

1998

Common stock investing using business systems and information science

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DOI: <https://doi.org/10.31979/etd.d5g3-b4yu>
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COMMON STOCK INVESTING
USING
BUSINESS SYSTEMS AND INFORMATION SCIENCE

Project Report
Presented to
The Office of Graduate Studies
San Jose State University

In Partial Fulfillment
of the Requirements for the Degree
Master of Science

By
Jess A. Pawlak
December 1998

UMI Number: 1392829

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ABSTRACT

COMMON STOCK INVESTING

USING BUSINESS SYSTEMS AND INFORMATION SCIENCE

by Jess A. Pawlak

This report describes the process of common stock investing through research and purchase of individual shares or mutual funds. The common stock investing process is implemented through use of business systems and information science. The goal of this report is to assist in understanding, evaluating, and choosing research methods, business system methods, information gathering methods, analysis methods, and purchase and eventual sale methods for a common stock portfolio.

The report design gives the reader a comprehensive introduction regarding report content. The introduction is preceded by an in depth common stock investing discussion using business systems and information science methods. Report results were the following: (A) time is required for high quality research; (B) a personal business system is required for processing workflow and (C) it takes credible and efficient databases to research, and track common stock choices.

ACKNOWLEDGEMENTS

I would like to thank the following people:

Doctor William Nance for becoming my Project committee Chairman. He has been very supportive in my task from a Management Information Systems perspective. He has also allowed me to be a classified graduate student of the College of Business.

Doctor Janis Zaima for leading me in a more focused Common Stock Investment direction which has allowed me to integrate my interdisciplinary training while accomplishing this Project.

Doctor William Fisher for supporting me from the Information Science perspective and helping me navigate the administrative culminating experience.

All the folks from the various brokerage firms and the On-line database firms. Also, special thanks to the reference librarians at Clark library.

Thanks to all my family members and classmates who have been supportive over the years in my Project efforts. I appreciate the caring and positive reinforcement.

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CHAPTER 1

Introduction

Purpose and Scope

The purpose of this project is primarily to use empirical research in describing the process of common stock investing. The common stock investing process is performed using certain business systems and information science methods and tools.

The goal of the report is to assist the reader in understanding, evaluating, and choosing research methods, purchase methods, business system methods, and information gathering methods, when building a common stock portfolio.

The project's scope will only entail the relevant empirical research methods, tools, analysis models, and subsequent theoretical background material as the writer deems appropriate. As David Dreman, Chairman of Dreman Value Management, L.P. says, "There are no rigid mathematical rules that can guarantee success in the stock market. There is only value and the quest for it. That is, an ability to find stocks that are, for one reason or another, cheap in relation to underlying fundamentals and

underlying earnings power and the courage to buy them when you find them." ¹

Research Methods and Tools

The research methods and tools are discussed in the next chapter and are derived from a combination of learned theory and practical common stock investing experience. However, there are two tools that help an investor determine the general economic, financial and investment climate.

One tool the writer has found especially important is understanding the monthly calendar of business indicators. Please see figure 1 which is a synopsis of what happens on a daily basis regarding information the general stock markets seem to thrive on. The writer has personally experienced the uncertainty, fear, elation, and anger when some business indicator or indicators threaten market stability. When volatility pervades the market, some investors believe they can time the market based upon market trends. This would necessitate determining when to buy (a bull market) versus when to sell (a bear market).

¹ David Dreman. "An Inefficient Hypothesis." Forbes Magazine 26 Apr 1993: 402.

Figure 1

Calendar of Business Indicators for a Typical Month

Monday	Tuesday	Wednesday	Thursday	Friday
1 National Association of Purchasing Manager's Survey Construction Spending	2	3	4 10-Day Car Sales Jobless Claims	5 Employment Report Consumer Credit
8	9	10	11 Jobless Claims	12
15 10-Day Car Sales	16 Consumer Prices	17 Industrial Production Capacity Utilization Housing Starts	18 Merchandise Trade Jobless Claims	19
22	23 Durable Goods Orders	24 10-Day Car Sales	25 Jobless Claims	26 GNP
29 Personal Income Personal Consumption Expenditures New Home Sales	30 Employment Cost Index Factory Orders Consumer Confidence	31 Leading Indicators		

Source: Handout from De Anza College Real Estate Finance Class, Brian Robinette Teaching, 1994.

The summary of business indicators is important to follow when the investor has questions related to instability or volatility of the market. Figure 2 gives examples of what each indicator means and what the investor should or could surmise from the data. The reader must keep in mind the importance of volatility and how that relates to market decreases and increases.

Figure 2

Summary of Business Indicators
in Order of Release During a Typical Month

Indicator	What To Look For	What It Tells You
Purchasing Manager's Survey	Total Index	If above 50%, manufacturing activity is expanding. If below 50% activity is contracting
Construction Spending	Percent change in total and breakdown between Residential and Non-Residential	Indicator of construction activity and construction components of GNP
Domestic Car Sales	Sales at seasonally-adjusted annual rate	One indicator of consumer spending during the month.
Jobless Claims	Level versus prior week, 4-week average	Clues about unemployment rate.

Figure 2, Continued

Indicator	What To Look For	What It Tells You
Employment Report	Non-farm Payroll Employment Factory Workweek Unemployment Rate	Employment as reported by companies Number of hours worked by average employee in manufacturing Gauge of overall labor market
Consumer Installment Credit	Change in Credit	Measure of consumer spending and optimism
Retail Sales	Percent change in sales excluding autos	Sales excluding auto category, which is volatile.
Producer Price Index	Percent change in Producer Price Index less food and energy	"Core" inflation Unaffected by food and energy price change, which can be temporary in nature.
Business Sales and Inventories	Percent change in Sales and Inventories	Production up or down oriented because of sales
Consumer Price Index	Percent change in total index	Inflation at the consumer level
Industrial Production Index	Percent change in total index	Output in goods-producing sector
Capacity Utilization	Total Utilization, Manufacturing Utilization	Potential for capital spending increases and inflation.

Figure 2, Continued

Indicator	What To Look For	What It Tells You
Housing Starts	Number of Starts	Activity in housing industry, an industry that leads overall economy
Durable Goods Orders	Percent Change in orders for non-defense Capital Goods	Activity outside the defense industry.
Merchandise Trade Balance	Total balance	Difference between dollar value of exports and imports.
GNP	Percent change in Real GNP	Rate of growth in economic output.
Personal Income	Percent change in Personal Income, and Wage and Salary Income	Change in consumer spending power.
Personal Consumption Expenditures	Percent change in Total	Consumer spending is 2/3 of GNP
New Home Sales	Total Ratio of Unsold Homes to Current Sales	Indicator of future housing construction
Employment Cost Index	Percent change from prior period.	Growth in total wage and benefit cost for all employees
Factory Shipments	Percent change in orders	Future demand for manufacturing
Consumer Confidence	Buying Plans	Consumer perceptions about overall economy
Leading Indicators Index	Percent change in Total Index	Sign of future economic activity expansion or contraction.

Source: Handout from De Anza College Real Estate Finance Class, Brian Robinette Teaching, 1994.

Information Technology Tools

Some other tools used were Information Technology (IT) based. The following will be discussed as topics for this discussion:

- (1) IT based overview of the desktop computer hardware and software used.
- (2) History of the writer's particular system, which includes the connectivity issues with the various database interfaces.
- (3) Connectivity development of the Client and Server technologies both Personal Computer to Mainframe and Personal Computer Browser to Web Server.
- (4) What the writer is currently using and where he thinks as an investor both client side and server side will be in the future.

(1) IT based overview

The writer has been using Microsoft client software products both from an operating system and other applications including the Explorer browser. The Netscape browser has been used only recently in 1998. The hardware is a custom IBM clone with a full tower which allows upgrades every six to nine months of various desktop client

components. This may be new mother boards, larger and faster hard disks etc.

(2) History of writer's particular system

The writer started with a mother board loaded with a 486 66MHz based Central Processing Unit with 8 Megabytes of Random Access Memory and 200 Megabytes of hard disk space. The dial up connectivity started with a 1200 baud modem and ProComm software. As of today, the writer is now using a 586 200MHz-based Central Processing Unit with 64 Megabytes of Random Access Memory and 2.2 Gigabytes of hard disk space. The dial up connectivity is now with a 56k modem and all communication access is done through the Netscape browser interface. The writer's internet service provider is the portal to the internet and its various web servers along with e-mail access, etc.

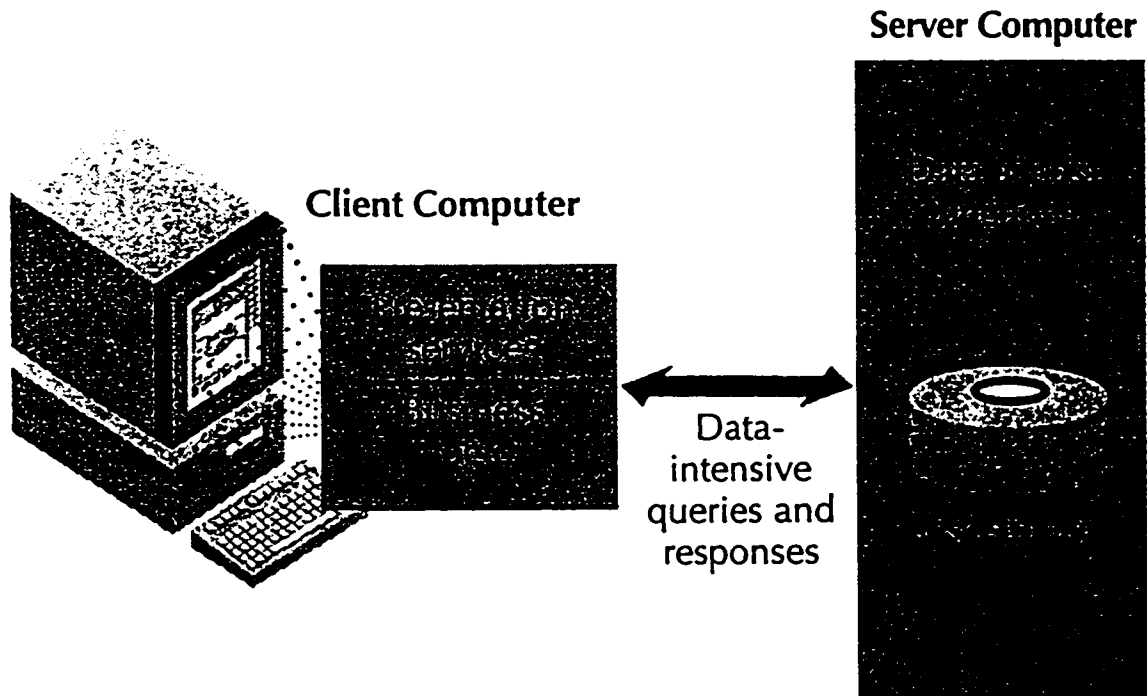
(3) Connectivity development of Client and Server

The writer used standard two-tier client server for Dialog, Lexis/Nexis, and Dow Jones News Retrieval data bases. There was a terminal emulation program that loaded remotely on the client computer allowing data intensive queries and responses. Please see figure 3 and figure 4 for graphical examples of the client server request and response. The main issues with these databases are the

command interfaces that were used. The writer found them to be machine-logic intuitive, which required the writer to do most of the work when seeking information. Each of the databases had their own particular query language.

Figure 3

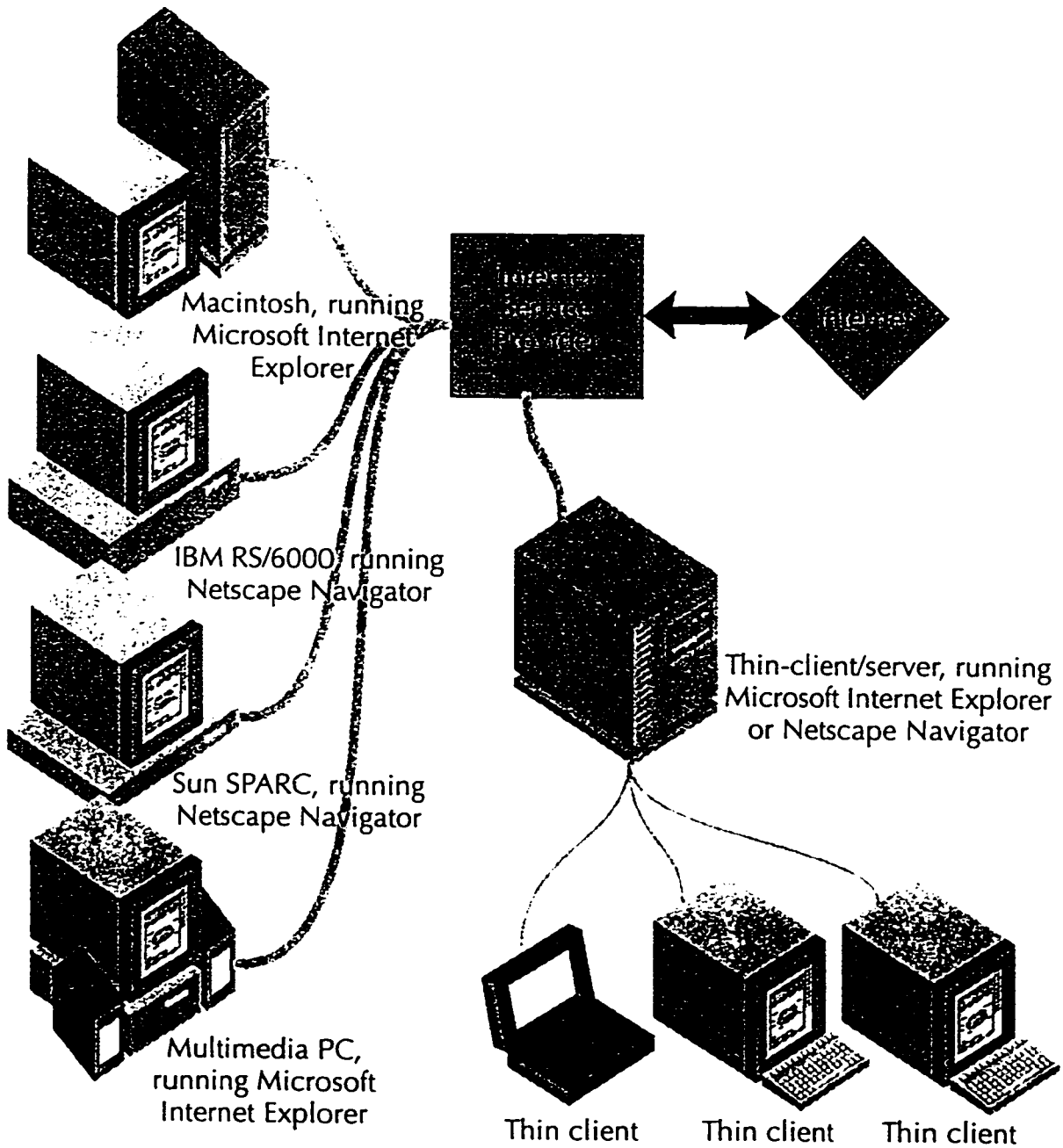
Mainframe to Personal Computer Client/Server



Source: Kanter, Joel P., *Understanding Thin-Client/Server Computing*, Redmond, Washington: Microsoft Press, 1998.

Figure 4

Multi-tier Web-Based Client to Server



Source: Kanter, Joel P., Understanding Thin-Client/Server Computing, Redmond, Washington: Microsoft Press, 1998.

(4) What the writer is currently using and where the future will lead.

The writer is currently using only web based products. The browser of choice is now Netscape where integration of all client side presentation services are exceptional. The personal computer hardware and software is currently sufficient for communicating, searching, browsing, and performing electronic commerce tasks. However, six months from now there will be new IT hardware or software that may be needed to keep a certain degree of performance.

Analysis Models

The majority of the writer's analysis was of a traditional fundamental nature. However, some personal investment derived criteria have been integrated into the project report. These criteria were based upon the writer's investment objective. There are six common stock models which will be analyzed:

- (A) A large cap growth stock (MCI Corporation)
- (B) An income stock (Spieker Properties, a REIT)
- (C) An environmental speculative stock (Eagle Environmental Technologies)
- (D) A medical speculative stock (MedCare Technologies)
- (E) An International stock mutual fund (Janus Overseas)

(F) A regional stock mutual fund (Fidelity Latin America)

Design of Portfolio

The design of the writer's portfolio has a very good negative correlation. In the case of common stock portfolio design, you want to have imperfectly correlated stocks because that lessens diversification risk. An investor wants to own several common stock investments in order to reduce risk.

An example regarding how many individual stocks to own is exemplified in the following article, "A personal portfolio should have at least five stocks in unrelated industries, according to the National Association of Investors Corp., a non-profit investment education group. Typically, a portfolio of eight stocks can provide enough diversification without spreading investors too thin, according to A.G. Edwards & Sons Inc., a St. Louis-based regional securities firm. 'It's not so much the number of companies, it's the diversification of industries,' said Timothy Skahill of A.G. Edwards." ²

The Project Report will discuss more in-depth issues regarding design of the portfolio.

² Lawless, Jim "How Many Stocks make up a Diversified Portfolio?" San Jose Mercury News 24 Apr. 1996: B1.

Purchase and Sale Methods

The writer will be discussing two major purchase or sale types which are the following:

- (A) Broker-assisted, which are done verbally via the telephone or in the Broker's office. These can be Waterhouse Securities, Fidelity Investments, Quick & Reilly, etc.
- (B) Electronically, which are done by an on-line system like E*TRADE.

The same methodology for purchase is used for selling the individual securities or mutual funds. What is different about the individual methods and associated brokerage firms is the degree of support and dollar cost per transaction.

A tool for combining analysis, design, and selecting purchase and selling criteria is exemplified in Figure 3. Stan Sucher was a stockbroker who received his MBA from San Jose State University and his BS from the University of California at Berkeley. He became a stockbroker in 1968 and an instructor of Investment Fundamentals in 1970.

Figure 5

Stan Sucher's Sensational Simplified Sophisticated
Student's Stock Selection System

1. Once a stock is bought or sold set an upside or downside target. Use stops to limit losses or protect profits. (e.g., over \$60 - 10%; 20 to 60 -15%; under 20 - 20%)
2. Be patient. Stay with stock until target is reached or stop is triggered.'
3. Buy on bad news - Sell on good news. (E.g., If company cuts or omits dividend, buy; if company announces higher earnings per share, sell.)
4. Changing portfolio - Stay with winners; Weed out losers.
5. Wait for stock to reach your target - don't chase it.
6. Buy into weakness - sell into strength.
7. Make changes after market hours - don't get whipped by tape action. Stick with your stops and objectives.
8. Look for stocks that are undervalued for buys. (E.g., If market price is lower than book value, yield is 4% and potential for dividend increases.)
9. Look for stocks that are overvalued for sells or shorts. (E.g., high P/E ratio; low dividend; yield is low - 3%; projected E>P>S. to be lower or level.)
10. Buy stocks that are showing high relative strength. (E.g., stay with groups in top 15 or most improved; avoid stocks in bottom 15 or least improved.)
11. Sell or short stocks that are showing weak relative strength. (e.g., Sell / don't buy / stock in bottom 15.)
12. Buy on anticipation - sell on realization.
13. Don't put all your eggs in one basket - Diversify!

Figure 5, Continued

14. Review your portfolio weekly or monthly. Relate performance - percentage gain or loss - to DJIA or to S&P Averages. (e.g., If your stocks are doing worse than averages, changes might be in order.)
15. Know thyself - what are your objectives? (E.g., Income, Total return or Speculative.)
16. Technical points should be reviewed (e.g., Charts - daily, weekly, monthly, one year, ten year, can aid you in determining supports and resistance levels. Look for chart patterns - "head & shoulders", "triangles", "double bottoms," etc.)
17. Use various sources to determine projected earnings per share. (E.g., Brokerage research Opinion, Value Line, S&P Forecast/Outlook, Daily Graph.) Come up with average projected EPS and use average P/E to forecast price.
18. Taxes should be considered when buying or selling. (E.g., short term losses - less than 12 months; long term gains over 12 months.)
19. Don't buck trend - if bear market, prices going down, difficult to buy and make money. Nothing wrong with sitting on cash reserves (in savings & loan) and wait for trend reversal if you are a buyer.
20. Most difficult - when to sell - takes discipline. Set a price objective and take your profit - don't let profits melt away. Put in tight stops to protect profits.
21. Make up your own mind - listening to others can only lead to more confusion. Stick to your own targets and objectives - talk is cheap.
22. Read various articles, journals, or papers to generate ideas. (E.g., S&P; Moody's; Value Line; Forbes; Fortune; Wall Street Journal; Business Week; etc.)
23. Don't look back. Once you're out of a position, forget it and move on to something else.

Figure 5, Continued

24. Do not react (buy/sell decisions) to favorable or unfavorable news or TV articles - let the market tell you - it probably already had.
25. Don't disclose your investments - don't brag - be a gracious winner and a gracious loser.
26. Don't buy on tips or rumors - can be very expensive.

Source: Handout from De Anza College Investment Fundamentals Class, Stan S. Sucher Stock Broker Teaching, 1982.

Results of Investment Process

Holding period returns will be calculated, which will be equivalent to total return on each common stock and mutual fund purchase. An analysis of the results will be discussed.

Summary and Conclusion

A summary of the project report will be given that covers research objectives and methods. Also, portfolio activities regarding design, purchasing, and selling of common stocks and mutual funds will be evaluated. A findings-based approach to the conclusion will be discussed, with a future perspective on "Common Stock Investing Using Business Systems and Information Science."

CHAPTER 2

Background Research

A. Objectives

Reasons for Investing

The reasons for investing are many and varied. According to Kemper/Roper "Retirement Monitor" and the Standard & Poor's "How to Invest" guide, they generally are one of the following: (A) To provide for retirement; (B) To be financially independent; (C) To sustain current family lifestyle; (D) To have enough for the family if one should die suddenly; (E) To provide for children's college; (F) To provide for early retirement; (G) To keep ahead of creditors; (H) To buy a home; and (I) To care for elderly parents.³

An interesting and frightening statistic regarding a long term investing reason is from the U.S. Department of Treasury, 1993. "Social Security and pensions typically provide less than half of a retiree's income."⁴ Regarding the saving for a child's college education, the following estimates are based on the U.S. Department of Education. A

³ Sources: Kemper/Roper, Retirement Monitor and Standard & Poor's, How To Invest, New York, New York, 1997.

⁴ U.S. Department of Treasury, Washington D.C. 1993.

child's average cost of a 4-year college diploma (tuition only) for 1994 was \$27,112. A child born in 1994 and graduating in 2014 would spend an estimated \$182,393.

Common Stock Objectives

Common stock objectives are to allow the investor to own a piece of the company, enjoy capital gains, and take advantage of any dividends. The investor is looking for an ownership interest in a company or group of companies if purchasing a mutual fund.

The common stock objectives for the four stocks selected in the project report are the following:

- (A) MCI Corporation a large cap growth oriented stock
- (B) Spieker Corporation is a Real Estate Investment Trust generating income and some capital gains.
- (C) Eagle Environmental Technologies is a speculative growth oriented stock but very risky.
- (D) MedCare Technologies is a speculative growth oriented stock but also on the risky side.

Common Stock Mutual Fund Objectives

Common stock mutual fund objectives are the same as common stock objectives but you can add in less volatility and less risk because of greater stock diversification.

The common stock mutual fund objectives for the two funds selected are the following:

- (A) Janus Overseas is a foreign stock holding fund with the majority of the stocks in multiple industries and countries.
- (B) Fidelity Latin America is a regional fund which has its portfolio of common stocks in Latin American countries.

B. Methods

Stock Markets and How They Operate

Stock markets operate as auctions of bid (buyer wants a price) and ask (seller wants a price) for securities. Stocks and mutual funds are sold through stock exchanges. The main ones used for transactions in this project report were the NASDAQ (National Association of Securities Dealers Automated Quotation) system. This exchange is electronic. The other domestic exchange used was the NYSE (New York Stock Exchange).

Research Methods and Tools

The research methods employed are listed as tables and figures in the following pages. The writer consolidated the research data for each selected stock and mutual fund.

The appropriate database searches were employed along with information obtained directly from investment representatives of each company. Hard copy materials on the company background to include annual reports, 10K and 10Q from the SEC (Securities and Exchange Commission) were employed in evaluating the organizations behind the stocks and mutual funds.

The reader will please see the following tables which are in order from table 1 through 8, which follows a structured research methodology. This methodology is integrated into a personal investment workflow.

What has happened to the writer over time is a movement toward browser web based research, analysis, selection, purchase, and eventual sale of stocks and mutual funds. All of the data manipulation is done through a common browser interface. In the writer's case, Netscape is the browser vendor of choice.

Continuing on the next page the reader can now start to navigate through the research methods and tools.

Information System Databases

The information system databases and information categories searched are illustrated in the following table.

Table 1

Primary Databases Used and Information Categories Gathered

Information Categories	Dialog	PRIMARY Lexis/ Nexis	DATABASES Dow Jones News Retrieval	National Trade Data Bank	World Wide Web Sites
International Information	Yes	Yes	Yes	Yes	Yes
Economic	Yes	Yes	Yes	Yes	Yes
Financial	Yes	Yes	Yes	Yes	Yes
Population Demographics	Yes	Yes	No	Yes	Yes
Cultural	Yes	Yes	No	Yes	Yes
Political	Yes	Yes	No	Yes	Yes
Industry Specific	Yes	Yes	Yes	Yes	Yes
Company Specific	Yes	Yes	Yes	No	Yes
Common Stock Specific	Yes	Yes	Yes	No	Yes
Mutual Fund Specific	Yes	Yes	Yes	No	Yes

Source: Database research while preparing for this Project Report.

Analysis of Risk

The stocks and mutual funds the writer has in the project report portfolio exhibit the following risks:

- (A) Income volatility: The dividend yields will fluctuate over the holding period.
- (B) Market risk: Fluctuations in stock prices downward or upward can occur over short or extended periods.
- (C) Currency risk: Prices will fluctuate in dollar value of international stocks because of currency exchange rates.
- (D) Country risk: Price fluctuations in stocks sold in foreign countries due to events (political, financial, regulatory) in the countries.
- (E) Market risk: Foreign stock markets, particularly underdeveloped or developing countries, may be less liquid and more volatile than domestic markets.
- (F) Transaction costs: Costs of buying and selling foreign securities, including brokerage, tax and custody costs, are generally higher than those involved in domestic transactions.

The writer tried to balance the various risk attributes by selecting the following four industries to make individual stock investments.

- (A) Telecommunications Industry
- (B) Real Estate Industry
- (C) Environmental Industry
- (D) Medical Services Industry

The propensity to balance risk is important from an equity investor's overall risk mitigation. The reader must keep in mind the idea of negative correlation which is important to give a portfolio risk adjusted balance. What the writer intends is to reinforce the goal of decreasing volatility in a portfolio. The portfolio's principal must be conserved if at all possible through appropriate risk analysis and subsequent mitigation.

The analysis of risk regarding each stock or mutual fund was performed using the following Information and starting with a General Industry Economic Analysis as outlined in Table 2.

Table 2

General Industry Economic Analysis

Industry Variables	Tele-communications	Real Estate	Environmental	Medical Services
Cyclical, Defensive or Growth	Growth	Cyclic	Growth	Defensive
Competitive Structure	Deregulated	High	Highly Regulated	Highly Regulated
Viability	High	High	High	High
Vulnerability to External Shocks	Average	High	Low	Low
Regulatory and Tax Conditions	Deregulation in Progress	Medium	Highly Regulated with Positive Tax Consideration	Highly Regulated
Labor Conditions	Competitive	Good	Competitive	Good to Average
Record of Revenues and Earnings	Good and Growing Globally	Cyclic	Average and Growing	Good and Growing
Capitalization Issues	Good	Cyclic	Varies by Company	Good
Stock Price Valuation	Good	Good	Low	Low
P/E ratio and Expected Earnings Rate	High	Medium	High	High
Investor Work Experience	Yes	No	No	Yes

Sources: Hand out from Business 277, Dr. Janis Zaima, 1995 and Jess Pawlak's Database and Bibliographic Research, along with Personal Investment Experience.

Fundamental Analysis Methods

The fundamental analysis was followed using traditional and some novel approaches. There are some theories used that the writer learned from Stan Sucher's class notes.

Cross Section Approach

A method in which a broad cross section of stocks are chosen with investment results hoped to be about the same as the broad averages - high quality issues are in broad representation. One chooses issues that are industry leaders and continuously invests in them. The concept of dollar-cost averaging can be used with this fundamental analysis method. According to Juliette Fairley at Investors Business Daily, "Dollar-cost averaging involves investing fixed amounts on a regular basis, whether the market is rising or falling. By doing so, you end up buying more shares when prices are low and fewer shares when prices are high. The result: a cost per share that is lower than the average price per share. But another benefit is avoiding the risk of investing a big chunk of money at the market top."⁵

⁵ Fairley, Juliette "Dollar-Cost Averagers have Staying Power" Investor's Business Daily 14 Sep. 1998: B1.

Future Results Approach

A short-term trading method discounting news while buying on anticipation and selling on realization.

Growth Stock Approach

Purchasing companies where earnings move forward from cycle to cycle without interruption. Sometimes the life cycle is not constant. There are beginnings, set backs, then growth, then maturity.

Out of Favor Stocks

There is limited risk, but rewards are substantial. Many stocks are depressed because investors sell for tax losses and the stocks become bargains at year end.

Total Return Concept

Investors buy stocks with good dividends and potential capital gains appreciation which increases the total return. This total return is equivalent to the total HPR (Holding Period Return) while the stock or fund is in the portfolio. Total return or total holding period return is calculated after the sale of the stock or fund.

For each stock or mutual fund there is an analysis table developed. Please see table 3 for MCI Corporation.

Table 3

Company Analysis for MCI Corporation

Company Variables	Below Average	Average	Above Average
Revenues			X
Profitability		X	
Product Line			X
New Products			X
Operating Efficiency		X	
Pricing		X	
Patents and Technology		X	
Organization Objective			X
Managerial Objective			X
Age and Experience of CEO		X	
Effectiveness of Strategic Planning			X
Marketing Strategy			X
Understand Global Environment			X
Adapt to Changes in External Environment		X	
Maintained or Improved Competitive Position			X
Growth in Organized Sustainable Manner		X	
Company Financed Adequately and Appropriately			X

Table 3, Continued

Company Variables	Below Average	Average	Above Average
Relations with Unions and Employees		X	
Company's Public Image			X
Executive Compensation in Line with Company Performance		X	
Investor has Experience with Company or Company's Products			Yes, writer was involved with a Project.
Company's Headquarters are Local	Not local		

Sources: Hand out from Business 277, Dr. Janis Zaima, 1995 and Jess Pawlak's Database and Bibliographic Research, along with Personal Investment Experience.

EPS: Earnings per Share for MCI = \$1.75 for 1996

EPS = $\frac{\text{Net Earnings} - \text{Preferred Dividends}}{\text{Number of Common Shares Outstanding}}$

PE: Price to Earnings Ratio for MCI = 14.3 for 1996

PE = $\frac{\text{Market Price}}{\text{EPS}}$

Yield = $\frac{\text{Annual Dividend}}{\text{Stock Price}}$

Yield for MCI = 0.3% for 1996

The following is table 4 for Spieker Properties.

Table 4

Company Analysis for Spieker Properties

Company Variables	Below Average	Average	Above Average
Revenues			X
Profitability			X
Product Line		X	
New Products		X	
Operating Efficiency			X
Pricing			X
Patents and Technology			
Organization Objective			X
Managerial Objective			X
Age and Experience of CEO			X
Effectiveness of Strategic Planning			X
Marketing Strategy		X	
Understand Global Environment			
Adapt to Changes in External Environment		X	
Maintained or Improved Competitive Position			X
Growth in Organized Sustainable Manner			X

Table 4, Continued

Company Variables	Below Average	Average	Above Average
Company Financed Adequately and Appropriately			X
Relations with Unions and Employees		X	
Company's Public Image		X	
Executive Compensation in Line with Company Performance		X	
Investor has Experience with Company or Company's Products			Yes, writer has worked in their buildings.
Company's Headquarters are Local			Yes, the headquarters are local.

Sources: Hand out from Business 277, Dr. Janis Zaima, 1995 and Jess Pawlak's Database and Bibliographic Research, along with Personal Investment Experience.

EPS: Earnings per Share for Spieker Properties = \$2.27 for 1996

$$\text{EPS} = \frac{\text{Net Earnings} - \text{Preferred Dividends}}{\text{Number of Common Shares Outstanding}}$$

PE: Price to Earnings Ratio for Spieker Properties = 15.9 for 1996

$$\text{PE} = \frac{\text{Market Price}}{\text{EPS}}$$

Yield = $\frac{\text{Annual Dividend}}{\text{Stock Price}}$ Spieker Properties = 5.2% for 1996

Please see table 5 for Eagle Environmental Technologies.

Table 5

Company Analysis for Eagle Environmental Technologies

Company Variables	Below Average	Average	Above Average
Revenues	X		
Profitability	X		
Product Line			X
New Products			X
Operating Efficiency	X		
Pricing		X	
Patents and Technology			X
Organization Objective			X
Managerial Objective			X
Age and Experience of CEO		X	
Effectiveness of Strategic Planning			
Marketing Strategy		X	
Understand Global Environment			
Adapt to Changes in External Environment		X	
Maintained or Improved Competitive Position			
Growth in Organized Sustainable Manner		X	

Table 5, Continued

Company Variables	Below Average	Average	Above Average
Company Financed Adequately and Appropriately	X		
Relations with Unions and Employees		X	
Company's Public Image		X	
Executive Compensation in Line with Company Performance		X	
Investor has Experience with Company or Company's Products	No, This is a Speculative Investment.		
Company's Headquarters are Local	No, the Headquarters are in Reno, Nevada		

Sources: Hand out from Business 277, Dr. Janis Zaima, 1995 and Jess Pawlak's Database and Bibliographic Research, along with Personal Investment Experience.

EPS: Earnings per Share for Eagle Environmental Technologies is in the red or losing money.

$$\text{EPS} = \frac{\text{Net Earnings} - \text{Preferred Dividends}}{\text{Number of Common Shares Outstanding}}$$

PE: Price to Earnings Ratio for Eagle Environmental Technologies is negative.

$$\text{PE} = \frac{\text{Market Price}}{\text{EPS}}$$

Eagle Environmental Technologies Continued

$$\text{Yield} = \frac{\text{Annual Dividend}}{\text{Stock Price}}$$

The Yield for Eagle Environmental Technologies is currently negative.

Eagle Environmental Technologies is a speculative investment that has the opportunity of phenomenal capital gains. Of course, the gains can only happen if the projects are executed according to plan. In this case Eagle Environmental Technologies (EGVRD) is waiting for approval of a \$10,000,000 government guaranteed loan. The loan will be used to purchase a Texas waste treatment and disposal facility. Approximately 1700 previous clients are storing or trucking their waste to Louisiana and are waiting for the site to re-open. The waste disposal site happens to be a state and federal government super fund clean-up site. According to the Eagle Environmental Management, the government is willing to lend the company sufficient capital to clean-up the site and re-open for business.

Table 6 is next for MedCare Technologies which has developed The MedCare Program. This program is a non-surgical, non-drug, non-invasive treatment for urinary

incontinence, pelvic pain, chronic constipation, fecal incontinence, and disordered defecation.

Table 6

Company Analysis for MedCare Technologies

Company Variables	Below Average	Average	Above Average
Revenues		X	
Profitability			X
Product Line			X
New Products		X	
Operating Efficiency		X	
Pricing			X
Patents and Technology			X
Organization Objective			X
Managerial Objective			X
Age and Experience of CEO			X
Effectiveness of Strategic Planning		X	
Marketing Strategy			X
Understand Global Environment			
Adapt to Changes in External Environment		X	
Maintained or Improved Competitive Position			
Growth in Organized Sustainable Manner			X

Table 6, Continued

Company Variables	Below Average	Average	Above Average
Company Financed Adequately and Appropriately		X	
Relations with Unions and Employees		X	
Company's Public Image		X	
Executive Compensation in Line with Company Performance		X	
Investor has Experience with Company or Company's Products	No, this is a Speculative Investment.		
Company's Headquarters are Local	No		

Sources: Hand out from Business 277, Dr. Janis Zaima, 1995 and Jess Pawlak's Database and Bibliographic Research, along with Personal Investment Experience.

EPS: Earnings per Share for MedCare Technologies are a minus (\$0.07) per share in 1996 and a minus (\$0.09) per share in 1997.

$$\text{EPS} = \frac{\text{Net Earnings} - \text{Preferred Dividends}}{\text{Number of Common Shares Outstanding}}$$

PE: Price to Earnings Ratio for MedCare Technologies (MCAR) is negative for 1996 and 1997.

$$\text{PE} = \frac{\text{Market Price}}{\text{EPS}}$$

$$\text{Yield} = \frac{\text{Annual Dividend}}{\text{Stock Price}}$$

The Yield for MCAR is negative for 1996 and 1997.

The growth market for MedCare's program is estimated to be approximately \$16,000,000,000 of total sales. The beauty of the MCAR program is that it does not need Food and Drug Administration (FDA) approval. The MedCare program is individualized for each patient. The following are goals of the MedCare program:

1. Increase strength and tone of pelvic floor muscles that prevent incontinence;
2. Augment motor efficiency of striated pelvic floor muscles;
3. Enhance sensory response systems that prevent or limit incontinence;
4. Decrease abnormal motor substitutions;
5. Reestablish normal muscle activity that contributes to voiding and defecation dysfunction;
6. Provide patients with strategies to establish normal bowel and bladder habits;
7. Reduce incontinence and symptoms of urgency and frequency.

Next is table 7 for Mutual Fund Janus Overseas

Table 7

Fund Analysis for Janus Overseas

Fund Description and Performance Compared	Below Average	Average	Above Average
Foreign Stock Holdings			X
Maximum Load			X
Annual Operating Expense Ratio		X	
No Transaction Fee		X	
Annual Dividend Yield			X
Four or Five Stars by Standard And Poor's			X
Beta		X	
Purchase Requirements Initial and Subsequent		X	
Net Asset Value			X
10 Year Annualized Return			
5 Year Annualized Return			
1 Year Annualized Return			X
5 Year Performance Rank vs. All			
Index or Managed			Managed
Diversification of Stock Holdings			X

Sources: Hand out from Business 277, Dr. Janis Zaima, 1995 and Jess Pawlak's Database and Bibliographic Research, along with Personal Investment Experience.

Next is table 8 for Mutual Fund Fidelity Latin America.

Table 8

Fund Analysis for Fidelity Latin America

Fund Description and Performance Compared	Below Average	Average	Above Average
Foreign Stock Holdings			X
Maximum Load			X
Annual Operating Expense Ratio		X	
No Transaction Fee	Yes, there are fees		
Annual Dividend Yield		X	
Four or Five Stars by Standard and Poor's			At time of purchase
Beta		X	
Purchase Requirements Initial and Subsequent		X	
Net Asset Value		X	
10 Year Annualized Return			
5 Year Annualized Return			
1 Year Annualized Return			X
5 Year Performance Rank vs. All			
Index or Managed	Managed		
Diversification of Stock Holdings		X	

Sources: Hand out from Business 277, Dr. Janis Zaima, 1995 and Jess Pawlak's Database and Bibliographic Research, along with Personal Investment Experience.

There are important individual company statements that are crucial for investor due diligence. As an example we will look at the income statement figure 6 and the balance sheet figure 7 for Eagle Environmental Technologies.

These statements are examples showing a speculative company that is losing money. Also, the reader will note that there is a close relationship as exhibited by the \$43,781 note that was forgiven per the income statement for year ending December 31, 1996. The writer researched the close relationship by obtaining detailed information directly from the company.

Next is figure 6 or the income statement which was faxed from the company to the writer. Income statements are important to review for all types of investment models.

Figure 6

Eagle Environmental Technologies
Income Statement Example

	Year Ending Dec. 31, 1997	Year Ending Dec. 31, 1996
REVENUES	1,822,775	
Cost of Goods Sold	1,377,274	
Gross Profit	445,501	
EXPENDITURES		
Contract Services	63,295	127,399
Labor	212,502	
Commissions		2,280
Professional Fees/Legal	53,037	52,495
Research & Development		
Depreciation & Amortization	53,707	9,458
Interest Expense	64,061	2,112
Rent/Maintenance	57,833	2,809
Office Expenses/Bank Charges	37,781	5,596
Telephone & Utilities	43,029	11,921
Travel & Entertainment	48,440	92,032
Promotional	12,869	
Shareholder/Meetings/Expense	4,776	
Auto Expense/Freight Expense	11,189	
Insurance	29,217	
Payroll Taxes	26,966	
OPERATING PROFIT (LOSS)	(273,201)	(306,102)
OTHER INCOME		
Interest Income		

Figure 6, Continued

Forgiveness of Debt (Note)		43,781
Loss on Sale of Assets		(13,000)
Bad Debts (Note)		(34,490)
Sub total		(3,709)
Net (Loss) Before Income Taxes	(273,201)	(309,811)
Income Taxes		
Net (Loss)	(273,201)	(309,811)
Loss per Share	(0.147)	(0.021)

Source: Nicole Alagich, Corporate Communications supporting investors for Eagle Environmental Technologies, LTD. 50 West Liberty, Suite 880, Reno, Nevada 89501

Next is the balance sheet or figure 7 for Eagle Environmental Technologies. It is important for the prospective investor to look at the relationship between the assets and liabilities of the company. The balance sheet gives the investor the opportunity to see any trends from year to year in any of the balance sheet categories. The writer analyzed these trends to get an idea of how the company was capitalized. The reader must keep in mind that EGVRD is a speculative investment.

Figure 7

Eagle Environmental Technologies
Balance Sheet Example

	Year Ending Dec. 31, 1997	Year Ending Dec. 31, 1996
EQUIPMENT		
All Equipment	233,324	34,790
Less Accumulated Depreciation	53,707	21,075
Total Equipment	179,617	13,715
OTHER ASSETS		
Inventory at Cost	215,334	
Right to Technology Subsidiary	256,655	256,655
	100	
Note Receivable, Related Party		
Organization Cost	35,713	
Deposit (Escrow) to Purchase Texas Facility	167,964	80,500
Total Other Assets	460,432	354,838
TOTAL ASSETS	1,020,025	369,751
CURRENT LIABILITIES		
	1997	1996
Accounts/Trades Payable	350,928	88,616
<u>Accrued Expenses/Credit</u>	48,062	9,773
Capital Lease, current portion		7,119

Figure 7, Continued

Notes Payable	243,413	325,000
Notes Payable, Related Parties	351,371	129,246
Deposits Receivable on Equipment	70,000	
Total Current Liabilities	1,063,774	559,754
LONG TERM LIABILITIES		
Capital Lease, net of current portion	41,265	5,926
Total Long Term Liabilities	41,265	5,926
STOCKHOLDER'S EQUITY		
Common Stock: \$0.001 Par Value 90,000,000 Shares Authorized Issued and Outstanding; 17,559,621 in 1996 and a 10 to 1 (1,755,962) reverse split in 1997, new par .01	55,806	17,560
Preferred Stock: \$0.01 Par Value 10,000,000 Shares Authorized None Issued. New issue common stock: 38,246		
Additional Paid in Capital	500,065	462,024
Deficit Accumulated During the Development Stage & New Growth	(640,885)	(675,513)

Figure 7, Continued

TOTAL STOCKHOLDER`S EQUITY	(85,014)	(195,929)
Share Value (Estimated on Assets only)	\$0.18	\$0.02

Source: Nicole Alagich, Corporate Communications supporting investors for Eagle Environmental Technologies, LTD. 50 West Liberty, Suite 880, Reno, Nevada 89501

Since Eagle Environmental Technologies is a speculative Investment, there are some speculative trading guidelines, which will be discussed. These were presented to the writer during the research phase of this special project report.

Figure 8

Speculative Trading Guidelines

-
- (1) Plan your trades and trade your plans.
 - (2) Have a cardinal rule. Capital preservation is infinitely more important than capital appreciation.
 - (3) Successful traders set profit objectives for each trade they enter.
 - (4) Stops (stop-losing principal by selling at a price below purchase price) are the key to success for many traders.
 - (5) Never cancel a stop loss order after you have placed it at the time you make a trade.

Figure 8, Continued

- (6) Never change your position in the market without a good reason. When you make a trade, let it be for some good reason or according to a definite plan; then do not get out without a definite indication of a change in trend.
- (7) Losses make the speculator studious -- not profits. Take advantage of every loss to improve your knowledge of market action.
- (8) The most difficult task in speculation is not prediction but self-control. Successful trading is difficult and frustrating. You are the most important element in the success equation.
- (9) The basic substance of price change is human emotion. Panic, fear, greed, insecurity, anxiety, stress, and uncertainty are the primary sources of short-term price change.
- (10) Successful trading requires four things. Knowledge, disciplined courage, money and the energy to merge the first three properly.
- (11) Expect and accept losses gracefully. Those who brood over losses always miss the next opportunity.
- (12) The one essential ingredient to making money with money and keeping it is having an organized effort.
- (13) When your greed for money exceeds your fear of the market, you have had it.

Source: David Heltmach, Rand Financial Services, Inc. 1995.

CHAPTER 3

Portfolio Activities

A. Design

Portfolio Diversification

Portfolio diversification was very important to the writer especially because of the capital invested. It is important to diversify by buying stocks that are in different industries that are negatively correlated. This correlation is important for the six investment models selected. The models are in different industries and some operate in different geographic areas of the world.

For example Janus Overseas (JAOSX) and Fidelity Latin America (FLATX) have companies that operate in other foreign countries. This allows for portfolio risk to be mitigated because both funds have multiple companies in multiple industries.

Portfolio Risk

Portfolio risk was minimized by implementing a cross section of companies and industries in both domestic and international markets. It was important to control volatility yet have the opportunity for significant capital gains. By selecting two speculative common stocks Eagle

Environmental Technologies (EGVRD) and MedCare Technologies (MCAR) there are opportunities for significant gains.

Portfolio Theory

Portfolio theory hinges on the mathematical idea of an efficient frontier where negative correlations, Betas, etc., are used to calculate a particular type of portfolio mix. The writer did not use any of the mathematical formulas to select the project report's portfolio.

Portfolio Benchmark

The Standard & Poor's 500 (S&P 500) index was used as the portfolio benchmark to beat when it came to calculating total returns. By calculating the HPR (Holding Period Return) at sale, the writer was able to determine whether the individual stock or mutual fund sold fell short, equaled, or exceeded the S&P 500 benchmark. This analysis was done over a time frame of several months.

The writer did take advantage of some of the wisdom of William J. O'Neil. Figure 9 is a synopsis of Mr. O'Neil's CANSLIM Method of minimizing risk in portfolio stock selection.

Figure 9

CAN SLIM Characteristics

- C A company should have large increases in current quarterly earnings per share. These are usually greater than 25% and/or have a recent acceleration in the rate of quarterly earnings per share. NOTE: The combination of the five year growth rate and the last two quarters of earnings is found in INVESTOR'S BUSINESS DAILY for all stocks under the EPS column in the stock tables (earnings per share) rank. The EPS rank is also found on each Daily Graphs chart.
- A The annual earnings per share should show consistent growth over the past five years. This can be defined as a 5-year growth rate greater than 25%.
- N Buy when a stock is hitting new highs in price. Always be on the look out for companies with new products, new services, new management, or major improvement in industry conditions.
- S The number of shares outstanding of the stocks under consideration should be under 30 million, preferably around 5 million. Watch the demand for those shares by looking at the percentage change in volume for each one of your stocks in INVESTOR'S BUSINESS DAILY. Analyze the individual days of volume on the Daily Graphs charts and the weekly volume on the Investor's Business Daily charts.
- L Buying should be concentrated in leading stocks in one of the strongest groups. To find leading stocks, INVESTOR'S BUSINESS DAILY has a relative strength rank for each stock in the market. Leading groups can be found in the industry group section. The top 10 strongest groups are found in Daily Graphs on page 12.
- I You want at least one institution owning the stock you are considering buying. Institutional sponsorship is included for every stock in Daily Graphs.
- M Analyze the general market. Is the Dow Jones Industrial Average above or below its 200 day moving

average? How long has the 200-day moving average been in an uptrend or downtrend? Analyze the daily Dow's price and volume movement every day. How are your individual stocks performing in the market?

Source: William J. O'Neil Investment Seminar 1995

B. Purchasing and Selling

Choosing a Broker

Choosing a broker was a very interesting and somewhat frightening decision process. The writer started with Fidelity Investments, and graduated to a Discount Broker (Quick and Reilly), and then opened an account with a deep discount broker (Waterhouse Securities), and finally ended with a discount on-line broker E*TRADE.

Fidelity Investments was the most expensive but an investor can count on twenty-four support. There are always specialists in many capacities at Fidelity to answer questions. During early stock purchases the writer paid approximately 8 to 9 times the current cost of an on-line electronic broker.

Quick and Reilly has an order-taking broker who will periodically call an investor if they have not made any recent trades. The after hours support is purely for taking orders. At Waterhouse Securities the broker will

send a large quantity of paper based information to self-educate the investor.

E*TRADE is for the computer literate and investment literate. Brokers at E*TRADE prefer investors to communicate by sending E-mail to answer questions. It is very difficult to get some one in the brokerage on the phone. The brokers prefer that investors use the internet, direct modem connection, or touch tone for any trades. All information on research, quotes, market data, buys and sells etc., is performed in cyber space. The writer was overwhelmed at the beginning while using E*TRADE. But over time, the writer has gotten use to the freedom and low costs of electronic trading.

E*TRADE On-line Brokerage

The following two pages are examples of the E*TRADE screens that are used by the writer when logging in and out of E*TRADE. As the reader will note, E*TRADE allows a point and click menu of choices. There is a very intuitive workflow that is tailored for the investor's convenience.

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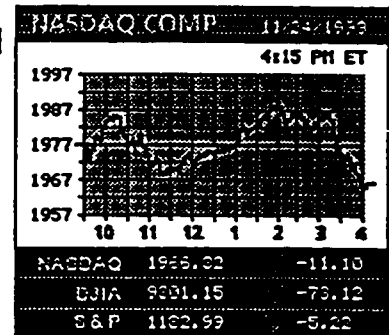
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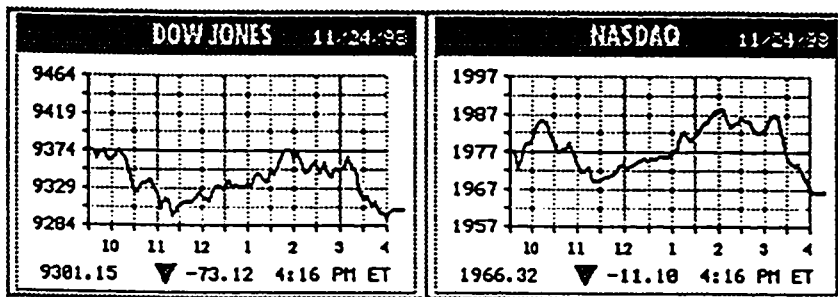
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Making the Purchases and Sales

Making the common stock purchases and sales was a different experience with each brokage firm.

Fidelity gives twenty-four hour support. All orders may be executed on the telephone. Fidelity Latin America was purchased and sold through Fidelity Investments.

Quick & Reilly assigns the investor to a particular broker who calls the investor about buying tips. The broker wants to generate commissions.

Waterhouse Securities has the customer call in to any on-call broker who happens to get your call. Janus Overseas was purchased through Waterhouse using paper based research and subsequently calling a broker.

E*TRADE has few support people and likes their customers to be independent. In fact, the writer experienced failures in some of the transactions while both purchasing and selling individual stocks and mutual funds. Issues related to transaction failures are explained in the next page and more in depth in Chapter 4.

Tracking the Investment Portfolio

Tracking the investment portfolio has proven to be both rewarding and to be very easy with the current version of the E*TRADE business system. However, there have been periodic difficulties.

These difficulties were exhibited while both purchasing and selling of stocks and stock mutual funds. Examples will be given which were related to the Client/Server Web Technology. Please see the next page which shows a real time E*TRADE portfolio tracking screen.



portfolio summary

assistance

Current Portfolio:

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As of 03:35 PM ET 7/25/98 Closing Prices.

#	Security	Qty	L/S/M	Acquired Date	Age	Cost Basis	Current Price	Change	Market Value
1	000000000	0	L	1/29/98	5			0	0
2	HRP	500	LM	3/06/98	4	19 5/8	17 3/16	-2 7/16	8,594
3	HRP	500	LM	7/21/98	0	18 7/16	17 3/16	-1 1/4	8,594
4	KGC	1500	L	7/21/98	0	3 3/16	2 13/16	-3/8	4,219
5	MCAR	500	L	1/07/98	6	7 7/8	8 3/4	+7/8	4,375
6	MCAR	500	LM	7/21/98	0	9 7/16	8 3/4	-11/16	4,375
7	UNT	1500	LM	7/21/98	0	6	5 1/2	-1/2	8,250

Total Securities 38,406

* = News story released today.
For current news & charts, click on a symbol under Security.

To place an order, click on a above.
For a detailed quote, click on a price under Current Price.

Important Note: For an official record of all positions in this account as of market open, please refer to [Account Positions](#). For intraday updates, refer to [Transaction History](#).

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CHAPTER 4

Findings and Results

Measuring the Returns over Time

Measuring the returns over time involved tracking on a daily and weekly basis how the portfolio was performing. The following are the Holding Period Returns (HPR) for the six investment analysis models:

A Large Cap Growth Stock (MCI Communications)

MCIC HPR: Holding Period Return

MCIC at \$31.875 per share at period begin

Period end = \$57.75 per share

Commissions both buy and sell = \$0.08 per share

diluted for 500 shares total.

$$\text{HPR (Long)} = \frac{\text{Period End} - \text{Period Begin} - \text{Commissions}}{\text{Period Begin}}$$

Therefore, HPR(Long) for MCIC = 81% approximate return per share of MCIC. The dividends received were minor and not counted in the approximate return.

Purchased on 11/04/96 and sold on 6/25/98

S&P Index for holding period is approximately 49%

An income stock (Spieker Properties a REIT)

SPK HPR: Holding Period Return

SPK at \$29.375 per share at period begin

Period end = \$35.562 per share

Commissions both buy and sell = \$0.06 per share

diluted for 500 shares total.

$$\text{HPR (Long)} = \frac{\text{Period End} - \text{Period Begin} - \text{Commissions}}{\text{Period Begin}}$$

Therefore, HPR(Long) for SPK = 17% approximate return per share of SPK. However, when adding the dividends

per share of \$1.88 per year, this increases the HPR.

The new HPR with dividends would be approximately 27%

because of the additional income per share. The stock

was purchased on 9/30/96 and sold on 9/01/98

S&P Index for holding period is approximately 50%

An Environmental Speculative Stock (Eagle

Environmental Technologies)

EGVRD HPR: Holding Period Return

EGVRD at \$1.156 per share at period begin

Period end = \$0.24 per share

Commissions both buy and sell = \$0.04 per share

diluted for 1000 shares total.

$$\text{HPR (Long)} = \frac{\text{Period End} - \text{Period Begin} - \text{Commissions}}{\text{Period Begin}}$$

Therefore, HPR(Long) for EGVRD = (82%) approximate negative return per share of EGVRD. There are no dividends paid on this stock.

Purchased on 4/29/98 and still held with HPR calculated on 12/04/98

S&P Index for holding period is approximately 15%

A medical speculative stock (MedCare Technologies)

HPR: Holding Period Return

MCAR at \$7.875 per share at period begin

Period end = \$6.687 per share

Commissions both buy and sell = \$0.08 per share

diluted for 500 shares total.

HPR (Long) =
$$\frac{\text{Period End} - \text{Period Begin} - \text{Commissions}}{\text{Period Begin}}$$

Therefore, HPR(Long) for MCAR = (16%) approximate negative return per share of MCAR. There are no dividends paid on this stock.

Purchased on 1/07/98 and still held with HPR calculated on 12/06/98

S&P Index for holding period is approximately 23%

(G) An International stock mutual fund (Janus Overseas)

HPR: Holding Period Return

JAOSX at \$15.22 per share at period begin

Period end = \$18.64 per share

Commissions both buy and sell = \$0.10 per share

diluted for 500 shares total.

HPR (Long) =
$$\frac{\text{Period End} - \text{Period Begin} - \text{Commissions}}{\text{Period Begin}}$$

Therefore, HPR(Long) for JAOSX = 22% approximate return per share of JAOSX. All dividends were reinvested into new shares of stock. Therefore, return was higher because of additional 210 shares of stock purchased.

Purchased on 1/02/96 and sold with HPR calculated on 8/28/98

S&P Index for holding period is approximately 24%

A Sector stock mutual fund (Fidelity Latin America)

HPR: Holding Period Return

FLATX at \$11.03 per share at period begin

Period end = \$10.53. per share

Commissions were waived because the fund was purchased in an Individual Retirement Account (IRA).

$$\text{HPR (Long)} = \frac{\text{Period End} - \text{Period Begin} - \text{Commissions}}{\text{Period Begin}}$$

Therefore, HPR(Long) for FLATX = (0.045%) approximate negative return per share of FLATX. The dividends were reinvested to purchase more shares in the Individual Retirement Account.

Purchased on 1/18/96 and still held on 12/04/98

S&P Index for holding period is approximately 26.29%

Adjusting the Portfolio

Adjusting the portfolio after selling individual securities was important in order to take advantage of positive holding period returns. This meant pruning selective securities and replacing others as research, risk tolerance, and intuition dictated. The holding period returns for the securities pruned were calculated in the previous section.

A key learning point for the writer was realizing that if positive fundamentals change for a common stock or mutual fund, selling of that investment is recommended. In other words, capital gains and positive dividend income flows only occur during times of positive fundamental trends.

Purchasing and Selling On-line

Purchasing and selling on-line is a powerful feeling. There is no middle man other than the on-line business system that the on-line brokerage provides. There are several screens to execute as you complete a trade. The next four pages are real time trading screens. The following pages are explained:

- (A) Page 62 is a buy order screen for EGVRD
- (B) Page 63 is a sell order screen for MCIC
- (C) Page 64 is the order confirmation screen
- (D) Page 65 is displayed when there is a failure in the web-based ordering system.

When there was a failure the writer had to communicate via E-mail with the support people at E*TRADE. Eventually, a response would be returned via E-mail letting the writer know the status and any fixes to problems reported. The writer can comment favorably on the support given by E*TRADE representatives.



stock order preview



Name: Jess Pawlak

Account:

Account Type:
Cash

Your Order

Transaction Type	Quantity	Symbol & Company Name	Your Price	Term
Buy	1000	EGVRD - EAGLE ENVRNMTL TECH LTD	Mkt	Day

Current Ask	Time	Est. Commission:	Est. Total Order:
0.906	--	19.95	925.95

IMPORTANT: You are placing a firm order. Please review carefully.

Note: Click only once to place your order.



20-Minute Delayed Prices: EAGLE ENVRNMTL TECH LTD					
Price:	--	Bid:	3/4	Ask:	0.906
Change:	--	Day's High:	--	Day's Low:	--
Volume:	0	Open:	--	Previous Close:	7/8



stock order preview

Name: Jess Pawlak

Account:

Account Type:
Margin

Your Order

Transaction Type	Quantity	Symbol & Company Name	Your Price	Term
Sell	500	MCIC - M C I COMMUNICATIONS CORP	Mkt	Day

Closing Price	Time	Est. Commission:	Est. Net Proceeds:
57 3/4	04:36 PM	19.95	28,855.05

You have 500 uncommitted shares in your account.

IMPORTANT: You are placing a firm order. Please review carefully.

Note: Click only once to place your order.

Place Order

Cancel Order

Closing Prices: M C I COMMUNICATIONS CORP					
Price:	57 3/4	Bid:	57 11/16	Ask:	57 3/4
Change:	+1/16	Day's High:	57 3/4	Day's Low:	56 1/2
Volume:	2,534,200	Open:	57 11/16	Previous Close:	57 11/16



stock order confirmation

Stock order placed at 10:04 PM EDT 6/24/98.

This transaction is order number 7.

The market is closed. Your order will be placed by the start of the next business day.

<u>main</u>	<u>* the markets</u>	<u>trading</u>	<u>your account</u>
<u>mutual fund center</u>	<u>Investor Tools</u>	<u>Enter Stock</u>	<u>Account</u>
<u>messages</u>	<u>Markets at a Glance</u>	<u>Order</u>	<u>Balances</u>
<u>customer service Hewl</u>	<u>Quotes/News/Charts</u>	<u>Open Stock</u>	<u>Account</u>
		<u>Orders</u>	<u>Records</u>
	<u>Stock Watch</u>	<u>Options Trading</u>	<u>Portfolio</u>
		<u>Transaction</u>	<u>Summary</u>
		<u>History</u>	<u>Switch Accounts</u>

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Invalid Request

The E*TRADE Web server cannot complete the transaction you requested. A number of factors can cause this page to appear:

Back key - You may have used your browser's back key to access one of our functional web pages. Many functions on E*TRADE's live transaction system require that you begin from the original link and move in a specific path. Please retry.

Time out - There is a 5 minute time out between requests. This will invalidate any order preview or 'More' button option.

A bug

Recommended action - Start from the [main menu](#) page and resubmit your request.

This error has been logged and will be reviewed.

main	the markets	trading	your account
mutual fund center	Investor Tools	Enter Stock Order	Account Balances
messages	Markets at a Glance	Open Stock Orders	Account Records
customer service <small>New!</small>	Quotes/News/Charts	Options Trading	Portfolio Summary
	Stock Watch	Transaction History	Switch Accounts

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CHAPTER 5

Summary and Conclusion

Summary

This project report was focused on business system and information science based empirical research. The goal of the report focused on allowing the reader to understand the common stock investment process. This consisted of discussing with theory and empirical examples the common stock and mutual fund evaluation analysis steps. There was an underlying fundamental analysis emphasis throughout the report.

Appropriate research methods both from a theoretical and practical approach were introduced, discussed, compared and contrasted. The writer added personal observations regarding the research methods employed. Six investment models were analyzed and traded. The holding period returns were calculated and contrasted with an S&P index return.

Stock and mutual fund purchase and sale information was discussed and examples given to the reader. An in-depth analysis was presented using E*TRADE as the writer's preferred brokerage. User interface issues and problem

support issues were discussed when using the E*TRADE system.

On-line research using Dialog and other Mainframe to Personal Computer Client/Server issues were discussed. This discussion included ease of use issues between traditional two tier Client/Server versus multi-tier Web Servers with Client browsers. In fact, the old paradigm Mainframe to Personal Computer database information access is changing. This is discussed in a San Jose Mercury News article about Dialog. "Dialog to lay off 160 workers in Silicon Valley. The first commercial online service, now in a new era, is being forced to reinvent itself."⁶

Conclusion

Three things are important when doing common stock investing using business systems and information science.

- (A) Time is required for high quality research
- (B) A personal business system is required for processing workflow
- (C) It takes credible and efficient databases to research and track common stock choices.

⁶ Herhold, Scott "Dialog to lay off 160 workers in Silicon Valley" San Jose Mercury News Business 22 Nov. 1997: C2.

The bottom line when investing in common stocks is to always shield the principal. One must keep the principal growing by reinvesting or holding on to the current portfolio mix for maximum capital gains and dividend appreciation. There are times when investments will not work out as planned. The investor must then conduct necessary pruning of portfolio stocks and funds.

The writer found that different common stock models exhibited different return profiles. However, riskier investment models such as the speculative stocks (EGVRD and MCAR) have potential to increase as well as decrease dramatically. The stock mutual fund model Janus Overseas (JAOSX) did reasonably well. But the stock mutual fund regional model Fidelity Latin America (FLATX) lost principal and continues to exhibit poor returns because of economic, political, and general emerging-market risk. The two out-performers were the large cap model MCI Corporation (MCIC) and the income model Spieker Properties (SPK). These common stocks both had the "right fundamentals." The right common stock fundamentals, exhibited during an investor's Holding Period Return (HPR), while operating a user friendly and cost effective business system, increases common stock investing success.

Appendices

Mathematical Formulas

HPR: Holding Period Return

$$\text{HPR (Long)} = \frac{\text{Period End} - \text{Period Begin} - \text{Commissions}}{\text{Period Begin}}$$

EPS: Earnings per Share

$$\text{EPS} = \frac{\text{Net Earnings} - \text{Preferred Dividends}}{\text{Number of Common Shares Outstanding}}$$

PE: Price to Earnings Ratio

$$\text{PE} = \frac{\text{Market Price}}{\text{EPS}}$$

$$\text{Yield} = \frac{\text{Annual Dividend}}{\text{Stock Price}}$$

Glossary

Auction Market: Stock exchange, such as NYSE, at which all-trading takes place on the exchange floor.

American Depository Receipts: Claims to shares of foreign stocks denominated in U.S. dollars and traded on U.S. stock exchanges to eliminate some risk and complication of foreign investing.

Ask Price: Price at whom a market dealer is willing to sell a security traded on a particular market.

Back-end Load: Load charge assessed when investor redeems shares of a mutual fund.

Balance Sheet: A financial statement that lists values of a company's assets on top and liabilities on the bottom. Liabilities of the balance sheet include both debts of the company and owner's capital. The asset and liabilities always add up to the same amount, hence the use of the term balance sheet.

Bear Market: Stock market movement toward falling prices.

Beta: Measures relative risk of a stock; beta of Stock Market equals 1.

Bid Price: Price at whom a market dealer is willing to buy a security traded on a particular market.

Blue-chip Stocks: Stocks of seasoned companies that have paid regular dividends in good and bad years. Investments in blue-chip stocks are relatively conservative and have relatively low risk. Blue-chip stocks comprise the 30 securities used to calculate the Dow Jones Industrial Average.

Book Value: Net value of a company's assets, less its liabilities and the liquidation price of its preferred issues. The net asset value divided by the number of shares of common stock outstanding equals the book value per share, which may be higher or lower than the stock's market value.

Broker: Someone who handles the transferring of a security between seller and buyer. The Securities and Exchange Commission must license brokers.

Bull Market: Stock market movement toward rising prices.

Business Cycle: Sequences of long-term economic growth that exhibit non-periodic but recurrent sequences of expansions and contractions.

Business Risk: Variability of company's operating profits over time.

Buy and hold Strategy: Passive management process in which investor buys and holds well-diversified portfolio of securities.

Capital Gain(Loss): An increase (decrease) in the market or principal value of a stock or stock mutual fund.

Capital Gain Distributions: Payments to mutual fund shareholders of the profits from the sale of securities in the fund's portfolio.

Capitalization: The total stock market value of all shares of a company's stock.

Commission Broker: Traders who trade strictly for others and are paid for the service.

Common Stock: A unit of ownership in a corporation. Common stockholders participate in the corporation's profit or losses by receiving dividends and by capital gains or losses in the stock share price.

CORR: Correlation

Correlation: Degree of interrelationship between two variables. Imperfectly correlated stocks are best for lessening diversification risk.

Cost Basis: The price paid for an investment when it was purchased. The cost basis includes commissions paid and is used in calculating capital gains.

Cyclic Industry: Industry whose performance tends to be positively related to economic activity.

Defensive Industry: Industry whose performance tends to be relatively insensitive to economic activity despite cyclical ups and downs.

Discount Brokerage: Firm providing mainly order execution and record keeping services; customers usually deal with many individual brokers; firms charge lower commissions and fees than full-service firms.

Diversification: Distribution of available capital among several common stock investments to reduce risk.

Dividend: A pro rata portion of earnings distributed in cash by a corporation to its stockholders. In preferred stock, dividends are usually fixed; with common shares, dividends may vary with the fortunes of the company.

DJIA: Dow Jones Industrial Average

Dow Jones Industrial Average: "the Dow" is one of the most frequently quoted market indexes. It refers to a weighted average of 30 widely traded blue chip stocks, with the number referring to points, not dollars. Because these stocks are in a variety of sectors and are actively traded, they are considered a good reflection of the market.

DJNR: Dow Jones News Retrieval

Dollar Cost Averaging: A system of investing in which the investor buys a fixed dollar amount of securities at regular intervals. The investor thus buys more shares when the price is low and fewer shares when it rises, and the average cost per share is lower than the average price per share.

Earnings: A corporation's profits. An earnings report is a statement a company issues to shareholders and to the public declaring its current profits on either a quarterly or annual basis.

Earnings per Share: The net income of a company for the past 12 months divided by the current number of shares. Many investors put great value on this when deciding whether to buy or sell a stock.

EGVRD: Eagle Environmental Technologies, LTD. ticker symbol, which trades on the NASDAQ.

Expense Ratio: A mutual fund's operating expenses expressed as a percentage of its average net assets. Funds with lower expense ratios are able to distribute a higher percentage of their gross income returns to shareholders.

FLATX: Fidelity Latin America ticker symbol, which trades through Fidelity Investments Corporation. Common stocks in the FLATX fund are traded on multiple international exchanges.

Fundamental Analysis: An approach to the stock market in which specific factors (e.g. price-to-earnings ratio, yield, price-to-book ratio, and return on equity) are used to determine what stocks may be favorable for investment in the current economic environment.

Growth Investing: A strategy for stock investing that emphasizes stocks with above-average price-to-book ratios and sales and earnings growth, but below-average dividend yields.

Growth Rate: This is the rate at which stocks, the economy, or earnings are growing. Analysts often use the growth rate when comparing similar assets within the same industry.

Growth Stock: Stocks of younger or smaller companies, they have relatively high risk and are relatively aggressive investments. Usually, they have grown significantly in the past three to five years and are expected to continue growing for the next few years. Dividends, if any, are often small and erratic, mostly because growing companies prefer to reinvest earnings in new projects, rather than paying shareholders. Growth stocks are usually purchased as a long-term holding, with the expectation that they will pay dividends (as well as appreciate in price) in the future.

Income Dividends: Payments to shareholders of dividends from stocks.

Income Statement: Sometimes called a profit and loss statement, a financial statement that begins with sales or revenues, then lists major categories of expenses, and ends with pretax income, taxes, and net income.

Income Stocks: Stocks of stable companies having relatively low to moderate risk and representing relatively conservative investments. Investors seeking both growth and current income will often buy income stocks because of their potential for regular dividend payments. Income stocks tend to be in stable industries, such as telecommunications and utilities. They have the potential to offer higher - than - average dividend payments and capital appreciation.

Index Investing: An investment strategy used by a professional manager who seeks to match the total performance of a predetermined stock or bond market index.

Inflation: An increase in price of products and services over time. The government's main measure of inflation is the Consumer Price Index.

International/Global Equity Funds: Seek to provide growth and/or current income by investing in securities of companies located primarily outside of the U.S. Global funds may also invest in securities of U.S. companies.

IT: Information Technology

JAOSX: Janus Overseas ticker symbol, which trades through Janus Investments Corporation. Common stocks in the JAOSX fund are traded on multiple international exchanges.

Large-cap Stock: Large company stocks are stocks of companies with a total market value (or market capitalization) of \$1.5 billion or more. These established, successful companies are more likely than smaller companies to pay dividends.

MCAR: MedCare Technologies ticker symbol, which trades on the NASDAQ.

MCIC: MCI Communications ticker symbol, which trades on the NASDAQ.

Mid-cap Stock: A mid-cap stock is from a company with between \$200 million and \$1.5 billion in market capitalization.

Mutual Fund: A mutual fund is a group of securities owned by a group of investors. Investment professionals who make buy and sell decisions for the investors manage the fund. Investors often choose to purchase shares in mutual funds to diversify their holdings with a smaller amount of money and rely on investment professionals to make trading decisions.

NASDAQ: National Association of Securities Dealers Automated Quotation system, a computerized communications system that provides continuous price quotations for securities listed on the NASDAQ Stock Market.

NAV: Net Asset Value

Net Asset Value: Price at which a mutual fund sells or redeems its shares. Net asset value is calculated by dividing net market value of fund's assets by the number of outstanding shares.

No-Load Funds: Funds sold directly to investors with no sales charges.

NYSE: New York Stock Exchange

New York Stock Exchange: The oldest of the stock exchanges. Companies have to meet certain criteria before they are included on the NYSE.

Objective: Objective indicates the investment goal(s) of an investor's portfolio. Also, objective pertains to a mutual fund, which bases its objective on wording contained in the prospectus, or on the way, the fund is marketed.

P/E Ratio: The P/E ratio, or price to earnings ratio.

Portfolio: All investments held by an individual or mutual fund.

Prospectus: The official document that offers a fund's shares to the public as required by the U.S. Securities and Exchange Commission. It provides detailed information on topics such as fund's investment objectives, policies, expenses, services, and officers and directors.

ROI: Return on Investment

Return on Investment: The dollar amount of your investment earnings divided by the dollar amount of your investment, expressed as a percentage. For example, an investment of \$100 that earns \$10 equals a 10% return on investment.

Risk: The potential to lose money (principal and any earnings) or not make money on an investment.

REIT: Real Estate Investment Trust

Real Estate Investment Trust: A company that pools monies of many investors to buy income-producing real estate, finance mortgages, or both.

Risk-Adjusted Rating: This represents a fund's historical risk-adjusted return relative to other funds in its class. Funds are ranked and divided into five groups: Highest (5 stars - top 10%). Above Average (4 stars - next 22.5%), Neutral (3 stars - middle 35%), Below Average (2 stars - next 22.5%), and Lowest (1 star - bottom 10%).

S&P 500 Stock Index: Includes common stock of 500 publicly traded U.S. companies. Investors referring to their portfolio 'beating the S&P', mean their investments are earning a better return than the S&P 500 index.

SEC: Securities and Exchange Commission

Securities and Exchange Commission: A federal agency regulating federal securities laws, including the trading of public company securities, the firms handling these transactions and most professionals who provide investment advice.

Sector Funds: Holdings are concentrated in a single industry, geographical region, or in companies, that have some common characteristic.

Small Cap: A small cap stock is one issued by a company with between \$50 million and \$200 million in market capitalization. Investment advisers recommend small cap stocks because they can have the greatest potential for growth.

Share Price: This is the price of a unit of ownership in a company.

SPK: Spieker Properties ticker symbol that trades on the NYSE. Spieker is a REIT.

Stock: A share of ownership in a corporation.

Ticker Symbol: A ticker symbol is a letter combination that identifies a stock-exchange security. Often, it is the truncated or abbreviated name of the company or group issuing the security, like SPK (Spieker Properties, Inc.)

Time the Market: Some people attempt to invest by timing market highs (to sell) and market lows (to buy). Many investment professionals advise against the method, suggesting more of a "buy-and-hold" philosophy using dollar-cost averaging to make regular purchases.

Total Return: The sum of an investment's yield (income return) plus its capital return (capital gain or loss).

Yield: Yield is the amount of current income provided by an investment. For stocks, the yield is calculated by dividing the total of the annual dividends by current share price.

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www.egvr.com, Eagle Environmental Technologies, Ltd

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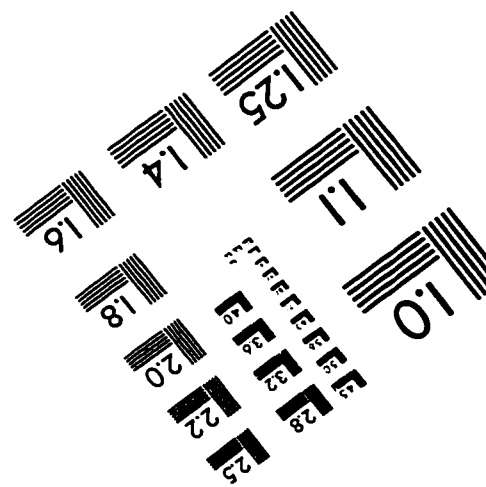
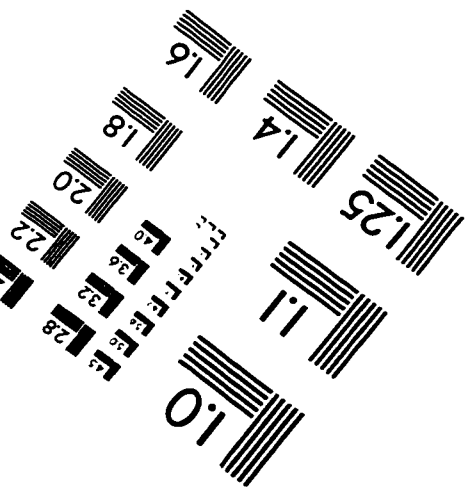
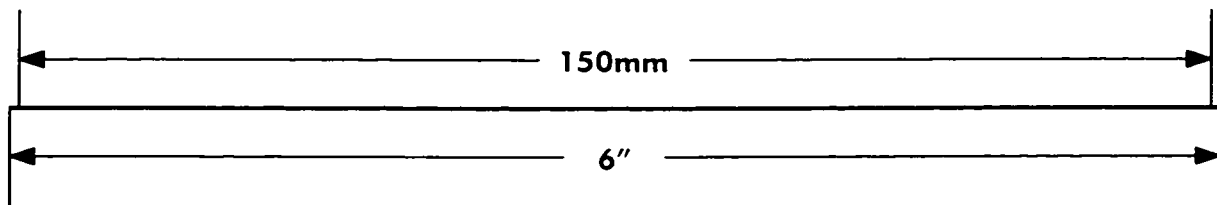
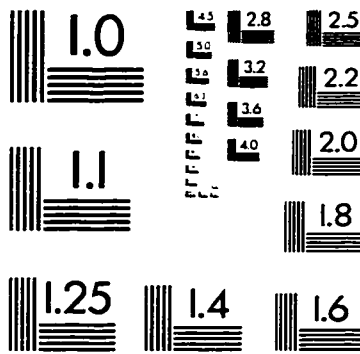
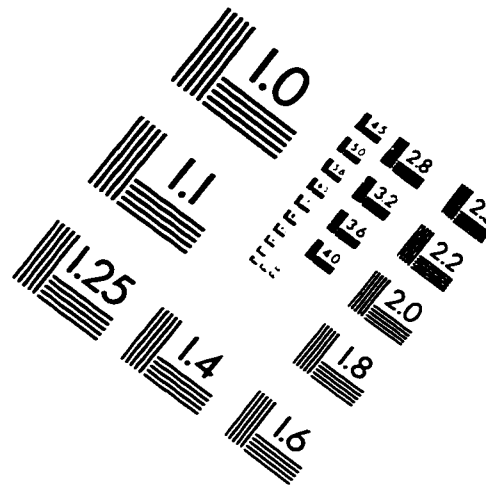
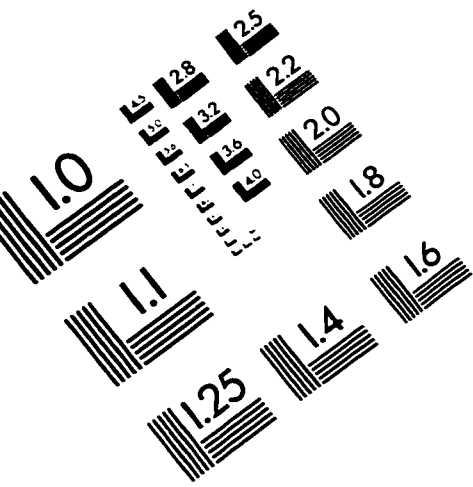
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IMAGE EVALUATION TEST TARGET (QA-3)



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