A VOLATILE MARKET

[Learn More](#)

# Join Game





# Search Game

The screenshot shows the Investopedia Stock Simulator website. The browser window has the address <http://simulator.investopedia.com/Game/ListGames.aspx>. The website features a navigation bar with links: Home, Dictionary, Articles, Tutorials, Exam Prep, Ask Us, Simulator, Community, Stock Ideas, and Free Tools. The user is logged in as 'runningking7' and can sign out. There are search bars for keywords and symbols, and a 'Get Quote' button. The main content area is titled 'Join Games' and includes a search form with fields for 'Search Games', 'Game Name', and 'USD'. Below this is a table of 'Most Popular Public Games'.

Game Name	Currency	Start Date	End Date	Players	Rankings
Investopedia Competition (No End)	USD	4/14/2003	No End	125085	<a href="#">Rankings</a> <a href="#">Join</a>
Investopedia Stock Only Competition (No End)	USD	4/4/2006	No End	42394	<a href="#">Rankings</a> <a href="#">Join</a>
Beginners	USD	6/11/2003	No End	8269	<a href="#">Rankings</a> <a href="#">Join</a>
1st Timers	USD	8/5/2003	No End	4449	<a href="#">Rankings</a> <a href="#">Join</a>
Beginners only	Both	2/6/2004	No End	2810	<a href="#">Rankings</a> <a href="#">Join</a>
Warren Buffet Million Dollar Challenge	USD	7/15/2003	No End	2170	<a href="#">Rankings</a> <a href="#">Join</a>

On the right side of the page, there is an advertisement for 'optionsXpress' with the text 'LEARN HOW TO GENERATE INCOME IN A VOLATILE MARKET' and a 'Learn More' button.



# IFI2009S

The screenshot shows a Windows XP desktop with a web browser window open to the Investopedia Stock Simulator. The browser's address bar shows the URL: <http://simulator.investopedia.com/Game/ListGames.aspx?type=Search&item=IFI2009S&sc=1&scur=USD>. The website's navigation bar includes links for Home, Dictionary, Articles, Tutorials, Exam Prep, Ask Us, Simulator, Community, Stock Ideas, and Free Tools. The main header features the Investopedia logo, a user greeting for 'runningking7', and search bars for keywords and symbols. Below the header, there are sections for 'Free Real Estate Training' and 'Futures at optionsXpress'. The 'Stock Simulator' section is active, showing a 'Join Games' form with a search bar containing 'IFI2009S'. The search results show one match for the game 'IFI2009S' with a currency of USD, start date of 2/8/2009, end date of 5/26/2009, and one player. A table lists the game details, and a 'Learn More' button is visible in the optionsXpress advertisement on the right.

Investopedia Stock Simulator

Hi runningking7 (Sign Out)

Free Investing Newsletters

enter keywords Search enter symbol Get Quote

Free Real Estate Training Futures at optionsXpress

Stock Simulator My Home Portfolio Trade Rankings Games Help optionsXpress

My Games | Join Game | Create Game | Manage Games

Join Games

Search Games: IFI2009S - Game Name USD Search

Search Results for "IFI2009S". Found 1 matches. (Back to Public Games)

Game Name	Currency	Start Date	End Date	Players	Rankings
IFI2009S	USD	2/8/2009	5/26/2009	1	<a href="#">Rankings</a> <a href="#">Join</a>

Total Games Found: 1

Learn More

# Registration Info

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**Game Name:** IFI2009S  
**Password:** password