
AN ANALYSIS OF THE PROFILES AND MOTIVATIONS OF HABITUAL COMMODITY SPECULATORS

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The focus of this study is the habitual speculator in commodity futures markets. The speculator's activity broadens a market, creates essential liquidity, and performs an irreplaceable pricing function. Working knowledge of the profiles and motivations of habitual speculators is essential to both market theorists and policy makers.

Responses to a 73-question survey were collected directly from retail commodity brokers with offices in Alabama. Each questionnaire recorded information on an individual commodity client who had traded for an extended period of time.

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The typical trader studied is a married, white male, age 52. He is affluent and well educated. He is a self-employed business owner who can recover from financial setbacks. He is a politically right-wing conservative involved in the political process. He assumes a good deal of risk in most phases of his life. He is both an aggressive investor and an active gambler.

This trader does not consider preservation of his commodity capital to be a very high trading priority. As a result, he rarely uses stop loss orders. He wins more frequently than he loses (over 51% of the time) but is an overall net loser in dollar terms. In spite of recurring trading losses, he has never made any substantial change in his basic trading style.

To this trader, whether he won or lost on a particular trade is more important than the size of the win or loss. Thus he consistently cuts his profits short while letting his losses run. He also worries more about missing a move in the market by being on the sidelines than about losing by being on the wrong side of a market move; that is, being in the action is more important than the financial consequences. Participating brokers confirmed that for the majority of the speculators studied, the primary motivation for continuous trading is the recreational utility derived largely from having a market position.

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INTRODUCTION

The continuous small scale futures speculator is a critical player in commodity markets. This market participant is recognized as a significant source of liquidity in the markets, yet has remained an elusive figure for commodity market researchers. The bulk of speculative futures orders originate off the exchange floors and are entered through commission house firms; these off-exchange speculative orders account for the majority of speculative trading volume [Chicago Board of Trade (CBOT), 1977]. Based on market data from an eighteen-year period, Rockwell (1967) concluded that "regular traders" (as opposed to one time or near one time traders who exited the market) account for 46% of all contract volume. A Chicago Board of Trade study (1983–1984) revealed an increasing relationship between the number of years a speculator had traded and his transaction volume during a particular quarter; 51% of traders with ten or more transactions in the quarter studied had more than five years trading experience. However, Peck (1981) arrived at the alarming conclusion that in spite of the tremendous overall growth in commodity markets, speculation had in fact declined significantly on the three largest agricultural futures markets over a fifteen-year period. Peck's work calls for researchers to learn more about the speculator's motivations in order to effectively assess their continuing role in the markets.

In spite of their large share in market volume, the profile and motivation of the habitual speculator are not well understood. On the one hand, the traditional regulatory literature views the public futures trader as ill prepared, unsophisticated, unaware of the risks, and undercapitalized (Draper, 1985); such a profile is used to justify calls for strict regulation. On the other hand, most economic theory models the speculators' behavior as rational (that is, they are assumed to be risk averse, profit-motivated investors) (Baker et al., 1977). The sample studied in this article contradicts both these profiles: On the one hand, they appear to be financially sophisticated, well educated, and well capitalized; on the other, they do not appear to be especially risk averse, and are probably not trading solely for profit.

Over the past five decades much more research attention has been directed toward the returns of speculators than toward their behavior and motivations. A series of studies since the 1940s has yielded a consistent picture of speculative account performance. Beginning with Stewart's (1949) pioneering study and continuing through Hartzmark's (1991) article, four general conclusions have emerged: (i) When commissions are included, total net losses over any time frame substantially exceed total net gains; (ii) the average trade loss consistently exceeds the average trade profit; (iii) there are a significant number of one time (or near one time) traders. [Hieronymus (1971) found that 37% of all accounts surveyed were one time traders]; (iv) losses are consistently allowed to run while profits are cut short. [Ross (1975) found that losing positions were held on average twice as long as winning positions.]

A related and rapidly-growing literature examines the performance of managed futures investments (for example, Elton, Gruber, and Rentzler, 1987; Schneeweis, Savanayana, and McCarthy, 1991; Irwin, Krukemyer, and Zulauf, 1993). In contrast to traditional, self-directed speculators, managed futures investors place their monies in funds, pools, or individual accounts where futures trading is directed by a professional trading advisor. Based on this body of research, Irwin (1996) suggests the following key stylized facts about managed futures performance: (i) Net excess returns (above the treasury bill return) are about 6% per year, and are "high" in comparison to expectations based on efficient market models and other evidence on the forecasting ability of speculators (referenced above); (ii) the riskiness of returns, about 20% per year for portfolios of managed futures investments, is also "high," ranging between 40% and 270% greater than broadly diversified positions in the underlying futures; (iii) the distribution of returns is highly skewed to the right, resulting in a low median relative to the mean; (iv) trend-following technical systems

are widely used to make trading decisions; and (v) widely diversified portfolios of futures markets are traded.

The objectives of this study are two fold: (i) To examine data on the profiles, life styles, tendencies, perspectives, motivations, and trading styles of small veteran commodity traders to determine what, if any, norms characterize a habitual trader; and (ii) to determine any relationship between certain demographic observations and the market involvement and financial performance of these traders. Socioeconomic as well as other phenomena are analyzed to shed light on how the habitual trader functions economically, socially, and politically. The focus then shifts to the relationship between demographic characteristics and futures market participation and ultimate monetary results. Overall, this approach parallels that taken in the recent literature on "behavioral finance" (for instance, Thaler, 1993).

The project population is defined as "habitual commodity speculators currently doing brokerage business with an exchange member firm through a retail office in the state of Alabama." (Alabama was chosen as the area of study due to the fact that the lead author works in the brokerage industry in the state.) A commodity "speculator" is defined as a brokerage client whose trading activity cannot be directly linked to any discernible hedging function. A "habitual" commodity speculator is defined as a speculator who has traded for a minimum of three calendar years and who has had a minimum of twelve "round turn" transactions over that period.

Retail commodity brokers employed by member firms in Alabama offices were queried on the accounts they handled that fall into the population defined above. Responses to a seventy-three question survey instrument were collected by personal interview with each participating retail broker, yielding a sample of 114 clients. Data from actual transaction records detailing trading activity in the corresponding client's account were also collected.

Nothing was found in the literature of any previous study that utilized retail brokers as a direct data source. It is likely that a broker's observations of a client's behavior are subject to the broker's individual subjective perspectives. However, the survey questions are designed to minimize the broker's opportunities to inject his own biases. Furthermore, the overall objectivity of a broker's observations as a detached second party probably exceeds the objectivity of an individual's responses about his own behavior. A broker's knowledge of an active commodity client is usually more substantial than that of any available source other than the client himself. Finally, utilizing the broker as a direct source of

information on client behavior was virtually the only approach available which insured the anonymity of the client and thus was pragmatically necessary to gather sufficient data.

Once collected, the responses were summarized statistically to develop a profile of the regular futures speculator. Observations were collected on the market involvement and performance (quantities traded, trading frequency, and net gain or loss) of the accounts surveyed. Socio-economic and demographic statistics (age, income, net worth, education level, and trading experience) were also recorded for the corresponding individual. Two regression models are constructed and analyzed to assess the relationship between the dependent variables (involvement and performance) and the independent variables (socioeconomic/demographic statistics).

Four research questions were developed to direct the focus of the study:

Research question 1:

For a significant number of habitual speculators, is the primary motivation for continuous trading the recreational utility derived merely from having a market position? That is, does the "chase" become the end as opposed to being a means to an end? While earlier works have hinted that at "sporting utility," the project at hand is the first known effort to study specifically the recreational utility aspect of commodity trading.

The Keynesian theory describing risk averse commodity speculators assumes that they require a positive history of profits in order to continue trading. Numerous empirical studies reveal that total net losses for speculators consistently and significantly exceed total net gains (for instance, Hieronymus, 1971). Although the Keynesian theory would explain the exit of the one-time speculator, it is contradicted by the behavior of habitual traders, who continue to trade in spite of this negative history of profits. [In the Chicago Board of Trade study (1983) over half of all respondents had traded more than five years.] It is believed that the concept of "recreational utility" may explain a good portion of this behavior.

A number of earlier studies have suggested aspects of recreational utility in speculators' behavior. Rockwell (1967) noted that speculators do not require an ex post history of profits in order to continue trading. He offered as an explanation the possibility that speculators are risk seekers and are consequently willing to lose money for the privilege of speculating. Smidt (1965) discovered that 45% of respondents who indicated they thought of themselves as being unsuccessful traders had no plans to

change their trading style. Furthermore, only 12% of all respondents indicated they would stop trading due to losses. Smidt concluded that these unusual findings suggest a motivation for trading not consistent with profit-seeking economic behavior. Draper (1985), in noting that 41.5% of commodity speculators in a *Barron's* magazine survey said they were "seeking excitement," suggested that in addition to the investment aspects of futures markets, there are also significant consumption aspects.

These suggestions of recreational consumption are echoed by psychologists studying habitual gamblers. Hyde (1978) asserts that for the habitual gambler, gambling is an "end" rather than a "means to an end." The enjoyment of betting or risk taking and the sense of being important in the action are more important than the winning or losing of money. Research by psychologists has found many clinically defined gamblers who trade in the financial markets. Referring to gamblers in general, Murrell (1979) contends they can be divided into three categories: (i) profit motivated, (ii) compulsive, or (iii) leisure consumers, with the vast majority falling into the "leisure consumption" category. Murrell's categories might be used to classify habitual speculators as well.

Research question 2:

Do a significant number of habitual speculators assume substantial risk in other aspects of their lives? Are their lives characterized by a pattern of risky activities ranging from the way they make their living to the way they drive their car? Draper (1985) noted that over half the commodity speculators surveyed by *Barron's* and the Chicago Board of Trade in 1983 were self-employed. This suggests a great deal of risk assumption in the workplace as well as the market. Research on the habitual gambler also suggests characteristics that might show up in the habitual speculator. Custer, in Holden's 1985 summary article, states that the majority of gamblers are highly energetic, extremely competitive, aggressive, extroverted, and hard working. They tend to gravitate toward commission and fee-based employment such as insurance sales, stock brokerage, mobile home sales, and law. Studying their lifestyle will produce a more complete profile and thus greater understanding of the habitual commodity trader.

Research questions 3 and 4:

Are there certain socioeconomic and demographic characteristics that are related to a habitual speculator's participation (Question 3) and performance (Question 4) in the market? It is postulated that such variables as

age, education level, income, net worth, trading experience, and frequency of trading influence the average number of positions held open at one time and ultimate gains or losses. Baker et al. (1977) reported that age, sex, and education have a significant impact on investor risk and return preferences for common stock. Draper (1985) found a correlation between certain socioeconomic factors such as income, age, and trading experience and the investment behavior of commodity traders.

It is hoped that studying this question will identify additional socioeconomic-market behavior relationships. These newly defined relationships will enhance the understanding of the habitual speculator's impact on the commodity markets.

DATA COLLECTION AND QUESTIONNAIRE DESIGN

The Commodity Futures Trading Commission (CFTC) provided a complete listing of exchange member firms with retail offices in the state of Alabama. Each retail broker in these offices was contacted individually (by phone or in person) and asked to participate in the project. Twenty-one wire house branch offices in the state of Alabama were identified and approached for participation in the study. Fourteen of these locations ultimately participated in the study with twenty-five brokers providing data. These twenty-five brokers represent eight brokerage firms and are based in six Alabama cities. It is estimated that these twenty-five brokers represent 60% of the active retail commodity brokers in the state. Each broker contributed data on an average of five clients. Sufficient data were provided on 114 of these clients for inclusion in the study. With 60% of the state's brokers providing data on 91% of their clients meeting the study's criteria, the 114 cases represent approximately 55% of the population. (The population being defined as current commodity clients in Alabama who have traded for at least 3 calendar years with a minimum of 12 "round turn" transactions and without the need for a "hedge position" in the futures markets.)

The data were collected using a 73-question survey instrument in the fall of 1989 and spring of 1990. The responses to all questions on each questionnaire were recorded via personal or phone interview with the broker. Each questionnaire records the broker's observations of a single client. Participating brokers were asked to refer to actual account application and transaction records for certain specific quantitative data that were requested.

The questionnaire was devised in an attempt to meet specific survey objectives. The five broad categories of issues built into the instrument

are: (i) socioeconomic and political profile; (ii) attitudes toward risk assumption in other phases of life; (iii) type and degree of commodity market involvement and account performance; (iv) trading styles and trading tendencies; and (v) perception of the market and reactions to market phenomena. A copy of the survey with percentage, median and mean responses is included in Appendix A.

Research Question 1

Each broker was asked to indicate the degree to which he believes that this client's motives for trading are purely recreational (as opposed to profit motivated). In addition, there are twenty other questions designed to probe for indications that a trader is motivated by recreational consumption. Question 1 was addressed utilizing the chi-square procedure to investigate the relationship between the broker's assessment of the client's motives for trading and each of the twenty questions that probe for indications that a trader is motivated by recreational consumption. The chi-square is a test that compares actual responses with responses that would be expected to occur if no relationship exists between the two variables being investigated (in this case, the broker's assessment of the reason his client trades and each of the additional twenty questions having to do with trader motivation for trading; see Pindyck and Rubinfeld, 1976, pp. 49-50).

Research Question 2

There are twenty-six questions designed to probe for indications of risk assumption in areas of a trader's life outside the futures market. Question 2 involves only a descriptive analysis of the data. Questionnaire responses were analyzed to determine if there are a significant number of positive responses to the majority of these questions. A subjective assessment is made relative to the degree of risk these individuals encounter in their daily lives.

Research Question 3

A step-wise multiple regression technique is used to assess whether the variables of age, education level, income, net worth, years of trading experience, and frequency with which a speculator trades are related to the average number of contracts a speculator holds open at one time.

Research Question 4

A step-wise multiple regression technique is also used to assess whether the variables of age, education level, income, net worth, years of trading experience, and frequency with which a speculator trades are related to the total account history net gain or loss.

RESULTS AND ANALYSIS OF DATA

The first section (Respondent Profile) provides a summary of the responses to the survey divided into the five sections: Socioeconomic/Political Profile, Risk Attitudes; Type and Degree of Commodity Market Involvement and Account Performance; Trading Styles and Trading Tendencies; and Perception of the Market and Reactions to Market Phenomena. The second section (Analysis of Research Questions) provides the analysis and results of each of the paper's four research questions.

RESPONDENT PROFILE

Demographic/Socioeconomic Profile

The mean age of the 114 clients is 52 years (median age is 50 years); the youngest is 30 years of age and the oldest 84 years of age. The group has a very narrow age distribution, however, with eighty-nine (or 78%) of the 114 traders studied being between the ages of 47 and 57. This age distribution closely parallels the age range for traders noted in prior studies. Draper (1985) reported that almost half the traders included in his studies were over 50 years of age, with 13.3% over 65. The average age of speculators may reflect that fact that significant wealth is required to speculate in commodities; this age group has generally accumulated more capital than younger segments of the population.

This study includes observations for 109 men (95.6%) and only 5 women. These numbers closely match Draper's finding of 96% men for his two study groups. It is also consistent with studies of stock market investors: Lease et al. (1974) reported that over 80% of the stock investors studied were male.

Of 114 traders, 113 are white and one is Asian American. No previous study of commodity speculators reported a race distribution, but other socioeconomic characteristics reported hint that previous study groups were predominantly white as well. It seems likely that the preponderance of white traders is not unique to an Alabama study group.

The mean annual family income for the group is \$109,202 (median annual family income is \$74,500). The range of income varies from \$25,000 to \$600,000. A 1983 *Barron's* survey of commodity speculators revealed a mean income of \$85,200; adjusted for inflation, the *Barron's* figure would closely mirror the findings of this current study. The relatively high average income may reflect the fact that only individuals with large incomes can afford to trade futures, and the imposition of minimum income restrictions by brokerage institutions.

The mean net worth in this study is \$2.9 million (median net worth is \$354,000). The study group has an extremely wide net worth distribution ranging from \$50,000 to \$200 million. Many brokerage firm financial statements request that net worth be stated exclusive of the value of primary residence. The 1983 *Barron's* study reported a mean liquid net worth of \$547,000, where "liquid" net worth is net worth minus real estate and other illiquid assets. Therefore, if adjusted for inflation and the difference between total and liquid net worth, the *Barron's* figure would likely approach the average net worth of the current study group.

Eighty-five percent of the clients included in the study are married, with a mean number of children of 2.3. This marriage rate closely matches Draper's findings that 78.5% of the traders surveyed were married and that 87% had been married at some time. Thirty-four percent of the clients have been divorced once and five have been divorced at least twice; this divorce rate is lower than the rate for the general United States population. For comparison, Holden (1985) reported that habitual gamblers have a higher rate of intact marriages than the national average; she hypothesizes that women who marry habitual gamblers often share their husband's attitude toward glamour and the fast life.

In only 21.9% of the cases is the spouse named as the joint tenant on the commodity account. Based on personal observations in the brokerage business in Alabama, the vast majority of married stock investors open JTWROS brokerage security accounts, where a "joint account agreement" authorizes the brokerage firm to act on instructions from either owner. This is in sharp contrast to the prevalence of single name commodity accounts for this study group. Further, in 56.6% of the cases where the client was married it was reported that the spouse was not aware of the trading activity of their partner. Comments made by several brokers while answering this question indicate that a significant number of traders require the broker to conceal all trading activity from their spouse by mailing statements to an office address, not calling their home phone number, and so forth. This behavior could be attributed to a desire

to retain personal control, or, given that 9 out of 10 in this group are career net losers, to spousal disapproval of monetary losses.

The group as a whole is significantly better educated than the general public. Fifty-six percent have earned at least a bachelor's degree and 25% hold graduate or professional degrees. Similarly, over 67% of the CBT and 81.3% of the *Barron's* respondents had completed a bachelor's degree, and more than 33% had acquired postgraduate degrees.

The results show a wide diversity in occupational choices. Only 7.9% of the group are retired. The six major occupational categories into which the remainder of these individuals fall are: medicine (13.2%), business executive (13.2%), retail business owner (12.3%), farmer (11.4%), agribusiness owner (11.4%), and building contractor (9.6%). Another 9.7% are either attorneys or insurance agents. Only 4.4% work for a government agency. There are no traders in this study employed by educational institutions.

The occupational distribution of this Alabama study group is very similar to Draper's. When Draper performed a cross-tabulation analysis by regions, he noted some slight differences. His southern occupational groupings remarkably parallel those in this project. The most significant difference Draper noted in southern vs. national employment was the relatively high percentage of "businessmen" in the South. If retail and agribusiness owners are combined with business executives, businessmen total 36.9% of the current study.

Draper likewise found a very small percentage of retirees. Only 2.4% of his sample designated themselves as retired even though 13.3% were over sixty-five years of age. This led Draper to conclude that futures traders were not following traditional retirement patterns. Both the current and previous studies suggest that there are no prevalent career categories among commodity traders. In all cases, the only dominant occupational factor is the absence of traditional retirement behavior.

A large share, 72%, are self-employed. This is an even higher percentage than reported in two previous national studies. Draper reported that 54.1% of the traders in his two samples considered themselves self-employed. A similar occupational preference has been noted among habitual gamblers: Holden reported that most gravitate to solo operations; even the non-self-employed gamblers studied showed a preference for jobs that allow them to be "out on the road" and away from supervision.

The average trader in this study has been employed in his current place of employment for over 18 years (median employment is 16 years). The minimum employment "seniority" for the group is one year and the maximum is 60 years. The high percentage of self-employed traders pos-

sibly explains the group's noteworthy job stability. The self-employed have control over their working environment, and are therefore perhaps less likely to change employment. Regardless of the reasons, it appears that the traders in this group have comparatively stable employment.

Forty-five percent of the traders have changed employment once, and 32.5% have changed more than once. This rate of job change appears to be low (though the response rate on this question was also low).

Slightly less than 16% of this study group have declared bankruptcy at some point in their life. This figure is not surprising for a group dominated by business owners (72% being self-employed). One recent study (Sullivan et al., 1989) found the bankruptcy rate for current or former entrepreneurs to be 20%. Twenty-six percent of the traders studied have been forced to start over or reorganize a business, but have never entered legal bankruptcy. No trader studied is currently experiencing financial difficulties.

Of 98 responses to the question of whether the client had been subject to an IRS tax audit or tax penalty, 71 cases reported in the affirmative, a rate of 72.5%. In 1990, only 8% of individuals and 2.5% of corporations in the U.S. population were audited (no author, *Journal of Accountancy*, 1991). Self-employed individuals are statistically more likely to be audited than other taxpayers, and a taxpayer who has been forced into financial reorganization or bankruptcy carries a very high audit probability. Finally, individuals reporting large gambling and/or commodity losses (or gains) are subject to more IRS scrutiny. Because many traders fall into one or more of these categories, the high incidence of audits is not surprising.

Slightly less than 60% have business interests other than their primary occupation. Research on habitual gamblers reveals a similar profile: Holden (1985) reported that the majority of gamblers gravitate to self-owned businesses, often being involved in a number of ventures. Most gamblers are highly energetic, competitive, aggressive, extroverted, and hard working, that is, most fit the stereotypical profile of the American entrepreneur.

Thirty-six percent of traders have business interests directly related to the commodities which they primarily trade. Smidt (1965) found that the majority of speculators responding preferred to trade commodities about which they had personal knowledge. It is unlikely that these positions represent hedging, however, since they are carried in speculative accounts.

Tendencies Toward Risky Behavior

Eighty-eight percent of the clients have received a speeding ticket at some point in their lives. The brokers reported a total of 30 clients known to

have radar detectors in their automobiles. It appears that when behind the wheel of his car, the average trader is aggressive and somewhat risk oriented.

6.25% were reported to have run for public office. This is substantially higher than the rate for the general population. A study conducted covering Republican and Democratic primaries in Alabama from 1982 to 1990 found that only 0.2% of the population of Alabama qualified for positions open in elections (Allen and Gilbert, 1990). It could be argued that the political process is one that results in high payoffs with low probability, whether in monetary terms or in terms of success and recognition. Out of 113 responses, 8 had held public office. Because only 7 traders had ever run for public office, it is obvious that one or more have been appointed to a public position. It is a common pattern for successful, self-made businessmen to seek out "new worlds to conquer" in the political arena.

Sixty-two percent of the traders have worked in another candidate's campaign. Almost seventy percent have contributed or solicited campaign funds. Contributing money or time to a candidate is an investment that involves a payoff (not necessarily monetary) if the candidate wins. Thus "political wagering" may reflect something of an individual's attitude toward risk. Soliciting contributions seems akin to using other peoples' money to leverage your own political wager. Although there may be a variety of motivations involved, it is nevertheless apparent that the majority in this study participate very actively in the democratic process.

Brokers categorized their clients politically as conservative (58.7%), moderates (31.6%), and liberals (9.6%). When combined, 90% are considered as moderates or conservatives. This conservative leaning is not surprising given the profile of the typical trader in this study. The average trader studied is affluent, successful, middle-aged, and a white male. The vast majority also own their own business. This type of individual usually tends to favor the political right.

Seventy-one clients travel outside the state four or more times a year; 22 travel outside the state between two and three times per year; and 20 clients rarely leave the state. With 63% traveling out of state four or more times a year, this appears to be a well-traveled group. Frequent recreational travel would seem to be related to both affluence and flexibility in one's work schedule (72% are self-employed). Frequent travel may also reflect that fact that 36.9% of the traders are classified as "businessmen." Business-related travel accounts for a large majority of air travel in the United States.

The brokers reported that 52.2% rarely or never fly on commercial airlines and 47.8% fly commercial frequently or very frequently. Out of 112 reported cases, 16 own a private airplane. This 14.3% private plane ownership reflects affluence and lifestyle. However, it may also reflect risk orientation. A 1992 study established that fatal accidents in private planes exceed by over tenfold those in commercial aircraft (Facts on File, 1992). The high rate of plane ownership raises the possibility that some traders may be amateur pilots. Piloting a private plane would seem to be reflective of a certain risk orientation. Thirty seven percent of the traders traveled in a private plane on a regular basis. As with ownership of planes, the positive answers to this question reflect an individual's affluence and lifestyle, but may also reflect risk orientation.

Slightly less than half of the brokers who responded indicated that their clients rarely (37.5%) or never (8.9%) play cards for money or wager on dogs, horses, or sporting events. Twenty percent indicated that their clients likely engage in these types of activities at least monthly; 25.0% indicated this type of activity at least weekly; while 8.0% believe their clients are engaged daily in these types of wagers. These responses imply evidence of a strong gambling tendency within the study group. The answers indicate that 91.9% gamble at least on occasion and one-third gamble on a regular weekly basis.

Thirty-five of 111 clients were reported to deal with bookmakers. As with previous information, these replies reveal a solid core of gamblers within the group. Because any dealing with a bookmaker by an Alabama resident is an illegal activity, a trader might well have never mentioned his bookie even to a close acquaintance such as his commodity broker. It appears reasonable to assume that if 31% have mentioned this illegal activity, a good number of additional traders may be involved but have not mentioned this to their broker. Consistent with the previous information, one third of the brokers reported that they have clients who travel to Nevada or New Jersey to participate in legalized gambling. One fourth of these indicated that their clients participate on a frequent or regular basis.

This study group also proved to be very involved in other financial markets. Overall, 86.8% trade stocks, 57.9% stock options, 32.5% stock index options, and 28.9% commodity options. The relatively large number trading stocks and equity options is consistent with the findings of Draper, who reported common stocks and stock options to be popular investment vehicles for traders studied in the early 1980s. Eighty-three percent of the study group invest in real estate. (Draper also found that commodity speculators consistently ranked real estate near the top of their preferred

investment list.) Sixty percent invest in cash commodities. Whereas the majority apparently spurn brokerage firm packaged tax shelter investments, 25% have allocated investment funds to these instruments.

Of course, as part of a portfolio, any of these investments could be risk reducing. However, the relatively high percentage who invest in options may reveal a preference for relatively risky investments. Coupled with the high percentage who use tax shelters, it also indicates a high degree of financial sophistication.

Type and Degree of Commodity Market Involvement

In 73.7% of the cases, the brokers reported that their clients seem to have some system (either actual or conceptual) of designating commodity market money separate and distinct from "serious" investment funds. This implies that the placement of money in commodities is not viewed as a legitimate investment or does not result from profit motivation. Among habitual gamblers, Martinez (1983) reveals that money becomes simply the means of staying in the action and not the end of the action.

Most accounts are acquired through client or nonclient referral. The reported results indicate the manner of acquiring accounts: personal acquaintance (19); referral client (25); referral nonclient (33); call-in/walk-in (21); cold call (2); seminar (2); and personal prospect visit (12). Based on personal observations over the last 13 years in the brokerage business, these appear to be comparable to the manner in which brokerage accounts in general are acquired. The most noteworthy feature of these responses is that 86% of the accounts were acquired by basically passive means and only 14% by traditional active solicitation (for instance, cold calls, seminars, and personal prospect visits). Fifty-one percent of all accounts were acquired by referrals. Sixty-seven percent knew their current broker personally beforehand or were referred by someone who did. The data suggest that veteran commodity traders are difficult to locate and/or cultivate with conventional brokerage firm prospecting techniques. These long-time traders appear to deal with brokers they know or have heard about from a friend or associate.

Trading Styles and Trading Tendencies

The mean length of time which clients have traded is 13 years (median is 9.5 years); the minimum time specified was 3 years and the maximum was 45 years. The longevity of these traders in the commodity markets

would seem to be important to the market's function and obviously a significant asset to their brokerage firm. The significance of long-time traders was noted by Draper (1985), who discovered that more experienced traders trade more frequently. In the Draper study, 21.6% of the traders who made more than 50 transactions a quarter had more than ten years of trading experience.

There also appears to be a life cycle pattern of this group's trading activity. The average trader in the study is 52 years old and has been trading for over 13 years. Therefore, he started trading while he was still in his 30s and has continued to trade into middle age.

During their trading careers, 25% have maintained continuous trading; 34% have traded regularly but with some time lapses in between market involvement with no activity; and 40% had long intervals with no activity and only recently started trading again. The majority have displayed an ongoing "stop and start" pattern in their trading activity. The vast majority of all traders consistently lose money in the commodity markets. Thus a possible explanation for irregular trading patterns could be the periodic need to raise fresh capital to replace that recently lost. Even for wealthy traders, some time may be required to raise sufficient capital to return to the markets.

Sixty-one percent of the traders do not have an account with a firm other than the one providing this information. Twenty-nine percent have accounts with one other firm, and 9.6% have accounts with two or more other firms. It is apparent that the majority do not see an advantage to dealing with numerous brokers. Draper reported that most traders said that brokers did not actively recommend specific futures transactions to them. If brokers are not a source for trade recommendations, there would be little advantage to having multiple brokerage accounts.

The mean number of years which the participating brokers have handled the client accounts is 8.2 years (median is 8). The range varies from 3 years to 23 years. The average trader has traded for 13 years and used the same broker for 8.2 years; thus the same broker has been used for the majority (63%) of his trading career.

Fifty of 114 traders do not use any regular source of commodity market information. The 64 who do, utilize the following sources: professional trading advisory service (28); financial publications (17); general media (3); cash commodity dealers (3); and other sources (13). Draper reported that a variety of information sources were employed by his study respondents. Popular among these were magazine and newspaper comments, newsletter recommendations, charting services, and broker's recommendations. Among the group of published sources, *The Wall Street*

Journal was the predominant general business publication. Of the publications read solely for commodity information, *Commodities Magazine* (now entitled *Futures*) and *Barron's* were the most popular. In both the Draper study and the current study, there is no clear dominant information source. In both studies, a large number of traders do not consistently use any source of commodity information.

Brokers were asked if their clients believe they have a source of information that makes them privy to commodity-related news before it is generally available to the public. The results were: always (3); most of the time (39); seldom (53); and never (19). Over one third of the traders believe they have a source of "inside information" most of the time. While this question did not formally ask brokers to name the information source, they frequently volunteered that the source was usually second- or third-party information. In many cases, it was often little more than "coffee shop rumors." Thus our sample closely resembles the classic definition of "noise traders" given by Black (1986). One possible explanation of this behavior is that a trader may find trading on pure rumors to be exciting and fun. Though we have no systematic measure of average position, conversations with the brokers indicated that the traders did not markedly favor long positions over short positions. They appeared to be willing to take either side of the market, based on their information.

Slightly over 61% of the group initiate 25% or less of all trades due to the broker's suggestion. Only 4.4% initiate all their positions based on the broker's advice. For sixty-three of the traders, the broker's suggestion accounted for 25% or less of all liquidations. Only twenty-one of the traders liquidated 75% or more of their positions due to their broker's recommendation. The broker's influence on both new positions and liquidations seems small. This conclusion is consistent with Draper's findings: although most respondents stated both the need for a reliable broker and the desire to use brokerage recommendations, most also said their brokers did not actively recommend specific futures transactions.

The largest number of contracts held open at one time averages 12.9 (median is 5). The range varies from 1 to 100 contracts. Position limits per commodity are imposed by the exchanges; brokerage firms also cap the maximum number of contracts allowed at one time. Therefore the 100 contract maximum is not surprising. It is interesting that at least one trader has never held more than a single contract open at one time.

The mean number of contracts held open at one time for the study group is 4.2 contracts (median number held open at one time is 2). The range is from 1 to 25 contracts. The average number of contracts traded is often limited by brokerage firm capital requirements. Brokerage firms

require that traders submit financial statements on a regular basis. The maximum capital they are allowed to expose to the commodity markets is based on their total available liquid capital. If an individual can show increased capital, he is allowed to trade in larger quantities. If one's net worth statement shows a decline in liquid assets, his allowable trading quantity is decreased. Therefore, over time, as a trader's capital rises and falls, the number of contracts he is allowed to trade rises and falls. The process of determining available risk capital is very dynamic, since brokerage firms calculate into the formula money gained or lost by trading on a day to day basis. This is a major factor in determining both a trader's maximum and average position in the market.

The mean (per client) commodity market equity is \$15,889 (the median is \$6,100). The group has a wide range of average equity varying from \$1,500 to \$450,000. Given that the average trader in this study holds four contracts open at a time, \$15,889 seems a very small account capitalization. This equates to an average of about \$3,800 per open contract (or about \$3,050 per median number of contracts). With the inherent volatility of the commodity market, \$3,800 per contract is not much of a capital cushion.

Equity in a commodity account begins with a cash deposit and increases with market gains in any open positions and decreases with market declines in any open positions. The traders in our study used mostly cash (checks) for margin collateral; a few used T-bills. It was not until the end of our study period that money market margin accounts became available. Account equity is adjusted daily based on the closing prices of all open positions. Thus, any positive equity gained as a result of price appreciation in an open position is purely "paper" profit. Nevertheless, most brokerage firms allow traders to remove any excess (above margin requirements) "paper equity" as a hard cash withdrawal. Unless these positive gains above margin requirements are removed, traders may not perceive these gains to be real, but instead paper profits. Many traders routinely withdraw "paper profits" on open positions to convert the money to other investments or personal use. This practice keeps average account equity in favorable markets from growing substantially.

Even though traders are often quick to remove excess equity from their commodity accounts, they rarely add more cash to their accounts than the minimum required (by the exchange and/or brokerage firm) to meet the margin requirements of their current position. Thus an average account capitalization of \$15,889, while not a significant market cushion, appears to be adequate to meet minimal margin requirements. It may therefore be concluded that the average equity in accounts is purposely

kept at or near that level mandated by the margin requirements of the trader's average open position.

The mean number of trades completed per year for the group is 67 trades (median is 32). The range is from 4 to 999 trades per year. Thus the typical (median) trader in this study completes a trade every eight business days while the most active trader completes four trades per business day on average. The maximum value implies constant monitoring of markets.

The 1985 *Barron's* study revealed that commodity traders trade more frequently than do investors in other investment markets. Both the median and the mean number of transactions for futures traders were more than twice those for the total sample. Further, almost 38% of the futures traders, but just under 8% of the total respondents, had executed forty-eight or more trades over the past year. Both the *Barron's* and the current study show that commodity speculators trade constantly.

Twenty-two percent of the trades transacted by the clients in this study were day trades (the median is 19% of all trades). This percentage ranges between 1% and 84.8%. A likely motivation for day trading is the added excitement produced by quick in and out action. Draper reported in 1985 that 41.5% of *Barron's* survey respondents listed "seeking excitement" as a principal reason for trading. The same survey revealed that only a minority of the sample said they would hold a position until it showed a profit. Day trading may also be motivated by the desire to avoid having the position marked to market after the close.

The mean number of days that this group holds a position is 20.5, with a median of 11 days. Responses varied from 1 to 211 days. Eleven days may be too short a time period to catch most significant market trends. The propensity to hold short-term positions again illustrates that many traders are not following the traditional guidelines for profit maximization.

The majority of clients involved in this study seldom or never make use of "stop loss" orders. Stop loss orders are widely recognized as a key tool for implementing the profit maximization strategy of cutting losses short and letting profits run. The rare use of stop loss orders clearly suggests the secondary importance of a profit motive for some traders. The use of stop orders may not be conducive to maximizing recreational utility.

Perception of the Market and Reactions to Market Phenomena

In 64 of 114 cases, brokers indicated that clients accept a margin call request without question. Thirty-five were reported to be somewhat de-

fensive in their attitude about meeting a margin call and 15 were resentful and uncooperative. In a minority of the cases, brokers reported that traders take losing very personally. Their broker's request for new margin capital (to replace recently lost funds) reinforces their negative feelings about the market loss. These traders often react to the request in a hostile and resentful manner. However, most traders apparently accept margin calls as the cost of "playing the game" and pay up without complaint.

The top three groups of commodities traded, in order of preference, were precious metals, grains, and the livestock-meat group. In a 1983 study, a nationwide Chicago Board of Trade survey found that, of the commodities traded during the past 12 months, metals were most common, followed by livestock, with grains being third.

It appears that this study group has a high awareness of the small chances of winning; 62.3% "always" or "often" made reference to the high odds against winning in commodities. On the other hand, over 30% seldom or never believe they can beat these odds. Mean-variance optimizers will engage in endeavors where there appears to be a probability of success congruous with the perceived risk and that individual's risk-return preference. Given the diminutive probability of success in commodity trading, few mean-variance optimizers would be willing to participate. Therefore, other motives (such as recreational maximization) must be assumed to explain long-term participation in the commodity markets by traders highly aware of the slim odds of success. However, the nearly 70% who, at least most of the time, expect to win could well be influenced by conventional profit motives.

Many clients talk to their brokers about past trading successes and failures. Almost 67% have mentioned past trading failures or both failures and successes to their brokers. The subjects are apparently aware of their own history of trading failures. The average speculator in this study has a mean career net trading loss of over \$73,000 (median career net trading loss of \$24,000). Whereas their continued trading runs contrary to the profit motivated theory of normal backwardation, it would fit Rockwell's (1967) hypothesis of risk seekers willing to pay for the opportunity to speculate.

Clients routinely refer to gains or losses in terms of "points" (as opposed to dollars) and are reported to be unaware of the actual conversion of points to dollars. Two thirds of this group "always" or "most of the time" refer to points rather than dollars and 43.9% are felt to be unaware of the conversion value of points to dollars.

The concept of money as merely the means of staying in the action (and not the "end" of the action) has been well documented in studies of

habitual gamblers (see Murrell, 1979). Money becomes simply the "playing chips" of the game and tokens for keeping score, thus losing any real financial value to the player. For some of the 67% who normally refer to points, and most of the 44% who are usually unaware of monetary point value, the money has apparently lost some of its real financial value. This mental exchange of money for points allows money to take on a "playing chip" or "scorecard" quality. This conclusion is consistent with the idea that many traders view commodity market funds as play money designated for recreational purposes.

While these findings support the conclusion that most of this study group views commodity money as a recreational toy, the 33% who normally refer to dollars and the 56% who are usually aware of point to dollar relationships may well be maintaining a financial value concept of money in contrast to a recreational viewpoint.

In over 80% of the cases, brokers believe that clients always or usually enjoy the drama and suspense of carrying positions overnight or through weekends. Thus most appear to derive utility simply from holding an open position. Draper revealed that 41.5% of his study group listed "seeking excitement" as a principal reason for trading. For most traders, a "win" on a trade appears to be more important than the size of the "win." Utility is derived merely by taking a profit out of the market. (It is also reasonable to conclude that some of the 86.9% are motivated by *both* a desire for recreational utility and conventional investment incentives.)

Eighty-three percent "always" or "most of the time" are interested in winning, regardless of the amount of the win. Most traders prefer a series of modest short-term profits over a significant, slowly accumulating long-term gain in a single position. Most are also more unhappy with a significant, slow long-term loss than with a series of modest losses. This may indicate that utility is derived by making a profit, regardless of the size of the profit. This paper will call this phenomenon "win maximization." It may be that win maximizers only count gains and losses when they are actually realized.

The conventional strategy for profit maximization in futures markets is to cut your losses and let your profits run. A win maximizer would instead cut profits short and allow losses to run. A win maximizer would take a profit as soon as it occurs, since winning is more important than the financial significance of the trade. He would also let a loss run in the hope that it would reverse into a win and, in any event, it only counts as one loss whatever its financial size. Further, it may not be counted as a loss until it is actually realized.

The combined responses suggest a picture of a group who prefers active, short-term trading. Both win maximization and excitement maximization are consistent with this group's trading patterns. However, results suggest elements of profit motivation as well in that clients are more unhappy with a series of modest losses than a significant, slow long-term loss.

According to brokers, approximately half of their clients perceive themselves to be successful traders. This is particularly noteworthy given that only 10% have career net profits. Smidt's study in 1965 found that although a significant majority of those surveyed were net losers, 57% thought "their success was average or above." A trader seeking to maximize wins could achieve a high self-defined level of success while still being a substantial net monetary loser. Although 90% of this group are net losers, an average of 51.2% of all trades are winners. Therefore, if many traders in this study are seeking to maximize wins, a significant number have achieved success by this definition.

In only 19 out of 113 cases, brokers reported that their client's basic trading styles have changed as a result of financial losses. Despite the fact that 9 out of 10 clients in this group are career net losers, only 16.7% have adjusted their trading style as a result of losing. Smidt reported from his 1965 study that of the 43% surveyed who admitted they were unsuccessful, 45% were planning to continue trading exactly as they had in the past, and 88% said they would not stop trading (even temporarily) because of losses. As discussed previously, win maximizers or excitement maximizers may well be achieving their goals even while being net losers.

According to their brokers, the majority of the study group worry more about missing a move in the market by being on the "sidelines" than about losing money in a position due to a miscall of the market. For the majority, simply being in the game is more important than avoiding financial loss.

Clients generally consider preservation of capital in making trade decisions to be only moderately important. Three quarters of these traders give capital preservation a relatively low priority. These responses are consistent with the finding on stop orders noted above; that is, over half of the group seldom or never use stop loss orders: stop orders are widely recognized as a key tool for preserving trading capital.

Almost 30% of clients are perceived to trade purely for recreational enjoyment rather than out of any profit motive, and an additional 43% are perceived by their broker to seek recreation most of the time. Twenty-seven percent believe their clients seldom or never are in the market simply for recreational purposes (that is, are always profit seeking). The

brokers feel that recreational consumption is the primary trading motive for most of the traders.

The average trader in this study wins on 51.3% of his trades (median = 51%) and loses on 48.3% of all trades (median = 49%). (Note that this may not be statistically significantly different from 50%, the number we would expect in an efficient market). The most successful trader in the group wins on 80% of all trades, whereas the least successful wins on only 12.5% of his trades. As discussed below, the average trader in this study is a career net loser. Thus the average trading loss is larger than the average trading profit for this study group. This is consistent with the hypothesis that the majority of this group cuts profits short and lets losses run. An earlier study also showed a lack of consistency between winner to loser ratios and total net profit or loss. Hieronymus (1971) found the ratio of winners to losers was 1 to 1.8, whereas the ratio of total profits to total losses was 1 to 2.4. The average profit, therefore, was smaller than the average loss.

The mean net career trading gain or loss for the 114 participants in this study is a loss of \$73,010 (median net trading gain or loss is a loss of \$24,000). The range of gain/loss varies widely from a loss of \$1.3 million to a gain of \$1.1 million. The average trader's net career loss is due to the transaction costs of trading commodities. The average case studied involved 8.2 years of trading history with 67 trades of 4 contracts per year. It is therefore estimated that the average trader has paid \$131,856 in brokerage commissions over the past 8.2 years. Because the average net trading loss of \$73,010 includes all commissions paid, the average trader has actually realized an estimated gross trading profit of \$58,846.

Several previous studies have also linked brokerage commission costs to net trading losses. Rockwell (1967) noted that small speculators essentially make gross trading profits of zero and realize substantial net losses after commissions. After his study of the flow of returns in futures markets, Hieronymus suggested that regular traders earn profits from the infrequent traders and pay the commission houses with the earnings. The commission houses appear to be the consistent winners. Ross (1975) found that, although his study group of traders earned a composite gross trading profit of \$2.6 million, they paid commissions of approximately \$8 million for a combined net trading loss of \$5.4 million. The empirical results of the Ross study support the contention that the futures markets are a net negative investment for the trader. The structure of the market dictates an equal and offsetting loss for each gain. When a commission structure is added to this zero-sum game, it becomes a net negative in-

vestment vehicle. Both Ross and the current study strongly suggest that the overall loss to the trader lies not in his risk capital but in his transaction costs. The fact that the average trader in this study has both a winning percentage (51%) and an overall gross profit of approximately \$59,000 is another explanation of why the majority of clients consider themselves successful traders in spite of the fact that only 10% have career net profits.

ANALYSIS OF RESEARCH QUESTIONS

Research Question 1

As reported above, brokers' responses indicated that the trading of 72.8% of the speculators under study is primarily motivated by recreational utility. In addition, a total of twenty additional questions probe for trading motivations. A chi-square analysis was conducted where each of the responses to the twenty "recreational motivation" questions is compared to the response to the question: "Do you think the client's motives for trading are purely recreational (as opposed to profit motivated)?" The chi-square test is utilized to test the null hypothesis in each case of no relationship between the specific recreational motivational item and the broker's assessment of the reason for the client's trading. In comparing the brokers' answers to the direct question concerning recreational motivation with the other twenty recreational motivation questions, the responses of "always" and "most of the time" were collapsed to form the positive response for recreational utility as the primary trading stimulus. Likewise, "seldom" and "never" were combined to form the negative response. In the same fashion, answers to the other twenty recreational motivation questions were collapsed, as necessary, to avoid problems with small expected cell frequencies in applying the chi-square analysis to test for relationships between these variables.

Table I presents the results of the twenty independent chi-square analyses. Column one presents a brief description of the variable included in the analysis; column two is the value of the calculated chi-square statistic which is calculated by comparing actual observed values against what is expected to occur, given that the null hypothesis is true; column three provides the degrees of freedom for each test; and column four indicates the p-value for each independent test (the p-value is the probability of obtaining a value of chi-square equal to or more extreme than the result given in column two, given that the null hypothesis is true).

The chi-square analysis indicates that there is a significant association at the 5% level between the number of clients who trade for recre-

TABLE I

Relationships between Trading Motivation and Other Recreational Indicators

<i>Recreational Indicators</i>	<i>chi-square</i>	<i>d f</i>	<i>p-value</i>
Client bets on cards, dogs, etc.	6.333	4	0.1756
Client deals with bookie	0.858	1	0.3543
Client participates in legalized gambling	3.885	3	0.2741
Client keeps commodity money separate from investment funds	0.516	1	0.4724
Percentage day trades	2.599	4	0.6271
Average number of days client holds position	4.915	4	0.2961
Client uses stop loss order	1.993	3	0.5739
Client makes reference to high odds against winning	1.730	3	0.6302
Client believes can beat odds	3.801	3	0.2837
Client makes reference about past successes and failures	2.014	3	0.5695
Client refers to points up or down rather than dollars	5.531	3	0.1368
Client unaware of conversion from points to dollars	18.402	3	0.0004 ^a
Client enjoys carrying positions overnight or through weekend	6.269	1	0.0123 ^a
Client concerned more with winning than amount of win	13.505	1	0.0002 ^a
Client happier with short-term profit or long-term gain	28.619	1	0.0000 ^a
Client more unhappy with short-term loss or long-term accumulated loss	6.046	1	0.0139 ^a
Client perceives himself as successful trader	4.288	1	0.0384 ^a
Clients trading style changed as result of financial losses	5.687	1	0.0171 ^a
Client more upset about being on "sidelines" or a "missing a call"	13.528	1	0.0002 ^a
How important does client consider preservation of capital?	22.971	1	0.0000 ^a

^aIndicates a significant relationship ($p < 0.05$).

ational utility rather than profits and who are seldom aware of conversation from points to dollars; who enjoy the suspense of carrying a position over night or through the weekend; who are more interested in winning than the amount of the win; who are happier with a series of modest wins; who do perceive themselves as successful traders; who have not changed their trading styles due to financial losses; who become more upset by being on the "sideline" than "missing a call"; and who do not consider preservation of capital to be very important.

Research Question 2

In attempting to assess the trader's risk orientation by evaluating his assumption of risk in other contexts, one must be careful not to place too much reliance on any one question. For instance, questions that measure the individual's propensity to invest in other assets could reflect risk *avoidance* in a portfolio theory context. Investment in asset classes that are relatively risky may, in a portfolio context, actually reduce overall risk through diversification. Similar objections could be raised to a number

TABLE II
Results of Stepwise Multiple Regression Analysis

<i>Variables</i>	<i>b</i>	<i>t-statistic</i>	<i>p-value</i>
Frequency of trading	0.0009	2.53	.013 ^a
Income	0.020	5.78	.000 ^a
overall $F_{(2,111)} = 27.607$			
p-value = .0000			
$R^2 = .332$			
standard error = 3.84			

Dependent variable is average number of contracts client holds open at one time.

^aSignificant at .05 level of significance.

of the individual questions. Therefore no formal statistical analysis of this question was undertaken. However, for twenty-three of twenty-six questions analyzed, a significant number of cases reported the response defined to be "risk oriented behavior." (The relevant questions are 8, 10, 12, 13, 15–20, 22–27, and 29–38). For twelve of the twenty-three questions, a majority of the answers were the "risk oriented" responses. Taken together, the responses to the twenty-six questions build the case that a significant number of habitual speculators assume substantial risks in their daily lives.

Research Question 3

Forward stepwise procedures and multiple regression analysis were used to assess the relationship between the independent variables age, educational level, income, net worth, years of trading experience, and frequency of trading, and the dependent variable, "number of contracts a speculator holds open at one time." The results are available from the authors on request. The only significant independent variables found were income and frequency of trading; their coefficients are presented in Table II.

The results indicate that the traders with high trade frequencies also trade the largest number of contracts on average. Nor is it surprising that income is significantly related to trading quantity. This may reflect the trading limits imposed by wire houses, or it may reflect the fact that this activity is a normal or superior good in traders' utility functions.

TABLE III
Results of Stepwise Multiple Regression Analysis

<i>Variables</i>	<i>B</i>	<i>t-statistic</i>	<i>p-value</i>
Frequency of trading	-0.914	-2.26	0.027 ^a
overall $F_{(1,83)} = 5.08$			
p-value = .0268			
$R^2 = .058$			
standard error = 246.5			

Dependent Variable is client's account history—net gain or loss

^asignificant at .05 level of significance.

Research Question 4

Forward stepwise multiple regression analysis is again used to assess the relationship between the independent variables age, educational level, income, net worth, years of trading experience, and frequency of trading, and the dependent variable "client's total account history gain/loss record." The results are available from the authors on request. The only significant independent variable found was frequency of trading; the coefficient is presented in Table III.

The interpretation of this finding is that "as the frequency of trading" increases by one unit, the "client's account history net gain/loss figure" decreases by 0.914 units (\$914). This may result directly from commissions, or it may reflect differences in trading style. Numerous studies have shown that long-term position trading tends to be more profitable than short-term "in and out" trading. Past studies have also shown that transaction costs contribute significantly to net account losses.

CONCLUSIONS

The typical trader in this study fits neither of the stereotypes usually presented in the literature. The traditional regulatory literature views the public futures trader as ill prepared, unsophisticated, unaware of the risks, and undercapitalized (Draper, 1985); such a profile is used to justify calls for strict regulation. Our traders are experienced, well educated, financially sophisticated, and well capitalized. Although most of them seem to be aware of the odds against making a profit, and though most of them are losing money over their career, they continue to trade. Al-

though most of them do not appear to have private information, they are on average taking positions on the right side of the market: their gross profit is on average positive. Where they lose money is in commissions, which exceed their gross profits.

On the other hand, models that view the speculator as risk-averse mean-variance optimizers do not fit our traders either. Our sample does not appear to be especially risk averse, and may in fact contain individuals who are risk-seeking, at least in their futures market behavior. Numerous indications in our survey indicate that they are not trading solely or even primarily for profit, but may be maximizing excitement or the number of winning trades.

APPENDIX

Questionnaire Responses

Please answer all questions for any current speculative commodity client who has traded for at least 3 years and who has completed at least 12 transactions in that period. All 73 questions pertain to the single client under discussion.

1. Age: Mean = 52.089, Minimum = 30, Maximum = 84, Median = 50, Standard deviation = 12.453
2. Sex: Male = 109, Female = 5
3. Race: White = 113, Asian American = 1
4. Annual Income: Mean = \$109,202, Minimum = \$25,000, Maximum = \$600,000, Median = \$74,500, Standard deviation = \$110,558
5. Net Worth: Mean = \$2,978,640, Minimum = \$50,000, Maximum = \$200 mil, Median = \$354,000, Standard deviation = \$18,772,450
6. Married: Yes = 97, No = 17
7. Number of Children: Mean = 2.292, Minimum = 1, Maximum = 5, Median = 2, Standard deviation = .832
8. Has client been divorced? Yes = 31, No = 74, No Response = 0
More than once: Yes = 5, No = 100, No Response = 9
9. Is client's spouse "joint tenant" on account? Yes = 23, No = 82, N/A = 9
10. Is spouse aware of trading activity? Yes = 40, No = 52, N/A = 22
11. Education Level:

7	Non-high school
27	High School

- 16 Some college
- 35 Bachelor's degree
- 29 Graduate or professional

12. Client's Occupation:

- | | |
|--------------------------|--------------|
| 15 Medical | 9 Retired |
| 15 Executive | 6 Attorney |
| 14 Retail/business owner | 5 Insurance |
| 13 Agribusiness | 5 Government |
| 13 Farmer | 8 Other |
| 11 Construction | |

13. Self Employed: Yes = 77, No = 30, no answer = 7
14. How long at present employment? Mean = 18.762, Minimum = 1.0, Maximum = 60.0, Median = 16, Standard deviation = 12.15
15. Has client ever changed employment? Yes = 39, No = 47, N/A = 28
- More than once? Yes = 28, No = 58, N/A = 28
16. Has client declared bankruptcy? Yes = 18, No = 96
17. Has client ever been financially forced to start over (reorganize or relocate business or operation)? Yes = 30, No = 83, N/A = 1
18. Has client ever had an IRS Tax Audit or Tax Penalty? Yes = 71, No = 27, N/A = 16
19. Does client have business interest other than primary occupation? Yes = 66, No = 46, N/A = 2
20. Does client have any business interests or dealings directly related to commodities primarily traded? Yes = 41, No = 73
21. Would you characterize client as a political?
- 11 Liberal
 - 36 Moderate
 - 66 Conservative
 - 1 Apathetic
22. Has client ever received a speeding ticket? Yes = 73, No = 10, N/A = 31
23. Does client own a radar detector? Yes = 30, No = 26, N/A = 56
24. Has client ever run for public office? Yes = 7, No = 105, N/A = 1
25. Has client ever held a public office? Yes = 8, No = 105, N/A = 1
26. Has client ever worked actively in another candidate's campaign? Yes = 66, No = 41, N/A = 7
27. Has client ever contributed or solicited campaign funds? Yes = 76, No = 33, N/A = 5

28. Does client travel out of state?

- 20 Rarely
- 22 At least twice per year
- 4 At least 4 times per year
- 67 <More than 4 times per year
- 2 Unknown

29. Does client fly on commercial airlines?

- 10 Never
- 49 Rarely
- 43 Frequently
- 11 Very Frequently
- 1 Unknown

30. Does client own a private airplane? Yes = 16, No = 96, N/A = 2

31. Does client regularly fly in a private aircraft? Yes = 41, No = 70, N/A = 3

32. Does client play cards for money, wager on dogs, horses, or sporting events?

- 10 Never
- 42 Rarely
- 23 At least monthly
- 28 At least weekly
- 9 Daily
- 2 Unknown

33. Has client ever mentioned or implied any dealings with a bookie? Yes = 35, No = 76, N/A = 3

34. Does client travel to Nevada or New Jersey for legalized gambling?

- 35 Never
- 44 Rarely
- 28 Frequently
- 7 Very Frequently

35. Does client trade the following?

- 99 Stocks
- 66 Equity Options
- 37 Index Equity Options
- 33 Commodity options

36. Does client invest in real estate? Yes = 90, No = 19, N/A = 5

37. Does client invest in "cash" commodities? Yes = 66, No = 41, N/A = 4

38. Does client invest in brokerage firm packaged tax shelter investments? Yes = 29, No 82, N/A = 1
39. Does client seem to have some system (either actual or conceptual) that designates commodity market money as separate and distinct from "serious" investment funds? Yes = 84, No = 30
40. How was account acquired?

19 Personal acquaintance
25 Referral Client
33 Referral Non client
21 Call/walk-in
2 Cold Call
2 Seminar
12 Personal prospect visit

41. The number of years client has traded commodities at your firm or elsewhere: Mean = 13.027, Minimum = 3.0, Maximum = 45.0, Median = 9.5, Standard deviation = 9.327
42. During that time period has client done the following?

29 Virtually continuously traded somewhere
39 Traded but with lapses
6 Long interval-recently started again

43. Does client currently have commodity accounts with the following?

70 No other firm
33 One other firm
9 Two other firms
2 Three or more other firms

44. The number of years you have handled this client's account: Mean = 8.237, Minimum = 3.0, Maximum = 23.0, Median = 8, Standard deviation = 3.457

45. Does client use any consistent source of information (about a particular commodity) to make trade decisions? Yes = 64, No = 50
If yes, name the source:

28 Professional trading advisory service
17 Financial publications
3 General Media
3 Cash Commodity Dealers

46. Does client think he has a source of information that makes him privy to commodity related news before it is generally available to the public?

3	Always
39	Most of the time
53	Seldom
19	Never

47. Approximately what percentage of new positions are initiated due to your suggestions?

0%	35
25%	35
50%	24
75%	15
100%	5

48. Approximately what percentage of liquidations are made due to your suggestions?

0%	30
25%	33
50%	30
75%	16
100%	5

49. Approximately what is the largest number of contracts client has ever held open at one time? Mean = 12.868, Minimum = 1, Maximum = 100, Median = 5, Standard deviation = 17.908
50. What is the client's average number of contracts held open at one time? Mean = 4.175, Minimum = 1.0, Maximum = 25.0, Median = 2, Standard deviation = 4.653
51. What is the client's average equity in commodity account? Mean = \$15,889, Minimum \$1,500, Maximum \$450,000, Median = \$6,100, Standard deviation = \$43,742
52. What is the average number of trades completed per year since account was opened? Mean = 67.026, Minimum = 40, Maximum = 999.0, Median = 32, Standard deviation = 107.712
53. What percentage of all trades are day trades? Mean = 22.388, Minimum = 1.0, Maximum = 84.8, Median = 19, Standard deviation = 18.383

54. What is the average number of days client holds a position? Mean = 20.546, Minimum = 1.0, Maximum = 211.0, Median = 11, Standard deviation = 27.737

55. Does client use stop loss orders?

- 8 Always
- 42 Most of the time
- 48 Seldom
- 15 Never
- 1 Unknown

56. How would you characterize the client's typical attitude about meeting a margin call?

- 64 Accepts request without question
- 35 Somewhat defensive
- 15 Resentful and uncooperative

57. List the three major groups of commodities traded, in descending order of preference:

Precious Metals	44 (1st)	12 (2nd)	12 (3rd)
Grains	23 (1st)	18 (2nd)	8 (3rd)
Livestocks & Meats	16 (1st)	17 (2nd)	5 (3rd)
Financials	12 (1st)	9 (2nd)	6 (3rd)
Stock Index	7 (1st)	10 (2nd)	7 (3rd)

58. Does client make reference to the high odds against winning in commodities?

- 28 Always
- 43 Often
- 29 Seldom
- 4 Never

59. Does client really believe he can beat these odds?

- 32 Always
- 47 Most of the time
- 31 Seldom
- 4 Never

60. Does client make reference to you about past trading?

- 7 Successes
- 31 Failures
- 44 Both
- 32 Neither

61. Does client routinely refer to "points" he is up or down in a position as opposed to "dollars"?

- 24 Always
- 52 Most of the time
- 29 Seldom
- 9 Never

62. Is client generally unaware of the actual conversion of "points" to "dollars"?

- 19 Always
- 31 Most of the time
- 48 Seldom
- 16 Never

63. Does client seem to enjoy the drama and suspense of carrying positions overnight or through weekends (listening for news developments, etc.)?

- 37 Always
- 62 Most of the time
- 12 Seldom
- 16 Never

64. Does whether client won or lost on a trade seem more important than the size of the win or loss?

- 45 Always
- 49 Most of the time
- 13 Seldom
- 3 Never

65. Is client prone to be happier with the following?

- 81 A series of modest short-term profits
- 33 A significant yet slowly accumulating long-term gain in a single position

66. Is client prone to be more unhappy with the following?

- 22 Series of modest loss
- 92 Significant slow long-term loss

67. Does the client perceive himself to be a successful trader? Yes = 56, No = 55, N/A = 3
68. Has the client's basic trading style changed at any point in time as a result of financial losses? Yes = 19, No = 94, N/A = 1
69. Does the client anguish more about missing a move in the market by being on the "sidelines" than about losing money in a position due to a "miss-call" of the market?
- 21 Always
47 Most of the time
40 Seldom
6 Never
70. In making trade decisions, does client consider preservation of capital to be?
- 6 Most important
22 Very important
66 Somewhat important
20 Not important
71. Do you think the client's motives for trading are purely recreational (as opposed to profit motivated)?
- 34 Always
49 Most of the time
25 Seldom
6 Never
72. Percentage of winning and losing trades since account was opened:
Winning: Mean = 51.255, Minimum = 12.5, Maximum = 80.0, Median = 51, Standard deviation = 11.705
Losing: Mean = 48.308, Minimum = 20.0, Maximum = 87.5, Median = 49, Standard deviation = 11.674
73. Total net gain or loss since account was opened: Mean = -\$73,010, Minimum = -\$1,297,121, Maximum = \$1,051,289, Median = \$24,000, Standard deviation = \$222.85

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