

1994

## The individual investor : investment objectives, strategies, and tactics

Clive Walcott  
*New Jersey Institute of Technology*

Follow this and additional works at: <https://digitalcommons.njit.edu/theses>



Part of the [Finance and Financial Management Commons](#)

---

### Recommended Citation

Walcott, Clive, "The individual investor : investment objectives, strategies, and tactics" (1994). *Theses*. 1690.

<https://digitalcommons.njit.edu/theses/1690>

This Thesis is brought to you for free and open access by the Theses and Dissertations at Digital Commons @ NJIT. It has been accepted for inclusion in Theses by an authorized administrator of Digital Commons @ NJIT. For more information, please contact [digitalcommons@njit.edu](mailto:digitalcommons@njit.edu).

## **Copyright Warning & Restrictions**

The copyright law of the United States (Title 17, United States Code) governs the making of photocopies or other reproductions of copyrighted material.

Under certain conditions specified in the law, libraries and archives are authorized to furnish a photocopy or other reproduction. One of these specified conditions is that the photocopy or reproduction is not to be “used for any purpose other than private study, scholarship, or research.” If a user makes a request for, or later uses, a photocopy or reproduction for purposes in excess of “fair use” that user may be liable for copyright infringement,

This institution reserves the right to refuse to accept a copying order if, in its judgment, fulfillment of the order would involve violation of copyright law.

**Please Note: The author retains the copyright while the New Jersey Institute of Technology reserves the right to distribute this thesis or dissertation**

Printing note: If you do not wish to print this page, then select “Pages from: first page # to: last page #” on the print dialog screen

The Van Houten library has removed some of the personal information and all signatures from the approval page and biographical sketches of theses and dissertations in order to protect the identity of NJIT graduates and faculty.

## **ABSTRACT**

### **The Individual Investor: Investment Objectives, Strategies, and Tactics**

by  
**Clive Walcott**

The individual investor's circumstances and investment behavior have received relatively little attention since it was discovered in the late sixties that he was withdrawing as a direct participant in the American equities market. The first major response to this withdrawal phenomenon was the 1974 Individual Investor Research Project (IIRP). For the first time, the individual investor's circumstances and decision processes were examined directly and not through broad-based trading statistics or portfolio simulations.

This current survey identifies the significant changes in investment objectives, strategies, and tactics since the IIRP. These changes were discovered when seven demographic variables were cross-classified with various investment behavioral characteristics from a sample of 130 individual investors. This research effort also identifies the socio-economic characteristics of the individual investor that serve as significant influences on investment behavior.

**THE INDIVIDUAL INVESTOR:  
INVESTMENT OBJECTIVES, STRATEGIES, AND TACTICS**

by  
**Clive Walcott**

*Walcott*

**A Thesis  
submitted to the Faculty of  
New Jersey Institute of Technology  
in Partial Fulfillment of the Requirements for the Degree of  
Master of Science in Management  
School of Industrial Management**

**January 1994**

Blank Page

**APPROVAL PAGE**

**THE INDIVIDUAL INVESTOR:  
INVESTMENT OBJECTIVES, STRATEGIES, AND TACTICS**

**Clive Walcott**

---

Dr. John Malindretos, Thesis Advisor Date  
Associate Professor of Finance, NJIT

---

Dr. Iftekhar Hasan, Committee Member Date  
Associate Professor of Finance, NJIT

---

Dr. C. Lenard Anyanwu, Committee Member Date  
Assistant Professor of Finance, NJIT

## **BIOGRAPHICAL SKETCH**

**Author:** Clive Walcott

**Degree:** Master of Science in Management

**Date:** January 1994

**Date of Birth:**

**Place of Birth:**

**Undergraduate and Graduate Education:**

- Master of Science in Management  
New Jersey Institute of Technology, Newark, NJ, 1994
- Bachelor of Science in Management  
New Jersey Institute of Technology, Newark, NJ, 1992

**Major:** Management



This thesis is dedicated to  
my mother, Veronica, the greatest woman I will ever know.

## ACKNOWLEDGMENT

The author would like to express his deepest appreciation to his advisor, Dr. John Malindretos, for his support, guidance, and friendship, since without him, this research could not have been completed.

Sincerest appreciation also goes out to the committee members, Dr. Iftekhar Hasan and Dr. C. Lenard Anyanwu for their time and effort in reading and correcting mistakes that were found within the first draft.

The generosity of the original researchers on the Individual Investor Research Project in allowing the use and manipulation of their survey instruments is particularly appreciated. Without the charity of Mr. Rick Papowitz, Agora, Inc. - who provided the sample of individual investors - this research effort could not have been realized. This is especially appreciated.

Special thanks go out to the Deans of the School of Industrial Management, Dr. Chakrabarti and Ms. Barbara Tedesco for their support, financial and otherwise, on the project and throughout my graduate experience in SIM. Dr. Bill Worrell - Director of the Graduate Management Program, NJIT - has been a source of inspiration and a friend, thank you.

The moral and financial support from Ms. Sheridan Quarless - Educational Opportunity Program - did not, and will not go unappreciated. The encouragement and genuine concerns from Dr. Cheickna Sylla, SIM, was instrumental in my well being throughout my undergraduate and graduate years at NJIT.

## TABLE OF CONTENTS

Chapter	Page
1 INTRODUCTION . . . . .	1
2 REVIEW OF THE LITERATURE . . . . .	3
2.1 The Individual Investor Research Project . . . . .	3
2.2 Ante IIRP Documentation . . . . .	4
2.3 Post IIRP Documentation . . . . .	8
3 THE SAMPLE, QUESTIONNAIRE, METHODOLOGY, AND LIMITATIONS . . . . .	13
3.1 The Sample . . . . .	13
3.2 The Questionnaire . . . . .	14
3.3 Methodology . . . . .	14
3.4 Limitations of Current Survey . . . . .	15
4 DEMOGRAPHY OF THE SAMPLE . . . . .	17
5 INVESTMENT OBJECTIVES . . . . .	21
5.1 Short-Term Capital Gains . . . . .	22
5.2 Dividend Income . . . . .	23
5.3 Intermediate-Term Capital Appreciation . . . . .	24
5.4 Long-Term Capital Appreciation . . . . .	25
6 INVESTMENT STRATEGIES . . . . .	26
6.1 Portfolio Diversification . . . . .	26
6.1.1 Diversification through Types of Security . . . . .	28
6.1.2 Diversification through Number of Securities . . . . .	29
6.1.3 Diversification through Mutual Funds . . . . .	30
6.2 Use of Multiple Brokerage Houses . . . . .	33

**TABLE OF CONTENTS**  
(Continued)

<b>Chapter</b>	<b>Page</b>
7 INVESTMENT TACTICS . . . . .	36
7.1 Information Source . . . . .	36
7.1.1 Amount spent for Financial Information. . . . .	37
7.2 Securities Analysis Approach . . . . .	38
7.3 Sophisticated Market Operations . . . . .	39
7.3.1 Margin Accounts . . . . .	40
7.3.2 Put and Call Options . . . . .	41
7.3.3 Short Sales . . . . .	42
7.3.4 Convertible Bonds . . . . .	43
7.3.5 Warrants . . . . .	44
7.4 Amount of Time Spent in Analysis . . . . .	45
8 CONCLUSION . . . . .	46
APPENDIX . . . . .	49
WORKS CITED . . . . .	66

## LIST OF TABLES

<b>Table</b>	<b>Page</b>
1 Demographic Characteristics of Current Sample and Comparisons . . . . .	19
2 Average Total Portfolio Composition. . . . .	20
3 Importance of Short-Term Capital Gains as an Investment Objective by Educational Level (Cross-Classification Analysis). . . . .	22
4 Importance of Dividend Income as an Investment Objective by Investor's Age (Cross-Classification Analysis) . . . . .	23
5 Agreement on Diversification by Investor's Age (Cross-Classification Analysis) . . . . .	27
6 Number of Different Mutual Funds Currently Held by Educational Level (Cross-Classification Analysis) . . . . .	33
7 Agreement on Excessive Brokerage Commissions by Income Level (Cross-Classification Analysis). . . . .	35
8 Having Had more than One Brokerage Account in Last 5 Years by Income Level (Cross-Classification Analysis) . . . . .	35
9 Mean Usefulness of Information by Source . . . . .	36
10 Amount Spent Annually for Information by Information Type . . . . .	37
11 Mean Success Rate from Market Operations. . . . .	39
12 Success with Usage of Margin Accounts by Income Level (Cross-Classification Analysis) . . . . .	40
13 Success with Usage of Put and Call Options by Investor's Age (Cross-Classification Analysis) . . . . .	42
14 Hours per Month in Investment Analysis . . . . .	45

## LIST OF FIGURES

<b>Figure</b>	<b>Page</b>
1 Mean Importance of Investment Objectives . . . . .	21
2 Frequency Distribution of Diversification Agreement . . . . .	27
3 Average Common Stock Portfolio Composition . . . . .	29
4 Number of Different Firm's Stocks in Portfolio. . . . .	30
5 Number of Mutual Funds in Portfolio . . . . .	32
6 Frequency Distribution of Agreement on Excessive Brokerage Commissions. . . . .	34
7 Percentage of Each Investment Analysis Approach . . . . .	38

# CHAPTER 1

## INTRODUCTION

Some twenty years ago, the documentation of the withdrawing individual investor phenomenon brought to light the "changing of the guard" in the American equities market. The individual investor was relinquishing his role as a direct participant in the equities market place making way for the "all-mighty" institutional investor.

Soldofsky (1971) pointed out the continued shrinkage in the amount of stocks held by private individuals as the institutions were predicted to hold as much as fifty eight percent of the shares traded on the New York Stock Exchange by the year 2000. Klemkosky and Scott (1974) revealed the disenchantment of the individual investors with the common equities market as they were net sellers of common shares from 1960 to 1972. Klemkosky (1974) pointed out that the dominant players in the equities market in 1960 were the individuals while in 1971, the dominant players were the institutions.

In order to counter this phenomenon -- and quell the fears of a complete domination of the equities market by the institutions -- a complete understanding of individual investors' circumstances and decision making processes had to precede any action.

Unfortunately, at that time, virtually all of the documentation was inferential in nature. All that was known about the individual investor's circumstances were inferred from broad-based trading statistics. Not until the Individual Investor Research Project of 1974 (explained in chapter 2) was there a sufficiently in-depth examination of the individual investor and his investment behavior. This research effort discovered that investment behavior is, indeed, a direct and systematic function of personal circumstances, where statistically

significant socioeconomic cross-sectional patterns are observable. It was discovered that the individual's age, income level, and gender overrides occupation, marital status, family size, and educational background as significant influences on investment behavior.

The main reason for the current survey of individual investors is to see whether any significant changes in investment objectives, strategies, and tactics have evolved since the Individual Investor Research Project (IIRP). The findings of the current survey supports most of the IIRP's findings, in that, the individual investor continues to invest for the long-term with dividends remaining as an important feature for older investors and short-term capital gains remaining as an important feature for younger investors. Age and income levels continue to serve as significant influences on investment behavior, overriding family size and marital status. The main difference between the two surveys is that educational background and the occupational position of the individual investor now has significant influence on investment behavior, replacing the individual's gender as a significant influence.



## CHAPTER 2

### REVIEW OF THE LITERATURE

#### 2.1 The Individual Investor Research Project

The first major response to the aggregate documentation of the withdrawing individual investor phenomenon was the Individual Investor Research Project . The IIRP was part of a National Bureau of Economic Research study that resulted in at least six very important documents on individual investors' characteristics, behaviors, investment patterns, attitudes, and risk aversion between 1974 and 1978. The main researchers on the project were Ronald C. Lease, Wilbur G. Lewellen, and Gary G. Schlarbaum.<sup>1</sup>

The researchers obtained the names and addresses, and the trading histories of some 3,000 individuals from an anonymous brokerage house headquartered in New York City and subsequently mailed out 2,500 lengthy questionnaires (130 questions and 12 pages) in the summer of 1972. Approximately 1,000 questionnaires were returned and the researchers subsequently completed and published, at least, the following documents: "The Individual Investor: Attributes and Attitudes" (1974), "Individual Investor Risk Aversion and Investment Portfolio Composition" (1975), "Market Segmentation: Evidence on the Individual Investor" (1976), "Patterns of Investment Strategy and Behavior among Individual Investors" (1977), "The Common-Stock-Portfolio Performance Record of Individual Investors: 1964-70" (1978), and "Some Direct Evidence on the Dividend Clientele Phenomenon" (1978).

---

<sup>1</sup>Then, respectively, associate professor of finance at University of Utah, professor of management at Purdue University, and associate professor of management at Purdue University.

Each of the above papers scrutinized the individual investor from a unique point of view. "Attributes and Attitudes" took a two-fold approach of: (1) examining the demographic characteristics, investment strategy patterns, information sources, market attitudes and perceptions, and the framework of investor relations with brokerage houses, and (2) creating a historical record of portfolio position and realized investment returns. "Investor Risk Aversion" investigated the effects of wealth on the proportions of individual portfolio allocated to risky assets (p. 605). "Market Segmentation" offered evidence that the investment behavior of individual investors supports, in general, the notion that segmentation within the markets exists (p. 53). "Investment Strategy and Behavior" identified the systematic patterns of investment behavior exhibited by individuals and appraised the rationality of these patterns (p. 297). "Portfolio Performance Record" found that individual investors' returns are proportional to the amount of systematic risk assumed and that professional portfolio managers are no more successful at selecting securities than the individual investor (p. 429). "Dividend Clientele Phenomenon" looked at the role of differences in investors' tax rates on dividend receipts on firm's dividend policies (p. 1385).

## **2.2 Ante IIRP Documentation**

The trouble with most of the documentation prior to the IIRP is that they did not examine the individual from an empirical perspective, resulting in aggregate or second-hand inferences on investment circumstances. The notable exceptions that observed the individual investor's circumstances from a less aggregate point-of-view are Barlow et al. (1966), Potter (1971), and Baker and Haslem (1974).

Barlow et al. interviewed 957 individuals from around the U.S.A. to examine the roles of high income (\$10,000 and greater) individuals as investors (p. 1). As investors, the researchers found the individuals to have been very active in

the management of their portfolios (p. 4) which was comprised mostly of common stocks.

As workers, the sample represented hard working executives or professionals whose decisions about how much to work were dictated by the demands of his job or health, rather than by taxes or other purely pecuniary considerations (p. 2).

Capital gains was preferred to current yield by most high-income individuals as an investment objective. Safety and liquidity were also considered important, even at the higher levels of income. Only a few considered current yield to be more important than capital gains, and those individuals were less well informed.

Almost all of the sample had some of their wealth in the form of common stock, and common stock comprised the largest component of the portfolio for half of the entire high-income sample. The attractiveness of common stock was shown, too, by the fact that past and expected future changes in portfolio composition consisted largely of the substitution of common stock for fixed-yield assets. A major exception to this attitude towards stocks was evident among those individuals with the very highest incomes, who instead favored tax-exempt municipal bonds and certain other fixed-yield securities when they made adjustments to the composition of their portfolios. Many of the high-income individuals had invested in their own business; one-third had an ownership interest in a corporation that they managed; and one-fourth had an interest in an unincorporated enterprise.

Investment activity was fairly concentrated. A third of the high-income sample had neither purchased or sold stock, bonds, real estate, or unincorporated business interests during the 15 months prior to the survey. The active investors tend to be better informed about investment opportunities generally, less satisfied

with their present portfolios, and more conscious of taxes than those who were inactive. Investment activity increased with income up to a point, but quickly reached a ceiling. For those with income above \$150,000, activity was unrelated to income level - the very affluent may have had more assets to manage, but there was no more activity in managing them than those with somewhat lower incomes.

The sample's investment patterns were influenced by the purposes for which they accumulated or held wealth. The younger investors held investments mainly for their children's education; the middle-aged invested for retirement purposes; and the elderly accumulated wealth often to play the role of benefactor and for security (p. 3).

Potter, surveyed the individual investor to find out what his motivations were for investing in common stocks. He surveyed 515 individual investors from the Midwest and used factor analysis to dissect the then illusive, unknown, and disappearing direct participant in the equities market game.

The factor analysis revealed six significant independent factors that were associated with various demographic variables. The factors, in order of significance were: the desire for income from dividends; for rapid growth; for purposeful investment as a protective outlet for savings; for quick profits through trading; for professional investment management; and for long term growth. A few of the associated demographic variables, in no particular order, are: age; sex; marital status; number of shares of common stock; and number of shares traded (p. 46).

The desire for dividend income correlated with the sample's age -- the older the investor, the greater the desire; number of shares of common stock held presently -- the lesser the amount of shares, the greater the desire; and gender -- females expressed a greater desire for dividends than males. The second factor, the desire for rapid growth correlated with age -- the older the investor, the greater the

desire; and age of the youngest dependent of the sample -- the lesser the age of the youngest dependent, the greater the desire for rapid growth. The third factor, the desire for purposeful investment as a protective outlet for savings, correlated with value of shares traded -- the greater the value, the greater the desire; number of dependents -- the lesser the number, the greater the desire; family income -- the greater the family income, the greater the desire for purposeful investment as a protective outlet for savings. The desire for quick profits through trading was correlated with the number of shares traded -- the greater the number of shares traded, the greater the desire for quick profits; value of the shares traded -- the greater the value, the greater the desire; age -- the younger the investor, the lesser the desire; and level of education -- the less educated the investor, the greater the desire for quick profits through trading. The fifth factor -- the desire for professional investment management correlated with the number of years of investing -- the lesser the number of years, the greater the desire for professional investment management; and gender -- females expressed a greater desire for professional investment management than males. And the sixth -- the desire for long term growth correlated with ownership of residence -- investor with no residence ownership expressed a greater desire for long term growth; and amount of life insurance -- the lesser the amount of the life insurance, the greater the desire for long term growth.

Potter's paper verified the existence of various motives within an investor population, but most significantly, was the finding that dividends was an extremely important feature that investors seek when investing in common stocks (p. 48).

Baker and Haslem surveyed 851 investors from the metropolitan Washington, D.C. area searching for empirical evidence of selected socioeconomic characteristics' effects on the importance of risk and return from investment in common stocks (p. 469).

The authors chose age; sex; marital status; decision orientation; education; income; occupation; and portfolio size as expected influences on the individual investor's risk and return preferences (p. 470). Age was found to have played a significant role in the importance of dividend income. The younger investors placed less importance on dividends than the older investors. Sex was important in determining the significance of expected dividend yield and price stability. Females placed higher importance on expected dividend yields than males.

Decision orientation (whether or not investor makes his own investment decisions) had significant influence on the importance of expected dividend yield and expected price appreciation. Expected dividend yield was more important to those who sought assistance in investment decision making assistance; and expected price appreciation was important to those who did not. Marital status had significant impact on expected dividend yield. The separated, divorced, or widowed investors placed heavier importance on expected dividend yield than single or married investors (p. 471).

Educational level related significantly to the importance investors assign to price stability. Investors without college education assigned more importance to price stability than investors with college education (p. 472). Family income influenced only the importance assigned to expected dividend yield. Investors with family income of less than \$20,000 placed more importance on dividend income than investors with family income greater than \$20,000 (p. 473). Occupation and portfolio size were not found to be significantly related with any of the risk and returns variables (p. 475).

### **2.3 Post IIRP Documentation**

Since the IIRP, very little empirical research on individual investors' characteristics and situations has been done. This is mostly due to the great difficulty

in obtaining the necessary data to do an in-depth examination. The ideal source for information on the individual investor is the brokerage houses which are very reluctant to make available the necessary data. Only the researchers with an "insider" connection are able to secure names and addresses and transaction histories of the individuals. Nevertheless, a few researchers were able to secure the necessary information from brokerage houses or other sources and a brief description of their work follows.

In her paper, "Examining Psychological Traits of Passive and Active Affluent Investors," Mariyln MacGruder-Barnewall (1987) chose to look at individual investors from a psychographical, rather than the "overrated" demographical point-of-view. She analyzed 2000 questionnaires from affluent investors and observed another 2000 affluent investors in focus groups of 8 to 10 people (the research was done over the course of 13 years), to conclude that affluent investors can be categorized as active and passive investors.

She defined passive investors as investors who have come by their wealth passively, by inheritance, for example, and active investors as those who have earned their own wealth. She further concludes that passive investors have a higher need for security than they have for tolerance of risk, while active investors have a higher tolerance for risk than they have a need for security.

The two types of investors have different personality traits, according to Ms. Barnewall. She observed that passive investors will maintain 70 percent of their investments in a very secure mix of products and will take perceived risks with the remaining 30 percent. Active investors, on the other hand, will do the opposite. When passive investors are asked to rate themselves for risk tolerance on a 1 to 10 scale, they usually rate themselves at a 6, while active investors tend to rate themselves at a 4.

Using data from the IIRP and the Internal Revenue Service's *Statistics of Income*, Yunker and Krehbiel (1988) examined the "Investment Analysis by the Individual Investor." The researchers observed that the main source of income of the highest income taxpayers is income from investments (i.e., dividend and capital gains income), accounting for 65.5% of their total income. The other source of income is labor income of which the average was \$156,685 (p. 90). What the researchers found to be very surprising, was that despite investment income being the major source of income, investors do not devote a large amount of time to investment analysis.

The object of their paper was to show that investors have "learned from experience" that there is very little, or no reward from devoting a large amount of time to investment analysis. The researchers then theoretically formalize an exponential equation representing a "plateau productivity function" between investment analysis time and the rate of return on capital wealth (p. 92).

An asymptotic upper limit of returns on time spent on investment analysis was estimated. It was determined that to obtain, for example, 95 percent of the theoretical maximum rate of return on financial capital, about 4.3 hours of investment analysis time per month would be required (p. 100). From the IIRP sample, a mean analysis time of 9.2 hours per month was reported. This represented a mean 99.8 percent of theoretical maximum rate of return for the sample.

Despite of the productivity plateau function, the authors pointed out that stock brokers and dealers in financial institutions, anxious to attract customers, insist that lengthy analysis time and careful study of investment opportunities will usually result in very high rates of return on financial wealth.

Warren et al. (1990) examined 152 (out of 600) returned questionnaires from a southern metropolitan area and segmented the individual investor into light



or heavy investor categories (p. 75). Light investors generally held \$30,000 or less in total investment holdings while heavy investors held above \$30,000 in total investment holdings. The researchers found that investors demographics and lifestyles are good predictors of investor category.

The authors further verified that demographics is, indeed, a solid basis for segmenting the market for financial services. They also pointed out that failure to use lifestyles as another basis could result in missed opportunities for further market segmentation and possibly blur some real differences between individual investors and their financial services needs (p. 76).

In a more recent attempt to identify and explain the characteristics of individual investors is found in the study by Ramaswami et al. (1992). The researchers surveyed a consumer panel of 2,667 members from around the continental U.S. with household income of over \$25,000. The objective of the survey was to see whether the number and relative importance of savings objectives influence the way investment funds are allocated and whether if these objectives are systematically related to investor characteristics, such as family life cycle, resources, endowment, and risk aversion (p. 286).

The researchers concluded that the (1) relative importance of savings objectives vary as a function of life cycle stage, (2) investment objectives play an intervening role in determining portfolio composition, and (3) marginal contribution of investment objectives in explaining portfolio composition is significant (p. 303).

As is easily observed from the post IIRP documentation, the recent surveys of individual investors are few and varied in nature. If the objective was not to determine the personality traits of individual investors it was to determine the maximum amount of time the individual should spend in analysis. Or, if the objective was not to segment individual investors for marketing purposes, it was to

study the ways funds are allocated. Even though these empirical studies are valuable towards the ultimate understanding of the individual investor, none of them examined the fundamental of investing: why and how.

In the in the wake of the relatively little empirical research that has been done since the IIRP, this attempt is warranted. Although many aspects of the "withdrawing individual investor" phenomenon still remain unresearched, this effort will focus mainly on the changing investment objectives, strategies, and tactics of the individual investor.

## CHAPTER 3

### THE SAMPLE, QUESTIONNAIRE, METHODOLOGY AND, LIMITATIONS

As mentioned in the previous chapter, the ideal source for a sample of individual investors is the brokerage houses. For the present survey, the ten largest brokerage houses in New York City were solicited for such a sample. Seven of the ten responded to the request stating, more or less, that it was against their company's policy to give out confidential client information. They all closed their letters of response by wishing good luck in obtaining a sample.

#### 3.1 The Sample

A sample was later obtained from Agora, Inc., a Baltimore, MD based firm that specializes in the sale of mailing lists of all types. A sample of 2500 subscribers to *Adrian Day's Investment Analyst*, an investment newsletter (which offers expert insights and recommendations from investments in precious metals to money market instruments) was obtained from the firm. Since the purpose of the present study was for purely scholarly reasons, the sample was obtained free of charge.

The sample of 2500 names and addresses were selected from a population of approximately 35,000 using a simple technique called the  $n^{\text{th}}$  pick. That is, every  $n^{\text{th}}$  name was selected from the population. The value of  $n$  in this case was around 14 ( $35,000/2500$ ). Since the subscribers to the newsletter are from all fifty states, the 2500 names selected also included investors from all states.

The sample was further reduced (due to budgetary short-comings) to 1000 names. The simple  $n^{\text{th}}$  technique was employed once again with  $n$  being 3. With  $n$  being 3, the result was only 833 ( $1000/3$ ) names. The other 167 names were

selected at random from the remaining population in such a manner, that most states were represented, controlling for state size.

Of the 1000 questionnaires sent out in the summer of 1993, a moderate 13% was returned. This is a feat in its own right, since the respondents were offered nothing in return for their time and effort and the questionnaire was quite lengthy.

### **3.2 The Questionnaire**

The five pages and fifty six items that make up the instrument is a combination of the two questionnaires used in the original Individual Investor Research Project. The original researchers were more than generous in allowing the manipulation and use of their survey instruments. The fifty six items were divided into four parts: Facts about the Investor; Family Investment Patterns; Investment Appraisal; and Investment Orientation (see appendix for full instrument).

The first part, Facts about Investors, solicited mostly demographic information from the individual; the second, Family Investment Patterns, identified the head of the household and the family portfolio composition and size, among other things; the third, Investment Appraisal, asked the individual what type of investor does he/she consider him/herself and more; and the final part, Investment Orientation, solicited attitudes, and decision making approaches to investment. The instrument did not, however, solicit the individual's name, guaranteeing complete anonymity.

### **3.3 Methodology**

Simple Pearson's correlation will be the chief analytical tool employed in this paper. Pearson's correlation will be used to test the strength of linear relationships between seven demographic variables: sex, age, marital status, occupational position, household size, educational level, and income level and investment

objectives, strategies, and tactics. A strong correlation will indicate a significant demographic influence on a particular investment circumstance. It must be pointed out that the Pearson's correlation tests only the strength of the linear relationship and does not test whether one variable causes movement in the other (Weiss 1989, p. 528).

### **3.4 Limitations of Current Survey**

The author feels that it is important to point out any significant limitation on the current study. Besides the ever present limitation of the researcher's lack of control over the measurement situation, the only other significant limitations are: (1) nonresponse bias and (2) the possible problem of where the sample was drawn.

The above mentioned lack of control over measurement is a common problem found in questionnaire survey research. Because the researcher is not present while the questions are being answered, response rates for questionnaire surveys tend to be lower than for personal or telephone surveys. The intended respondent may not be the one who answers the questionnaire; order effects might appear because the respondent answers questions out of sequence; and the respondent may skip an awkward or difficult question, therefore, item nonresponse may be greater (Kervin 1992, p. 419).

The more significant limitation is that of nonresponse bias. Nonresponse bias is the under representation of segments of the population being studied. The author feels that there may very well be a case of nonresponse bias in the present survey. The younger investors failed to respond to the questionnaire due to a lack of time or a plain refusal to divulge personal information on themselves or their investing habits. No investor under the age of 21 responded to the questionnaire and only 2.3% of the sample is between the ages of 21 and 34.

The other significant limitation is that of the pool from which the sample was drawn. Since the sample was drawn from investors who subscribe to investment newsletters, it could be said that any findings put forth are endemic of only investors who subscribe to financial newsletters. So the sample may very well be nonrepresentative of the financial investors in general.

It will soon be discovered that the sample is an upwardly biased one, especially in the age and income variables. Despite the above mentioned limitations, the author feels that the current research offers valuable insights into a segment of the investing community, if not the entire population, since the aged and high income individuals make up a significant proportion of the investing populace.

## CHAPTER 4

### DEMOGRAPHY OF THE SAMPLE

A snap-shot of the sample reveals a heavily Caucasoid, male of mature years and who is relatively wealthy. A summary of the individual investor demographics can be seen in Table 1. More than four-fifths of the sample is male with a modal age of 65 and over. Only 7.7% of the sample is other than Caucasian. Almost 80% of the sample is married and is not employed (retired or semi-retired) or works for a for-profit business. For members of the sample who work, the modal occupational position is that of a professional. The sample is mostly an educated one, where over 70% have obtained a bachelor's degree or better. The modal income bracket is an impressive \$50,000 to \$100,000. The sample mostly lives in suburbia with a modal immediate family size of two.

The demographics of the current sample are significantly different from those of the 1990 NYSE survey in the age, sex, and income distributions, while relatively similar in the education and occupation distributions. Unlike the NYSE sample, the majority of the investors in the current sample are 65 and over, where the NYSE finds the majority of their sample to be between the ages of 45 and 64. But when compared with the original IIRP sample, the trend of the age distribution is very similar, that is, the investors increase in numbers as the age categories increase.

The sex distribution of the current sample has a lesser percentage of females than both of the other two samples. The NYSE also finds a greater number of unmarried in its sample than is found in the other samples. This is not surprising, since the NYSE also finds a greater number of younger investors in its

sample. Most of the current investors enjoy a higher income bracket than do the investors of the NYSE investors.

When the education level and occupational type distributions are compared between the current and NYSE samples, it is found to be very similar, even though the current sample has more post graduate scholars. An almost equal amount of professionals and proprietors are found in both samples, but a greater number of clerical and sales occupations are found in the NYSE sample. A greater number of nonemployed is found in the current sample, though. The main difference between the current and original samples is the residence location of the majority of investors. The majority of investors in the original sample lived in large cities, while the majority of the current sample lives in suburbia.



**Table 1** Demographic Characteristics of Current Sample and Comparisons

	Current Sample, 1993 <sup>a</sup>	Shareownership, 1990 <sup>b</sup>	IIRP Sample, 1974
Age:			
Under 21	0*	7.3*	< 1*
21 to 34	2.3	22.9	3
35 to 44	9.2	23.8	12
45 to 54	10.0	-	29
45 to 64	-	31.6	-
55 to 64	26.9	-	26
65 and over	51.5	14.4	30
Sex:			
Male	90.6	63.0	80
Female	9.4	37.0	20
Ethnicity: <sup>c</sup>			
Caucasian	92.3	-	-
Other	7.7	-	-
Marital Status:			
Married	78.3	68.5	80
Unmarried	21.7	31.5	20
Household Income: <sup>d</sup>			
Under \$25,000	8.1	16.4	Under \$5,000 2
\$25,000 to \$49,999	25.8	44.4	\$5,000 to \$9,999 8
\$50,000 to \$99,999	41.1	33.4	\$10,000 to \$14,999 15
\$100,000 to \$149,999	11.3	\$100,000 and over 5.8	\$15,000 to \$24,999 30
\$150,000 and over	13.8	-	\$25,000 and over 45
Education:			
High School or Less	14.0	24.1	23
Some College or BA/BS	51.9	53.6	54
Post Graduate	34.1	22.3	23
Occupation:			
Professional/Technical	23.8	23.0	27
Managerial/Proprietors	17.7	19.0	29
Clerical/Sales/Craft	8.8	15.5	7
Labor/Farmer	3.2	2.1	2
Nonemployed <sup>e</sup>	46.5	26.9	32
Residence Location:			
Large City	15.6	-	40
Small City	25.0	-	23
Suburban	38.3	-	30
Rural	21.1	-	7

\*Percentage.

<sup>a</sup>N = 130.<sup>b</sup>Survey of individual investors conducted by the New York Stock Exchange (NYSE).<sup>c</sup>The current survey is the only one to address the investor's ethnicity.<sup>d</sup>Income categories for the current and the NYSE surveys are almost identical, while the categories for the 1974 survey are smaller reflecting much lower numerical income levels, though not lower purchasing power.<sup>e</sup>Includes the retired and unemployed.

**Table 2** Average Total Portfolio Composition

Asset	Current Sample	% of Total*	IIRP Sample	% of Total*
Common stock	\$141,635	10.2	\$105,500	27.3
Preferred stock	19,810	1.4	5,100	1.3
Mutual funds	64,277	4.6	9,100	2.4
Govt. bonds	137,715	9.9	31,900	8.3
Corp. bonds	28,133	2.0	13,500	3.5
Warrants/put/call	4,280	.03	1,000	.3
Savings acct	37,240	2.7	22,900	5.9
Checking acct	13,963	1.0	4,200	1.1
Comm. futures	47,700	3.4	1,100	.3
Personal residence	164,305	11.9	49,900	12.9
Other real estate	302,071	21.8	59,800	15.5
Equity in own firm	203,300	14.7	49,600	12.8
Personal property	54,109	3.9	15,600	4.0
Life insurance	124,222	9.0	16,200	4.2
Other assets	40,045	2.9	6,800	1.8
Total	\$1,386,813	100%	\$386,200	100%

\*Percentages may not add-up to 100% due to rounding.

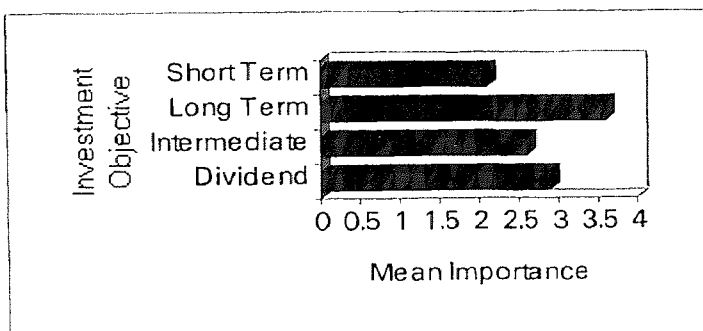
Table 2 reveals the portfolio composition differences between the current sample and the sample of twenty years ago. Since the average total portfolio size of the current sample is more than 300% greater (in numerical value, not purchasing power) than the original portfolio size, only a "percentage of total" comparison is meaningful. The significant negative differences between the two portfolios occur in the common stocks and warrants percentages, where common stocks accounted for more than 27% of the total portfolio twenty years ago, and only 10% of the total current portfolio; and warrants accounted for .3% twenty years ago and only .03% presently. Significant positive differences occur in the commodity futures, other real estate, and life insurance cash value percentages.

## CHAPTER 5

### INVESTMENT OBJECTIVES

In the original individual investor project, the researchers identified statistically significant socio-economic cross-sectional patterns which attested the belief that investment behavior is a direct and systematic function of personal circumstances. The main socio-economic variables were found to be age, income levels, and sex, which overrode occupation, marital status, family size, and educational background as significant influences (Lewellen et al. 1974, p. 304).

This chapter deals with the investment objectives of the current sample. That is, why does the sample put time and effort into the investment game. Four common investment objectives will be explored. These are : (1) short-term capital gains; (2) dividend income; (3) intermediate capital appreciation; and (4) long-term capital appreciation. The seven demographic variables will be correlated with each investment objective in search of significant linear relationships. The sample was asked to indicate the importance (1= irrelevant to 4 = very important) of each of four investment objectives. The average importance of each objective is shown in figure. 1.



**Figure 1** Mean Importance of Investment Objectives,

### 5.1 Short-Term Capital Gains

A short-term investment horizon is generally considered to be one year or less in length of time and capital gains are realized when a security's value appreciates.

The only demographic variable that correlates significantly with the short-term capital gains as an investment objective is the educational level of the investor. The relationship between the two variables is a negative one. That is, as the educational level of the investors increases, the reported importance of short-term capital gains as a portfolio objective decreases (table 3).

**Table 3** Importance of Short-Term Capital Gains as an Investment Objective by Educational Level (Cross-Classification Analysis)

Educational Level	Irrelevant	Slightly Important	Important	Very Important
Some College	.227*	.364	.227	.182
Bachelor's	.268	.439	.220	.073
Master's	.238	.429	.238	.095
Law Degree	1	<sup>a</sup>	-	-
Ph.D.	.200	.600	-	.200
Medical	.500	.375	.125	-

Pearson's Correlation Significance = .05; (.05 or less is considered significant and reads - there is only a 5% probability that the linear bivariate relationship occurred by chance)

\* I.e., 22.7% of the sample with, at most, some college education rates the importance of short-term capital gains as an investment objective as irrelevant.

<sup>a</sup>No response.

The 1974 study found age, regardless of sex, to have a strong negative influence on investors' attitude towards short-term capital gains as a portfolio objective. The researchers found that, the older the investor, the less the reported importance of short-term capital gains (Lewellen et al., 1977, p. 305). Baker and Haslem (1974, p. 471) found younger investors to be very interested in expected price appreciation -- implying the desire for short-term capital gains. Potter (1971, p.46) found the desire for quick profits through trading (short-term capital gains) to be negatively correlated with the age and educational levels of investors.

In the current survey, age is negatively correlated with short-term capital gains as an investment objective, but not significantly (the correlation significance stands at .32), however, the negative correlation between educational levels and short-term capital gains supports the findings of Potter.

## 5.2 Dividend Income

When asked of dividend income as an investment objective, the average reported importance was 2.9 (figure 1), indicating a relatively high importance of dividend income to the sample. Dividends are commonly obtained from investments in income generating securities, such as bonds, stocks, and mutual funds.

The demographic variables that correlate with dividend income as an investment objective are age, and occupational position. Both positively correlate with dividend income. The age of the individual investor is especially strongly correlated with dividend income, boasting a significance of  $< .0001$ . This translates into: the older the investor, the greater the importance of dividend income (table 4).

**Table 4** Importance of Dividend Income as a Portfolio Objective by Investor's Age (Cross-Classification Analysis)

Investor's Age	Irrelevant	Slightly Important	Important	Very Important
Under 45	.133	.600	.067	.200
45 to 54	.077	.538	.385	-
55 to 64	.032	.161	.548	.258
65 and Over	.039	.176	.373	.412

Pearson's Correlation Significance  $< .0001$

As can be seen from table 4, investors fifty-five years or older seem to place great importance on dividend income as an investment objective, while younger investors do the reverse. The sixty-five years and over investors -- the group from which most retirees are found -- place extremely high importance on dividend

income, with only 3.9% reporting dividend income as irrelevant and culminating with 41.2% reporting dividend income as very important.

This should not be surprising, since the older the investor, the more likely he/she is closer to retiring -- if not already retired -- and another source of income has to replace the soon to be lost, or already lost, labor income.

The significance of the bivariate relationship between age and importance of dividend income as an investment objective is in tune with the findings of Lewellen et al. (1974, p. 306), Baker and Haslem (1974, p. 471), and Potter (1971, p. 46).

The occupational position held by the sample also correlates strongly (.009) with dividend income as an investment objective. This relationship is a positive one revealing that as the sample's occupational position changes from that of professional or managerial (a white collared position) to that of clerical or labor intensive (a blue collared position), the importance of dividend income increases.

The female investors of the sample indicate a greater importance of dividend income than their male counterpart again supporting the findings of Baker and Haslem (1974, p. 471) and Potter (1971, p. 46). Family income levels of the sample correlates negatively with dividend income, in that, the lesser the reported family income of the investor, the greater the importance of dividend income. This supports findings by Lewellen et al. (1974, p. 306) but not Baker and Haslem (1974, p. 473) who found investors with increasing family income expressing greater desires for dividend income as an investment objective.

### **5.3 Intermediate-Term Capital Appreciation**

An intermediate-term investment horizon can be viewed as greater than one year but less than ten years in length of time. The sample indicated a mean importance of 2.5 (figure 1) for this objective.

The only variable to correlate strongly (.01) with investing for the intermediate-term is the age of the investors. This correlation is a negative one, revealing that the younger investors place more importance in intermediate-term capital appreciation than older investors.

#### **5.4 Long-Term Capital Appreciation**

Long-term investment horizons can be viewed as greater than ten years in length of time. The investor's age has a significant negative correlation with capital appreciation in the long-term, while his income and educational levels have significant positive linear relationships.

The sample indicated a mean importance of 3.6 (figure 1) which is by far the most important investment objective. It seems as though a long-term capital appreciation objective overrides all other investment objectives within the sample.

## CHAPTER 6

### INVESTMENT STRATEGIES

While the previous chapter explored the objectives behind investing, this chapter will examine the investment strategies employed to achieve those objectives. In other words, the general plan of action in order to be successful in the investment game will be examined.

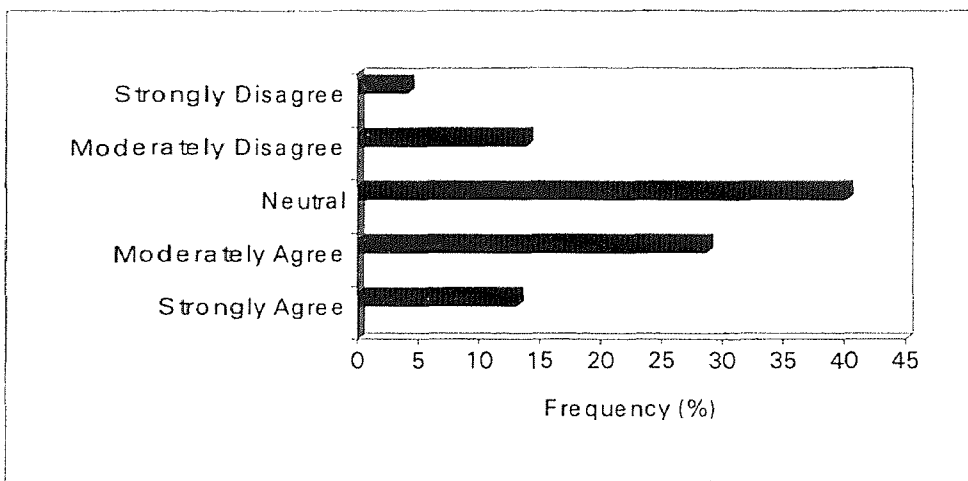
The sample's plan of action begins with portfolio diversification and follows with the usage of several brokerage houses. Portfolio diversification is commonly obtained through varying compositions of security types, the inclusion of many different securities, and the use of mutual funds. The usage of several brokerage houses implies that all brokerage houses are not created equal.

#### 6.1 Portfolio Diversification

Portfolio diversification is a central theme in modern portfolio theory -- the exploration of the risk-return trade-offs of portfolios (Bodie et al. 1989, p. 3). The idea behind portfolio diversification is the maximization of returns while controlling for risk, which every portfolio is exposed to. If an investor includes a wide variety of assets or types of assets in his or her portfolio, it has been proven that the portfolio's risk level will decrease substantially (Bodie et al. 1989, p. 138).

The sample was asked whether they agree with the following statement: "the degree of diversification within my portfolio is substantially more than that of the average investor." The mean agreement with the statement was 3.3 (from 1 = strongly disagree to 5 = strongly agree) and a frequency distribution of the responses can be seen in figure 2.





**Figure 2** Frequency Distribution of Diversification Agreement

The mean agreement with the above statement reveals a sample that believes in portfolio diversification. The younger investors seem to be more in agreement with the idea of portfolio diversification than the older investors. Sixty percent of the investors under the age of forty-five agree that their portfolio is more diversified than that of the average investor. On the other hand, the older investors are in less agreement (only 18% agree) that their portfolio is more diversified than that of the average investor (table 5).

**Table 5** Agreement on Diversification by Investor's Age (Cross-Classification Analysis)

Investor's Age	Strongly Agree	Moderately Agree	Neutral	Moderately Disagree	Strongly Disagree
Under 45	-	.133	.267	.467	.133
45 to 54	.077	.154	.462	.308	-
55 to 64	.030	.152	.364	.364	.091
65 and Over	.049	.131	.443	.197	.180

Pearson's Correlation Significance = .37

Since portfolio diversification is a relatively new concept, coming to life in the 1960s<sup>2</sup>, it stands to reason that the younger investors may be more susceptible to the power of portfolio diversification, thus their greater agreement with the

<sup>2</sup>William F. Sharpe, "Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk," *Journal of Finance*, 19 (Sept. 1964), pp. 425-42, and John Lintner, "Security Prices, Risk and Maximal Gains from Diversification," *Journal of Finance*, 20 (Dec. 1965), pp. 587-616, are generally honored as the preachers of the powers of portfolio diversification.

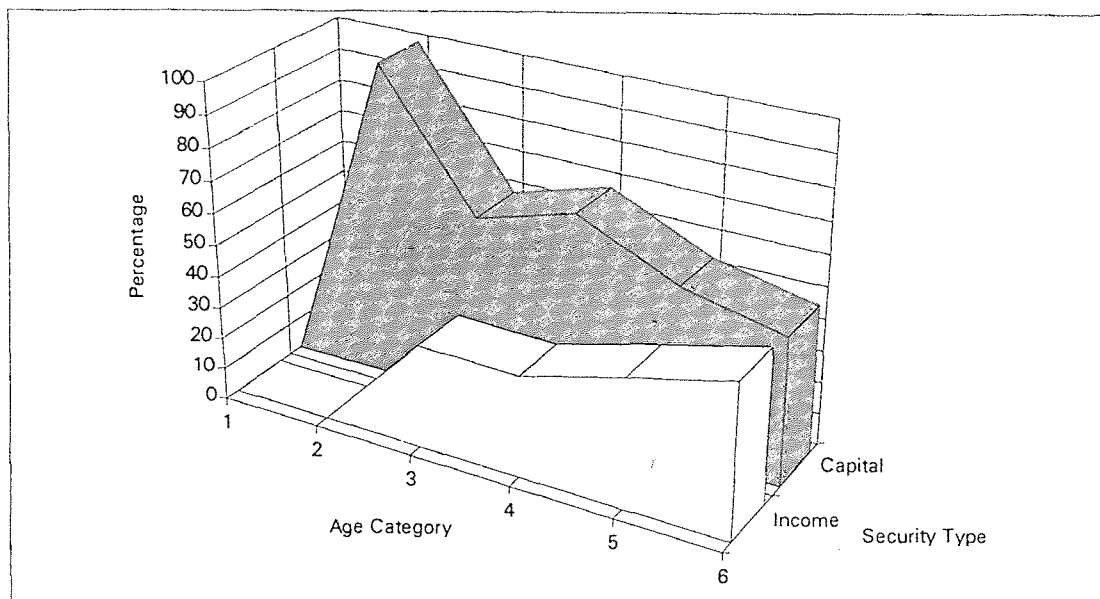
above statement. At the same time, this does not imply that older investors are non-believers in portfolio diversification.

### **6.1.1 Diversification through Types of Securities**

Of the total investment portfolio in the sample, common stocks represented an average of 35.4% of all risky assets within the portfolio. The sample was asked to indicate the percentage of both primarily income and primarily capital appreciation securities that make up their entire common stock portfolio. The average percentage of each security type by age of investor is seen in figure 3. A scatter plot of the various percentages of primarily income securities in the stock portfolio revealed a general trend of increasing percentages of income securities as the investor gets older. This should not be surprising, since it was revealed in the previous chapter that the older the investor, the greater the importance of dividend income as an investment objective. A significant percentage of income securities in a common stock portfolio is certainly the best way of securing dividend income.

Another scatter plot of primarily capital appreciation securities as a percentage in the common stock portfolio revealed a similar trend of a growing desire for capital appreciation as the sample's age increases. This, too, should not be a surprise, for the sample indicated that long term capital appreciation as an investment objective is extremely important (figure 1).

What can also be discerned from the two general trends in figure 3 is that, younger investors (age category 1 to 2 and 2 to 3 - "under 45 years old") have a greater percentage of primarily capital appreciation securities than income securities in their portfolio. This, no doubt, captures the younger investors who reported short-term capital gains as an important investment objective in the previous chapter.

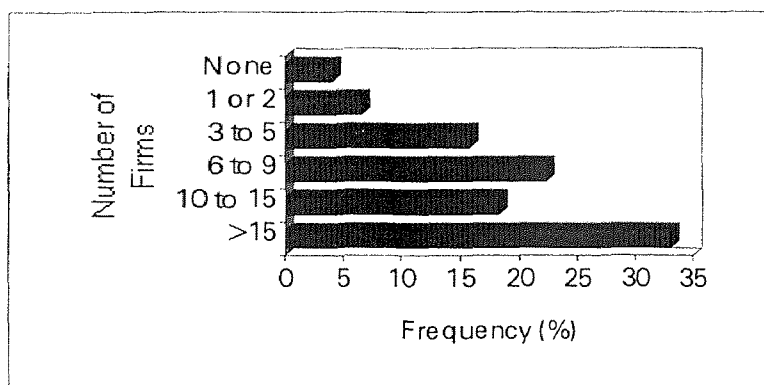


**Figure 3** Average Common Stock Portfolio Composition  
(where age category reads: 1 to 2 = under 34; 2 to 3 = 35 - 44; ... 5 to 6 = 65 and over).

### 6.1.2 Diversification through Number of Securities

Just as the types of securities (income or growth) can diversify or spread the risk of a portfolio, so can a number of different securities from different firms or industries. The main reason behind including securities from several different firms or industries in a portfolio is to reduce the firm or industry-specific risk of each security. Firm-specific or industry-specific risks are those risks that are endemic to the specific firm or industry. Besides these endemic risks, there are risks that originate from conditions in the general economy, business cycles; interest, inflation, and exchange rates (Bodie et al. 1989, p. 184). These risks are non-diversifiable through the usage of many different securities, since they are the uncontrollable risks of doing business.

Another testament of the sample's belief in the power of common stock portfolio diversification is discovered when the number of firms in which securities are currently held is displayed via a frequency distribution (figure 4).



**Figure 4** Number of Different Firms' Stocks in Portfolio

From figure 4, it is easily discerned that the sample's common stock portfolio is well diversified. The sample holds securities from an increasing number of different firms, save for the "10 to 15" firms category, culminating with the majority of the portfolios well diversified with stocks from more than 15 different firms.

### 6.1.3 Diversification through Mutual Funds

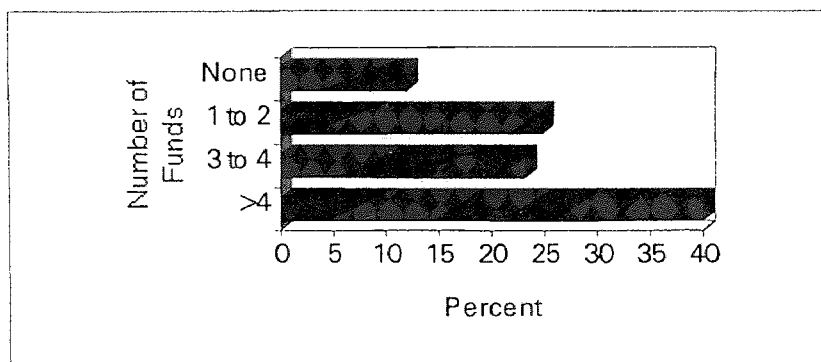
Yet another way to achieve portfolio diversification is through the use of mutual funds to supplement the common stock portfolio. Mutual funds pool the limited capital of small investors into large amounts, thereby gaining the advantages of large-scale trading; investors are assigned a prorated share of the total funds according to the size of their investment. This system gives small investors advantages they are willing to pay for via a management fee to the mutual fund manager. Mutual funds are logical extensions of an investment club or cooperative, in which the individuals themselves team up and pool funds. The fund sets up shop as a firm that accepts the assets of many investors, acting as an investment agent on their behalf (Bodie et al. 1989, p. 18).

Mutual funds became very prominent in the postwar period. Initially, growth was due almost entirely to savings flowing into equity funds. Over the

1952-70 period, mutual funds held an average of 87 percent of assets in stocks, but a set back in the late 1960s caused funds' equity holdings to fall throughout the 1970s. The fund industry responded by diversifying its investment offerings with the creation of money market funds in the early 1970s to capture the funds flowing out of the stock market, and later the creation of fixed income funds such as, tax-exempt municipal bond and junk bond funds in the 1980s. The growth of money and fixed-income funds have reduced the concentration of stocks in mutual funds portfolios. Thus, while stocks made up almost 90 percent of funds portfolios in 1970, the proportion has fallen to 29 percent in 1991 (Sellon 1992, p. 55).

Even though much research on the performance of funds over the years indicate that mutual funds' returns are negative or near zero, Grinblatt and Titman (1993, pp. 66-67) found some funds that provided abnormally higher returns than most other funds. These funds, especially aggressive growth funds, out performed others by persistently providing 2% - 3.5% annual gross return from 1976 to 1985.

In light of the immense growth and modest returns of mutual funds since the post war period, the use of mutual funds to supplement a self managed common stock portfolio is not only logical, but often profitable. It is no surprise, then, that the current sample has made ample use of mutual funds currently and in the past. Figure 5 shows the frequencies of the number of funds that supplement their common stock portfolios, where 40 percent of the sample indicates that there are more than four different funds that supplement their self managed common stock portfolio.



**Figure 5** Number of Mutual Funds in Portfolio

Occupational position held is the only demographic variable with a relatively strong (.09) correlation with the incidence of having owned shares in mutual funds. This relationship is a negative one, in that, as the sample's occupational position changes from white-collared to blue-collared, the incidence of ever owning mutual funds decreases. That is, the blue-collared sample members reported a greater incidence of having owned shares of mutual funds. Males within the sample also reported a slightly higher incidence of having owned mutual fund shares than the female sample members.

When it comes to the incidence of the number of mutual shares currently held, the sample's educational level correlates very strongly (table 6). The relationship is a positive one, where the higher the educational level of the investor, the greater the number of mutual fund shares currently held. Though not strongly correlated, the investor's income level also revealed a meaningful relationship with the number of mutual shares currently held. The higher the investor's income level, the greater the amount of different funds held.

**Table 6** Number of Different Mutual Funds Currently Held by Educational Level (Cross-Classification Analysis)

Educational Level	None	1 or 2	3 or 4	More than 4
Some College	.152	.364	.303	.182
Bachelor's	.100	.240	.180	.480
Master's	.160	.120	.240	.480
Law Degree	.500	-	.500	-
Ph.D.	-	.429	-	.571
Medical	-	.143	.429	.429

Pearson's Correlation Significance = .02

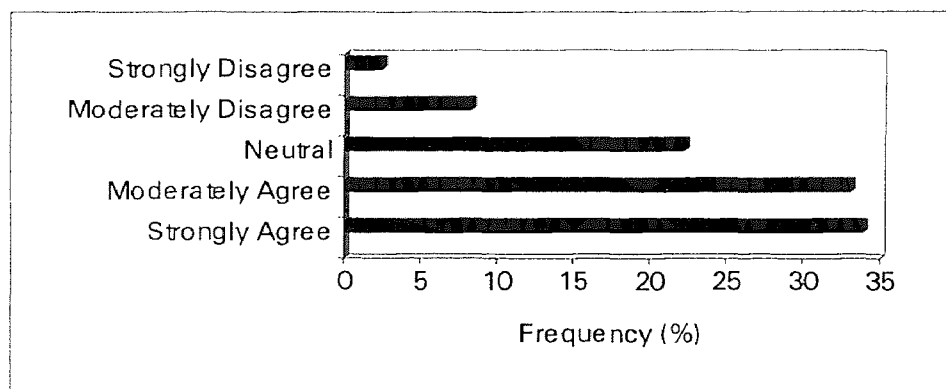
## 6.2 Use of Multiple Brokerage Houses

The second investment strategy employed by the sample is the use of multiple brokers. There are two types of brokerage houses: full-service and discount brokers. Full service brokers provide a variety of services including: executing orders, holding securities for safekeeping, extending margin loans, and facilitating short sales. Full-service brokers also provide information and advice relating to investment alternatives. Full-service brokers usually are supported by a research staff that issues analyses and forecasts of general economic, industry, and company conditions and also make specific buy and sell recommendations. Some customers allow a full service broker to make trading decisions for them by establishing a discretionary account. This step requires an unusual degree of trust on the part of the customer, because an unscrupulous broker can "churn" an account, that is, trade excessively, in order to generate commissions (Bodie et al. 1989, p. 95). A recent study reveals that highly aggressive and older investors preferred full-service brokers (Mobley and Nabil 1993).

Discount brokers, on the other hand, provide "no-frills" services. They buy and sell securities, hold them for safekeeping, offer margin loans, and facilitate short sales. The only information they provide about securities they handle consists of price quotations.

One important service that most brokers, both full-service and discount, offer their customers is an automatic cash management feature allowing cash generated from the sale of securities or from the receipt of dividends or interest to be almost immediately invested in a money market fund. This ensures that there will never be "idle" cash in the investor's account (Bodie et al. 1989, p. 95).

But all brokers are not created equal. Some outperform others, while some have better reputations and are in better financial conditions. But perhaps brokers vary most significantly in the commissions charged to carry out transactions. The sample was asked whether the commissions charged by brokerage firms are too excessive when compared with mutual funds management fees. Sixty-seven percent of the sample agrees with the statement (figure 6).



**Figure 6** Frequency Distribution of Agreement on Excessive Brokerage Commissions

Four of the seven demographic variables correlate very strongly with the statement "compared with mutual funds management fees, the brokerage commissions on common stocks are excessive," implying that excessive commissions may very well be the case. Older investors and blue-collared workers agree that brokerage commissions are indeed too excessive, and the less educated



and the less wealthy sample members also agrees. Table 7 reveals the cross-classified income versus agreement distribution.

**Table 7** Agreement on Excessive Brokerage Commissions by Income Level (Cross-Classification Analysis)

Income Level	Strongly Disagree	Moderately Disagree	Neutral	Moderately Agree	Strongly Agree
Under \$50,000	.026	.051	.154	.282	.487
\$50,000-\$99,999	.021	.063	.208	.375	.333
\$100,000-\$149,999	-	.143	.286	.429	.143
\$150,000-\$250,000	-	.112	.444	.444	-
Over \$250,000	.125	.250	.250	.125	.250

Pearson's Correlation Significance = .0005

To maximize the commission-performance trade-off, most the sample presently has accounts with more than one brokerage firm and has had more than one account for several years now. The male sample members reports a higher incidence of (presently and for the last five years) having more than one brokerage account with different firms than their female counterparts. Younger investors have had a greater number of different accounts in the past, but older investors reports having several accounts, presently. The higher income individuals reports having had many accounts in the past (table 8) and also presently.

**Table 8** Having Had more than One Brokerage Account in Last 5 Years by Income Level (Cross-Classification Analysis)

Income Level	Having > 1 Account	Not Having >1 Account
Under \$50,000	.550	.450
\$50,000-\$99,999	.560	.440
\$100,000-\$149,999	.714	.286
\$150,000-\$250,000	.667	.333
Over \$250,000	.875	.125

Pearson's Correlation Significance = .03

## CHAPTER 7

### INVESTMENT TACTICS

In the previous chapter, the strategies undertaken to satisfy the investment objectives were examined. This chapter will look at some of the tactics employed in order to make the strategies successful. That is, how does the individual investor tactically approach the investment process. After the desired information is gathered, the analytical approach chosen, and the necessary amount of time is spent in analyses, the call is made. The next step is then to sit back and await the fruits of the effort.

#### 7.1 Information Source

The respondents were asked to indicate the sources of necessary financial information and also the usefulness of that information. The sources of choice were: banks, brokerage houses, insurance companies, professional investment counselors, investment research subscriptions, and financial periodicals. The usefulness rating ranged from 1 = never useful to 4 = almost always useful. The most frequently indicated sources of information were financial periodicals and investment research subscriptions, with respective mean usefulness of 2.73 and 2.97 (table 9).

**Table 9** Mean Usefulness of Information by Source

Information Source	Mean Usefulness	Standard Deviation	Sample Size
Banks	1.21*	.61	112
Brokerage Houses	2.01	.75	118
Insurance Co.	1.20	.47	110
Professional Service	1.92	.94	106
Investment Research Sub.	2.97	.88	117
Financial Periodicals	2.73	.81	116

\* I.e., The average usefulness of information from banks is 1.21 out of 4.0

### 7.1.1 Amount Spent for Financial Information

Now that the sources and usefulness of financial information are known, let us take a look at the amount of money spent in obtaining that information. The respondents were asked to indicate the amount spent on subscriptions to investment and business periodicals (such as, *Wall Street Journal*, etc.), to advisory services (such as, *Value Line*, etc.), and to professional investment counseling. The modal category for the amount of money spent annually in obtaining each type of information is "\$100 to \$250," "more than \$250," and "spent nothing," respectively (table 10).

**Table 10** Amount Spent Annually for Information by Information Type

Information Type	Investment & Business Periodicals	Advisory Services	Investment Counseling
Amount of Money Spent			
Spent Nothing	.139*	.026	.721
Less than \$15	.037	.009	.033
\$15 to \$50	.213	.009	.016
\$50 to \$100	.157	.121	.033
\$100 to \$250	.269	.388	-
More than \$250	.185	.448	.197

\*I.e., 13.9% of the sample spent no money on subscriptions to investment or business periodicals.

The investor's educational level (.02) correlates strongly with the amount of money spent on professional research and counseling information. The higher the educational level, the greater the amount of money spent. Income level (.15), investor gender (.11), and size of the immediate household (.12) relates mildly significantly, revealing that as income levels and immediate family size increases, so does the amount of money spent on professional research and counseling. But, the sample's gender relates negatively indicating that females spend much less than men do on professional research and counseling.

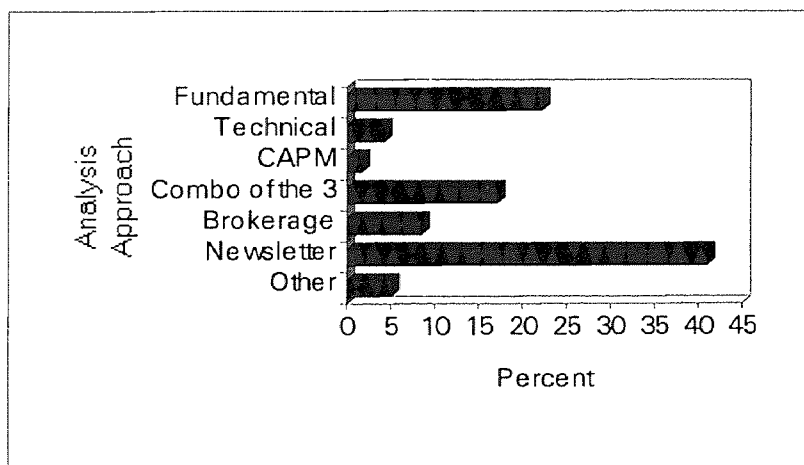
When it comes to advisory services such as, *Value Line* and investment newsletters, the only demographic variable correlating strongly is the investor's

income level (.03). The higher the income level of the sample, the greater the amount of money spent on advisory information. Age (.16) and marital status (.12) indicate that the older investors spends more that younger ones and the unmarried spends more than married ones on advisory information.

Income (.06) and educational (.09) levels correlate with the amount of money spent on popular financial periodicals such as, *Wall Street Journal* and *Business Week*. This implies that the respondents with higher income and educational levels relies on these popular periodicals for financial information.

## 7.2 Securities Analysis Approach

The sample was asked to indicate one of several basic approaches used in the evaluation of securities or reaching investment choices. The idea behind the question was to find out what type of analyst the individual thought he was. The frequencies of the approaches follows (figure 7).



**Figure 7** Percentage of Each Investment Analysis Approach  
(where: Combo of the 3 = Combination of Fundamental, Technical, and CAPM Approaches)

The demographic variables that correlate strongly with the analysis approach are age (.006), occupational position (.02), immediate household size

(.04), and income levels (.0009) of the sample. The investors' age and occupational position have significantly positive linear relationships with the investment approaches, while household size, and income levels are significantly negatively related.

As the investor's age increases, the securities approach moves from that of fundamental or technical analysis to reliance on investment newsletters for advisement. Also, as the investor's occupational position held moves from that of a professional or manager, the less the investors are fundamental or technical analysts and the more the reliance on advisement newsletters.

On the other hand, as the immediate household size or the income level increases, the less the reliance on paid investment newsletter and the more the investors choose the fundamental or technical approaches to securities analysis.

### 7.3 Sophisticated Market Operations

Another tactic employed, though infrequently, is the usage of sophisticated market operations such as, margin accounts; call and put options; short selling; the usage of convertible bonds; and warrants. The success rate for each market operation follows in table 11, where the range is 1 = very unsuccessful to 5 = very successful.

**Table 11** Mean Success Rate from Market Operations

Market Operation	Mean Success	Standard Deviation	Sample Size
Margin Acct.	3.34*	1.17	50
Calls & Puts	3.36	1.15	45
Short Sell	3.10	1.24	30
Conv. Bond	3.62	1.07	21
Warrants	2.85	1.30	33

\* I.e., The average success using Margin Accounts is 3.34 out of 5.0

### 7.3.1 Margin Accounts

The use of margin accounts is one way of investing on credit. Investors who purchase stocks on margin borrow part of the purchase price of the stock from their brokers. The brokers in turn borrow money from banks at the call money rate to finance these purchases, and charge their clients that rate plus a service charge for the loan. All securities purchased on margin must be left with the brokerage firm, because the securities are used as collateral for the loan (Bodie et al. 1989, p.86). If the value of the securities decline below a maintenance margin, a margin call is sent out, requiring a deposit to bring the net worth of the account up to the appropriate level. If the margin call is not met, regulations mandate that some or all of the securities be sold by the broker and the proceeds used to reestablish the required margin (Bodie et al. 1989, p. 171).

**Table 12** Success with Usage of Margin Accounts by Income Level  
(Cross-Classification Analysis)

Income Level	Very Unsuccessful	Somewhat Successful	Neutral	Somewhat Successful	Very Successful
Under \$50,000	.125	.063	.313	.438	.063
\$50,000-\$99,999	.105	.368	.053	.368	.105
\$100,000-\$149,999	-	-	.333	.333	.333
\$150,000-\$250,000	-	-	.250	.500	.250
Over \$250,000	-	.200	-	.400	.400

Pearson's Correlation Significance = .03

The investor's age (.01), income level (.03), and educational background (.03) are strongly correlated with the success of investing on margin. The older or more educated the investor, the greater the reported success with investing on margins. The success rate is also greater with the increase in the investor's income levels, table 12. This makes sense, for the higher the income level of an investor, the greater the chance of meeting the very likely margin call.

### 7.3.2 Put and Call Options

Puts and calls are two popular derivative market instruments that provide payoffs that depend on the value of other assets. A call option gives the holder the right to purchase an asset for a specified price, called the exercise or strike price, on or before a specified expiration date. For example, A July call option on IBM stock with an exercise price of \$120 entitles its owner to purchase IBM stock for a price of \$120 at any time up to and including the expiration date in July. The holder of the call need not exercise the option; it will be profitable to exercise the option only if the market value of the asset that may be purchased exceeds the exercise price, or \$120.

When the market price exceeds the exercise price, the option holder may "call away" the asset for the exercise price and reap a profit equal to the difference between the stock price and the exercise price. Otherwise, the option the option will be left unexercised. If not exercised before the expiration date of the contract, the option simply expires and no longer has value.

In contrast, a put option gives its holder the right to sell an asset for a specified exercise price on or before a specified expiration date. A July put on IBM with an exercise price of \$120 thus entitles its owner to sell IBM stock to the put writer at a price of \$120 at any time before expiration in July, even if the market price of IBM is lower than \$120. Whereas profits on call options increase when the asset increases in value, profits on put options increase when the asset value falls. The put is exercised only if its holder can deliver an asset worth less than that of the exercise price in return for the exercise price (Bodie et al. 1989, p. 68).

**Table 13** Success with Usage of Put and Call Options by Investor's age  
(Cross-Classification Analysis)

Investor's Age	Very Unsuccessful	Somewhat Successful	Neutral	Somewhat Successful	Very Successful
Under 45	.286	.286	.429	-	-
45 to 54	-	.167	.333	.500	-
55 to 64	.083	-	.167	.500	.250
65 and Over	.050	.150	.200	.450	.150

Pearson's Correlation Significance = .008

The investor's age (table 13) and occupational position (.05) are the only variables that correlate strongly with the success rating of put and call usage. Both relationships are positive ones with the success rate increasing as the age increases and the occupational positions change from white-collared to blue-collared.

### 7.3.3 Short Sales

A short sale allows investors to profit from a decline in a security's price. In this procedure an investor borrows shares of stock from another investor through a broker and sells the shares. Later, the investor (the short seller) must repurchase the shares in the market in order to replace the shares that were borrowed. This is called covering the short position. If the stock price has fallen, the shares will be repurchased at a lower price than that at which they were initially sold, and the short seller reaps a profit. Short sellers must not only return the shares, but also give the lender any dividends paid on the shares during the period of the short sale, because the lender of the shares would have received the dividends directly from the firm had the shares not been lent.

Exchange permits short sales only after an "uptick", that is, only when the last recorded change in the stock price is positive. This rule apparently is meant to prevent waves of speculation against the stock. In other words, the votes of no confidence in the stock that short sales represent may be entered only after a price increase.



Exchange rules require that proceeds from a short sale must be kept on account with the broker. The short seller, therefore, cannot invest these funds to generate income. In addition, short sellers are required to post margin (essentially collateral) with the broker to ensure that the trader can cover any losses sustained should the stock price rise during the period of the short sale (Bodie et al. 1989, p. 89).

Investor's sex (.04) and educational levels (.02) are strongly correlated with the success the sample had with in selling stocks short. The females in the sample reports a lower success rate with short selling than the males. The greater the educational level of the sample, regardless of gender, the greater the success with short selling.

#### **7.3.4 Convertible Bonds**

Convertible bonds convey an option to bond holders to exchange each bond for a specified number of shares of common stock of the firm. The conversion ratio gives the number of shares for which each bond may be exchanged. Suppose that a convertible bond that is issued at par value of \$1,000 is convertible into 40 shares of a firm's stock. The current stock price is \$20 per share, so the option to convert is not currently profitable. However, should the stock price later rise to \$30, each bond may be converted into \$1,200 worth of stock. The market conversion value is the current value of the shares for which the shares may be exchanged. At the \$20 stock price the bond's conversion value is \$800. The conversion premium is the excess of the bond value over the conversion value of the bond.

Thus convertible bonds give their holders the ability to share in price appreciation of a company's stock. Of course, this benefit comes at a price; convertible bonds offer lower coupon rates and promised yields to maturity than do nonconvertible bonds. At the same time, the actual return on the convertible

bond may exceed the stated yield to maturity if the option to convert becomes profitable (Bodie et al 1989, p. 406).

Even though the use of convertible bonds is less sophisticated a market operation, it is sometimes used as a supplemental tool to realize desired investment objectives. Within the sample, income (.003) and educational levels (.04) correlate negatively with the short selling strategy. That is, as both income and educational levels of the sample increase, the reported success with short selling decreases.

### **7.3.5 Warrants**

A warrant is a security giving its holder the option to purchase stock from a firm at a specified price up until the expiration date. Warrants are essentially call options issued by a firm. One important difference between calls and warrants is that exercise of a warrant requires the firm to issue a new share of stock to satisfy its obligation - the total number of shares increases. Exercise of a call option requires only that the writer of the call deliver an already issued share of stock to discharge the obligation. In this case, the number of shares outstanding remains fixed. Also, unlike call options, warrants result in a cash flow to the firm when the exercise price is paid by the warrant holder. These differences mean that warrant values will differ somewhat from the values of call options with identical terms.

Like convertible bonds, warrant terms may be tailored to meet the needs of the firm. Also like convertible debt, warrants generally are protected against stock splits and dividends in the exercise price and the number of warrants held are adjusted to offset the effects of the split.

Warrants are often issued in conjunction with another security. Bonds, for example, may be packages together with a warrant "sweetener," frequently a warrant that may be sold separately. This is called a detachable warrant.

Age (.003) and occupational position (.01) of the sample are strongly correlated with warrants usage as an investment tactic. Both age and occupational position are significantly positively correlated with the success of warrant usage. As the investor's age increases and the occupational position changes from white-collared to blue-collared, the reported success with warrants increases.

Besides the common strategy of "buy and hold" (on the average, the sample neither agrees or disagrees that the investor who trades regularly will fare better than the investor who buys and holds securities), the sample has been relatively successful with the above mentioned sophisticated market operations. With age correlating significantly positively with all but the success with convertible bonds, it seems as though the experience with such operations obtained over the years may have had an important role to play in the success of those operations.

#### 7.4 Amount of Time Spent in Analysis

After the information is gathered, the sample takes a modal "5 to 10" hours per month in analyzing the information and making the appropriate decisions. Yunker and Krehbiel (1988, p. 100) found that a maximum of 4.3 hours per month should be spent in order to realize 95 percent of a theoretical maximum rate of return on ones capital wealth. From table 14, it is easily discerned that this sample spends a much longer time in investment analysis that what Yunkel and Krehbiel (1988) recommends.

**Table 14** Hours per Month in Investment Analysis

Hours per Month	Frequency
Less than 3 hours	.128*
3 to 5 hours	.168
5 to 10 hours	.296
10 to 20 hours	.248
20 to 30 hours	.096
More than 30 hours	.064

\* I.e., 12.8% of the respondents spends less than 3 hours per month in investment analysis

## CHAPTER 8

### CONCLUSION

If the typical investor from the sample had to be described, that individual would be a Caucasian male, sixty five years or older, educated and married, presently nonemployed, but enjoys an annual income between \$50,000 to \$100,000 who lives in suburbia. This is not by a long shot the description of the average investor from the investing population (see table 1 - column entitled "Shareownership 1990" - for a closer look at the average investor).

The typical investor from the current sample invests for the long-term while dividends remain an important feature for older investors and short-term capital gains remain an important feature for younger investors. He believes in portfolio diversification and the use multiple brokers as broad investment strategies. He spends between \$350 to \$500 annually on financial information gotten from investment research subscriptions and popular periodicals. He usually relies on paid-for information before he makes investment decisions and has had above average success with sophisticated market operations, such as margin accounts, put and call options, short selling, and especially with convertible bonds. An average of five to ten hours per month is put into investment analysis from which an average of 6% to 10% annual return is usually realized.

From the 1974 research effort, the significant influences on investment behavior were found to be the investor's age, income level, and gender. The younger investors reported a greater interest in short-term capital gains, and older investors reported a greater interest in dividend income, while a great majority, regardless of age, indicated that long-term capital appreciation was paramount. The lower income investors found dividends to be very important to them, while

the higher income investors found the heavy tax burden from dividends receipts to reduce their attractiveness. The investor's gender had particularly strong influence on information gathering and decision making behaviors. Male investors placed greater importance on information gathered from paid external research while female investors placed greater importance on information gotten from their brokers. The males also claimed to do most of their own security analysis while most of the female investors delegated this task to their brokers (Lewellen et al. 1977, p. 305, 311).

The findings of the current research support the original findings of age and income levels as significant influences on investment behavior, but contradicts gender as a significant influence. That is, the younger investors continue to find short-term capital gains very important and older investors continue to find dividends to be particularly important; and the higher income investors continue to find dividend receipts unattractive for tax reasons. The educational background and the occupational position of the investors now serve as significant influences on investment behavior.

The educational level of the investors correlates very strongly with investment objectives -- where the less educated investors find a short-term capital gains horizon to be important and the more educated investors find a long-term capital appreciation to be important; with investment strategies -- where the less educated investors have a greater number of different firm's securities in their portfolio and the more educated investors have a greater number of mutual funds' shares in their portfolio; and investment tactics -- where the less educated investors spend less time in security analysis and have had poor results with sophisticated market operations, especially the use of convertible bonds, while the more educated investors have had particularly good results with the use of margin accounts.

The occupational position of the investors correlates very strongly with investment objectives -- where the blue-collared investors express a greater interest in of dividend income than their white-collared counterparts; with investment strategies -- where the white-collared investors hold a lesser number of different firm's securities in their portfolios than their blue-collared counterparts; and with investment tactics -- where the blue-collared investors spend more time in securities analysis than their white-collared counterparts.

Tables A, B, and C (appendix ) give a tabulated summary of the correlation significance statistics of the seven demographic variables with each investment objective, strategy, and tactic. Also, in the appendix, there is a table for each important (at the .10 level of significance) cross-classified bivariate distribution that is not included in the body of the paper.

## **APPENDIX**

Part 1 The Individual Investor Research Questionnaire

Part 2 Summary of Correlation Significance Statistics

Part 3 Significant Cross-Classified Distributions

## PART 1

### The Individual Investor Research Questionnaire

#### I. Facts About the Investor

A. Sex:  Male  Female

B. Age:  Under 21  21-25  26-34  35-44  
 45-54  65 and over

C. Ethnicity:  American Indian/ Alaskan Native  Hispanic  
 Asian or Pacific Islander  White, Non-Hispanic  
 Black, Non-Hispanic

D. Marital Status:  Married  Unmarried

E. Occupation:

1. Type of organization in which employed:

Business  Government  
 Non-Profit Organization  Not presently employed

2. Type of position held:

Professional and Technical  
 Managerial  
 Proprietor  
 Sales  
 Homemaker  
 Operative and Labor  
 Farm Owner  
 Service worker  
 Clerical  
 Craftsman, Foreman, and Kindred Worker  
 Retired  
 Student  
 Not Employed

F. Number of persons in immediate family:

G. Ages of dependent children:



## H. Education:

- |   |  |
|---|--|
| <input type="checkbox"/> Attended high school | <input type="checkbox"/> Master's Degree       |
| <input type="checkbox"/> High School Diploma  | <input type="checkbox"/> Law Degree            |
| <input type="checkbox"/> Some College         | <input type="checkbox"/> Ph. D., or equivalent |
| <input type="checkbox"/> Bachelor's Degree    | <input type="checkbox"/> Medical Degree        |

## I. Income Bracket:

- |  |   |
|--|---|
| <input type="checkbox"/> Under \$15,000  | <input type="checkbox"/> \$50,000-99,999    |
| <input type="checkbox"/> \$15,000-19,999 | <input type="checkbox"/> \$100,000-149,999  |
| <input type="checkbox"/> \$20,000-24,999 | <input type="checkbox"/> \$150,000-250,000  |
| <input type="checkbox"/> \$25,000-49,999 | <input type="checkbox"/> \$250,000 and over |

## J: Community:

- Large city    Small city    Suburban    Rural

## II. Family Investment Patterns

## A. Which person living in your household is considered "head of household"?

- You    Your spouse    Other Male    Other female

## B. Which of the following best describes the extent of your personal participation in investment decisions?

- You are primarily responsible  
 You and spouse equally responsible  
 Several family members responsible  
 Someone in household makes decisions for you

## C. Do you currently have joint holdings of common stock of mutual funds shares?

- Yes    No

## D. Other than such joint holdings, who else in household currently owns stocks or mutual funds?

- No one    Spouse    Parents    Children    Other

## E. For each type of investment owned or held jointly, please indicate approximate value.

- |  |   |
|--|---|
| <input type="checkbox"/> Common stocks     | <input type="checkbox"/> Commodity futures        |
| <input type="checkbox"/> Preferred stocks  | <input type="checkbox"/> Life insurance           |
| <input type="checkbox"/> Mutual funds      | <input type="checkbox"/> Home or residence        |
| <input type="checkbox"/> Municipal bonds   | <input type="checkbox"/> Other real estate        |
| <input type="checkbox"/> Corporate bonds   | <input type="checkbox"/> Interest in own business |
| <input type="checkbox"/> Warrants/Put/Call | <input type="checkbox"/> Personal possessions     |
| <input type="checkbox"/> Savings account   | <input type="checkbox"/> Other                    |
| <input type="checkbox"/> Checking account  |   |

## III. Investment Appraisal

A. What annual percent rate of return, before taxes, do you think is attainable from investments in common stocks?

- |                                 |                                    |
|---------------------------------|------------------------------------|
| <input type="checkbox"/> 0-5%   | <input type="checkbox"/> 16-20%    |
| <input type="checkbox"/> 6-10%  | <input type="checkbox"/> 21-25%    |
| <input type="checkbox"/> 11-15% | <input type="checkbox"/> Above 25% |

B. Which of the following basic approach do you most frequently take in securities evaluation?

- Fundamental approach
- Technical approach
- Capital asset pricing model
- Combination of the three
- Rely primarily on stock broker's recommendations
- Rely primarily on paid investment newsletter
- Other

C. Rate the usefulness with each of the following sources of financial information, where: 4=almost always useful, 3=generally useful, 2=occasionally useful, and 1=never useful.

- |  |   |
|--|---|
| <input type="checkbox"/> Banks                             | <input type="checkbox"/> Brokerage houses                   |
| <input type="checkbox"/> Insurance Co.                     | <input type="checkbox"/> Professional investment counselors |
| <input type="checkbox"/> Investment research Subscriptions | <input type="checkbox"/> Financial periodicals              |

D. Rate the success with each of the following market operation, where: 5=very successful, 4=somewhat successful, 3=neutral, 2=somewhat unsuccessful, and 1=very unsuccessful.

- margin accounts
- Put & call options
- Short selling
- Convertible bonds
- Warrants

E. Indicate the percentage of (1) primarily income securities and (2) primarily capital appreciation securities in your portfolio.

- % Income securities
- % Capital Appreciation securities
- 100 % Total

F. Approximately what percentage of your total portfolio is made up of common stocks?

G. Over the past five years, what has been your before tax portfolio returns?

- |   |   |
|---|---|
| <input type="checkbox"/> above 25% return | <input type="checkbox"/> 1-5% loss      |
| <input type="checkbox"/> 16-25% return    | <input type="checkbox"/> 6-10% loss     |
| <input type="checkbox"/> 11-15% return    | <input type="checkbox"/> 11-15% loss    |
| <input type="checkbox"/> 6-10% return     | <input type="checkbox"/> 16-25% loss    |
| <input type="checkbox"/> 1-5% return      | <input type="checkbox"/> Above 25% loss |

H. Approximately how many hours do you spend in investment analysis?

less than 3 hours       10 to 20 hours  
 3 to 5 hours       20 to 30 hours  
 5 to 10 hours       More than 30 hours

I. Approximately how much do you spend on the following:

	Periodicals	Advisory Service	Research & Counseling
Nothing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Less than \$15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
\$15 to \$50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
\$50 to \$100	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
\$100 to \$250	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
More than \$250	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

J. Please indicate the importance of each of the following objectives for investing in common stocks, where: 4=very important, 3=Important, 2=Slightly important, and 1=Irrelevant.

Short-term capital gains       Long-term capital appreciation  
 Intermediate capital appreciation       Dividend income

K. In how many different corporations do you currently own stock?

none       6 to 9  
 1 or 2       10 to 15  
 3 to 5       more than 15

L. Have you ever owned shares in mutual funds?  yes  No

M. In how many funds do you currently own shares?

none       1 or 2       3 or 4       more than 4

N. Have you maintained an account with more than one brokerage house during the past five years?  Yes  No

O. Do you presently have an account with more than one brokerage house?

Yes       No

## IV. Investment Orientation

Please rate your agreement with the following statements, where: 5=strongly agree, 4=moderately agree 3=neutral, 2=moderately disagree, and 1=strongly disagree.

- \_\_\_\_\_ Individuals who manages their own portfolios are likely to fare better than those who do not.
- \_\_\_\_\_ The level of risk in your portfolio is substantially lower than that of the average investor.
- \_\_\_\_\_ Mutual funds are too diversified.
- \_\_\_\_\_ The financial condition of many brokerage houses are not very good.
- \_\_\_\_\_ Institutional investors have a stabilizing effect on financial markets.
- \_\_\_\_\_ The individual who trades more frequently is likely to fare much better that the investor who holds for the long-term.
- \_\_\_\_\_ Compared with mutual funds management fees, brokerage commissions on common stocks are excessive.
- \_\_\_\_\_ The degree of diversification in your portfolio is substantially greater than that of the average investor.
- \_\_\_\_\_ Brokerage houses differ a great deal.

## PART 2

## Summary of Correlation Significance Statistics

Table A Demographic Variables v. Investment Objectives

Objectives	Gender	Age	Marital	Occupation	House Size	Education	Income
Short-Term	(-) .46*	(-) .32	.22	(-) .47	.47	(-) .04	(-) .44
Dividends	.06	.0000	.18	.0086	(-) .18	(-) .25	(-) .09
Intermediate	.37	(-) .01	(-) .45	(-) .06	.43	(-) .32	.33
Long-Term	(-) .10	(-) .05	.47	(-) .15	.17	.02	.01

\*.05 or less is considered a significant correlation; (-) indicates a negative bivariate correlation

Table B Demographic Variables v. Investment Strategies

Strategies	Gender	Age	Marital	Occupation	House Size	Education	Income
Diversification	(-) .12	(-) .36	.25	(-) .07	.11	.21	.10
# of Stocks	(-) .46	.19	(-) .16	.05	(-) .27	(-) .03	.30
Mutual Funds	(-) .36	(-) .34	.30	(-) .35	(-) .47	.01	.21
Brokers	.18	(-) .17	(-) .22	(-) .22	.31	.43	(-) .10

Table C Demographic Variables v. Investment Tactics

Tactics	Gender	Age	Marital	Occupation	House Size	Education	Income
Information Source							
Banks	.38	.33	.12	.06	(-) .13	(-) .02	(-) .21
Brokers	.04	(-) .35	.13	(-) .30	(-) .12	.18	.47
Insurance Co.	.40	(-) .35	(-) .49	.05	.24	(-) .20	(-) .18
Counselors	.26	(-) .04	(-) .29	.19	.35	(-) .08	.37
Researchers	(-) .39	(-) .29	(-) .40	(-) .19	.14	.44	.36
Periodicals	.22	(-) .05	.24	(-) .24	(-) .03	.14	.33
Subscriptions							
Research	(-) .11	(-) .43	.43	.44	.12	.02	.15
Advice	(-) .28	.16	(-) .12	.33	.37	.21	.02
Periodicals	.38	.36	.43	.49	(-) .41	.09	.06
Approach	.25	.006	(-) .41	.02	(-) .04	(-) .07	(-) .0009
Mkt Operation							
Mrgins	.28	.01	.35	.42	(-) .28	.03	.03
Calls & Puts	.07	.008	.42	.05	(-) .16	.12	.13
Short Sell	(-) .04	.17	(-) .43	(-) .33	(-) .20	.12	.13
Conv. Bond	-	(-) .34	.30	(-) .47	.27	(-) .04	(-) .003
Warrants	.43	.003	.35	.01	.19	.17	.17
Analysis Time	(-) .46	.19	(-) .16	.05	(-) .27	(-) .03	.30

## PART 3

## Significant Cross-Classified Distributions

**Table 1** Importance of Dividend Income by Investor's Gender (Cross-Classification Analysis)

Gender	Irrelevant	Slightly Important	Important	Very Important
Male	.063	.281	.396	.260
Female	-	.182	.364	.455

Pearson's Correlation Significance = .06

**Table 2** Importance of Long-Term Capital Appreciation by Investor's Gender (Cross-Classification Analysis)

Gender	Irrelevant	Slightly Important	Important	Very Important
Male	.011	.042	.263	.684
Female	-	.182	.273	.545

Pearson's Correlation Significance = (-) .10; where (-) indicates a negative bivariate correlation

**Table 3** Importance of Intermediate-Term Capital Appreciation by Investor's Age (Cross-Classification Analysis)

Investor's Age	Irrelevant	Slightly Important	Important	Very Important
Under 45	-	.071	.643	.286
45 to 54	-	.308	.615	.077
55 to 64	.100	.367	.367	.167
65 and over	.200	.222	.400	.178

Pearson's Correlation Significance = (-) .01

**Table 4** Importance of Long-Term Capital Appreciation by Investor's Age (Cross-Classification Analysis)

Investor's Age	Irrelevant	Slightly Important	Important	Very Important
Under 45	-	-	.267	.733
45 to 54	-	-	.231	.769
55 to 64	-	.097	.226	.677
65 and over	.020	.060	.320	.600

Pearson's Correlation Significance = (-) .05

**Table 5** Importance of Dividend Income by Investor's Occupation (Cross-Classification Analysis)

Occupation	Irrelevant	Slightly Important	Important	Very Important
Professional	.071	.286	.536	.107
Managerial	-	.300	.500	.200
Proprietor	-	.500	.250	.250
Sales	.167	.333	.333	.167
Homemaker	-	-	-	1.00
Operative	-	1.00	-	-
Farmer	-	1.00	-	-
Service	1.00	-	-	-
Clerical	-	-	.500	.500
Craftsman	-	-	1.00	-
Retired	.045	.182	.295	.477

Pearson's Correlation Significance = .009

**Table 6** Importance of Intermediate-Term Capital Appreciation by Investor's Occupation (Cross-Classification Analysis)

Occupation	Irrelevant	Slightly Important	Important	Very Important
Professional	-	.286	.500	.214
Managerial	.111	.111	.778	-
Proprietor	.125	.500	.125	.250
Sales	.333	-	.333	.333
Homemaker	-	-	1.00	-
Operative	-	1.00	-	-
Farmer	-	-	1.00	-
Service	-	1.00	-	-
Clerical	-	-	.500	.500
Craftsman	-	1.00	-	-
Retired	.225	.200	.400	.175

Pearson's Correlation Significance = (-) .06

**Table 7** Importance of Short-Term Capital Gains by Investor's Education Level (Cross-Classification Analysis)

Education	Irrelevant	Slightly Important	Important	Very Important
Some College	.227	.364	.227	.182
Bachelor's	.268	.439	.220	.073
Master's	.238	.429	.238	.095
Law Degree	1.00	-	-	-
Ph.D / Equivalent	.200	.600	-	.200
Medical Degree	.500	.375	.125	-

Pearson's Correlation Significance = (-) .04



**Table 8** Importance of Short-Term Capital Gains by Investor's Education Level  
(Cross-Classification Analysis)

Education	Irrelevant	Slightly Important	Important	Very Important
Some College	.038	.038	.346	.577
Bachelor's	-	.089	.267	.644
Master's	-	-	.333	.667
Law Degree	-	-	-	1.00
Ph.D / Equivalent	-	.167	-	.833
Medical Degree	-	-	.125	.875

Pearson's Correlation Significance = .02

**Table 9** Importance of Dividend Income by Investor's Income Level (Cross-Classification Analysis)

Income Level	Irrelevant	Slightly Important	Important	Very Important
Under \$50,000	.083	.167	.333	.417
\$50,000-99,999	.047	.302	.419	.233
\$100,000-149,999	.077	.231	.385	.308
\$150,000-250,000	-	.556	.333	.111
Over \$250,000	-	.333	.500	.167

Pearson's Correlation Significance = (-) .09

**Table 10** Importance of Long-Term Capital Appreciation by Investor's Income Level  
(Cross-Classification Analysis)

Income Level	Irrelevant	Slightly Important	Important	Very Important
Under \$50,000	.029	.057	.371	.543
\$50,000-99,999	-	.070	.279	.651
\$100,000-149,999	-	-	.333	.667
\$150,000-250,000	-	.111	.111	.778
Over \$250,000	-	-	-	1.00

Pearson's Correlation Significance = .01

**Table 11** Agreement on Portfolio Diversification by Investor's Occupation (Cross-Classification Analysis)

Occupation	Strongly Disagree	Moderately Disagree	Neutral	Moderately Agree	Strongly Agree
Professional	-	.138	.276	.448	.138
Managerial	-	.200	.500	.200	.100
Proprietor	-	.182	.273	.273	.273
Sales	.167	.167	.333	.167	.167
Homemaker	-	-	1.00	-	-
Operative	-	-	1.00	-	-
Farmer	-	.333	-	.667	-
Service	1.00	-	-	-	-
Clerical	-	-	-	.500	.500
Craftsman	-	-	.333	.667	-
Retired	.060	.140	.480	.200	.120

Pearson's Correlation Significance = (-) .07

**Table 12** Agreement on Portfolio Diversification by Investor's Income Level (Cross-Classification Analysis)

Income Level	Strongly Disagree	Moderately Disagree	Neutral	Moderately Agree	Strongly Agree
Under \$50,000	.105	.105	.421	.237	.132
\$50,000-99,999	-	.163	.449	.306	.082
\$100,000-149,999	-	.214	.214	.357	.214
\$150,000-250,000	-	.222	.333	.333	.111
Over \$250,000	.125	-	.250	.375	.250

Pearson's Correlation Significance = .10

**Table 13** Number of Different Firms' Stocks in Portfolio by Investor's Occupation (Cross-Classification Analysis)

Occupation	None	1 or 2	3 to 5	6 to 9	10 to 15	More than 15
Professional	.071	.071	.143	.179	.179	.357
Managerial	-	.111	.111	.444	.222	.111
Proprietor	-	-	.077	.308	.231	.385
Sales	.167	.333	-	-	.167	.333
Homemaker	-	1.00	-	-	-	-
Operative	-	-	1.00	-	-	-
Farmer	-	-	-	.333	-	.667
Service	-	-	-	1.00	-	-
Clerical	-	-	-	-	.500	.500
Craftsman	-	-	.333	-	.333	.333
Retired	.040	.040	.220	.220	.160	.320

Pearson's Correlation Significance = .05

**Table 14** Number of Different Firms' Stocks in Portfolio by Investor's Educational Level (Cross-Classification Analysis)

Education	None	1 or 2	3 to 5	6 to 9	10 to 15	More than 15
Some College	-	.188	.125	.250	.188	.250
Bachelor's	.063	.042	.125	.167	.188	.417
Master's	.095	-	.238	.333	.190	.143
Law Degree	-	-	-	-	-	1.00
Ph.D / Equivalent	-	.286	-	.143	-	.571
Medical Degree	-	-	-	.111	.136	.250

Pearson's Correlation Significance = (-) .03

**Table 15** Presently Having more than One Brokerage Account by Investor's Income Level  
(Cross-Classification Analysis)

Income Level	More than One Account	Not Having More than One Account
Under \$50,000	.457	.543
\$50,000-99,999	.476	.524
\$100,000-149,999	.750	.250
\$150,000-250,000	.667	.333
Over \$250,000	.500	.500

Pearson's Correlation Significance = (-) .10

**Table 16** Amount Spent on Professional Research Subscriptions by Investor's Educational Level  
(Cross-Classification Analysis)

Education	Nothing	< \$15	\$15 to \$50	\$50 to \$100	\$100 to \$250	> \$250
Some College	.833	-	-	-	-	.167
Bachelor's	.733	.033	-	.033	-	.20
Master's	.750	.083	-	.083	-	.083
Law Degree	-	-	-	-	-	-
Ph.D / Equivalent	.333	-	-	-	-	.677
Medical Degree	.500	-	.167	-	-	.333

Pearson's Correlation Significance = .02

**Table 17** Amount Spent on Financial Periodicals by Investor's Educational Level  
(Cross-Classification Analysis)

Education	Nothing	< \$15	\$15 to \$50	\$50 to \$100	\$100 to \$250	> \$250
Some College	.214	-	.143	.429	.071	.143
Bachelor's	.114	.045	.273	.114	.227	.227
Master's	.136	.045	.136	.091	.455	.136
Law Degree	-	-	-	1.00	-	-
Ph.D / Equivalent	-	-	-	.400	.200	.400
Medical Degree	.143	-	.286	-	.429	.143

Pearson's Correlation Significance = .09

**Table 18** Amount Spent on Advisory Services by Investor's Income Level  
(Cross-Classification Analysis)

Income Level	Nothing	< \$15	\$15 to \$50	\$50 to \$100	\$100 to \$250	> \$250
Under \$50,000	.054	-	-	.216	.378	.351
\$50,000-99,999	.022	-	-	.130	.500	.348
\$100,000-149,999	-	-	-	-	.167	.833
\$150,000-250,000	-	-	.111	-	.333	.556
Over \$250,000	-	.125	-	-	.125	.750

Pearson's Correlation Significance = .02

**Table 19** Amount Spent on Financial Periodicals by Investor's Income Level  
(Cross-Classification Analysis)

Income Level	Nothing	< \$15	\$15 to \$50	\$50 to \$100	\$100 to \$250	> \$250
Under \$50,000	.152	.030	.273	.152	.273	.121
\$50,000-99,999	.186	.047	.163	.209	.279	.116
\$100,000-149,999	.083	.083	.250	.167	.083	.333
\$150,000-250,000	-	-	.250	.125	.250	.375
Over \$250,000	.125	-	.250	-	.375	.250

Pearson's Correlation Significance = .06

**Table 20** Securities Analysis Approach by Investor's Age (Cross-Classification Analysis)

Investor's Age	Fundamental	Technical	CAPM	Combo.	Broker	Newsletter	Other
Under 45	.467	-	-	.133	.067	.267	.067
45 to 54	.333	-	-	.333	-	.333	-
55 to 64	.219	.031	.031	.219	.094	.375	.031
65 and over	.138	.069	.017	.121	.103	.483	.069

Pearson's Correlation Significance = .006

**Table 21** Securities Analysis Approach by Investor's Household Size (Cross-Classification Analysis)

Household #	Fundamental	Technical	CAPM	Combo.	Broker	Newsletter	Other
One	.286	.048	.048	.190	.095	.286	.048
Two	.136	.061	-	.136	.106	.500	.061
Three	.400	-	.067	.133	.067	.267	.067
Four	.286	-	-	.286	-	.429	-
Five	.200	-	-	.600	-	.200	-
Six	1.00	-	-	-	-	-	-
Seven	1.00	-	-	-	-	-	-

Pearson's Correlation Significance = (-) .04

**Table 22** Securities Analysis Approach by Investor's Educational Level (Cross-Classification Analysis)

Education	Fundamental	Technical	CAPM	Combo.	Broker	Newsletter	Other
Some College	.129	.065	-	.161	.161	.387	.097
Bachelor's	.205	.068	.023	.205	.045	.432	.023
Master's	.280	-	.040	.200	.040	.400	.040
Law Degree	-	-	-	-	-	-	1.00
Ph.D/ Equivalent	.429	-	-	-	.100	.429	-
Medical Degree	.375	-	-	.125	.125	.375	-

Pearson's Correlation Significance = (-) .07

**Table 23** Securities Analysis Approach by Investor's Income Level (Cross-Classification Analysis)

Income Level	Fundamental	Technical	CAPM	Combo.	Broker	Newsletter	Other
Under \$50,000	.075	.050	.025	.075	.125	.575	.075
\$50,000-99,999	.333	.022	-	.178	.089	.333	.044
\$100,000-149,999	.200	-	-	.100	.100	.600	-
\$150,000-250,000	.222	.111	-	.444	-	.222	-
Over \$250,000	.375	.125	.125	.250	-	.125	-

Pearson's Correlation Significance = (-) .0009

**Table 24** Success with Margin Accounts by Investor's Age (Cross-Classification Analysis)

Investor's Age	Very Unsuccessful	Somewhat Unsuccessful	Neutral	Somewhat Successful	Very Successful
Under 45	.200	.600	-	.200	-
45 to 54	.111	.111	.222	.444	.111
55 to 64	.083	.167	.333	.333	.083
65 and over	.042	.125	.167	.458	.208

Pearson's Correlation Significance = .01

**Table 25** Success with Margin Accounts by Investor's Educational Level (Cross-Classification Analysis)

Education	Very Unsuccessful	Somewhat Unsuccessful	Neutral	Somewhat Successful	Very Successful
Some College	.286	.286	.143	.143	.143
Bachelor's	-	.143	.286	.429	.143
Master's	-	.167	.083	.583	.167
Law Degree	-	-	-	-	-
Ph.D/ Equivalent	-	.333	-	.333	.333
Medical Degree	-	-	1.00	-	-

Pearson's Correlation Significance = .03

**Table 26** Success with Put & Call Options by Investor's Gender (Cross-Classification Analysis)

Gender	Very Unsuccessful	Somewhat Unsuccessful	Neutral	Somewhat Successful	Very Successful
Male	.093	.140	.256	.395	.116
Female	-	-	-	-	1.00

Pearson's Correlation Significance = .07

**Table 27** Success with Short Selling by Investor's Gender (Cross-Classification Analysis)

Gender	Very Unsuccessful	Somewhat Unsuccessful	Neutral	Somewhat Successful	Very Successful
Male	.039	.207	.207	.379	.103
Female	1.00	-	-	-	-

Pearson's Correlation Significance = (-) .04

**Table 28** Success with Convertible Bonds by Investor's Educational Level (Cross-Classification Analysis)

Education	Very Unsuccessful	Somewhat Unsuccessful	Neutral	Somewhat Successful	Very Successful
Some College	-	-	.333	.333	.333
Bachelor's	.091	.182	.364	.273	.091
Master's	-	-	-	1.00	-
Law Degree	-	-	-	-	-
Ph.D / Equivalent	-	-	-	-	-
Medical Degree	-	-	-	-	-

Pearson's Correlation Significance = (-) .04

**Table 29** Success with Convertible Bonds by Investor's Income Level (Cross-Classification Analysis)

Income Level	Very Unsuccessful	Somewhat Unsuccessful	Neutral	Somewhat Successful	Very Successful
Under \$50,000	-	-	.143	.571	.286
\$50,000-99,999	-	-	-	1.00	-
\$100,000-149,999	-	.333	.333	-	.333
\$150,000-250,000	-	.333	.333	-	.333
Over \$250,000	.333	-	.667	-	-

Pearson's Correlation Significance = (-) .003

**Table 30** Success with Purchase Warrants by Investor's Age (Cross-Classification Analysis)

Investor's Age	Very Unsuccessful	Somewhat Unsuccessful	Neutral	Somewhat Successful	Very Successful
Under 45	.600	.400	-	-	-
45 to 54	.500	-	.500	-	-
55 to 64	-	.125	.375	.500	-
65 and over	.167	.167	.222	.278	.167

Pearson's Correlation Significance = .003

**Table 31** Hours in Security Analysis by Investor's Occupation (Cross-Classification Analysis)

Occupation	< 3 hours	3 to 5	5 to 10	10 to 20	20 to 30	> 30 Hours
Professional	.167	.200	.200	.367	.067	-
Managerial	.300	.200	.200	.200	.200	.100
Proprietor	.154	.154	.385	.154	.077	.077
Sales	-	-	.600	.200	-	.200
Homemaker	-	-	1.00	-	-	-
Operative	-	-	1.00	-	-	-
Farmer	-	-	.667	.333	-	-
Service	-	-	1.00	-	-	-
Clerical	-	-	.500	.500	-	-
Craftsman	-	-	-	.500	.500	-
Retired	.100	.180	.280	.200	.140	.100

Pearson's Correlation Significance = .05

**Table 32** Hours in Security Analysis by Investor's Educational Level (Cross-Classification Analysis)

Education	< 3 hours	3 to 5	5 to 10	10 to 20	20 to 30	> 30 Hours
Some College	.125	.125	.438	.250	.063	-
Bachelor's	.080	.120	.300	.320	.100	.080
Master's	.160	.240	.160	.280	.080	-
Law Degree	-	.500	.500	-	-	-
Ph.D / Equivalent	.286	-	.286	.286	.143	-
Medical Degree	.250	.375	.250	-	.125	-

Pearson's Correlation Significance = (-) .03

## WORKS CITED

- Baker, Kent H. and John A Haslem. "The Impact of Investor Socioeconomic Characteristics on Risk and Return Preferences." *Journal of Business Research* 2 (October 1974): 469-477.
- Barlow, Robin, Harvey E. Brazer, and James N. Morgan. *Economic Behavior of the Affluent*. Wash. D.C.: The Brookings Institute, 1966.
- Barnewall, Marilyn MacGruder. "Examining the Personality Traits of Passive and Active Affluent Investors." *Journal of Financial Planning* 1 (October 1988): 70-74.
- Bodie, Zvi, Alex Kane, and Alan J. Marcus. *Investments*. Harewood, IL: Irwin, 1989.
- Cohn, Richard A., Wilbur G. Lewellen, Ronald C. Lease, and Gary G. Schlarbaum. "Individual Investor Risk Aversion and Investment Portfolio Composition." *Journal of Finance* 30 (May 1975): 605-620.
- Grinblat, Mark and Sheridan Titman. "Performance Measurement without Benchmarks: An Examination of Mutual Funds Returns." *Journal of Business* 66 (1993): 47-68.
- Kervin, John B. *Methods for Business Research*. New York: Harpercollins Publishing Inc., 1992.
- Klemkosky, Robert C. "Institutional Dominance of the NYSE." *Financial Executive* (November 1973):14-20.
- Klemkosky, Robert C. and David F. Scott, Jr. "Withdrawal of the Individual Investor from the Equities Market." *MSU Business Topics* (Spring 1973): 7-14.
- Lease, Ronald C., Wilbur G. Lewellen, and Gary G. Schlarbaum. "The Individual Investor: Attributes and Attitudes." *Journal of Finance* 29 (May 1974): 419-433.
- Lease, Ronald C., Wilbur G. Lewellen, and Gary G. Schlarbaum. "Market Segmentation: Evidence on the Individual Investor." *Financial Analysts Journal* (September-October 1976): 53-60.
- Lewellen, Wilbur G., Kenneth L. Stanley, Ronald C. Lease, and Gary G. Schlarbaum. "Some Direct Evidence on the Dividend Clientele Phenomenon." *Journal of Finance* 33 (December 1978): 1385-1399.



**WORKS CITED**

(Continued)

- Lewellen, Wilbur G., Ronald C. Lease, and Gary G. Schlarbaum. "Patterns of Investment Strategy and Behavior among Individual Investor." *Journal of Business* 50 (July 1977): 296-333.
- Potter, Roger E. "An Empirical Study of Motivations of Common Stock Investors." *Southern Journal of Business* 6 (July 1971): 41-48.
- Ramaswami, Sridhar N., Rajendra K. Srivastava, and Thomas H. McIntish. "An Exploratory Study of Portfolio Objectives and Asset Holdings." *Journal of Economic Behavior and Organization* 19 (1992): 287-306.
- Schlarbaum, Gary G., Wilbur G. Lewellen, and Ronald C. Lease. "The Common-Stock-Portfolio Performance Record of Individual Investors: 1964-70." *Journal of Finance* 33 (May 1978): 429-441.
- Sellon, Gordon H. "Changes in Financial Intermediation: The Role of Pension and Mutual Funds." *Economic Review (Federal Reserve Bank of Kansas City)* 3rd Quarter (1992): 54-70.
- Soldofsky, Robert M. *Institutional Holdings of Common Stock, 1900-2000*. University of Michigan Press, 1971.
- Warren, William E., Robert E. Stevens, and C. William McConkey. "Using Demographic and Lifestyle Analysis to Segment Individual Investors." *Financial Analysts Journal* (March-April 1990): 74-77.
- Weiss, Neil A. *Elementary Statistics*. Reading, Mass.: Addison-Wesley Publishing Co., 1989.
- Yunker, James A. and Timothy L. Krehbiel. "Investment Analysis by the Individual Investor." *Quarterly Review of Economics and Business* 28 (Winter 1988): 90-101.