Too Many Cooks Spoil the Profits:
The Performance of Investment Clubs

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Abstract

We analyze the common stock investment performance of 166 investment clubs using account data from a large discount brokerage firm from February 1991 through January 1997. The average club tilts its common stock investment toward high-beta, small, growth stocks, and turns over 65 percent of its portfolio annually. The average club lagged the performance of a broad-based market index by over three percent per year; the average club earned an annualized geometric mean return of 14.1 percent, while a market index returned 17.9 percent. In addition, 60 percent of the clubs we analyze underperform the index.

> The queen of all National Association of Investors Corporation (NAIC) investors is a group known as the Beardstown Ladies, a group of women from the central Illinois town of Beardstown, who average close to 70 years old. From 1983 through 1992, they averaged a 23.6 percent annual return, bettering the Standard & Poor's 500 by more than 8 percent. In 1991, their portfolio grew by a whopping 59.5 percent.
>
> The Beardstown women have become celebrities. They starred in their own video, "Cookin' Up Profits on Wall Street," have been profiled in dozens of publications and have become favorites on "CBS This Morning" television show.
>
> How do they do it?
>
> *Chicago Tribune*, December 14, 1994

> The Beardstown Ladies, the investment club of grandmotherly investors that became popular with the media, said that an audit by Price Waterhouse shows their 10-year average annual rate of return was 9.1 percent – not the 23.4 percent promoted on the cover of their best-selling book.
>
> *Wall Street Journal*, March 18, 1998

In May 1998, the NAIC reports that there were over 35,000 investment clubs in the United States. The financial press makes frequent and bold claims regarding the performance of investment clubs. One oft quoted figure from a NAIC survey of clubs: 60 percent of investment clubs beat the market.[1] Are these claims myth or reality? This paper attempts to answer this question, while providing a descriptive analysis of the common stock investments of clubs.

Using data from a large discount brokerage house, we are able to analyze the performance of a randomly selected sample of 166 investment clubs. This sample enables us to overcome the obvious shortcomings of conclusions based on surveys of clubs. (One example of these limitations is provided by the experience of the

[1] See, for example, the "Old Standby: The Investment Club Approach Finds a New Popularity," *The Wall Street Journal*, July 17, 1991, p.C1. Similar claims are made in "For fun and money: investment clubs are embraced by baby-boom generation," *Wall Street Journal*, May 6, 1986, p.C1; "Guess who loves the small investor?" *Wall Street Journal*, November 6, 1990, p.C1; "Investment clubs proliferate, featuring risky type of player," *Wall Street Journal*, March 3, 1994, p.C1; "When going the club route goes awry," *New York Times*, February 1, 1998, sec.3, p.5.

Beardstown ladies.) Our results are sobering news for investment clubs. We document that 60 percent of the 166 clubs underperform the market. The average club earned an annualized geometric mean return of 14.1 percent, while a value-weighted market index of NYSE/ASE/Nasdaq stocks returned 17.9 percent during the same period (see figure 1).

The experience of investment clubs differs from that of individual investors in several respects.[2,3] First, the average investment club tilts its investments toward growth stocks (stocks with low book-to-market ratios); in contrast, the average individual investor does not. Second, on average, clubs executes smaller trades than do individuals. The average trade of individuals is about 50 percent larger than the average trade of clubs; the median trade of individuals is more than twice as large as the median trade of clubs. Third, on average clubs, with annual turnover of about 65 percent, trade almost as frequently as individuals, who average annual turnover of about 75 percent. For these three reasons (a tilt toward growth stocks, small trade size, and frequent trading), the average club, which earned an annualized geometric mean return of 14.1 percent during our sample period, underperformed the average individual investor, who earned 16.4 percent (see figure 1).

The remainder of this paper is organized as follows. In section I we describe our data and methods. Results are presented in section II and we make concluding remarks in section III.

I. Data and Methods

A. Investment Club Data

Our primary data set for this research is information from a large discount brokerage firm on the investments of 78,000 clients from February 1991 through December 1996. The sample is drawn randomly from all clients with open accounts at

[2] The investment experience of individual investors is taken from Barber and Odean (1999). It represents the investment experience of over 60,000 individual investors at the same discount brokerage firm as the 166 clubs that we analyze in this paper.

[3] See Harrington (1999) for a discussion of the mechanics and social dynamics of investment clubs.

this discount brokerage firm during 1991. Barber and Odean (1999) provide a complete description of these data. Of these clients, 166 are identified as investment clubs.[4]

In this research, we focus on the common stock investments of investment clubs. We exclude from the current analysis investments in mutual funds (both open- and closed-end), American depository receipts (ADRs), warrants, and options. These clubs made 7,559 trades in all securities; common stocks accounted for slightly more than 80 percent of those trades. The 166 clubs are all in the United States, though not concentrated in any particular state or region; 34 percent are in the West, 32 percent in the Midwest, 22 percent in the East, and 12 percent in the South.

In Table 1, we present descriptive information on the stock positions and trades for the 166 clubs. The position statements (Panel A) indicate that the average club held 7.5 stocks worth $37,416 during our sample period, though each of these figures is positively skewed. Each club member likely has a much larger investment in their personal portfolio than in the club portfolio. In May 1998, the NAIC reports that the average NAIC member has a personal portfolio value of $225,000.[5]

Panels B and C present information on purchases and sales, respectively. There were slightly more purchases (3,427) than sales (2,836) during our sample period, though the average value of stocks sold ($8,900) was slightly higher than the value of stocks purchased ($7,600). The average trade of individuals, which is $11,205 for purchases and $13,707 for sales, is roughly 50 percent larger than the average trade of clubs; the median trade of individuals, which is $4,988 for purchases and $5,738 for sales, is more than twice as large as the median club trade.[6]

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[4] To date, we have been unable to identify whether these clubs are members of the NAIC. We would welcome the opportunity to separately analyze the performance of NAIC-affiliated clubs.

[5] For this reason, when we analyze return performance, we focus on market-adjusted returns and alphas rather than risk-volatility measures (Sharpe ratios).

[6] See Barber and Odean (1999), Table 1.

For each trade, we estimate the bid-ask spread component of transaction costs for purchases (spr_{d_b}) or sales (spr_{d_s}) as:

$$spr_{d_s} = \left(\frac{P_{d_s}^{cl}}{P_{d_s}^{s}} - 1 \right), \text{ and}$$

$$spr_{d_b} = -\left(\frac{P_{d_b}^{cl}}{P_{d_b}^{b}} - 1 \right).$$

$P_{d_s}^{cl}$ and $P_{d_b}^{cl}$ are the reported closing prices from the Center for Research in Security Prices (CRSP) daily stock return files on the day of a sale and purchase, respectively; $P_{d_s}^{s}$ and $P_{d_b}^{b}$ are the actual sale and purchase price from our account database. Our estimate of the bid-ask spread component of transaction costs includes any market impact that might result from a trade. It also includes an intraday return on the day of the trade. The commission component of transaction costs is estimated as the dollar value of the commission paid scaled by the total principal value of the transaction, both of which are reported in our account data.

The average purchase cost a club 0.40 percent in bid-ask spread and 3.02 percent in commissions. The average sale cost an investor 0.71 percent in bid-ask spread and 3.98 percent in commissions. Our estimate of the bid-ask spread is slightly higher than the trading cost of 0.21 percent for purchases and 0.63 percent for sales paid by open-end mutual funds from 1966 to 1993 (Carhart, 1997) and 0.31 percent for purchases and 0.69 percent for sales paid by individuals (Barber and Odean, 1999). The round-trip commission cost of 7 percent for clubs is higher than the 5 percent for individuals, but clubs tend to execute smaller trades than individuals (Barber and Odean, 1999). In sum, the average cost of a trade for clubs was 1 percent for the bid-ask spread and about 7 percent in commissions.[7]

Finally, we calculate the monthly portfolio turnover for each club. In each month during our sample period, we identify the common stocks held by each club at the beginning of month *t* from their position statement. To calculate monthly sales turnover,

we match these positions to sales during month *t*. The monthly sales turnover is calculated as the shares sold times the beginning-of-month price per share divided by the total beginning-of-month market value of the club's portfolio. To calculate monthly purchase turnover, we match these positions to purchases during month *t-1*. The monthly purchase turnover is calculated as the shares purchased times the beginning-of-month price per share divided by the total beginning-of-month market value of the portfolio.[8] The average club purchased 5.44 percent and sold 5.68 percent of their stock portfolio each month, though the median club traded much less frequently (buying 3.06 percent of their stock portfolio, while selling 3.28 percent).

In sum, clubs traded their common stocks quite frequently. The average club turned over more than 65 percent of its common stock portfolio each year. This annual turnover rate indicates that investment clubs hold their average common stock investment for 18 months.[9] The average club trades slightly less than the average mutual fund (annual turnover of 78 percent, Carhart (1997)) or individual investor (annual turnover of 76 percent, Barber and Odean (1999)).

B. Return Calculations

The focus of our analysis is the return performance of investments in common stocks by investment clubs. We analyze both the gross performance and net performance (after a reasonable accounting for commissions, the bid-ask spread, and the market impact of trades).

We estimate the gross monthly return on each common stock investment using the beginning-of-month position statements from our account data and the CRSP monthly

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[7] When these averages are weighted by the equity value of each trade, commissions are lower--0.9 percent for purchases and 0.8 percent for sales--and the round-trip bid-ask spread is greater, 1.75 percent.

[8] If more shares were sold than were held at the beginning of the month (because, for example, an investor purchased additional shares after the beginning of the month), we assume the entire beginning-of-month position in that security was sold. Similarly, if more shares were purchased in the preceding month than were held in the position statement, we assume the entire position was purchased in the preceding month. Thus, turnover, as we have calculated it, cannot exceed 100 percent in a month.

[9] The NAIC reports the average length of time that a NAIC member holds a stock is 7.25 years, which implies an annual turnover rate of 14 percent. It is our understanding that these figures come from club surveys.

returns file. In so doing, we make two simplifying assumptions. First, we assume that all securities are bought or sold on the last day of the month. Thus, we ignore the returns earned on stocks purchased from the purchase date to the end of the month and include the returns earned on stocks sold from the sale date to the end of the month. Second, we ignore intramonth trading (e.g., a purchase on March 6 and a sale of the same security on March 20), though we do include in our analysis short-term trades that yield a position at the end of a calendar month. Barber and Odean (1999) document that these two simplifying assumptions yield estimates of return performance that are slightly overstated.

Consider the common stock portfolio for a particular club. The gross monthly return on the club's portfolio (R_{ct}^{gr}) is calculated as:

$$R_{ct}^{\text{gr}} = \sum_{i=1}^{s_{ct}} p_{it} R_{it}^{\text{gr}},$$

where p_{it} is the beginning-of-month market value for the holding of stock *i* by club *c* in month *t* divided by the beginning-of-month market value of all stocks held by club *c*, R_{it}^{gr} is the gross monthly return for stock *i*, and s_{ct} are the number of stocks held by club *c* in month *t*.

For security *i* in month *t*, we calculate a monthly return net of transaction costs (R_{it}^{net}) as:

$$(1 + R_{it}^{\text{net}}) = (1 + R_{it}^{\text{gr}}) \frac{(1 - c_{it}^{s})}{(1 + c_{i,t-1}^{b})}$$

where c_{it}^{s} is the cost of sales scaled by the sales price in month *t* and $c_{i,t-1}^{b}$ is the cost of purchases scaled by the purchase price in month *t-1*. The cost of purchases and sales include the commissions and bid-ask spread components, which are estimated individually for each trade as previously described. Thus, for a security purchased in month *t-1* and sold in month *t*, both c_{it}^{s} and $c_{i,t-1}^{b}$ are positive; for a security that was neither purchased in month *t-1* nor sold in month *t*, both c_{it}^{s} and $c_{i,t-1}^{b}$ are zero. Because

the timing and cost of purchases and sales vary across clubs, the net return for security *i* in month *t* will vary across clubs. The net monthly portfolio return for each club is:

$$R_{ct}^{\text{net}} = \sum_{i=1}^{s_{ct}} p_{it} R_{it}^{\text{net}}.$$

(If only a portion of the beginning-of-month position in stock *i* was purchased or sold, the transaction cost is only applied to the portion that was purchased or sold.)

We estimate the average gross and net monthly return earned by investment clubs as:

$$RC_t^{\text{gr}} = \frac{1}{n_{ct}} \sum_{c=1}^{n_{ct}} R_{ct}^{\text{gr}}, \text{ and}$$

$$RC_t^{\text{net}} = \frac{1}{n_{ct}} \sum_{c=1}^{n_{ct}} R_{ct}^{\text{net}}.$$

where n_{ct} are the number of clubs with common stock investment in month *t*.

C. Performance Evaluation

We calculate four measures of risk-adjusted performance. First, we calculate an own-benchmark abnormal return for investment clubs, which is similar in spirit to that proposed by Grinblatt and Titman (1993) and Lakonishok, Shleifer, and Vishny (1992). In this abnormal return calculation, the benchmark for club *c* is the month *t* return of the beginning-of-year portfolio held by the club.[10] It represents the return that the club would have earned had it merely held its beginning-of-year portfolio for the entire year. The own-benchmark abnormal return is the return earned by club *c* less the own-benchmark return; if the club did not trade during the year, the own-benchmark return would be zero for all twelve months during the year. In each month, the abnormal returns across clubs are averaged yielding a 72-month time-series of mean monthly own-benchmark abnormal returns. Statistical significance is calculating using t-statistics based on this time-series. The advantage of the own-benchmark abnormal return measure is that it doesn't adjust

[10] When calculating this benchmark, we begin the year on February 1st. We do so because our first monthly position statements are from the month end of January 1991. If the stocks held by a club at the beginning

returns according to a particular risk model. No model of risk is universally accepted; furthermore, it may be inappropriate to adjust investors' returns for stock characteristics that they do not associate with risk. The own-benchmark measure allows each club to self-select the investment style and risk profile of its benchmark (i.e., the portfolio it held at the beginning of the year), thus emphasizing the effect trading has on performance.

Second, we calculate the mean monthly market-adjusted abnormal return for clubs by subtracting the return on a value-weighted index of NYSE/ASE/Nasdaq stocks from the return earned by the average club.

Third, we employ the theoretical framework of the Capital Asset Pricing Model and estimate Jensen's alpha (Jensen (1969)) by regressing the monthly excess return earned by the average club on the market excess return. For example, we estimate the following monthly time-series regression:

$$\left(RC_t^{\text{gr}} - R_{ft}\right) = a_i + b_i\left(R_{mt} - R_{ft}\right) + e_{it}$$

where:

R_{ft} = the monthly return on T-Bills,[11]

R_{mt} = the monthly return on a value-weighted market index,

a_i = the CAPM intercept (Jensen's alpha),

b_i = the market beta, and

e_{it} = the regression error term.

The subscript *i* denotes parameter estimates and error terms from regression *i*, where we estimate two regressions: one for the gross and one for the net performance of the average club.

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of the year are missing CRSP returns data during the year, we assume that stock is invested in the remainder of the club's portfolio.

[11] The return on T-bills is from Stocks, Bonds, Bills, and Inflation, 1997 Yearbook, Ibbotson Associates, Chicago, IL.

Fourth, we employ an intercept test using the three-factor model developed by Fama and French (1993). For example, to evaluate the performance of the average club, we estimate the following monthly time-series regression:

$$\left(RC_t^{\text{gr}} - R_{ft}\right) = a_j + b_j\left(R_{mt} - R_{ft}\right) + s_j SMB_t + h_j HML_t + e_{jt}$$

where SMB_t is the return on a value-weighted portfolio of small stocks minus the return on a value-weighted portfolio of big stocks and HML_t is the return on a value-weighted portfolio of high book-to-market stocks minus the return on a value-weighted portfolio of low book-to-market stocks.[12] The regression yields parameter estimates of a_j, b_j, s_j, and h_j. The error term in the regression is denoted by e_{jt}. The subscript j denotes parameter estimates and error terms from regression j, where we again estimate two regressions. We place particular emphasis on the Fama-French intercept tests, since investment clubs tilt their portfolios toward small stocks. The three-factor model provides a reasonable adjustment for this small stock tilt.[13]

Fama and French (1993) argue that the risk of common stock investments can be parsimoniously summarized as risk related to the market, firm size, and a firm's book-to-market ratio. We measure these three risk exposures using the coefficient estimates on the market excess return $(R_{mt} - R_{ft})$, the size zero-investment portfolio (SMB_t), and the book-to-market zero-investment portfolio (HML_t) from the three-factor regressions. Portfolios with above-average market risk have betas greater than one, $b_j > 1$. Portfolios with a tilt toward small (value) stocks relative to a value-weighted market index have size (book-to-market) coefficients greater than zero, $s_j > 0$ ($h_j > 0$).

[12] The construction of these portfolios is discussed in detail in Fama and French (1993). We thank Kenneth French for providing us with these data.

[13] Lyon, Barber, and Tsai (1999) document that intercept tests using the three-factor model are well specified in random samples and samples of large or small firms. Thus, the Fama-French intercept tests employed here account well for the small stock tilt of clubs.

II. Results

A. Full Sample Results

We summarize our main findings simply in Figure 1, where we compare the gross and net annual returns earned by the S&P 500, the average individual investor, and the average investment club. The average annual gross returns of clubs (17.0 percent) lags that earned by the S&P 500[14] (18.0 percent) and the average individual investor (18.7 percent). The differences become quite pronounced after considering transaction costs. The average annual net returns of clubs (14.1 percent) lags that earned by a passive S&P 500 index (17.8 percent) by 3.7 percent per year. Even individual investors, who are unable to match market performance, perform considerably better than the average club.

In Table 2, we present the gross (Panel A) and net (Panel B) percentage monthly returns for common stock portfolios held investment clubs. Three of the four performance measures indicate that the gross performance of investment clubs is unremarkable; neither the market-adjusted return, Jensen's alpha, nor the intercept test from the Fama-French three-factor model are reliably different from zero. However, the own-benchmark abnormal return, which emphasizes the effect of trading on performance, indicates that the *gross* performance of investment clubs is reliably negative. This results suggests that the stocks clubs choose to buy perform worse than the stocks that they choose to sell -- a result that we confirm later in this paper.

Also noteworthy in these results are the coefficient estimates on the market, size, and book-to-market factors. Investment clubs tilt their investments toward small growth stocks with high market risk. The market beta for stocks held by individual investors is reliably greater than one, the coefficient estimate on SMB_t is reliably positive, and the coefficient estimate on HML_t is reliably negative. The size and beta tilts of investment clubs are similar to those of individual investors (Barber and Odean, 1999). However,

[14] The value-weighted return of all NYSE/ASE/Nasdaq stocks during the same period was 17.9 percent. Because the Vanguard Index 500 was available as an investment alternative during our entire sample period, while the Vanguard Index Total Stock Market was not, we use the S&P 500 as our market

individual investors, if anything, tilt toward value stocks, while investment clubs tilt toward growth stocks.

The NAIC recommends that clubs invest in growth stocks and apparently they do.[15] This is interesting advice, since the extant evidence over long horizons indicates that growth stocks earn average returns that are less than those of the market (Fama and French (1992, 1998), Lakonishok, Shleifer, and Vishny (1994)). Consistent with the evidence over longer horizons, the small stock tilt of clubs helped their performance during our sample period, while the growth tilt did not. The mean monthly returns on SMB_t and HML_t during our 72-month sample period were 0.15 and 0.20 percent, respectively.

The more interesting findings of our analysis are contained in Panel B. Net of transaction costs, investment clubs perform poorly. They underperform a value-weighted market index by 25 basis points per month (3 percent per year), though this underperformance is not reliably different from zero. Of course, a simple market-adjustment does not account for the tendency for investment clubs to tilt toward small growth stocks with high market risk. The own-benchmark abnormal return indicates clubs underperform their beginning-of-year portfolio by 29 basis points per month (3.5 percent per year); Jensen's alpha (CAPM intercept) indicates underperformance of 40 basis points per month (4.8 percent per year); and, the intercept test from the Fama-French three-factor model indicates underperformance of 37 basis points per month (4.4 percent per year). In combination, these results indicate that the net return performance of investment clubs is reliably negative.

B. Cross-Sectional Variation in Performance

We should emphasize that the average club performance masks considerable cross-sectional variation in club performance. For each club, we calculate the mean

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benchmark for the purposes of this analysis. In the remainder of the paper, the benchmark is the index of all NYSE/ASE/Nasdaq stocks.

[15] See, for example, the investment philosophy of the NAIC at www.better-investing.org/member/history.html, which encourages its members to "buy growth stocks -- companies whose sales are increasing at a rate faster than the industry in general."

monthly market-adjusted abnormal return during our sample period. We present the distribution of these means in Table 3. (This distribution is similar if we use intercepts from a Fama-French three-factor model regression to measure the performance of each club.) The gross return performance of clubs is solid. The median club beat the market by 7.5 basis points per month and 54.8 percent of clubs beat the market. Unfortunately, the net performance of clubs was poor. The median club underperformed the market by 13.1 basis points per month. More importantly, in contrast to some claims in the financial press that 60 percent of clubs beat the Standard and Poor's 500, we find that 60 percent of clubs underperform a market index.[16]

C. Security Selection Ability of Investment Clubs

In this section, we document that investment clubs have poor ability to time security selections; the stocks that clubs choose to sell earn reliably greater returns than the stocks they choose to buy. These results are consistent with those in Odean (1999), who documents a similar result for individual investors. Barber and Odean (1998) document that both men and women time their trades poorly.

In each month, we construct a portfolio composed of those stocks purchased by clubs in the preceding twelve months. The returns on this portfolio in month t are calculated as:

$$\frac{\sum_{i=1}^{n} T_{it} R_{it}}{\sum_{i=1}^{n} T_{it}}$$

where T_{it} is the aggregate value of all trades in security *i* from month *t-12* through *t-1* and R_{it} is the gross monthly return of stock *i* in month *t*. Two portfolios are constructed: one for the purchases and one for the sales of clubs.

[16] In October 1998, the NAIC web page reports that "members using NAIC tools and investment principles show that 42.9 percent equaled or exceeded the earnings of the S&P 500 Index." This number is consistent with our findings.

As before, we evaluate the performance of each portfolio using market-adjusted returns or intercept tests from time-series regressions (either the CAPM or the Fama-French three-factor model). The results of this analysis are presented in Table 4. Regardless of the benchmark employed, the stocks that clubs buy earn reliably lower returns than the stocks they choose to sell, with underperformance ranging from 35 to 41 basis points per month (4.2 to 4.9 percent per year) depending on the choice of benchmark. In short, as is the case for individual investors in general, clubs hurt their *gross* performance by trading.

III. Conclusion

In this research, we analyze the investment performance of 166 investment clubs from February 1991 through January 1997 randomly drawn from the account data of a large discount brokerage house. These clubs tilted their common stock investments toward small growth stocks with high market risk. They turned over 65 percent of their portfolios each year, implying that the average holding period for a club's stock investment is approximately 18 months. These clubs earned an average annual net return of 14.1 percent; during the same period, the S&P 500 returned 18 percent. (A value-weighted index of all NYSE/ASE/Nasdaq stocks returned 17.9 percent.) Sixty percent (100) of the 166 clubs underperformed the market. Finally, these clubs hurt their performance by trading; in addition to the obvious costs associated with trading (commissions and the bid-ask spread), the stocks clubs bought subsequently earned *lower* returns (by 4.2 percent per year) than the stocks they chose to sell.

The financial press frequently touts the superior performance of investment clubs. This evidence often comes from surveys of investment clubs. Our research highlights three inherent limitations of the survey approach to documenting performance. First, we speculate that those clubs with superior performance are more likely to respond to a survey. This selection bias in reporting will overstate the performance of the average investment club. Second, if poor performance is one reason that clubs disband, clubs with superior performance are more likely to survive and, thus, respond to surveys. This survivorship bias will lead to the overstatement of the performance of the average club.

Third, surveys that rely on a clubs' own ability to calculate their returns are likely to be unreliable. The experience of the Beardstown ladies underscores the challenges that such calculations can pose.

Investment clubs serve many useful functions: They encourage savings. They educate their members about financial markets. They foster friendships and social ties. They entertain. Unfortunately, their investments do not beat the market.

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Table 1

Descriptive Statistics on Trade Size, Trade Price, Transaction Costs, and Turnover for Investment Clubs: February 1991 to December 1996

The sample is drawn from the account records 166 investment clubs at a large discount brokerage firm. Spread is calculated as the transaction price divided by the closing price on the day of the transaction minus one (and then multiplied by minus one for purchases). Commission is calculated as the commission paid divided by the value of the trade. Monthly turnover is the beginning-of-month market value of shares purchased in month t-1 (or sold in month t) divided by the total beginning-of-month market value of shares held in month t.

	Mean	25th Perc.	Median	75th Perc.	Std. Dev.	Obs.
Panel A: Monthly Common Stock Positions						
Number of Stocks	7.51	3.75	6.66	10.07	5.17	166
Value of Stock Held ($)	37,416	10,740	20,159	35,682	56,055	166
Panel B: Purchases						
Trade Size ($)	7,600	1,188	2,213	3,825	49,820	3,427
Price/Share	34.2	15.5	28.0	43.8	151.7	3,427
Monthly Turnover (%)	5.44	1.48	3.06	5.76	9.14	166
Commission (%)	3.02	1.52	2.54	3.99	2.34	3,413
Spread(%)	0.40					3,410
Panel C: Sales						
Trade Size ($)	8,900	1,425	2,704	5,100	49,916	2,836
Price/Share	33.4	14.3	26.1	40.9	156.7	2,836
Monthly Turnover (%)	5.68	1.11	3.28	6.03	9.72	166
Commission (%)	3.98	1.28	2.14	3.61	9.88	2,812
Spread (%)	0.71					2,808

Table 2

Summary of Percentage Monthly Abnormal Return Measures
for the Average Investment Club: February 1991 to January 1997

Panel A (Panel B) presents results for the gross (net) return on a portfolio that mimics the investment of the average investment club. Own-Benchmark Abnormal Return is the return on the household portfolio minus the return on the portfolio the household held at the end of the previous January. Market-adjusted return is the return on the club less the return on a value-weighted NYSE/ASE/Nasdaq index. CAPM intercept is the estimated intercept from a time-series regression of the club excess return on the market excess return $(R_{mt} - R_{ft})$. Fama-French Three-Factor are the results from a time-series regressions of club excess return on the market excess return, a zero-investment book-to-market portfolio (HML_t), and a zero-investment size portfolio (SMB_t). Standard errors are presented in parentheses.

		Coefficient Estimate on:			
	Excess Return	$(R_{mt} - R_{ft})$	HML_t	SMB_t	Adjusted R^2
Panel A: Gross Average Club Percentage Monthly Returns					
Own Benchmark Abn. Return	-0.106** (0.043)				
Market Adjusted	-0.038 (0.165)				
CAPM Intercept	-0.195 (0.168)	1.148*** (0.055)			86.0
Fama-French Three-Factor	-0.172 (0.122)	1.100** (0.042)	-0.115** (0.052)	0.335*** (0.046)	93.3
Panel B: Net Average Club Percentage Monthly Returns					
Own Benchmark	-0.290*** (0.044)				
Market Adjusted	-0.252 (0.161)				
CAPM Intercept	-0.404** (0.165)	1.144*** (0.054)			86.4
Fama-French Three-Factor	-0.373*** (0.119)	1.083** (0.041)	-0.129** (0.051)	0.324*** (0.045)	93.4

***, **, * - significant at the 1, 5, and 10% level, respectively. The null hypothesis for beta (the coefficient estimate on the market excess return) is H_o: $\beta = 1$.

Table 3

Cross-Sectional Distribution of
Percentage Monthly Gross and Net Market-Adjusted Returns for 166 Investment Clubs:
February 1991 to January 1997

	Gross Monthly Market-Adjusted Return (%)	Net Monthly Market-Adjusted Return (%)
Minimum	-4.650	-7.842
1st Percentile	-4.480	-5.957
5th Percentile	-1.984	-2.587
10th Percentile	-1.190	-1.674
25th Percentile	-0.454	-0.597
Median	0.075	-0.131
75th Percentile	0.389	0.188
90th Percentile	0.752	0.706
95th Percentile	1.755	1.361
99th Percentile	4.380	3.948
Maximum	5.438	4.368
Percentage > 0	54.8	39.8
Binomial Z-statistic	1.25	-2.64**

** - significantly different from 50% at the 5% level.

Table 4

Percentage Monthly Abnormal Returns for Portfolios
formed on the Basis of Purchases and Sales of 166 Investment Clubs:
January 1992 through December 1996

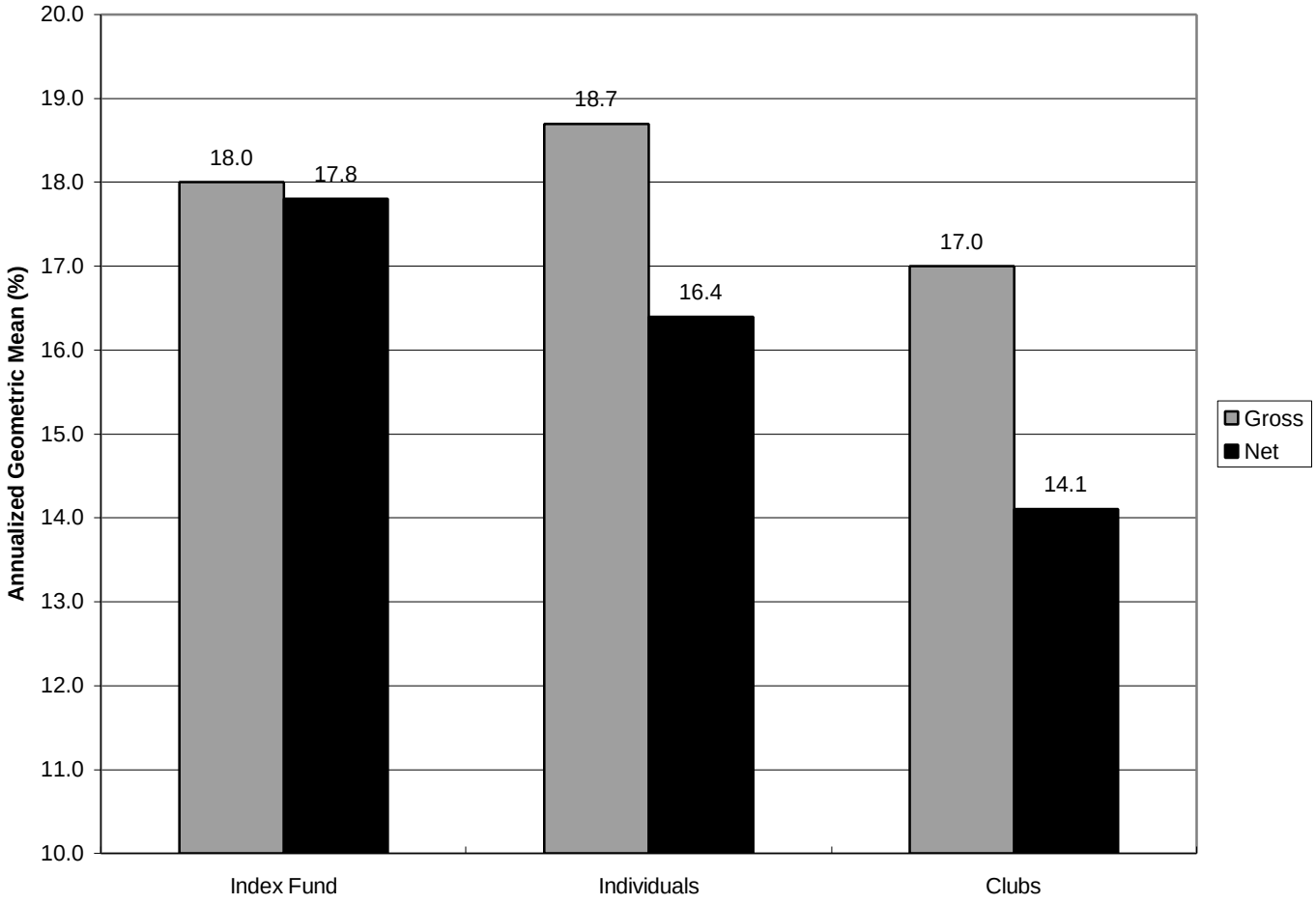
In month t, the clubs' buy (sell) portfolios consists of all securities purchased (sold) in the preceding 12 months by the 166 investment clubs. Portfolio returns are calculated by weighting each security in proportion to the value of trades made in the security. The market-adjusted return is calculated by subtracting the return on a value-weighted market index. The CAPM intercept is the intercept from a time-series regression of a portfolio's excess return on the market excess return, where excess returns are calculated by subtracting the return on U.S. t-bills. The Fama-French intercept is the intercept from a time-series regression of a portfolio's excess return on the market excess return, a size zero-investment portfolio, and a book-to-market zero-investment portfolio.

	Market-Adjusted Return
Buy Portfolio	-0.179
Sell Portfolio	0.166
Buy – Sell	-0.346*
	CAPM Intercept
Buy Portfolio	-0.529
Sell Portfolio	-0.119
Buy – Sell	-0.410*
	Fama-French Intercept
Buy Portfolio	-0.304
Sell Portfolio	0.078
Buy – Sell	-0.382*

* - significant at 10% level.

Figure 1

The Gross and Net Percentage Annual Return earned by a Passive Index Fund, the Average Individual Investor, and the Average Investment Club:
February 1991 to January 1997



Note: The gross return on the Index fund is the return on the S&P 500 as reported by CRSP, while the net return is that earned by the Vanguard Index 500. (During the same period, a value-weighted index of NYSE/ASE/Nasdaq stocks earned a return of 17.9 percent. The Vanguard Index Total Stock Market was not available at the beginning of our sample period.) Mutual fund returns are from Morningstar. The gross and net performance of Individual Investors are from Barber and Odean (1999).