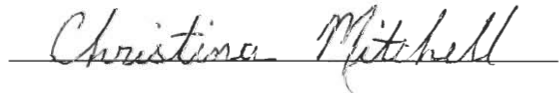# Stock Market Analysis

An Interactive Qualifying Project Report
submitted to the Faculty of
WORCESTER POLYTECHNIC INSTITUTE
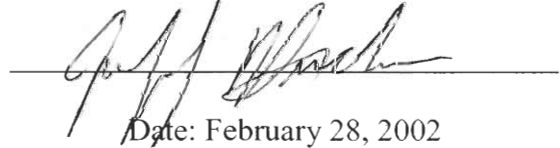in partial fulfillment of the requirements for the
Degree of Bachelor of Science
by

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Date: February 28, 2002

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Professor Dalin Tang, Advisor

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Abstract

This project was an exercise in Stock Market Analysis. First research into the area, which the student wanted to simulate, was prepared, and then a simulation of different trading strategies were conducted, which helped the students gain knowledge about their research. In the end the students were able to outperform the United States Stock Markets in the time periods between October first and December thirtieth in the year 2001.

Acknowledgements

Authorship Page

The authorship page has been submitted with the IQP so that the author's of each section may receive recognition.

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Chapter 1
Introduction

The general purpose of this project is to develop a basic understanding of the workings of the stock market. Ultimately, we will attempt to make a profit off investing a specific sum of money, varying by portfolio, using several strategies. In addition to try to predict the effect of the recent terrorist attacks (9-11) on the country and on the market. The materials most in use will be the worldwide web. Several strategies will be tried. Including but not limiting to shorting, day trading, sector trading and learning to invest long term with a diversified portfolio. Some tools used to help track the investments will be Microsoft Money.

For portfolio I, Elizabeth will be conducting research and then simulating day trading using strategies of shorting, and trying to predict the ups and downs of a volatile market. She will be using a sum of $500,000.00 to eventually beat the market making a profit. We hope to gain knowledge on predicting the market, what factors influence the market and in what ways over short periods of time.

For portfolio II, Christina will be researching companies in sectors effecting today's economy, and setting up a diversified portfolio with intent of making a minimal 10% profit and beating the market. The sum of money will be 120,000. Through research, Christina will set up criteria to establish a basis for selecting stocks and bonds and will follow a plan laid out by Microsoft Money. She will also monitor the progression of these stocks and bonds and make the decision daily whether or not the stock has potential to

grow and to hold or trade. We hope to gain knowledge on how to diversify, funds, IPO's and basic numerical analysis on stocks.

For portfolio III, Jeff will be using a sum of 50,000 to invest in the stock market. Portfolio III is very similar to portfolio II except the criteria used in selecting stocks is modified. Jeff researches new product lines and economy needs and invests accordingly. We hope to gain knowledge in both ways of selecting investments and be able to make an educated decision which criteria is more important and when to use each method. Additionally, we hope to learn when to sell and when to hold.

In chapter two, we will introduce you to the stock market, the history and the terminology associated with everyday trades. We will then break the paper down into three major sections separating each portfolio. Chapters three and four are portfolio one Day trading. In those chapters Elizabeth will explain what day trading is, the strategies she used, and what her outcome was. The second large section is portfolio two, chapters five and six. In these chapters, Christina will explain long term investing, strategies to diversifying, and how the portfolio turned out. The third Portfolio is section 3 and chapter seven. In this chapter, Jeff explains sector investing, his modified strategies, and his results after his simulation. Chapter eight discusses all three portfolios and analyzes each result. Chapter nine summarizes all the portfolios and sums up our final conclusions.

Chapter 2
Background

This Chapter will give a brief overview of the history of the stock market, including a few specific times in which the market can be likened to our trading period. Also included in this chapter is a short list of pertinent vocabulary collected through out the project that must be understood in order for a person to continue reading this paper. This Chapter should give a reader the knowledge needed in order to be able to further educate themselves with more specific information in the following chapters.

2.1 History of the Stock Market

The first European stock exchange was established in Antwerp, Belgium, in 1531. There was no stock exchange in England until the 1700's. A man wishing to buy or sell shares of stock had to find a broker to transact his business for him. In London, he usually went to a coffeehouse, because brokers often gathered there. In 1773, the brokers of London formed a stock exchange where buyers and sellers could conduct their business.

In New York City, brokers met under an old buttonwood tree on Wall Street. They organized the New York Stock Exchange in 1792. The American Stock Exchange, second largest in the United States, was formerly called the Curb Exchange because of its origin on the streets of New York City. Today, seventeen exchanges are located in various cities in the United States.

Over the past century, the stock market has returned to investors an average of 10.4% a year.

1900s	9.96%
1910s	4.20%
1920s	14.95%
1930's	-0.63%
1940s	8.72%
1950s	19.28%
1960s	7.78%
1970s	5.82%
1980s	17.57%
1990s	18.17%

Figure 1.1 Average returns over the past century

During the past century, the stock market had two major market crashes, the market crash of 1929 and 1987. On September 4, 1929 the stock market hit an all time high as what is said to be a result of the American Industrial Revolution right after Labor Day weekend. At that time banks were invested heavily in stocks and individual investors borrowed heavily on margin to buy stocks. By October 24, 1929 the stock market was down 20%. On October 28, 1929 the stock market was down another 13.5%. On the historical day of October 29, 1929 the stock market dropped 11.5% to bring the Dow down a total of 39.6% from its high. The stock market had lost 14 billion dollars of wealth.

Through research, we have found the crash of 1929 to have three major causes. These causes were that the stocks were overvalued, margin buying was rampant and that there was a bad-banking structure. Through research of major websites, large majorities of people believe that according to P/E ratios and price to dividend ratios that stocks were overbought. In 1929, stocks were trading at an average P/E of 60. Margin Buying was used too often, and without enough down in order to cover the stocks. In the 1920s, you

could put 10% down to buy stock. Thus if you wanted $100,000 in stock of GE, you would also need $10,000. The monthly payments would be made for the remaining balance. Five percent of the total buying of the market was margin buying. Finally, in the 1920s, banks were opening up as many as 4 or 5 daily. There were few federal regulations to determine start up capital, and reserves lent. As a result, most of these banks were highly insolvent. Banks began closing (about 2 per day) between 1923 and 1929. Then as banks moved to invest heavily in the stock market, this proved to be a disaster when the market crashed. By 1932, 40% of all banks were wiped out.

As a result of the 1929 crash, several reforms were made to benefit the country. First and foremost, The Glass-Stegall Act was passed which banned any connection between commercial banks and investment banking. However over recent years, the fed and banking regulators have softened some of the Glass-Stegall Act. For personal security, The FDIC was established to insure individual bank accounts for up to $100,000.

The stock market after climbing out of the 1929 crash soared till it's second crash in 1987. The markets peaked in late August with the Dow hitting a record of 2722.4. The Dow headed downward, on October 19,1987, the Dow dropped 508 points (22.6%) for the day. This was a drop of 36.7% from its record high. The stock market lost ½ trillion dollars.

We have found there to be three major causes to this crash. The first is that there was no liquidity. during the crash the stock market was not able to handle the large volumes of

sell orders. Most common stocks on the NYSE were not traded until late morning of Oct. 19th. The Second was that once again stocks were overvalued. Stocks were trading at a high P\E Ratio. However stocks were selling a high P\E ratio from 1960 – 1972 and no crash happened. This was a contributor not the sole cause. Thirdly computer trading was becoming a common practice. Large institutional investing companies used computers to order to automatically order large stock trades when certain market trends prevailed.

As a result of the 1987 crash, there were uniform margin requirements, new computer systems, and a new circuit breaker mechanism. Uniform Margin Requirements were instated. This was done to reduce the volatility of stocks, index futures and stock options. New computer systems were extensively used. These new systems were designed to enter a trade in one keystroke. The computer will automatically reject the trade if something went wrong. This increased data management efficiency, accuracy and productivity. Finally, the New York Stock Exchange instituted a circuit breaker mechanism by which trading would be halted on all exchanges for one hour if the Dow Jones average fell more than 250 pts in a day and for two hours if it fell more than 400 points.

2.2 Basic Stock Market Terminology

Bid- the highest price any bidder is willing to pay for a given security at a given time; also called bid price.

Bid Size – The number of shares that are being offered for purchase at the bid price, often expressed in terms of hundreds of shares.

Broker/Dealer- an individual firm, other than a bank, which is in the business of buying and selling securities for itself and others Called an agent or broker when buying securities and a principal or dealer when selling them. Brokers/dealers must register with the see as well as with the states in which they conduct business.

Churning- excessive trading in a clients account by a broker seeking to maximize commissions regardless of the client's best interests, in violation of the NASD rules

Common stock- a preferred stock or bond which is convertible into common stock, especially one that is trading like an equity issue because the optioned common stock share price is high.

Common stock ratio- a company's common stock divided by its total capitalization, expressed as a percentage

Dividend notification- a requirement that companies notify NASDAQ's Uniform Practice Department at least 10 days in advance of the record date of a dividend so that NASDAQ can set the ex-dividend date

Exchange – an organization, association or group which provides or maintains a market place where securities, options, futures, or commodities

52-week high- the highest price a security reached during the last 52 weeks.

52-week low- the lowest price a security reached in the last 52 weeks

Index- a benchmark against which financial or economic performance is measured

Market- a public place where buyers and sellers make transactions, directly or via intermediaries.

Market weighted index- a stock index in which each stock affects the index in proportion to its market value.

NASD- national association of securities dealers- a self-regulatory securities industry organization responsible for the operation and regulation of the NASDAQ stock market and over the counter markets

NASDAQ- national association of Securities Dealers Automated Quotations system

a computerized system established by the NASD to facilitate trading by providing brokers/dealers with current bid and ask price quotes on over the counter stocks and some listed stocks

NASDAQ small cap market – Securities of smaller, less capitalized companies that do not qualify for inclusion in the NASDAQ National market

Over the counter OTC- a security, which is not traded on an exchange, usually due to an inability to meet listing requirements. For such securities, brokers/dealers negotiate directly with one another over computer networks and by phone, and the NASD monitors their activities

Owner's Equity- net worth- total assets minus total liabilities of an individual or company for a company, also called owners equity of shareholders equity or shareholders equity or net assets.

Quote- the highest bid or lowest ask price available on a security at any given time

Real time trade reporting- a requirement that market makers report each trade in a NASDAQ security to NASDAQ within 90 seconds of execution

Share – certificate representing one unit of ownership in a corporation, mutual fund, or

limited partnership.

2.3 Summation

The vocabulary combined with the brief highlighting of historic United States Stock Market events will give the reader a better understanding of where the portfolios had there grounding at. Some of the portfolios used the information as part of there trading strategies. Other portfolios remembered what has happened in the past, and the old adage that history is doomed to repeat itself. After September 11, 2001, this statement seemed very true, as the United States Stock Market did follow the same pattern as it has before when the country has been at war.

Chapter 3
Strategy Research

Chapter 3 begins with an introduction into short-trading specific vocabulary; in order to gain the knowledge to read the rest of the chapter this is very important. The chapter continued on with an explanation of short trading for the beginner. Then it gave some trading strategies for the short trader. Then the chapter moves into the biggest aspect of Portfolio I, which is Day-trading. It explains different tips, and risks involved. Finally it discusses a particular way to enhance your day-trading capabilities, by technically analyzing past data about different aspects of the stock.

3.1 Short Trading Terminology

Many terms within the stock market are unique. They are like a new language that a knowledgeable trader must know. Some of these shorting specific terms include the following definitions:

Short Selling- any sale completed by the delivery of a borrowed certificate; Transaction made by an investor who believes a stock will decline and places a sell order, though he or she does not own any of those shares

Bid-asked spread- the difference between the bid (the price a buyer is willing to pay) and the ask (the price a seller is offering); the fewer the shares outstanding, and the less the demand for shares, the bigger the spread, putting investors at a disadvantage

Buyback- After a short sale (in which shares are borrowed and then sold), the purchase of an identical amount in order to repay the loan. Also, the repurchase of stock by a corporation. See short sale

Correction- A price reaction, usually downward, leading to an adjustment of more than 10%

Cover- To buy stock in order to close out a short position

Covered call-A call whose holder sold the underlying security short. Used to reduce risk; if the security falls (rises) in value, the call option will rise (fall)

Margin call-A broker's notice upon a client to put up money or securities; made when a purchase is carried out or when a customer's equity in a margin account declines below minimum standards set by an exchange or firm

Premium –Fee paid by a short seller to the lender of security that is sold short

Short-interest Ratio- tells you how many days, given the stock's average trading volume, it would take short sellers to cover their positions (i.e. buy stock) if good news sent the price higher and ruined their negative bets

Support level- The point where a market stops dropping because buyers start to

outnumber sellers. Its reverse, the resistance level, is the point where the market

peaks.

3.2 Short Trading

Shorting the market is a risky and complicated investment technique that is not for the weak of heart, nor the beginner. However the knowledge of shorting, and a few particular techniques involved with it can help an investor a great deal. When an advanced trader uses shorting, it can add to profits, reduce portfolio volatility and lock in market gains.

Shorting the market is a way for a trader to make money when the market is in a downward trend. Instead of buying a stock with the object of selling it at a higher price the trader will borrow a stock (through a broker) and then immediately sell it. When the stock falls to a place where the trader deems a good amount, they will buy it and then sell it back to the owner.

There are absolutely no limits when shorting a stock, however many factors can play into whether you are allowed to continue shorting a stock. If the owner of the stock would like to have the stock returned they might ask for it at anytime, at which point the trader may have lost money. When they're orchestrated as a whole, these so-called "buy-ins" are referred to as a short squeeze and they cause the stock's price to rapidly rise. A trader may place a stop-buy order that curb a large loss of funds. By placing a stop-buy the broker will automatically sell the stock at a certain level. Another way to reduce loss would be to use option-related hedging techniques.

In order to short stocks you must first establish a margin/short account with a broker. The stock must be available to borrow and the trader must maintain at least fifty percent or more of the stock's value in their account. Federal law requires maintenance of the fifty percent as collateral. This is to prove that the short position can be closed. Short selling can only be done on an up tick and no interest is paid to a trader who is shorting. If dividends are paid the short seller is liable for paying the dividends to the fabricated person from who the shares were on loan from, ultimately, the last buyer in the chain of borrowing and shorting transactions will get the dividend from the company for all tax purposes. Share voting is also affected by shorting. The lender loses his chance to vote the shares, because he does not physically have control of them, or else concessions must be made so that the lender may vote. When holding these short positions even for over a year, capitol gains taxes still are categorized as short term.

3.3 Short Trading Strategies

The majority of strategies that work on the long side of the market also work in reverse for the short side. An example of this would be pullbacks. Pullbacks from new highs can often represent good buying opportunities, so it could be said that pullbacks from lows also present good opportunities to sell short.

A bad strategy would to invest into a stock, because it seems to be overvalued. Being overvalued does not mean that it cannot go higher, and in fact in the early 1990s traders tried just this strategy and were distraught when the prices continued to climb, this is also happening today with hot sector stocks including the technology sector. However, Pamela Black believes that undervalued stocks may be the best place to begin. It all depends on how much capital the investor has to invest and how willing they are to bet with it.

Sometimes it is concluded that the stock will go down if there is a high level of short interest. However caution should be taken when buying stocks based on this movement. Instead use research and news to poll analysts feelings about these changes. Nevertheless high short interest doesn't mean you should try to short the stock in the long run. Short sellers are also capable of being wrong, and very well may be.

The greater the short-interest ratio, the longer they will have to buy -- a phenomenon known as a "short squeeze" -- and that can sustain a stock. Investor's can bet on a short squeeze, which is just as risky as shorting the stock in the first place. Short-interest ratio

should be used as a barometer for market sentiment only -- particularly when it comes to volatile growth stocks.

In order to begin investing in this manner the first step is discovering a shorting candidate. This can be done in the same manner any stock would, look for the opposite of bullish fundamentals such as reasonable valuations, growing earnings, and a catalyst to spur growth, you look for the opposite. In the instance of Amazon.com, the business model and its balance sheet were questionable. The best way to begin is to scour balance sheets and income statements for operational difficulties such as falling gross margins or rising inventories and accounts receivable that are growing faster than sales. These could be signs that the company is pushing aggressive sales practices to meet its revenue and earnings projections. Another red flag is when a company that has more debt than its rivals; it could be crippled if business slows. Watch industry trends. Last fall, soap maker Dial for example, was hit by rising raw material costs amid weak domestic demand. An attentive observer might have concluded that rival Procter & Gamble would soon feel the sting as well.

Many different strategies exist. But in the long run one must find the best strategy for them self. Strategies, which in the end will profit them, and still not consume their lives. A steadiness can be very hard to achieve but in order to thrive in the Stock Market this balance must be found. "If you have success buying and selling long, then you might have success in shorting," says Lyons of Tradersweek.com. "But if you don't have an investment strategy or discipline, you can lose your shirt" Even the most weathered of

traders knows that this is just a job, and too take it as a life can be detrimental to your sanity and your pocket.

3.4 Day Trading Strategies

The investing community has praised many different day trading strategies. Options abound as to which an investor can choose including using past knowledge to help determine what they believe the market may do. The one-sided mentality may choose to study chart patterns and look for common shapes from times past. However practicality says that this is an unreasonable idea, and we continue for the optimal way to strategize our trading. We may also choose to use pattern analysis and technical indicators to predict future moves in the price. The indicators must support the pattern rather than the other way around.

With so many different strategies to choose from one can spend days pulling out there hair. Sending each day trying to predict the future is time consuming and life consuming. Many Day Traders do this as their full employment, and it can and often does take over their entire life. An investor can easily lose thousands of dollars each day, and yet still they are compelled to go back the next day for more. Many traders live by some very simple rules. The first rule is to never hold a position overnight. Day traders trade frequently and, as a rule of thumb, always close all trading positions before the end of day. By doing so, traders significantly limit their risk exposure to after-market surprises. It also lets them start the next trading day worry free, with a fresh mind. Rule 2 is to only trade stocks with prices over $10 dollars and average daily volume larger than 300,000 shares. This rule makes sure that the bite from bid/ask spreads is limited and that the day trader can always get in or out of any trading positions. The final important rule is to cut losses promptly. By sticking to this prudent caution, day traders can make

sure to preserve trading capital and stay in the game until they develop a consistent and profitable trading system. The best trade could be in the opposite direction.

As former SEC Chairman Levitt recently stated in his testimony before the U.S. Senate, "[Day trading] is neither illegal nor is it unethical. But it is highly risky." Most individual investors do not have the wealth, the time, or the temperament to make money and to sustain the devastating losses that day trading can bring.

In the end there are a few facts that a day trader must grapple with and understand, in order to turn a profit. Day traders must deal with the fact that in there first month of trading, they will suffer a severe financial loss, and never actually do turn a profit. In the long run a day-trader should only spend the money that they can comfortably lose.

Day traders never invest; they sit waiting to see how the trend lines on a specific stock move. The momentum of the stock is what drives there buying compulsion, and even if it is the best company in the world, they don't want to invest in it, they want to come out with money from it.

3.5 Technical Analysis

The roots for the modern day technical analysis are based in some way or another around the Dow theory. This laid the pathway for such principles as the trending nature of prices, prices discounting all known information, confirmation and divergence, volume mirroring changes in price and support/resistance. The Dow Jones Industrial Average is a direct descendent of the Dow theory. This was developed around 1900 by Charles Dow.

Of course technical analysis is not just about what the chart is doing, and where it is going. A human element lives within stocks and it is the driving force behind a good day and bad day on at the market. The price of stocks represent a consensus, it is the agreed upon price, by the seller and the buyer. Human expectations are the biggest hindrance to forecasting any stock prices, because people are unpredictable. This is what keeps mechanical trading systems from working consistently.

If it weren't for the human element involved with trading fundamental analysis would work incredibly well. It only takes into consideration the future earnings rather than any illogical human reasoning.

Analysis can also have a great deal to do with looking not at current trends but also at past trends, in the world of day trading this is true on a more minute scale. What trends occur over time is bound to repeat them, and history is a great teacher in the world of the market because of that.

Technical analysis is based almost totally on the analysis of price and volume. Charts are used as the foundation of technical analysis. Line charts are the simplest type of chart, this is an uncluttered easy to understand view of information about a stock. Bar charts display a stock's open, high, low and close, and are the most popular type of stock chart. Of course other types of charts abound, but these will be the most used charts in the future reading.
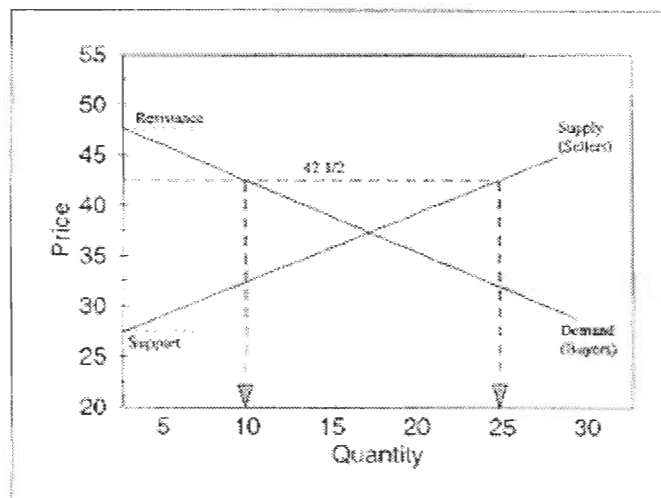
Figure 3.1 Supply and Demand Graph

Supply and demand is also very important parts of day trading. Support and resistance is based on it. Supply and demand lines shows what the supply and demand will be at a

certain price. The Supply line of this graph illustrates the number of shares that sellers are willing to supply at a given price. On the other hand, the Demand line shows the number of shares that buyer's want and the price at which they are willing to buy. In the example chart above we see that there are 10 buyers and 25 sellers when the price is at 42 ½ the is the point of resistance, and prices will never be larger than this because buyers would never pay more than this for the stock. The point of support is 27 ½ and prices cannot fall below this price because sellers will not sell at a price lower than this. Of course in out market these lines are continually changing, as the expectations of investors change. To have a price higher than 42 ½ means a breakout of resistance level has occurred and that more buyers are willing to buy for a higher price, correspondingly the decline of support levels shows that the supply line has shifted downwards.

Overall the stock's price represents the fair market value as agreed upon between buyers and sellers. When the price changes it is not purely based on charts and graphs, but instead on the investor's hope of what the stock's future price can be. The support level can happen when the agreement is that the price will not decline anymore. On the other hand resistance levels occur when the majority of people believe the price of a stock cannot get any greater. The penetration for a support or resistance level indicates that a change in investor expectations is occurring, and with this also come a shift in the supply and demand lines. Volume is a useful indicator in determined how strong the expectations will be changing. These key ideas are very important to calculating supply and demand and in turn understanding technical analysis.

Chapter 4
Portfolio I

This Chapter brings together many ideas that were learned over the course of the two term trading period, it also highlights some of the better, achievements, as well as a few of the worse failures. These extremes while the most challenging parts of the project also brought about the most wisdom in the end. Over the course of trading many different tactics were used, but out of them all, the best defenses were intuition, and knowledge.

4.1 Lessons in Trading

When trading began it was much more difficult to get things done then at the end. It was hard to know where to start from and being a day trader the research each day made the job even tougher. It was as if there was no specific starting place, but as times passed tricks were learned, and trading became easier.

In the beginning it was effortless to go with stocks that were famous, either they were companies that were trendy or they had wide media coverage. These well-known names did not add money to a portfolio, and other types of trading strategies (including long term investing) were beating day trading in this naïve way, by leaps and bounds. When this portfolio finally began to grow with the bullish market it was not congruent with the gains that the NASDAQ and the DJIA were making. The bull market was getting away without this portfolio seeing a bit of the positive advances.

A realization was made that more research was needed and then things were a bit better. By reading the information on yahoo, and other online financial business news websites,

the portfolio began to improve. Dutifully looking through all of the online articles and information about each stock helped the portfolio grow, but it still was not achieving the potential which it could have, and was under-performing the bullish market that occurred during the life span of the portfolio, the news was helping, but news, is old information, and in order to keep up with the undulating market was needed up to the second information about what was happening with the company. Inside information was hard to come by on companies (not to mention illegal). Hopes were left that stocks which were bought before the investors stopped trading and the buyers came in to do the final damage on the stock. This most obviously was not the best strategy, but there still was a lot to be learned.

Once again a refinement in the way in which stocks were chosen was needed, so research was put into many different types of indicators that would help choose the correct stock. They could be technically analyzed, in order to get a better idea as to where it was heading.

Comparison Indexes	Popular Lower Indicators
Dow Jones Industrials Avg	Volume
S&P 500	Volume+
Nasdaq	Relative Strength Index (RSI)
Russell 2000	Moving Average
NYSE Composite	Convergence/Divergence (MACD)
Dow Jones Transportation Avg	On Balance Volume (OBV)
PSE High Technology	Fast Stochastic
	Slow Stochasitc
	Rate of Change (ROC)
Popular Upper Indicators	Williams %R
MA Envelopes	Money Flow
Bollinger Bands	Volume Accumulation
Parabolic SAR	Volatility Fast
Volume by Price	Volatility Slow
Price Channel	Momentum
Show Splits	Ultimate Oscillator
Show Earnings	% Short Interest
Show Dividends	Rolling EPS
Show All Events	P/E Ratio

A/D Line	P/E Ranges
	Rolling Dividend
	Yield
	Up/Down Ratio
	Arms Index (TRIN)
	A/D Line (Breadth)
	A/D Line (Daily)
	% Compare

Figure 4.1: Table of the popular indicators and indexes that one can use to determine stock growth

With the use of these different indexes and indicators, the portfolio was now on a more accurate path for day trading. We were also given the ability to short, which is selling against the stock, and then buying it back (as explained in the previous chapter). With these two very helpful utensils we found that trading was much easier. Another helpful tool was the Yahoo's most active stock picks. We found that if the volume was high, the shares changing hand were high, and therefore it gave a better chart to analyze.

Using these new techniques, the online information was not enough. All of it was very biased towards specific people's ideas of how and why they thought the market should and would reacted. These did not provide useful strategies and it was soon realized that anything decent had to be in the websites that cost money to enter. With this in mind research from an old fashioned medium became very important to the portfolio. Investing in a few books about technical analysis was one of the most worthwhile investments of the entire project. The books used most during this project are called Technical Analysis from A to Z by Steven B Achelis and The Day Trader's Survival Guide by Christopher Farrell.

4.2 Portfolio's Progress

In the beginning the level of knowledge about day trading was very poor. The first few purchases were based solely on long-term investment strategies, which include research on the company. Not enough stock was trading hands daily to make the stock worthwhile, and because of this trading became very frustrating.

Company	LIZ CLAIBORNE, INC.	INFINIUM SOFTWARE	CSCO
Method	Daytrading	Daytrading	Daytrading
Ticker	LIZ	INFM	CSCO
Buying Price	42.07	0.8	11.8
Selling Price	42.1	0.79	HOLD
Difference	0.03	0.01	HOLD
Number of shares	1,000	10,000	1,000
Gain			
Loss	30	100	HOLD

Beginning Balance	500,000
Ending Balance	488130

Figure 4.2: Uniformed Trading

As shown in the previous table, in the beginning some of the rules that we had decided to follow when considering Day-Trading opportunities were broken. Holding the stock longer than a 24-hour period, and also did not investing enough shares to make a large change in the portfolio hindered the growth of assets. These mistakes were building blocks to a better strategy.

After that we were able to see that this was very short sighted and there was still a lot more to learn. More research required about the field, as well as the individual companies

that were invested in. In the beginning news articles were helpful for small gains. We were also trying to keep losses to a small amount, by dropping out of the market as soon as the price went below a certain place, but the quick lesson here was that with no risk there is no return.

Company	Wal-Mart	Ford
Method	Short	Short
Ticker	WMT	F
Buying Price	53.1	17.9
Selling Price	53.2	17.8
Difference	0.1	0.1
Number of shares	1000	1000
Gain		100
Loss	100	

Beginning Balance	503620
Ending Balance	503620

Figure 4.3 Lessons Still to be learned

Based on a news article from Reuters's that named a lawsuit settlement, the decision was made to short the Wal-Mart stock in hopes that it would depreciate in value over the day. The story headlined as "A South Texas jury has ruled that Wal-Mart Stores Inc. must pay $13 million to the family of a woman falsely accused of shoplifting." at 9:13 in the morning. Unfortunately this trading technique was wrong, and it caused the loss of money from the overall portfolio. However many lessons were learned fast from this particular failure. The first lesson being that news is old, as soon as it is published. To rely on old news is to rely on the past.

Over the terms of trading we found that to some extent long term trading may benefit from following past patterns. The volatility of the market from day to day does not allow for past history watching.

This strategy was improved when we started looking not just at the company's news, but also the overall country's news, things such as the unemployment rate and the economical indicators that were expressed over the wire.

Ticker	CPQ
Buying Price	9.05
Selling Price	8.93
Difference	$0.12
Number of shares	10,000
Gain	
Loss	$1.200.00

Beginning Balance	504,580
Ending Balance	505780

Figure 4.4 Knowledge is being expressed through portfolio gains

On this particular trading day it was speculated that the unemployment rate would be going down. Based on this very important statistic the decision was made to short. It turned out to be a good decision and used a small look at psychiatry by examining the buyer's mentality. With employment going down and the job security decreasing people tend not to spend as much, and also try to make their assets more secure. The market took a big stumble this day because of buyer's mentality, without rational analysis of a

company's reports or other economic data. All of the right information in the world, news, data, reports, can change the fact that the buyer's mentality is the final word.

It was a natural progression to further the level of analytic ability when the decision was made to utilize analytic techniques to buy and sell different stocks.
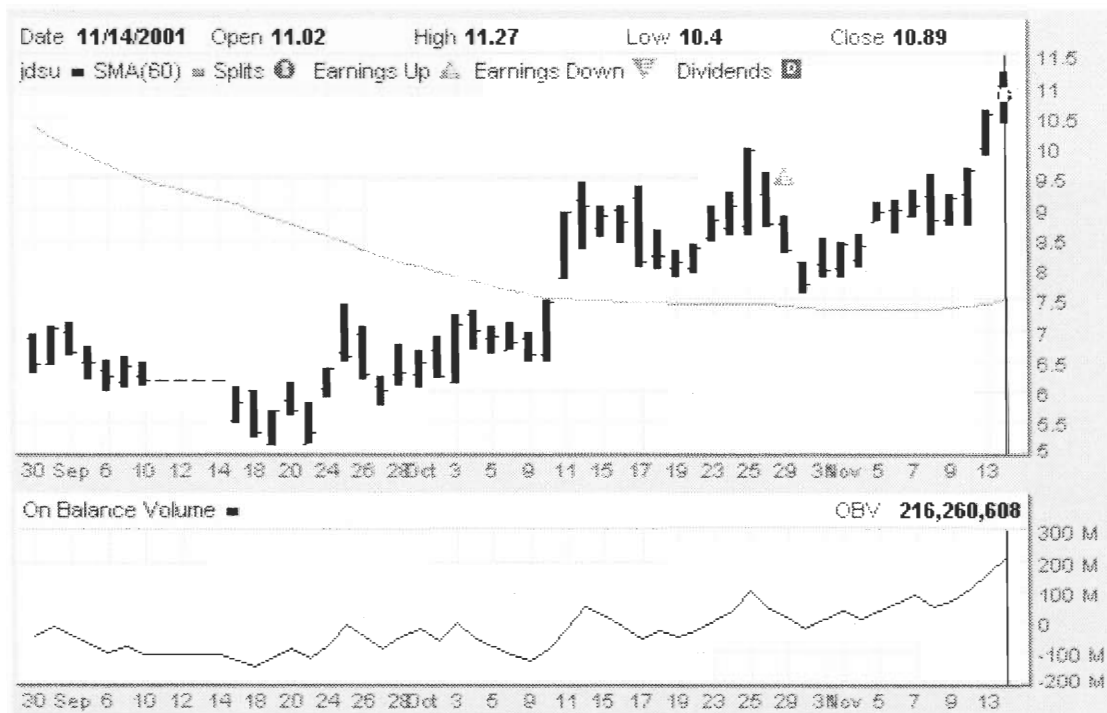
Figure 4.5 On Balance Volume Chart

Beginning to use technical analysis to decide on buying stocks was very difficult. It began as a hit or miss use of the lower stock indicators where I investigated momentum, MACD, ROC and for this chart finally decided to use the OBV (On balance Volume) technical analysis method. The theory related behind it states that smart money can be seen flowing into the security by a rising OBV and when the public then moves into the stock, both the price and the OBV will surge ahead. OBV is a momentum indicator that

relates volume to the change in prices. There is a distinct upward trend the chart above as distinguished by the arrow and the highlighted section of the OBV chart an example of an upward trend versus a downward trend is given below the chart, as well as a doubtful trend.
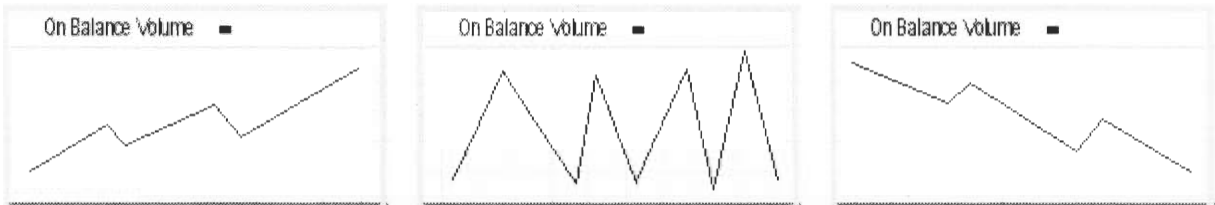
Figure 4.6 On Balance Volume Chart's status' thriving, stable and declining

Figure 4.7 Momentum Chart

I also begin using the momentum indicator which measures the amount that a stock's price has changed over a given time span. This instance was used for momentum

shorting of a stock, and it followed all the same rules of the technical analysis for momentum, in reverse. Momentum in this case is being used as a leading indicator. Assuming that the market tops are typically identified by a rapid price increase. At the market bottom momentum will drop sharply and then begin to climb well ahead of prices.

Figure 4.8 Arms Index Chart

Another useful index for short-term trading is the Arms Index, which shows whether volume is flowing into advancing or declining stocks. It is usually considered bullish anywhere below one and bearish anywhere above; when it rises to extremely oversold levels a buying opportunity is approaching. In the analysis of this stock line you can see that the index is below one, which means that the stock should be in a bullish pattern, which was true.

Finally with the use of analytic efforts my portfolio did quite well. However the prevailing lesson was that no matter how much one believes that certain stock indicators may help they aren't always a sure thing. Nothing is in the world of stocks.

4.3 Numeric Summary

This following figure shows the progress of the portfolio over the time period that the simulation was in progress. The trader decided to stop a bit earlier than the actual simulation time, as the profits incurred were satisfactory for the exercise.

Date	Balance	Stocks
Beginning	500000	LIZ, INFM, CSCO
10_01_01	488130	CSCO, EMC, SUNW
10_03_01	502500	BRCM, XLNX
10_08_01	503620	WMT, F
10_10_01	503620	RTN, CSCO
10_15_01	505795	HUM, WCOM
10_29_01	504480	ODWA
10_31_01	504580	CPQ
11_02_01	505000	WCOM, RTN
11_05_01	505780	AOL, INTC
11_09_01	514080	JDSU
11_12_01	516680	CSCO, JDSU
11_14_01	518180	WCOM, RTN, ORCL
11_20_01	524180	CSCO
11_26_01	523830	SUN
11_28_01	529030	INTC
11_29_01	528030	CIEN, CSCO
12_03_01	536330	WCOM, CIEN
12_05_01	537330	CSCO
12_07_01	546080	AOL
12_10_01	549830	AOL, INTC
12_12_01	559330	JDSU, CSCO
12_14_01	554530	ORCL, INTC
12_17_01	563880	SUNW
12_19_01	567880	AMD
12_21_01	571880	CSCO

Figure 4.9 Numeric Summary of Trading

4.4 Conclusion of Strategies

Over all the best lessons we learned were that we never want to day trading is a stressful business. We can say that it took over our life. As we left for lunch we became anxious if we were holding on to stock, and we were unable to go the night without trading it out of my possession because we were unable to track it's progress when we were asleep. The Day trader's rules that we have expressed before became all to true. We needed to make sure that we did not allow a loss of more than 10 cents; if we did we tried to sell as soon as possible. We would not hold any stocks for too long, playing with 10,000 shares can cut a big whole in your pocket very fast if something terrible comes out about the company, or a disaster occurs (September 11, 2001).

All of these lessons were learned some faster than others. We were lucky a few times when it came to trading but in the long run we found that we should follow the rules which were already set fourth.
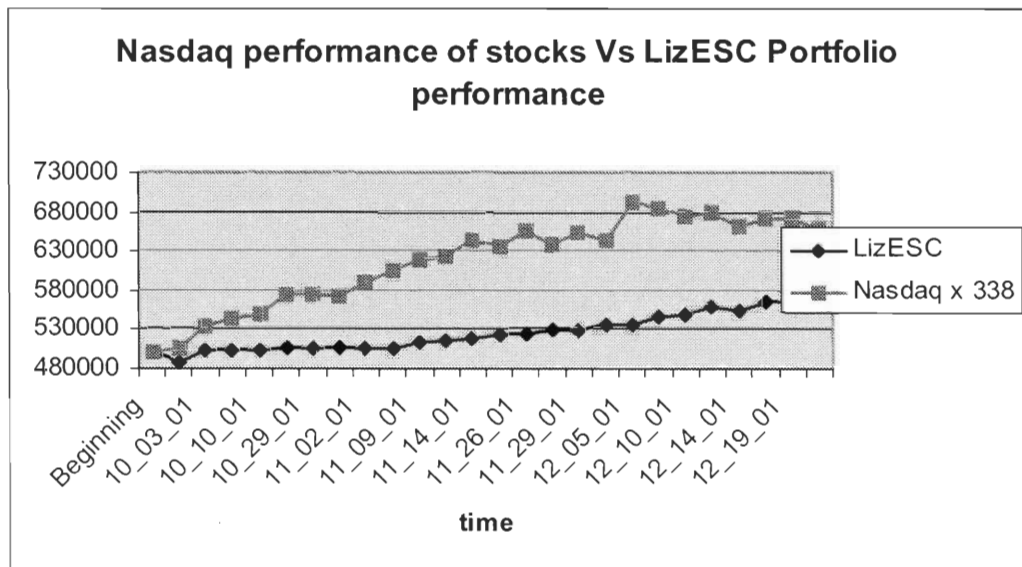
Figure 4.10 NASDAQ performance vs. Portfolio's performance
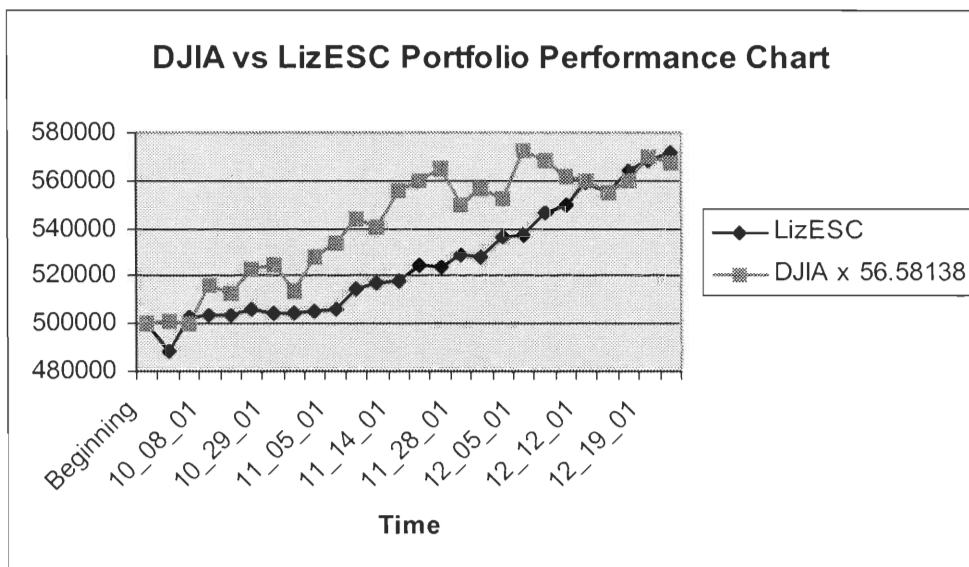
Figure 4.11 DJIA performance vs. Portfolio's performance

Over the course of this two term trading period we gained knowledge in many different aspects of trading. The largest being that there are no concrete answers in the world of day-trading, when the trend seems nothing but bull for long term investors the day-trader can still be burnt in one day by making there expectations too large, or too small. The most useful tip we found for day-traders was staying in a particular stock for only one day; it keeps the trader from over stressing. It is also important to remember that the news is old as soon as it is published, so the only way to keep ahead of the trend is to technically analyze charts before you buy into stocks, and then continue watching them until the sale. Gaining 17% on $500,000, unfortunately was not enough to mimic the gains strived by the NASDAQ, however in the long run showed a good pattern of growth in the portfolio and in the overall lessons learned about day-trading techniques.

Chapter 5
Research for Portfolio II

This is a chapter that will teach more about the research and strategies found in order to help my portfolio prosper.

5.1 Terminology

Balanced Fund- a fund that invests in stocks and bonds

Benchmarks-Mutual funds track their performance against market benchmarks. Some common benchmarks for funds are the S&P 500index for large cap stocks; the Russell 2000 index for small cap stocks, the Lehman Brother Aggregate Bond index for bonds; and Morgan Stanley's MSCI EAFE index for international stocks.

Beta- A measure of the volatility of a stock relative to the overall market. A beta of less than one indicates lower risk than the market; a beta of more than one indicates higher risk than the market. Nasdaq.com uses the S&P 500 as the underlying index to measure the overall market for beta.

Closed End Funds- Most funds create unlimited shares to meet investor demand. But closed- end funds act like stocks by selling a finite number of shares in an initial public offering. The shares trade like stocks on the New York Stock Exchange, with the prices rising or falling based on inventor sentiment

Closed Funds- Managers close mutual funds when the asset level gets to large, or to keep out short-term investors

Distribution- By law, mutual funds have to "distribute" to shareholders 90 percent of their income every year, whether it is a dividend payment, short-term capital gains, or long term capital gains. Investors pay taxes on their profits.

Debt to Equity Ratio - Long-term debt divided by shareholders' equity, showing relationship between long-term funds provided by creditors and funds provided by shareholders; high ratio may indicate high risk, low ratio may indicate low risk.

Earnings Per Share (EPS) - EPS represents the portion of a company's profit allocated to each outstanding share of common stock. Net income (reported or estimated) for a period of time is divided by the total number of shares outstanding.

Expense Ratio- The proportion of assets of a mutual fund required paying annual operating expenses and management fees. If a fund charges an annual fee of 50c per $100 of net assets, the expense ratio will be .5%. The expense ratio is independent of any sales fees.

Family of Funds - Group of mutual funds managed by the same investment management company. Each fund typically has a different objective; one may be a growth-oriented stock fund, whereas another may be a bond fund or money market fund. Shareholders in

one of the funds can usually switch their money into any of the family's other funds, sometimes at no charge. Families of funds with no sales charges are called no load families. Those with sales charges are called load families

Fund Supermarket- A brokerage or fund company that sells a variety of mutual funds from different family

Global Fund- A mutual fund that invests in US and international stocks

Growth & Income Fund-A fund that invests in stocks that provide long term growth as well as dividend income

High Yield Fund- A bond fund that invests in bonds that are below investment grade

Index Fund- A mutual fund that tracks the performance of a market index like the S&P 500

IPO Date - The date that the security started publicly trading

Load Fund- a fund that has a sales change. A front ends load charges you when you buy the fund and end load charges you when you sell it

Mutual Fund - Fund operated by an investment company that raises money from shareholders and invests it in stocks, bonds, options, commodities or money market securities.

Net Asset Value-The value of the fund's assets, excluding liabilities, divided by the number of outstanding shares.

Net Income - Income after all expenses and taxes have been deducted, and used in calculating a variety of profitability and stock performance measures.

No-Load Fund- A mutual fund investors can buy directly without paying a commission. Investors interested in researching their own portfolio prefer to buy this type of fund and sidestep fees

P/B Ratio (Price/Book Ratio) - A stock analysis statistic in which the price of a stock is divided by the reported book value (as of the date specified) of the issuing firm.

P/C Ratio (Price/Cash Flow Ratio) - A financial ratio that compares stock price with cash flow from operations per outstanding shares.

P/E Ratio (Price/Earnings Ratio) - A stock analysis statistic in which the current price of a stock (today's last sale price) is divided by the reported actual (or sometimes projected,

which would be forecast) earnings per share of the issuing firm; it is also called the "multiple".

P/S Ratio (Price/Sales Ratio) - A financial ratio that compares stock price with sales per share (or market value with total revenue).

Prospectus- A document required by the securities and exchange commission that describes a mutual fund's investment objectives, policies, risks, services and fees.

Redemption Fee-A fee that some mutual funds use to discourage short term trading if you sell your shares within a short period of time.

Retained Earnings - Net profits kept to accumulate in a business after dividends are paid. Total Shares Outstanding (TSO) - The number of shares of capital stock that have been issued and are in public hands.

Volatility - The degree of price fluctuation for a given asset, rate, or index; usually expressed as a variance or standard deviation.

5.2 Criteria

The following is a list of criteria I established when selecting my stocks. The IPO's selected (DDDP TFSM) were selected using modified criteria as the history and numbers were not always available. The funds were researched and used the same criteria. The asset allocator in Microsoft Money determined the portfolio diversification.

1. Net Profit Margin

    A company's net profit margin is determined by dividing the money that was left over after paying all its expenses by the money it had before paying expenses. For example, if the company makes $1 billion and pays $700 million in expenses, its net profit margin is 30%. Companies with high net profit margins keep more of what they earn. An investor wants a company with a high net profit margin. Look for high net profit margins; the higher the better.

2. Cash and Debt

    Cash means how much money at this very moment that a company has in the bank account or some type of liquid security. Having cash on hand is very important to companies of all sizes. Cash will help a business successfully deal with crisis or immediate opportunity. Cash on hand opens the door to opportunity and possibility to growth; as well as security in an emergency. Debt is how much the company owes in liabilities. Debt is bad for a company in an emergency, crisis, or unexpected problem. The company would most likely slow its growth, resulting in lower stock prices. Ideally, I would like companies with lots of cash

and little or no debt these companies are better equipped to deal with unexpected problems and situations. Look for lots of Cash. Look for little or no debt.

3. Earning Per Share

Earnings per share is what a company has earned divided by the number of shares outstanding. The more a company earns the more successful it is and the more desirable it becomes to investors and the more growth potential it has. If the earnings per share increase quarter after quarter at a fast rate, it is called earnings momentum. Earning momentum is a definite way to identify solid growth in companies. When investing in companies, it is important that earnings per share have increased in the past five years, and are projected to increase then again this year and next.

4. Dividend yield

Dividend yield is the company's annual cash dividend per share paid out to the investors divided by its current stock price. Large companies should have high dividend yields. Small cap investors ignore dividend yield because small companies usually don't declare dividends and therefore have yields of zero.

5. Current Price/Earnings Ratio

Current price/earning ratio shows you how much you are paying for each dollar of the company's earnings. It is simply the current stock price divided by the earning per share for a one year period. The price/earning ratio provides insight into

valuation using an easily understood measure, earnings. For my portfolio the price/earnings ratio should equal the earnings growth rate the lower the ratio the better, a price/earnings ratio that is below the 5 year average is another positive sign.

6. Average price/earnings ratio

This number allows you to see how the current price/earning ratio measures up to the stocks recent trading levels. Simply add up 5 average annual price/earning ratios and divide by 5. A stock with a higher 5 yr average price/earning ratio compared to the current price/earning ratio means a stock could be trading at a level below its normal trading range, and that relates to a positive sign.

7. Price/Sales Ratio

The price/sales ratio is a more accurate measure of a company's value because sales can not be manipulated as easily as earnings. Also, the measure helps investors identify companies that are selling below their potential. Simply divide the current stock price by the sales per share (sales per share arrived at by dividing the total revenue by shares outstanding) for all companies except utilities a smaller price/sales ratio is better ideally I am looking for a price/sales ratio below 2.

5.3 Selected Stocks

The following six investments were the final selected stocks for portfolio II.

American Funds New Perspective (ANWPX)

Weitz Value Fund (WVALX)

Lockheed Martin (LMT)

Motorola (MOT)

3-Dimensionals Pharmaceuticals (DDDP)

24/7 Real Media (TFSM)

5.4 Company Profiles

The following are summaries of each of the invested companies objectives and goals. The fund summaries also include a composite of what the fund is composed of. Each company offered a unique product or service, I believe is relevant in today's economy and can prosper in these economic conditions.

LMT: Lockheed Martin

The current events of September 11, 2001, the terrorist attacks on the World Trade Center and Pentagon, will impact the stock market substantially. With this in mind and the possibility of war, I began my investment in the defense industry. Lockheed Martin is the number one defense contractor ahead of Boeing. Lockheed Martin's high profile planes include the F-16 and F-22 jet fighters; in addition, they offer missiles for both offensive (Trident II) and defensive (Theater High Altitude Defense) purposes. Lockheed Martin has five principal segments: systems integration (missiles and fire control), space systems (communication satellites and submarine launched missiles), aeronautics (aircrafts), technology services (management, engineering, and logistical services), and global telecommunications (satellites). The US government accounts for 70% of its business. In the current terrorist situation this company provides the tools necessary for our defense.

MOT: Motorola

In a society with people on the run, Motorola provides the means to communicate while on the go. The #2 manufacturer of mobile phones gets nearly a third of its sales from its personal and network communication products such as phones, pagers and two- way

radios. Motorola provides software enhance wireless telephone, two way radio and messaging products and systems, as well as networking and Internet-access products, for consumers, network operators, and commercial, government and industrial customers. Furthermore, Motorola provides end-to-end systems for delivery of interactive digital video, voice and high-speed data solutions for broadband operators. In this current situation, Motorola plays a key hand in aiding the government with communication and navigation devices. These devices could give the United States the upper hand over less intellectually advanced countries.

TFSM: 24/7 Real Media

In a society of everyone on the run, the internet has been succeeding in aiding the consumer to shop off normal business hours. 24/7 Media, Inc, keeps the ads flowing all day. The company provides online ad outsourcing services to Web Site operators and online ad placement services to advertisers. More than 600 Web site operators across North America belong to the 24/7 Network for outsourcing of their online ad functions. The company also provides online ad outsourcing to Content zone, a group of more than 3,000 small to medium sized websites, as well as opt-in e-mail marketing services.

DDDP: 3 Dimensional Pharmaceuticals

As society advances in technology, new diseases are on the rise. 3-D Pharmaceuticals are taking drug discovery to a new frontier. Currently, the discovery of a new drug to being put on the market can take decades. 3-D Pharmaceuticals are addressing that problem. The biotech's firm Discover Works technology identifies drug candidates by using such

features as target protein production, high throughput screening, a library of some 200,000 chemical compounds and 2.5 billon novel analogs, and 3-d Protein structure analysis to expedite the process. In addition to licensing its technology to such partners as Dupont, Aventis, and Bristol Meyers Squibb, 3-Dimensional Pharmaceuticals is developing a pipeline of cardiovascular and oncology drug candidates, which it plans to license out in the early trial stages. Healthcare ventures own almost a quarter of the company. Today, there are many diseases without cures, and new diseases appearing daily. 3-Dimensionals provides hope for the sick, and possibilities to the future.

ANWPX: American Funds New Perspective

The fund's objective is long- term capital appreciation with income bearing a secondary consideration. It invests predominantly in common stocks on a global basis to take advantage of investment opportunities generated by charges in international trade patterns and economic and political relationships. When selecting securities, special emphasis is placed on identifying value. Stocks held are those of established companies in major world markets, and investment decisions are made with long- term perspective. Broad diversification, both geographically and by company, is stressed as a means of mitigating risk. Five "portfolio counselors" divide assets and an additional research group that acts as a single entity, each of who makes independent buy or sell decisions. The underlying logic is that one's manager's less productive year will be ideally be offset by the strong performance of one or more of his/her compatriots, thus limiting volatility.

The composition of the fund is 88.56% stocks, 10.52% cash, .14% Bonds, and .77% other. The sector weightings are pretty diversified. 14.17% of investment in stocks are in the technology sector; 13.80% are in the financial sector; 11.92% of investment in stocks is in consumer staples; 29.55% invested in various other sectors in smaller quantity.

WVALX: Weitz Series Fund

Weitz Series Fund Value Portfolio seeks capital appreciation; current income is secondary. In meeting the fund's capital- growth objective, Weitz looks to identify strong, growing companies selling at big discounts to their private market value, while avoiding "value traps" – cheap stocks that will probably get cheaper. To that end, Weitz employs a stock-by-stock approach, wherein he tries to determine what a business is worth to a private owner. He looks for a sustainable competitive advantage, as well as competent management. Moreover, the management is not necessarily looking for the flashiest, fastest growing company; rather he looks for slow, steady long-term growth potential.

The composition of the fund is 74.87% stocks, 23.95% cash, 1.15% bonds, and .04% other. The sector weightings lay 44.12% in the financials, 2.03% in utilities, 1.31% in retail, and 52.54 % in other sectors.

Chapter 6
Portfolio II Long Term Trading

This is a summary of how the trading experience went over all it will give a breakdown of my investment experiences.

6.1 IPO

An Initial Public Offering, IPO, is the process in which a business owned by one or several individuals is converted into a business owned by many. It involves the offering of part ownership of the company to the public through the sale of debt or more commonly, equity securities (stock).

There are many advantages as well as disadvantages, for the company and investor. For the company going public (participating in IPO) provides stronger base capital, increases other financing prospects, better situates themselves for marketing acquisitions, provides owner diversification, executive compensation, and the very important increase in company prestige. However, the disadvantages some times can seem over whelming. A company going public feels short-term growth pressure, they must disclose certain once confidential information, costs initial and ongoing, there are new restrictions on management, loss of personal benefits, and trading restrictions.

As an investor, a company, which has just gone public, can provide some staggering rewards at a very high risk. The risk of investing a newly public company stems from the lack of history, the volatility of the market, the stability of the management, and response to the pressure for short term growth. When investing in a company on the stock

exchange for years, and investor can make informed decisions about the company's stability and response to certain economic changes. When investing in an IPO, an investor, needs to watch the product, is there a need? An investor should check on the management status, the price to sales, price to earnings, and check for consistent earnings growth.

Using Microsoft Money, Stock Scouter is a good tool in locating new IPO's and getting a summary of risk and expected return. An IPO, has the possibilities of making an investor triple in profits in a very short time, as well as costing an investor everything.

6.2 Summary of Investing

Entering into this project, I knew very little about the stock market. Since then, I have researched stocks, educated myself on IPO's and learned the basics of investing in funds. My original goal was to make a 10% profit off all my investments. The key I was told in long term investing was diversification. After checking out several online tools for portfolio tracking I chose Microsoft, as it was most user friendly. In Microsoft, there is a tool called asset allocator where it suggests a diversification strategy to meet your needs. Since I was playing with pretend money I suggested a higher return than I think I normally would have. The return selected was 10%. This is not guaranteed as a return with this diversification, the program also tells you what you could lose in a given year (3.05%). I choose this and held enough of my assets in cash to counter effect any plausible losses.

The actual breakdown of the portfolio should consist in 25% Bonds, 40% Large Domestic Stocks, 15% Small Domestic Stocks, and 20% International Stocks. This mix is not guaranteed to return 10% in any given year. There is a 68% chance your return will vary from 5.87%-14.13%. There is also a chance you could lose 3.05% of your investment in any given year. After the decision of what the breakdown of portfolio would be, I began to invest. Under the criteria listed previously in this chapter, I invested in Lockheed Martin and Motorola, both large capital stocks, 24/7 Real Media and 3 Dimensional Pharmaceuticals, both initial public offerings, and The Wietz value fund and the American Funds New Perspective, both funds holding stocks international and domestic and a small percentage of bonds. In these tough economic times, with the world

in chaos, the combination of these six investments was both profitable and defeated the market.

The IPO's, initial public offerings, were the most lucrative of my investments. However this is not always the case. IPO's carry a very high risk and are often rated to under perform compared to the exchange as these were. 3-Dimensional Pharmaceuticals which we will refer to as DDDP, was initially bought on Oct. 16,2001 at $6.54 a share. Seven weeks later, the 3000 shares were sold at $9.60 a share totaling $28.800.00. Leaving me with a profit of $9,180.00 and a staggering 46.79% total return. The second IPO did equally as well. 24/7 Real Media, known as TFSM, was initially bought on 10/16/2001 for 3000 shares at 18 cents a share. I sold the TFSM stocks seven weeks later for 23 cents a share totaling $690.00, a gain of $150 and a total return of 27.78%

The large capital stocks I invested in increased in value at a consistent slow rate. Lockheed Martin (LMT), far out did the market for the first few weeks of holding. LMT out did the market so much because of the quickly changing economic conditions and the onset of war. Being a defense stock, many Americans right after September 11 invested thousands of dollars into our safety. However, after the initial scare and effects the investments settled down and LMT returned to the steady stream of slow growth. The initial purchase of LMT was 1200 shares at 42.07 a share totaling $50,484.00. I sold my 1,200 shares on Dec. 5, 2001 at 45.99 a share totaling $55,188.00, a gain of $4,704.00 and total return of 9.32%.

My second large capital investment was Motorola. Motorola has several large defense communication contracts with the government. Although Motorola didn't sky rocket with profits right after Sept 11th, it has maintained a steady medium rate of growth. It has survived the economic decline and maintains growth through scares/ (A good recommendation for long term investing). On Sept. 20th I bought 1,000 shares at 14.79 a share totaling $14,790.00. I sold my stocks on December 5, 2001 at 17.89 a share totaling $17,890.00, a gain of $3,100 and total return of 20.96%.

My funds did not perform as well as the rest of my portfolio. The American Funds New Perspectives (ANWPX) performed the better of the two. It also held the most in cash and assets. I bought 450 shares on Oct. 16th at 20.66 a share totaling $9,297.00. I sold these shares on Dec 5, 2001 for 22.39 a share totaling $10,075.50, a gain of 778.50 and total return of 8.37%. The Weitz Value fund performed the worse with a total return of 1.92%. I bought the shares on Oct 16, 2001 for 32.74 a share totaling $26,192.00. I sold the shares on one of the few days they were above cost Dec 5, 2001. I sold the 800 shares for $33.37, totaling $26,696.00, a total gain of $504.00. In conclusion, my total investments were $120,923.00. My total return is $139,339.50 including my gain of $18,416.50. My total return is 15.23%.

6.3 Numerical Summary

American Funds New Perspective (ANWPX)					
Date of Buy	# Bought Shares	Cost per share	Total Cost		
10/16/2001	450	$20.66	$9,297.00		
Date of sell	# sold shares	Selling Price per share	Total Income	Gain	Total Return
12/5/2001	450	$22.39	$10,075.50	$778.50	8.37%

3-Dimensional Pharmaceuticals, Inc. (DDDP)					
Date of Buy	# Bought Shares	Cost per share	Total Cost		
10/16/2001	3000	6.54	19,620.00		
Date of sell	# sold shares	Selling Price per share	Total Income	Gain	Total Return
12/5/2001	3000	9.6	$28,800.00	$9,180.00	46.79%

Lockheed Martin Corporation (LMT)					
Date of Buy	# Bought Shares	Cost per share	Total Cost		
9/20/2001	1,200	42.07	$50,484.00		
Date of sell	# sold shares	Selling Price per share	Total Income	Gain	Total Return
12/5/2001	1,200	45.99	$55,188.00	$4,704.00	9.32%

Motorola, Inc. (MOT)					
Date of Buy	# Bought Shares	Cost per share	Total Cost		
9/20/2001	1,000	14.79	$14,790.00		
Date of sell	# sold shares	Selling Price per share	Total Income	Gain	Total Return
12/5/2001	1,000	17.89	$17,890	$3,100.00	20.96%

24/7 Real Media (TFSM)					
Date of Buy	# Bought Shares	Cost per share	Total Cost		
10/16/2001	3,000	0.18	$540.00		
Date of sell	# sold shares	Selling Price per share	Total Income	Gain	Total Return
12/5/2001	3,000	0.23	$690.00	$150.00	27.78%

Weitz Value (WVALX)					
Date of Buy	# Bought Shares	Cost per share	Total Cost		
10/16/2001	800	32.74	$26,192.00		
Date of sell	# sold shares	Selling Price per share	Total Income	Gain	Total Return
12/5/2001	800	33.37	$26,696.00	$504.00	1.92%

Total Investment :	$120,923.00
Total Income:	$139,339.50
Total Gain:	$18,416.50
Total Return:	15.23%

6.4 Graphs and Charts

In this section, the values of the stocks invested in portfolio II will be analytically displayed month by month. There will six sections, each devoted to a particular investment. The investments will be displayed as follows; Lockheed Martin, Motorola, American Funds New Perspectives, Weitz Value Fund, 24/7 Real Media and 3 Dimensional Pharmaceuticals.
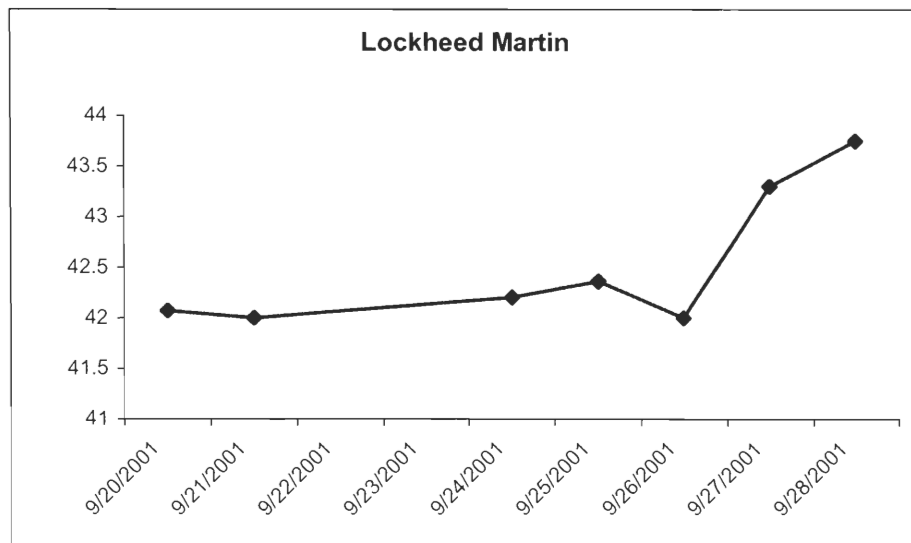
Lockheed Martin

Figure 6.2 Lockheed Martin

This graph displays the closing value daily of Lockheed Martin from the initial date of investment September 20, 2001 to the end of the month. The highest closing value of the month occurred on September 28, 2001 at $43.75. The month closed 4% above my initial investment.
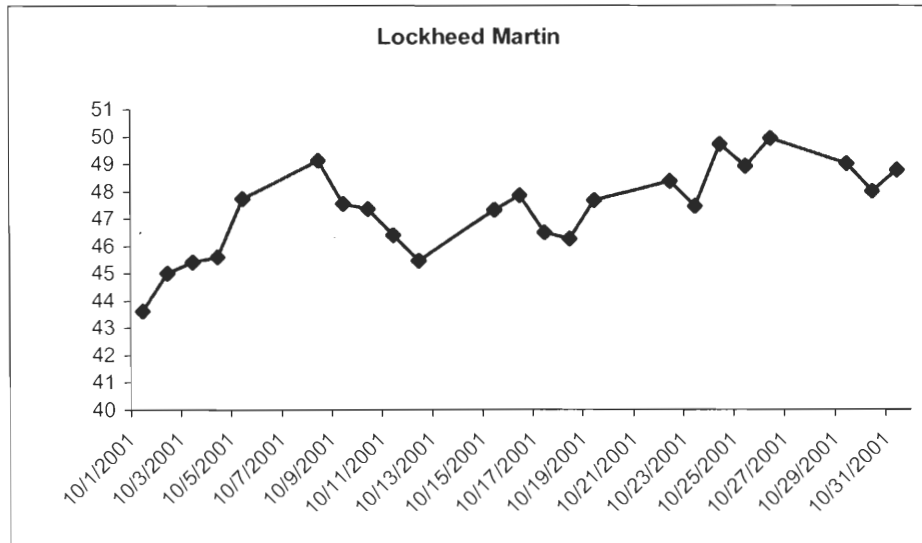
Figure 6.3 Lockheed Martin

The above graph tracks the closing value of LMT daily through the month of October.

The highest closing value occurred on October 26, 2001 at $49.92. The month closed at
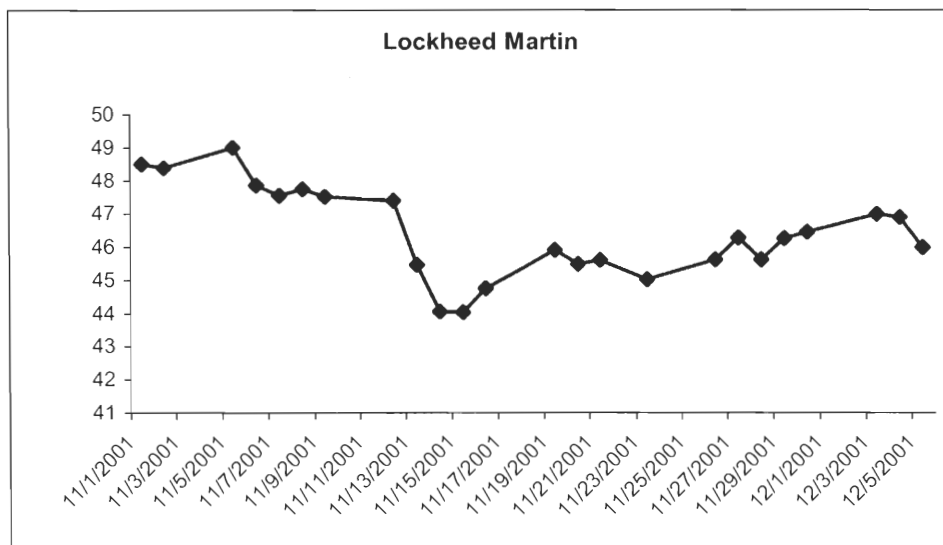
$48.77, 15.92% higher than my initial investment.

Figure 6.4 Lockheed Martin

The above graph displays the closing value of Lockheed Martin for the month of

November. The largest closing value occurred on November 5, 2001 at $48.99. The

month closed at $46.45, a 10.4% gain from my initial investment. I sold my investment on December 5, 2001 at 45.99, a 9.3% total gain from my initial investment.
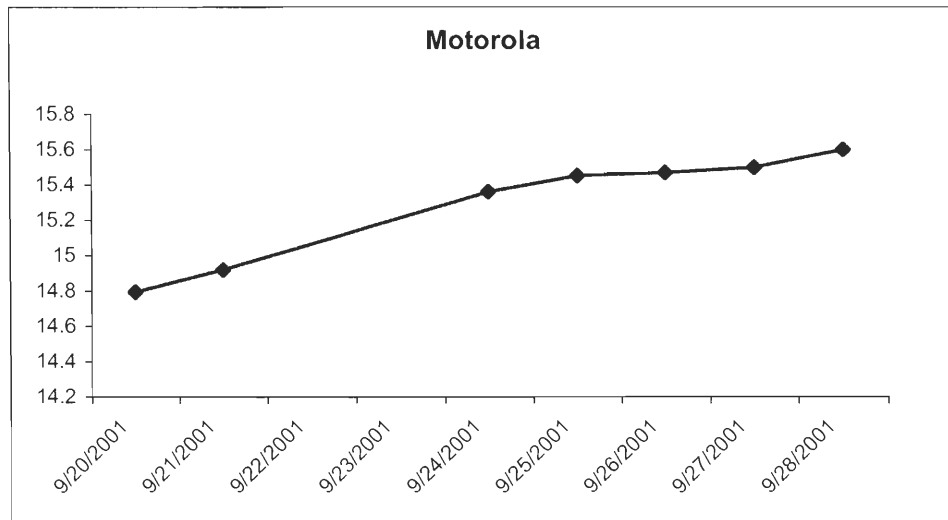
Motorola

Figure 6.5 Motorola

This graph displays the closing value daily of Motorola from the initial date of investment September 20, 2001 to the end of the month. The highest closing value of the month occurred on September 28, 2001 at $15.60. The month closed 5.5% above my initial investment.
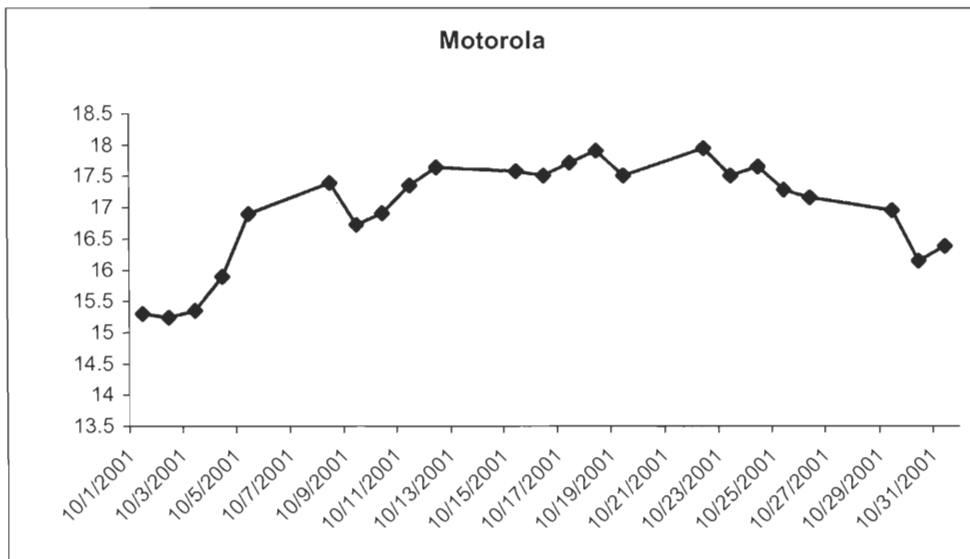
Figure 6.6 Motorola

The above graph tracks the closing value of Motorola daily through the month of October. The highest closing value occurred on October 22, 2001 at $17.95. The month closed at $16.37, 10.7% higher than my initial investment.
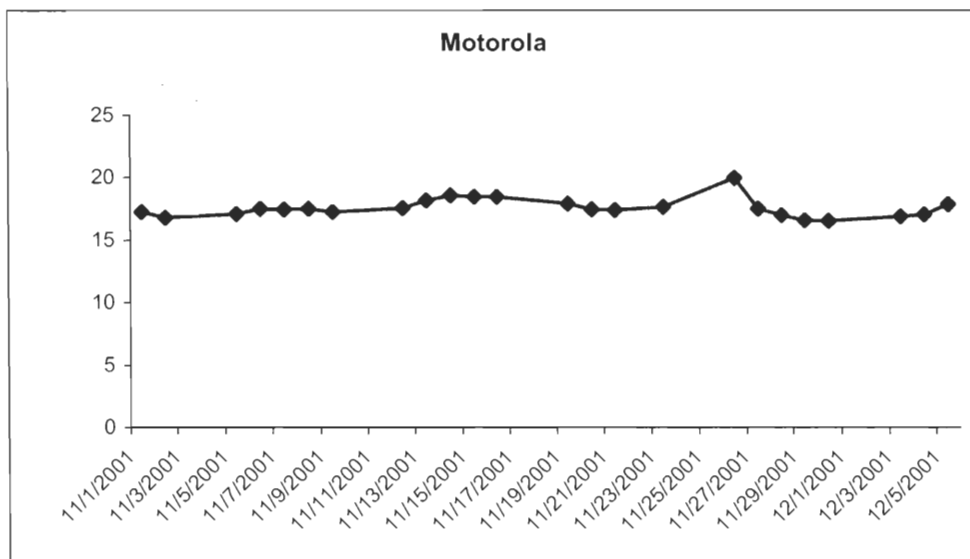

Figure 6.7 Motorola

The above graph displays the closing value of Motorola for the month of November and the first few days of December. The largest closing value occurred on November 26,

2001 at $19.96. The month closed at $16.54, a 11.8% gain from my initial investment. I sold my investment on December 5, 2001 at 17.89, a 21% total gain from my initial investment.

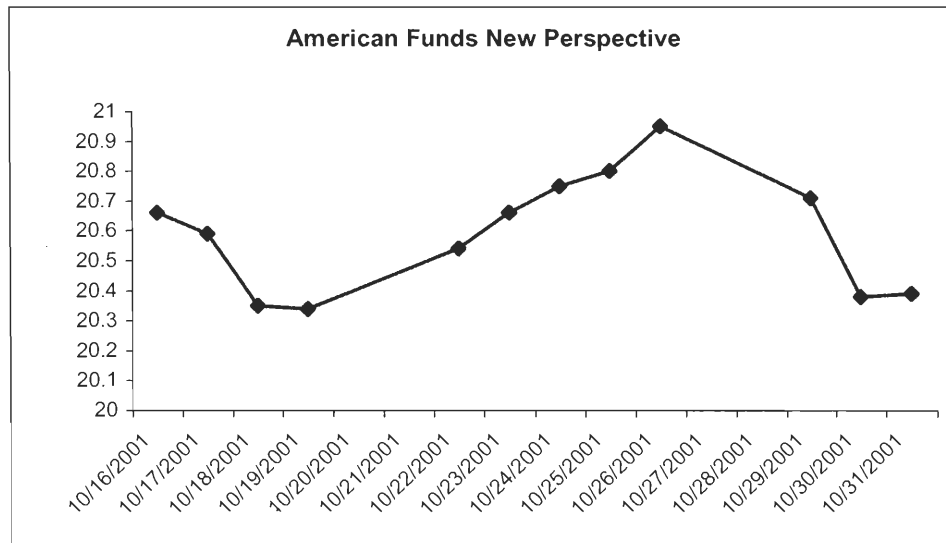## American Funds New Perspective

Figure 6.8 American Funds New Perspective

This graph displays the closing value daily of American Funds New Perspectives from the initial date of investment October 16, 2001 to the end of the month. The highest closing value of the month occurred on October 26, 2001 at $20.95. The month closed 1.3% below my initial investment.

Figure 6.8 American Funds New Perspective

The above graph displays the closing value of American Funds New Perspectives for the month of November and the first few days of December. The largest closing value occurred on November 26, 2001 at $21.82. The month closed at $21.63, a 4.7% gain from my initial investment. I sold my investment on December 5, 2001 at 22.39, a 8.4% total gain from my initial investment.

Weitz Value Fund
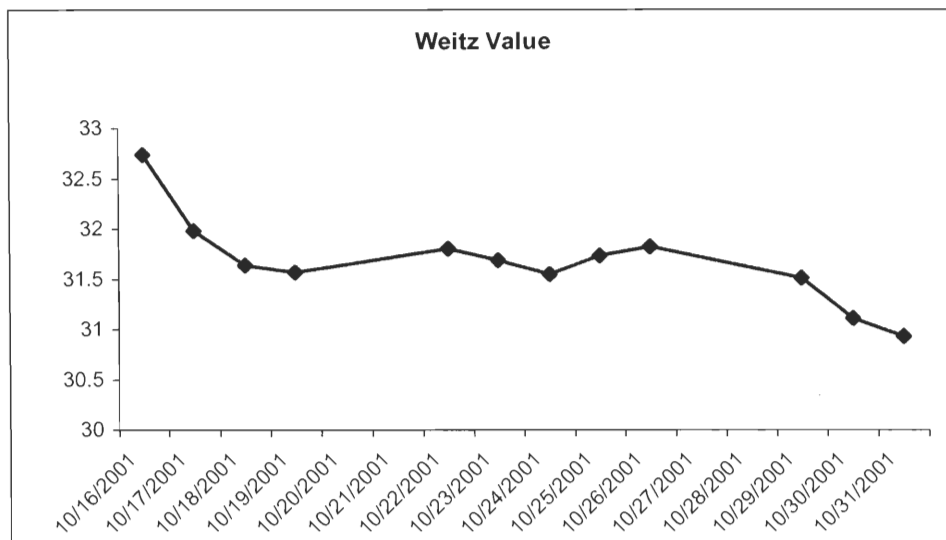
Figure 6.9 Weitz Value

This graph displays the closing value daily of Weitz Value Fund from the initial date of investment October 16, 2001 to the end of the month. The highest closing value of the month occurred on October 16, 2001 at $32.74. The month closed 5.5% below my initial investment.
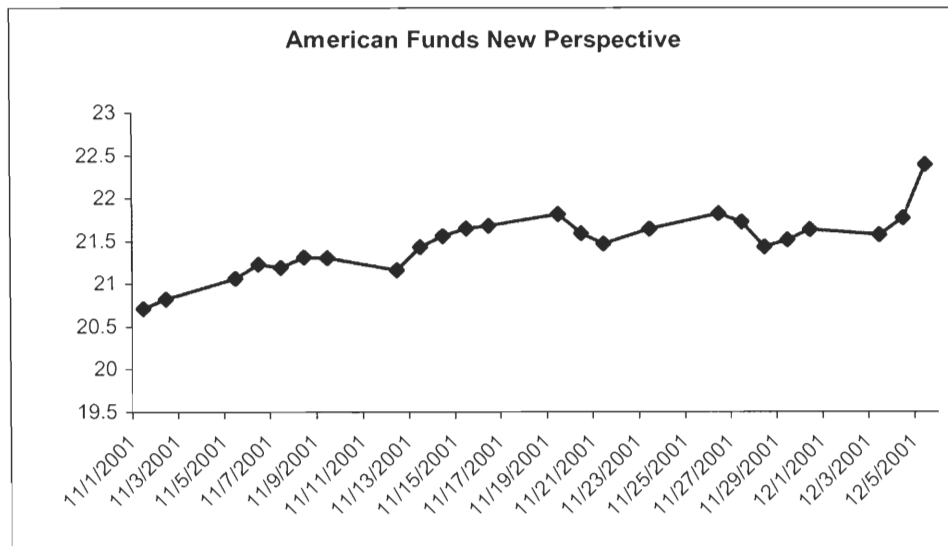

Figure 6.10 Weitz Value

The above graph displays the closing value of Weitz Value Funds for the month of November and the first few days of December. The largest closing value occurred on December 5, 2001 at $33.37. The month closed at $32.80, a .2% gain from my initial investment. I sold my investment on December 5, 2001 at $33.37, a 2.9% total gain from my initial investment.

24/7 Real Media
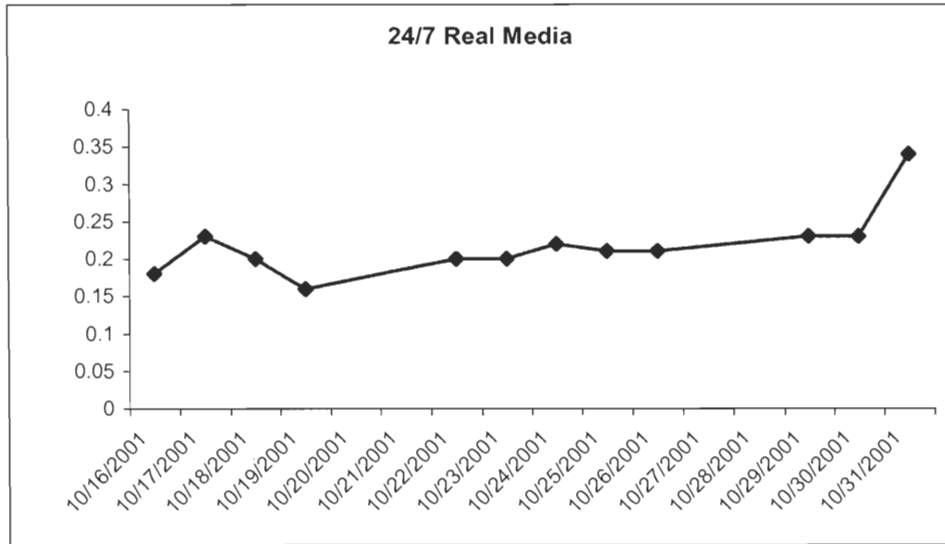
Figure 6.11 24/7 Real Media

This graph displays the closing value daily of 24/7 Real Media from the initial date of investment October 16, 2001 to the end of the month. The highest closing value of the month occurred on October 31, 2001 at $.34. The month closed 88.9% above my initial investment.
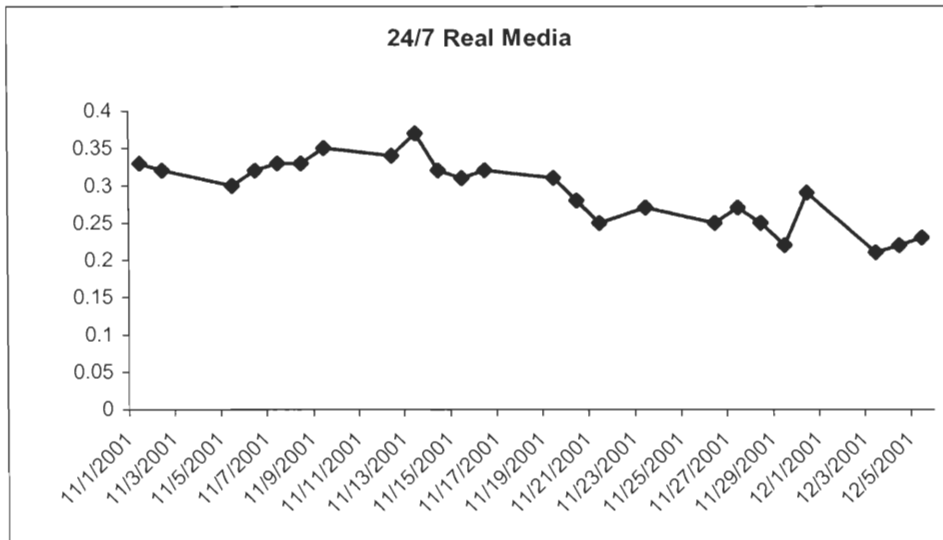
Figure 6.12 24/7 Real Media

The above graph displays the closing value of 24/7 Real Media for the month of November and the first few days of December. The largest closing value occurred on November 13, 2001 at $.37. The month closed at $.29, a 61.1% gain from my initial investment. I sold my investment on December 5, 2001 at $.23, a 27.8% total gain from my initial investment.

3-Dimensionals Pharmaceuticals
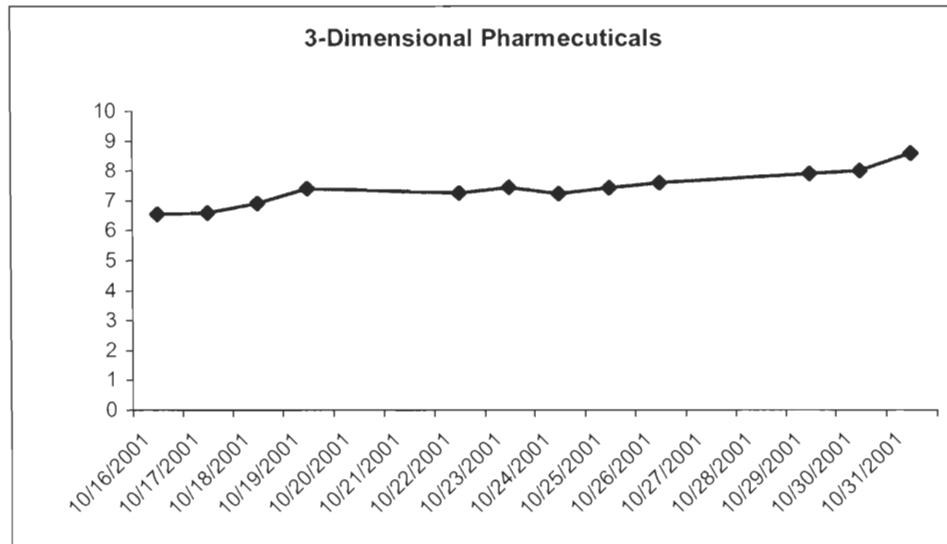
Figure 6.12 3 Dimensional Pharmaceuticals

This graph displays the closing value daily of 3 Dimensional Pharmaceuticals from the initial date of investment October 16, 2001 to the end of the month. The highest closing value of the month occurred on October 31, 2001 at $8.59. The month closed 31.3% above my initial investment.
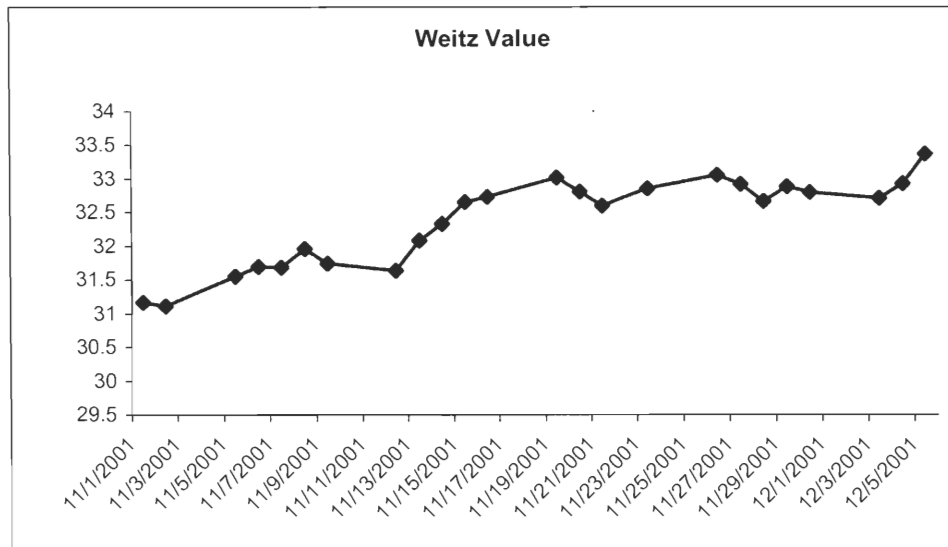
Figure 6.13 3 Dimensional Pharmaceuticals

The above graph displays the closing value of 24/7 Real Media for the month of November and the first few days of December. The largest closing value occurred on December 5, 2001 at $9.60. The month closed at $8.88, a 35.8% gain from my initial investment. I sold my investment on December 5, 2001 at $9.60, a 46.8% total gain from my initial investment.
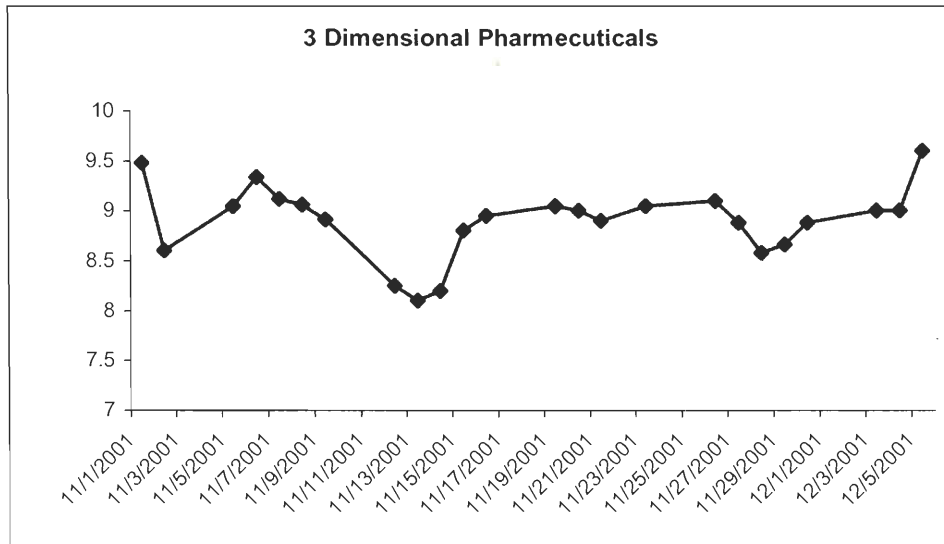
6.5 Education Obtained

At the start of this project, I was completely unfamiliar with the stock market. Today, I would have faith in my education to invest my own money. Although extremely risky, I have learned about initial public offerings and found they can be extremely lucrative. I have also found the stability of funds to be appealing as I could sleep at night. I tend to worry incessantly and found stability is more important than immediate return. My sleep at night is key to being happy, more so than more money. I would invest in a portfolio similar to the one I created here. I found the balance of stability to risk was rewarding with minimal concern of "losing it all". My funds made the least but they came with the least risk. My large domestic stocks were chosen with the economic time so they prospered under the conditions. However, I do not recommend investing in stocks solely because of economic conditions, just using it as part of criteria.

I personally was interested in long term investing. I found long term investing was not as demanding as day trading and wasn't as stressful. I did find it to be more stressful and nerve racking than I anticipated. The invested money has to be looked at as gone when invested. Do not invest any money needed to support your current living status. This includes children's college funds, home equity loans, vacation savings. Invest money not needed for anything. If the market does a dip, it is not so painful. Furthermore, I have learned about all the different sectors and commodity trading, as well as, when a stock splits and dividends. I found researching funds to be tedious but worth the work.

Through all my research on the web, I found one tool I wish I had access to. Value Line, which charges a pricey yearly fee, ($598) analyzes every stock, fund, and IPO on the NYSE, Dow Jones, and NASDAQ. All the research I searched for would have been laid out neatly. Value Line was been appraised by Money Magazine, Microsoft, the Wall St Journal, and from what I could get out of it for free was invaluable in aiding in researching and selecting your portfolio.

I will take with me, my new information on how to begin to set up a portfolio, research stocks, select stocks, and monitor their progress. I have learned that no matter how much information you obtain, one cannot fully predict the market or the economy. For long term investing, you have the difficult decision of whether or not to pull out, is this high the peak or will it go up again. Make the decisions best for you. Can you take the risk? Will you be able to sleep tonight? Are you satisfied with those profits? The best decision isn't always the same for everyone, and can't always be predicted. My best advice now, do not invest anything necessary to sustain your standard of living, then inform yourself to the market and economy.

Chapter 7
Portfolio III

This chapter deals with Portfolio III, sector trading, mainly in the area of multimedia technology. It will cover technical terms, histories and current news of product releases and business ventures of the companies we invested in, as well as the results of the trading term. Overall, this portfolio proved to be highly successful, almost doubling the invested money in about three months time.

7.1 Technical Terminology

OEM – original equipment manufacturer

3D Accelerator – PC graphics board that allows digital multimedia to be displayed in
a 3 dimensional world. Used for Gaming and design work with CAM/CAD.

GPU - Graphics processing unit.

OpenGL - Software code used for developing programs that utilize 3D graphics.

CAD/CAM – Computer Aided Design/Computer Aided Manufacturing.

DDR RAM – Double data rate random access memory.

DSP – Digital Signal Processor.

I/O – Input/Output computer interface.

CPU – Central processing unit.

7.2 Company Background

ATI Technologies Inc.

Founded in 1985, ATI Technologies Inc. are currently the worlds largest supplier of 3D and 2D/3D graphics and multimedia technology for the personal computer, in both IBM compatible and Macintosh platforms, selling to OEM and retail customers. For the past fifteen years, ATI has been pushing the limits of technology, design, and manufacturing, winning several awards for their advances in multimedia solutions and graphics components. ATI is an ISO 9002 certified company that employs more that 1,900 people at their headquarters in Thornhill, Ontario and other branches in the United States, Germany, France, the United Kingdom, Ireland, Barbados, Malaysia, Hong Kong, and Japan. Currently, the company has stretched beyond the consumer PC market to provide their innovative graphics technologies for workstations, set-top boxes, and game consoles as well as several other appliances.

In the past month alone, ATI Technologies Inc. has made several advances in both their product designs and mass sales of their 3D accelerators. To begin with, ATI introduced the world's most powerful mobile workstation graphics chip, the MOBILITY FIRE GL 7800, on Monday, November 12, 2001.

This new chip has exceptional OpenGL performance that is more than capable of running the most demanding 3D graphics applications such as CAD/CAM programs (Computer Aided Design/Computer Aided Manufacturing) and computer animations utilities such as Softimage|XSI for content creation and playback. With 64MB of 128-bit DDR memory,

support for 3D resolutions up to 2048 X 1536 pixels at 32-bit color, and the use of ATI's patented RADEON technology, the MOBILITY FIRE GL 7800 offers mobile workstation users the highest level of performance, product reliability, and stability.

Also, through the use of the chips HYDRAVISION, an advanced multi-monitor management component, users can configure up to nine multi-monitor configurations. This means that the work in progress may be called up at each different location simultaneously or to just one monitor or flat panels screen. Last of all this piece of hardware incorporates a voltage and frequency scaling technology called POWERPLAY, which modulates clock speeds and voltage settings automatically, or manually for experts, when users switch between AC and DC battery power. This assures users that they are getting the maximum performance from the 3D accelerator at all times.

In other news, ATI's RADEON 8500, its latest generation graphics board, has been selected by Gateway Inc. for its 700 series of Desktop PCs. The board features 64 MB of DDR memory, support for VGA, DVI and TV-out displays. Gateway's 700 series PCs utilize Intel Pentium 4 processors with 512 MB of PC800 RDRAM memory and a 15-inch LCD flat panel display, which is a high-end consumer PC.

The RADEON 8500 is enhanced with two technologies, TRUFORM and SMARTSHADER, both patented by ATI to enhance the video acceleration in 3D games. TRUFORM is an innovative rendering technology that helps to deliver incredibly smooth and natural 3D images on existing and next-generation 3D games. The

SMARTSHADER technology takes advantage of Microsoft's new DirectX 8.1 specification and adds in support for Pixel Shaders Version 1.4, which provides more complex and realistic textures and lighting effects without sacrificing performance.

Finally, ATI's most recent technology success has been in its development of the 'Flipper' chip. The 'Flipper' is the revolutionary graphics processor featured in the NINTENDO GAMECUBE, a home video game console. This chip is a highly integrated processor includes both a 2D and 3D graphics engine, a DSP (digital signal processor) for audio processing, all system I/O (input/output) functions including CPU (central processing unit), system memory, controllers, optical disk, flash card, modem and video interfaces, and an on-chip high bandwidth frame buffer. Currently, ATI is predicting to earn as much as $32 million in sales of this product by March of 2002. This would require NINTENDO to sell about four million next-generation consoles by this time, with ATI receiving $5 to $8 for each unit sold.

Nvidia

Nvidia Corporation, established in January 1993, is another world leader in the advanced graphics and multimedia technologies industry. This company provides consumers with 2D/3D graphics accelerators as well as high-definition digital video and television for computers. Nvidia provides GPU chips for PC OEMs, add-in card manufacturers, system builders, and consumer electronics companies around the world that are used for manufacturing, science, e-business, entertainment, and education.

Currently their processors are used mainly for digital content creation and CAD/CAM systems, financial analysis and business-to-business collaboration, as well as for Internet surfing and game playing. Nvidia's goal is to create a convincing simulation of reality and interactive compatibility using 3D graphics in the digital world, going far beyond the realm of 2D. They are one of the worlds leading manufacturers of high performance multimedia GPUs that produce stunning visuals at competitive prices across the consumer and business markets.

After the events of September 11, 2001, Nvidia managed to successfully thrive while many other companies struggled to regain their financial status. On September 14, Nvidia announced that the two-for one split of its Common Stock would still be reflected as soon as trading resumed on the NASDAQ Stock Market on September 17. The split-adjusted price of the stock was expected to open at $37.88 showing a minimal effect on its value after the terrorist attacks.

On November 8, 2001, Nvidia announced its recorded earnings and revenues for the third quarter of fiscal 2002, which ended October 28, 2001. At this time a single share of its stock was worth $45.79. This outstanding performance was due to the increased performance in the past fiscal year. Revenues for the fiscal 2002-year increased from $198.2 million in 2001 to $370.2 million, an increase of 87 percent in just one year. Also, the net income for the third quarter of fiscal 2002 was $22.7 million, or $0.26 per diluted share, compared to the $28.1 million, or $0.17 per diluted shared for the third quarter of fiscal 2001.

Much of this success for Nvidia, according to Jen-Hsun Huang, president and CEO of Nvidia, was due to the "excellent success of leveraging the GeForce architecture into winning products for desktops PCs, laptops, workstations, Mac and Xbox." He believes with this progress, Nvidia has established itself among the top of the multimedia graphics industry and the company is gaining the momentum to continue moving forward.

Creative Technology, Ltd.

Creative Technologies, Ltd. is a global leader in PC entertainment products. Founded in Singapore on July 1, 1981, Creative began working to create multimedia products that would revolutionize computing. Over the course of the past 22 years, Creative is most know for its Sound Blaster line of audio cards, which have become the standard in PC audio. Its most recent addition to this family of PC audio has been the Sound Blaster Live; equipped with EAX technology that's enhances its users games, music, and entertainment with the computer.

More recently, Creative has gone beyond PC audio to include graphics card manufacturing, DVD production, computer telephony integration, communications, and videoconferencing products. In junction with companies like Nvidia, Creative Technologies is beginning to bring its revolutionary PC engineering to the Personal Digital Entertainment Internet market, as well as to the home and office PC, Internet appliances, and various Internet applications and services. These steps to increase the value of their company have been marketed to both consumers and system integrators. Through worldwide distribution through traditional marketing channels, OEMs and the Internet, Creative plans to bring innovative technology and leading edge designs for technically progressive consumers and entertainment enthusiasts.

It was this effort to broaden the company's products that allowed Creative Technologies, Ltd. to enter the US NASDAQ Stock Exchange in the summer of 1992. Since that time, Creative has earned itself global leadership status for its outstanding performance in

interactive audio, graphics, PC-DVD, video and communications technology, setting the standard for their competitors.

In the past year, Creative Technologies has entered some extraordinary multimedia components to the entertainment consumers across the world. They introduced the PC-CAM 300, the first compact/portable digital camera that can connect to the PC and double as a web cam. It features and advanced CCD image sensor for realistic skin tones, vibrant colors and clearer video plus and added multimode flash. With 8MB of built in memory the camera can take 128 photos at 640x480 or 255 at 320x240.

Several products also emerged from creative to enhance PC audio once again in 2001. The first to hit the market was the Sound Blaster Live! for the Macintosh. This audio card allows users to connect to four-channel speaker systems, plug in MIDI, digital or analog devices. With its digital output connector, along with the advanced effects of EAX™, users can experience digital-audio at its best when connecting the Sound Blaster Live! for Macintosh to speaker systems such as the highly acclaimed Cambridge SoundWorks® Four Point Surround™ FPS2000 Digital. Creative followed this product release up with the release of the Sound Blaster Audigy audio processor and EAX Advanced HD, two core elements of Creative's future audio developments. The new Audigy processor boasts four times the effects processing power of Creative's famed EMU10K1™ processor, which powers the industry-leading Sound Blaster® Live! ™ brand of PC audio cards. Its unique dedicated design makes it capable of executing the complex audio algorithms required to produce higher fidelity reverb and effects, as well

as powering advanced 3D audio imaging for games, music and home studio productions. Sound Blaster Audigy sets a new benchmark for PC audio with audio clarity comparable to professional audio systems and surpassing many high-end home stereo solutions with exceptional realism in audio playback. Sound Blaster Audigy is the only audio processor capable of delivering EAX® ADVANCED HD™, enabling high definition Multi-Environments and powering advanced 3D audio imaging for unsurpassed digital entertainment experiences. And finally in the PC audio department, Creative has collaborated with Dolby Digital to provide an integrated solution for mixing in-game interactive, EAX® enabled 3D audio with 5.1 multichannel Dolby Digital systems.

One of Creative Technologies non-PC audio products, the NOMAD Jukebox, also contributed to the company's status in 2001. Creative released the NOMAD Jukebox C and the NOMAD II C, which are portable digital audio players. Creative also produces several accessories for the NOMAD, one of which, the PlayDock PD200 speaker system, was developed and manufactured in union with Cambridge SoundWorks. With this product, Creative and Hewlett-Packard have created a PC bundle that will offer this new hardware as an accessory. This is the first time the NOMAD has been made available by an OEM.

International Business Machines (IBM)

International Business Machines, better known as IBM is the world's top provider of computer hardware. Engineering and manufacturing personal computers, notebooks, mainframes, and network servers, IBM also develops software, the best-known being Lotus Notes messaging system, as well as computer peripherals and provide systems consulting and other services for businesses and industries around the world. Its research department is the world's largest information technology research organization, with more than 3,000 scientists and engineers at eight labs in six countries. Locations include New York, San Jose, Austin, Zurich, Haifa, Tokyo, Beijing, and Delhi. Recently, IBM's Global services recently won six awards from *Intelligent Enterprise* in categories such as consulting, one-to-one customer interaction, applied servers, B2B integration, enterprise integration, and specialized data management. For the past 80 years, IBM has paved the way for the future of the computer industry. It is the world's largest information technology and hardware company worth $37.7 billion, it also has a very valuable Internet Technology (IT) Services division increasing in value from $4 billion to $33.2 billion in the last ten years; and an IT rental and financing company now worth about $3.5 billion. Over the past eight years, IBM's shared price has increased nearly 800 percent making them on of the most profitable buys on the market to long term investment share holders share holders.

Most recently, IBM has been incorporating their technology into more than just normal PCs. According to Lee Green, IBM's corporate director of identity and design, "IBM's growing business of selling and supplying technology to makers of consumer devices in the post-PC era has come of age." In an attempt to broaden their market, IBM has placed their technology in home video game consoles, supercomputers, servers, and software.

Beginning with the video game console, IBM entered the market with an agreement with Nintendo to design and manufacture the main processing unit for their newest console, the GAMECUBE. The chip, otherwise known as the "Geko," is a modified IBM POWERPC processor running at 485 Mhz. This is the latest and fastest form of any PC chip available today. Utilizing copper technology instead of the usual aluminum, this chip's performance is equivalent to that of an Intel Pentium III 700 Mhz processor. The most unique aspect of the "Geko" chip is that its clock speed could have been increased much higher than 485 Mhz, however, this speed was chosen since it allows Nintendo to sell their unit for only $200 while its main competitors, Sony's PS2 and Microsoft's Xbox, retail at $300 for the same graphical and audio performance.

In the supercomputer area, IBM Research announced a $100 million multiyear initiative to build a supercomputer, the "Blue Gene," that would be over 100 times more powerful than today's fastest computers. Capable of more than one quadrillion floating-point operations per second, its computing power will enhance computer science and computational biology. This new machine will be even faster than IBM's ASCI White, currently the world's fastest supercomputer, capable of 16 trillion calculations per

second. Its processor is built on 8,100 PowerPC processors and contains more than 160 trillion bytes of disc storage capacity. The ASCI White is about the size of two basketball courts and is used by the U.S. Department of Energy's Lawrence Livermore National Laboratory in California to simulate nuclear testing.

As far as IBM's software goes, they have the fastest growing database business in the marketplace fueled by the worlds largest portfolio of software patents, currently around 6,000. More than 1,000 of these IBM software patents were granted in 2000. Of these 1,000 patents, 300 of them were for data management technologies, IBM's nearest competitors combined for less than half of this. Thus is it no wonder that IBM has posted 14 consecutive quarters of growth. In 2000, IBM's DB2 software sales grew 64%, which is three times faster than the industry growth rate and more than twice as fast as its main competitor, Oracle.

7.3 Financial Status

Investment Criteria

When selecting stocks for a sector specific trading, we decided to look for companies that have proven themselves in their respective market areas. One of the most profitable and solid areas of investment at the current time has been in the multimedia technology sector. In the past several years, the electronics market has been primed with DVDs, video game consoles, Dolby Digital 5.1 Surround Sound, handheld digital music devices, and the speakers, headphones, and graphics cards that enhance the experience of the user. Primarily dealing with next-generation graphics, audio, and the peripherals that such media utilizes, we selected stocks accordingly.

To begin with we have the multimedia graphics cards companies of Nvidia and ATI. Both of these companies have been around for about a decade and they are still battling closely for the number one spot on the graphics charts. Currently, Nvidia can claim the throne for outstanding 3D performance at the highest screen resolutions with their GeForce 3 chip, however ATI has been following their lead and has manufactured the Radeon chip, which is clearly the closest competition to Nvidia. Furthermore, both of these companies have non-PC ventures with the companies of Microsoft and Nintendo.

Nvidia has been called on by Microsoft to manufacture a version of the GeForce GPU for its new home video game console, the Xbox. This product was not yet released at the time we purchased Nvidia stock, but it was our intuition that Nvidia stock would raise once it hit the market on November 8th 2001. Similarly, ATI has produced the "Flipper"

multimedia chip for the Nintendo Gamecube, which was released on November 14th 2001. With the pre-Christmas releases of these products, both Microsoft and Nintendo are predicting that they will sell approximately1 million units each by 2002.

For Nvidia and ATI, this means that the GeForce chip and the "Flipper" will be in high demand adding a considerable profit to their sales. This new deal along with deals these companies have with PC manufactures such as Gateway and Dell to offer their graphics processors with new PCs has proven that these companies will return gains during the holiday shopping period, which happens to coincide with our stock market analysis.

Another Company that seemed to be a solid buy was Creative Technologies, Ltd. Since the rise and fall of Napster, the MP3 program that was known for illegally distributing copy written music, digital audio on the PC has increased in popularity. From mere bleeps and buzzers, PCs now house sound cards that are capable of replacing your entire stereo system. Offering 5.1 Dolby Digital Surround Sound and a slew of programs and features for enhancing ones listening experience, Creative's Sound Blaster line of audio cards has been the industry standard for the last twenty years. Furthermore, this past year has seen them walk into the handheld digital audio player market with a portable MP3 player as well as the digital camera market. Thus, their success in the past with the Sound Blaster has lead us to chose this company as an investment since its new expansions may lead to a high profit.

Finally there is International Business Machines, otherwise known as IBM. Leading the world in patents for the past nine years, IBM has proven itself to be a solid company to invest in. Selling versions of its POWERPC chip to IMacs and Nintendo, as well as producing their own brand named PCs such as the Think Pad, IBM is a major computer manufacturing company. Furthermore, their sales in software have increased their yearly profits tremendously, being the second largest software manufacturer in the U.S. only to Microsoft. And lastly, IBM's ability to create the world's most powerful supercomputers assures that their business will continually grow with the demand for improving the digital world. IBM has been a lead in the industry of computer technology and with their current ventures to expand beyond the PC realm will only enhance the value of this company for future buyers.

7.4 Investment Results

Portfolio III was centered on sector trading in the multimedia technology and PC industries. With an initial investment of $41,765.00 on September 27, 2001, Portfolio III was able to generate a profit of $32,375.00 in slightly over three months time, totaling $74,140.00 by the sell date of January 1, 2002. This produced a return of 77.52%. The growth rate of these investments can be seen in figure 7.1 and table 7.1.
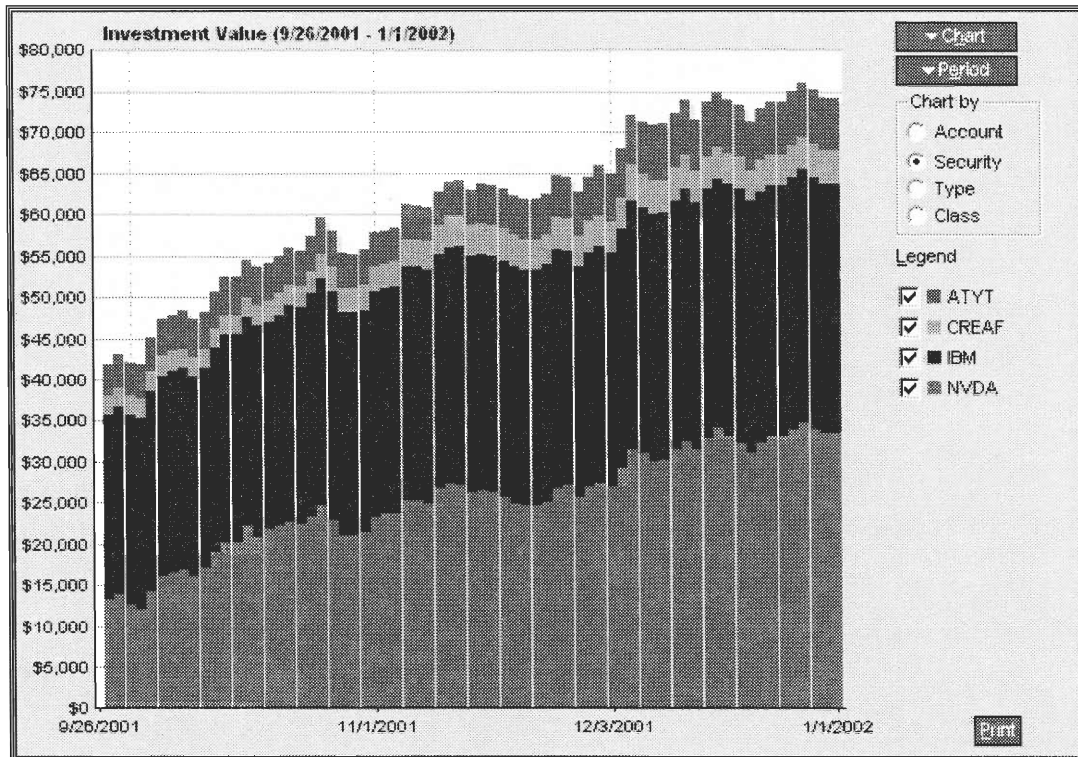

Figure 7.1
Total Investment

Investment Chart

ATI Technologies					
Date of Buy	**# Bought Shares**	**Cost per share**	**Total Cost**		
9/27/2001	500	$7.81	$3,905.00		
Date of sell	**# Sold shares**	**Selling Price per share**	**Total Income**	**Gain**	**Total Return**
1/1/2002	500	$12.70	$6,350.00	$2,445.00	62.61%
Creative Technology, Ltd.					
Date of Buy	**# Bought Shares**	**Cost per share**	**Total Cost**		
9/27/2001	500	$4.64	$2,320.00		
Date of sell	**# Sold shares**	**Selling Price per share**	**Total Income**	**Gain**	**Total Return**
1/1/2002	500	$8.20	$4,100.00	$1,780.00	76.72%
IBM					
Date of Buy	**# Bought Shares**	**Cost per share**	**Total Cost**		
9/27/2001	250	$89.38	$22,345.00		
Date of sell	**# Sold shares**	**Selling Price per share**	**Total Income**	**Gain**	**Total Return**
1/1/2002	250	$120.96	$30,240.00	$7,895.00	35.33%
Nvidia					
Date of Buy	**# Bought Shares**	**Cost per share**	**Total Cost**		
9/27/2001	500	$26.39	$13,195.00		
Date of sell	**# Sold shares**	**Selling Price per share**	**Total Income**	**Gain**	**Total Return**
1/1/2002	500	$66.90	$33,450	$20,255.00	153.51%

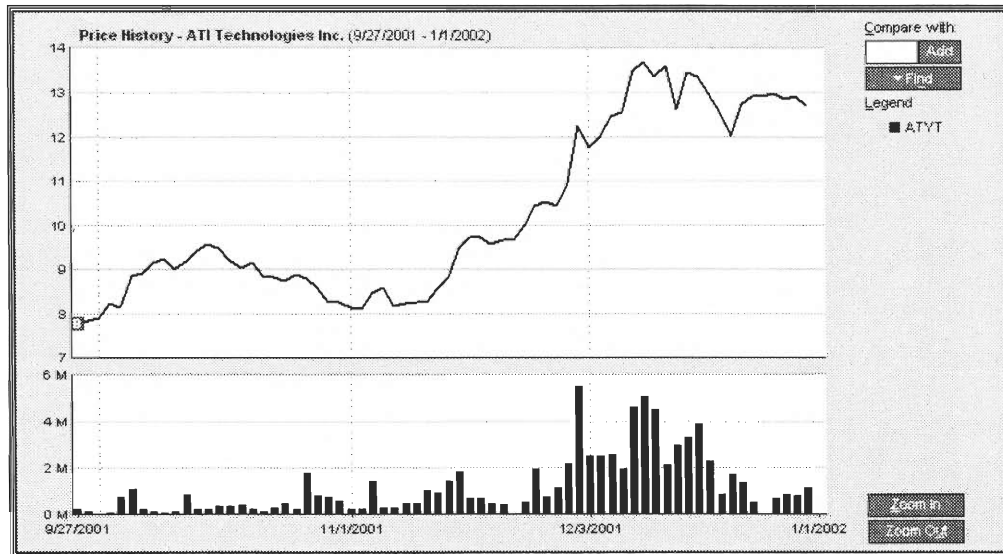|	
Total Investment:	$41,765.00
Total Income:	$74,140.00
Total Gain:	$32,375.00
Total Return:	77.52%

Table 7.1
Total Investment Chart

Figure 7.2
ATI

ATI Technologies Inc. stock, figure 7.2, was purchased on September 27, 2001. The
initial value of the stock was $7.81 a share. On December 10, 2001 ATI peaked at
$13.70 during the investment period. The stock was sold on January 1, 2002 for a value
of $12.70 a share. Purchasing 500 shares, the investment went from $3,905.00 to
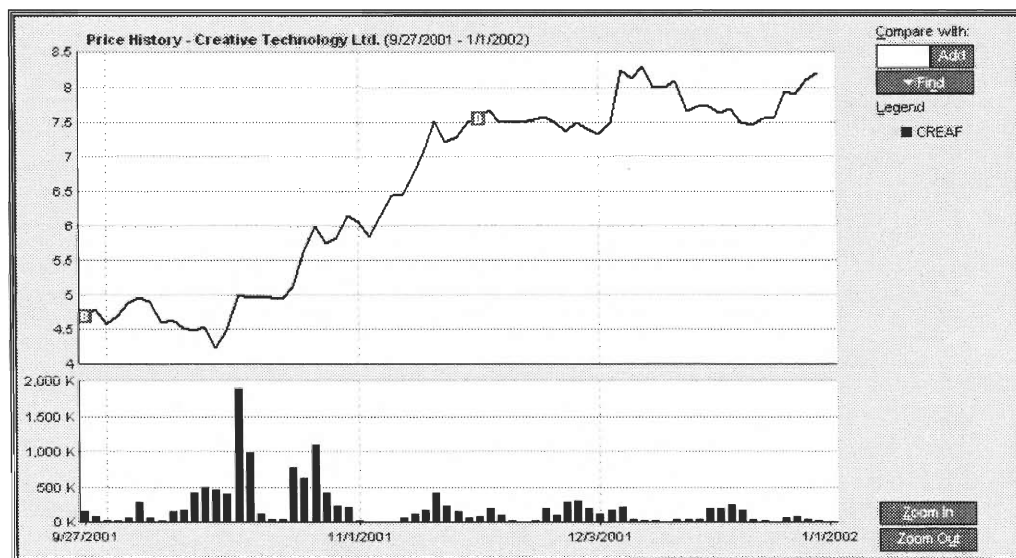$6,350.00 generating a total return of 62.61%.

Figure 7.3
Creative Technology

Creative Technology Ltd. stock, figure 7.3, was purchased on September 27, 2001. The initial value of the stock was $4.64 a share. On December 7, 2001 Creative Technology peaked at $8.30 during the investment period. The stock was sold on January 1, 2002 for a value of $8.20 a share. Purchasing 500 shares, the investment went from $2,320.00 to $4,100.00 generating a total return of 76.72%.

Figure 7.4
IBM

International Business Machines stock, figure 7.4, was purchased on September 27, 2001. The initial value of the stock was $89.38 a share. On December 19, 2001 IBM peaked at $123.89 during the investment period. The stock was sold on January 1, 2002 for a value of $120.96 a share. Purchasing 250 shares, the investment went from $22,345.00 to $30,240.00 generating a total return of 35.33%.
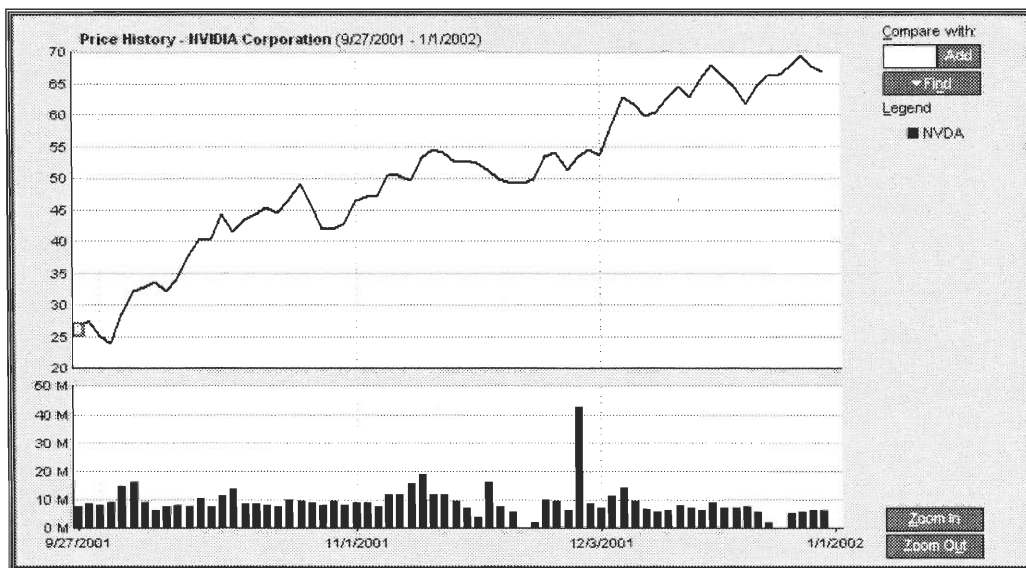

Figure 7.5
Nvidia

Nvidia stock was purchased on September 27, 2001. The initial value of the stock was $26.39 a share. On December 27, 2001 Nvidia peaked at $68.38 during the investment period. The stock was sold on January 1, 2002 for a value of $66.90 a share. Purchasing 500 shares, the investment went from $13,195.00 to $33,450.00 generating a total return of 153.51%.

Figure 7.6 shows the performance of Portfolio III against the NASDAQ and Dow Jones markets. As it displays, my portfolio easily outperformed NASDAQ by more than 40 % and Dow Jones by over 60%.

7.5 Summation of Sector Trading

After completing the trail period of sector trading, we found that our strategies had succeeded since we nearly doubled our investment. Before making any decision to invest in the multimedia technology market, we took several things into consideration. Since we were planning on remaining in the same sector for the entire period we wanted to make sure that our companies would experience some success during the trail. Running this test from September to the end of December, it was obvious that the holiday season could be a potential boost for the innovative multimedia companies whose products are desired by many consumers.

With this thought in mind, we decided that it was a sure bet that the new Microsoft and Nintendo home gaming consoles would be successes as well as other items such as Mp3 players and other digital music accessories. Through research it was discovered that 3-D graphics processors giants Nvidia and ATI where manufacturing the graphics processing units for the MS X-Box and Nintendo Gamecube respectively. Further research of these corporations other business ventures and past histories proved that these were both two stocks that were on the rise.

Our research on the Gamecube also leads us to the one of the world's largest corporations, IBM. They were producing the central processing unit for the Gamecube, a follow up to the work they did with Nintendo's N64 machine. IBM easily caught the eye as a solid company with its past successes and its highly ambitious future expansion goals

to integrate their technology into more consumer devices. Although this was an expensive investment it was one that could not fail.

Finally, there is Creative Technology, Ltd. with their innovative digital audio music components. These are the latest devices for listening to hours of digital quality music customized to your own liking, at a reasonably affordable consumer price. Since Mp3 has been the craze of the internet and music industry in the past two years, these products would definitely sell during the holiday buying season, giving this company a successful performance on the stock market.

It is visible from the graphs provided in section 7.4 that all of our selections for investment peaked during the days closest to the years end. We don't believe that this relies entirely on the holiday buying, but more in the products that these places manufacture. IBM's return of 35.33% was more than we had expected since we were only invested for 3 months. ATI definitely made a profit on the sale of Gamecube since the product sold 800,000 units before December 25, 2001 with ATI making $3,200,000 from these sales in the US alone. Not to mention that they have deals with computer corporations like Gateway to sell their line of PC cards. Similarly with Nvidia, they cashed in on X-box sales with MS selling over 1 million units by the 2002. Furthermore, the Nvidia GeForce 3 GPU is the most visually stunning and expensive card on the market, yet it's also the most desired. We would say that Creative's increased value resulted primarily from holiday sales except for the fact that they recently announced an enhanced processor for 3-D audio that has not yet hit the market.

Overall, portfolio III proved to be exceptionally successful. In just a matter or a few months, we turned $41,765 into $74,140. This kind of success will not always prove to be true to sector trading, especially if you are basing your stocks on product releases. At the time of my investments, there happened to be a large demand for Next-Generation video game consoles. With the knowledge that millions of these products would sell in just a matter of weeks, as it happened in the holiday season of 2000 with Sony's Playstation 2, we knew the market would be in our favor if we invested in the manufacturers of such products.

Chapter 8
Discussion of Trading Techniques

Throughout the term three different portfolios used three starkly different Trading Techniques in order to beat the market. Portfolio I used a combination of day-trading and short trading the market in order to make money. Portfolio II used a long-term approach to trading. Portfolio III based all trading in a specific sector, this sector was doing well in the period's bullish market. These three techniques will be contrasted and the most successful technique should prevail.

8.1 Portfolio I

Portfolio I used a combination of many different techniques in order to increase their portfolio. By using day-trading and short trading, whether the market was going up or down a profit should have been made, if the pattern of the market could be correctly predicted. In this bullish market Portfolio I was able to use day trading much more often then short trading on the high volume stocks, because more often than not the final outcome for the day in NASDAQ and the DJIA were positive. Had Portfolio I not been able to use short trading it would have done better, with the market reacting as it did to the mentality of buyers at this juncture in time. Using technical analysis also helped this trader gain profit in their portfolio, as well. Over time all of these techniques would make for a very strong investor in any market, whether it be bullish or bearish. In this particular portfolio using these strategies the gain was 17%

8.2 Portfolio II

Portfolio II's techniques were based around long term trading techniques, and criteria, to invest, established over the period of the project. This portfolio took a few key criteria including Net Profit Margin, Cash and Debit, Earnings Per Share, Dividend Yield, Current Price/Earnings Ratio, Average Price/Earnings Ratio, and the Price/Sales Ratio. By using these criteria companies were then looked at for other aspects, they were researched, and the portfolio's owner decided based on current events which investments were the most sound. While in the period from January of 2001 until just after September 11, 2001, the market was a very bearish place, this long term plan, took advantage of the low in the bear market, and then the resulting bull market that took place to stabilize the different markets. Over the trading period these stocks did very well, making a 15.23% return.

8.3 Portfolio III's Techniques

Portfolio III's technique's relied on sector specific trading. They did this by looking at companies that have proven that they do well in their respective market area. After research it was decided to invest in an area that was constantly advancing and desirable by the consumer market. Investments were made in companies that had new products to be released during the investment trial and a proven track record in their sector. By doing this and with a bit of help from the holiday buying season, portfolio produced a return of 75%.

8.4 Comparison and Analysis

All portfolios did well, however Portfolio III had the largest gain overall. This may have been because it was also one of the riskiest positions taken, the luck of the market was on this portfolio's side, with new chip releases expected for big name items, and also a because of a bullish market sector trading worked out rather well. Comparatively the portfolio with the least gain took a very moderate risk level. Had it been able to have a course of many years this technique would have worked out much better for an individual, who did not want to devote their life to the stock market.

The biggest difference between Portfolios I and Portfolios II and III are that the latter are investing in companies. They do research in order to find out more information about a company; they also rely on what the company has done in the past. While Portfolio I does take this into consideration they do not make a sell or buy decision based on the value they put in the company, instead they put there money on the buying sentiment that the buyer or seller of the stock may have. Over all it could be said that Portfolio I is not investing in the stock market, but trading; while Portfolio's II and II are actually investing in a company's future.

Over time day-trading maybe too much work for an individual, as may be sector trading, and to find a company in which you can invest in their future maybe the best way to gain profit with the stock market. Risk, time, and money are all factors that need to be addressed when looking for the correct trading technique, and I, II, and III have very different levels of each. The more risk you have the more likely that your profit could

either be really high or really low. Time is factored in as well because day trading takes a lot of time, while long term investment, after the initial research phase should not take too much daily time. Money is also very important, because in order to make a lot of money (or lose it) one must start out with a fair amount of money to put into trading. All of these must be factored into the equation when working with your future, and your money.

Overall the winner during this simulation was sector trading, it out performed the market by a multiple of five. However in the long run this is a very risky way to invest money and is not for the weak of heart, neither is day-trading which did second best (but did not come close to the gains sector trading made). However Portfolio I's techniques could have potentially done well in both a bull and bear market, with the use of short trading. No single portfolio had the magic technique that would always work, and always give a positive return. This market allowed for it because of the bullish pattern it was taking. Research, and a firm understanding of what can be afforded are the only deciders of which technique would work best.

Chapter 9
Conclusion

During our project we have gained knowledge about the stock market and three key stock trading strategies, day trading, long term investing, and sector specific investing. All strategies have all been thoroughly researched and then trailed for use in the time period of at least 10 weeks beginning early Oct. Each trader has researched and determined a list of criteria for determining a stocks potential success. By using different methods we have acquired knowledge to be better citizens in our free market society, and invest in our future.

Through the strategies covered in portfolio I, we gained knowledge in many different aspects of day trading. The largest being that there are no concrete answers in the world of day-trading, when the trend seems nothing but bull for long term investors the day-trader can still be burnt in one day by making there expectations too large, or too small. The most useful tip we found for day-traders was staying in a particular stock for only one day; it keeps the trader from over stressing. It is also important to remember that the news is old as soon as it is published, so the only way to keep ahead of it is to technically analyze charts before you buy into stocks, and then continue watching them until the sale. Gaining 17% on $500,000, unfortunately was not enough to mimic the gains strived by the NASDAQ, however in the long run showed a good pattern of growth in the portfolio and in the overall lessons learned about day-trading techniques.

In portfolio II, the goal was to beat the stock market and make a profit minimally of 10% by investing in the stock market using a diversified portfolio over a length of two terms. The stocks, bonds, and funds were thoroughly researched and meant a list of criteria. A certain percentage of the portfolio went to stocks, another to bonds, and thirdly funds. The split in the portfolio was determined by an asset allocator provided by CNBC and can be found on Microsoft Money. The amount of money invested was $120,923.00; the amount of money returned after sale of stocks is $139,339.50, a gain of 15.23%. In conclusion, after watching the market carefully and following the criteria, it is best to make judgment on a stock not solely by numerical analysis but economic value. The events of the times impact the stocks performance as much as the numerical analysis can predict the performance. It is best to make a completely informed decision weighing all aspects discussed in the three portfolios.

The goal of portfolio III was to invest in companies that would be releasing several highly anticipated consumer products between the months of September 2001 and January 2002. Through the use of company web site and press releases, we were able to find several businesses that fit our trading strategy for portfolio III. Stocks where then purchased on September 27, 2001 and sold just after the holiday buying season on January 1, 2002. Investing $41,765, portfolio III generated $32,375 for a total Income of $74,140. After completing the trial purchase, the data showed that the value of each company increased with the release of these innovative products, making portfolio III quite successful.

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