The Returns from the Recommended Stocks of Brokerage Firms*

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The Returns from the Recommended Stocks of Brokerage Firms

In 1940 Fred Schwed comically chronicled the investment business in his highly entertaining book entitled *Where Are the Customers' Yachts?* As suggested by the title, Schwed's ten years of working experience on Wall Street led him to question the value of brokers' advice. The following quote from the book summarizes his overall assessment of the business: "Wall Street is a street with a river at one end and a graveyard at the other. This is striking, but incomplete. It omits the kindergarten in the middle."

Since Schwed penned his classic over a half-century ago, the stock market has produced double-digit annual returns and the investment banking and brokerage businesses have thrived. And yet over that time many have questioned the ability of brokerage firm analysts to pick stock market winners. The recent Wall Street scandal following the bubble in Internet and technology stocks has only fueled the debate over brokerage firm stock recommendations.

This study addresses this issue in two ways: First, the performance of the stock recommendations of the top brokerage firms is evaluated over the past ten years. The issue that is addressed is rather simple: Which firms pick the best stocks? The second issue addressed is whether the returns produced by the stock recommendations of top brokerage firms outpace the market as measured by the S&P 500.

This study is unique in that it (1) employs a very public source to track the performance of the stock recommendations of brokerage firms, (2) examines the raw and risk-adjusted performance of brokerage firm stock recommendations over a ten-year time period, and (3) evaluates the stock recommendation performance of individual brokerage firms to assess which firms have provided the best advice.

Data and Methodology

Quarterly since the late 1980s, Zacks Investment Research has produced a study of the stock recommendations of the 15 largest U.S. brokerage

FIGURE 1
Brokerage Firms' Recommended Stocks
Brokerage Firms In Quarterly *Wall Street Journal* Survey
1993-2002

Firm	Type *
A.G. Edwards	R
Bank of America	MT
Bear Stearns	MT
Credit Suisse First Boston	TT
Edward Jones	R
Everen Securities	R
First Union Securities	R
Wheat Securities	R
Goldman Sachs	TT
J.P. Morgan	MT
Kemper	R
Kidder Peabody	MT
Lehman Brothers	TT
Shearson Lehman	TT
Merrill Lynch	TT
Morgan Stanley	TT
Dean Witter	MT
Prudential Securities	MT
Raymond James	R
RBC Dain Rauscher	R
Salomon Brothers	TT
Salomon Smith Barney	TT
U.S. Bancorp Piper Jaffray	R
Piper Jaffray	R
UBS Warburg	MT
PaineWebber	MT

* TT - Top-Tier – MT - Mid-Tier – R - Regional

firms for *The Wall Street Journal*. Over the last decade, a total of 22 brokerage firms have been involved in the survey at one time or another. They are listed in Figure 1. The many mergers in the industry have changed the composition of the brokerage firms in the survey over time. The individual firms are arbitrarily classified in Figure 1 as being either a top-tier, mid-tier, or regional brokerage firm.

The objective of the quarterly analysis is to assess the stock-picking abilities of major brokerage firms. The approach is summarized below: [1]

> The *Journal* survey is intended to give investors an idea of how their portfolio would look if they let Wall Street professionals do all the picking. Calculations done for the *Journal* by Zacks Investment Research in Chicago take into account capital gains or losses, dividends and theoretical commissions of 1% on each trade.
>
> The recommendations are culled from the companies these firms cover and, in general, represent their top stock picks. Some, such as Bear Stearns, developed stock lists specifically for the *Journal* survey. Others, like Lehman Brothers Holdings Inc., use existing lists given to clients.

Zacks calculates the performance of the recommended stocks on an equal-weighted basis. Monthly returns are computed using the price changes and dividends of the stocks, and these returns are compounded to produce the quarterly return performance figures. Zacks has been using the same methodology since it began to track the recommended stocks of brokerage firms for *The Wall Street Journal* over 13 years ago. The quarterly returns provided by Zacks are then compounded to produce the annual returns associated with the recommendations of the brokerage firms.

WHO PICKS THE BEST STOCKS? The Stock Recommendations of Individual Brokerage Firms [2]

There are ten brokerage firms whose quarterly results were reported for the entire ten-year period – 1993-2002. Summary financial statistics for the stock recommendations of these ten firms are presented in Figure 2 and include the following:

- The average compounded annual return of the firm's recommended stocks,
- The standard deviation of the annual returns,
- The high and low quarterly returns, and
- The cumulative wealth index (CWI), which measures the outcome of investing $1,000 in the recommended stocks of the brokerage firm for the ten-year period ending December 31, 2002.

The brokerage firms in Figure 2 are ranked based on the average annual return associated with their stock recommendations. The most striking result is the tremendous variability in the performance of the stock recommendations of individual brokerage firms. The recommendations of Raymond James produced the highest average annual return – 13.98% – while the recommendations of Lehman Brothers provided the lowest – 4.05%. Over this period, the average annual return for the S&P 500 was 9.35%. In terms of average annual return, the recommendations of four of the ten firms beat the S&P 500 over the ten-year period.

[1] Susanne Craig, "Piper Jaffray Wins Top Spot in our Stock-Picking Survey," *Wall Street Journal* (February 19, 2003).
[2] Despite the recent scandals involving brokerage firm analysts, a number of academic studies do suggest that, at least in the short term, there is value in their stock recommendations. The references provide a list of the most relevant studies in this area. For an excellent summary of the research on analysts' recommendations, see Michaely and Womack (2002).

FIGURE 2
The Performance of Brokerage Firm Stock Recommendations
1993-2002

Firm	Average Annual Return (%)	Standard Deviation	Highest Quarterly Return	Lowest Quarterly Return	Cumulative Wealth Index	Beta	Alpha	Coefficient of Determination
Raymond James	**13.98%**	**24.32**	**33.10**	**(31.10)**	**$3,700.45**	**0.94**	**6.54%**	**0.43**
Merrill Lynch	12.84%	17.67	20.50	(16.10)	$ 3,345.92	0.92	4.27%	0.78
Bear Stearns	11.68%	19.71	31.30	(18.20)	$ 3,017.71	1.03	2.27%	0.79
Credit Suisse FB	10.01%	24.82	28.60	(30.10)	$ 2,595.29	1.31	-0.88%	0.80
A.G. Edwards	8.49%	19.93	18.00	(21.50)	$ 2,258.82	1.12	-1.02%	0.90
Goldman Sachs	7.96%	20.92	31.40	(23.20)	$ 2,151.08	1.11	-1.40%	0.82
Morgan Stanley	7.64%	16.90	17.30	(19.30)	$ 2,087.58	0.95	-1.74%	0.90
Prudential Securities	6.34%	21.67	31.80	(22.10)	$ 1,848.94	1.09	-4.79%	0.73
Salomon Smith Barney	4.51%	20.46	26.50	(26.50)	$ 1,554.15	1.09	-2.94%	0.82
Lehman Brothers	4.05%	26.46	45.80	(27.60)	$ 1,486.91	1.40	-7.06%	0.80
Average	8.71%	21.29	28.43	(23.57)	$ 2,404.68	1.10	-0.73%	0.78
S&P 500 Returns	9.35%	16.97	21.30	(17.28)	$ 2,443.46	1.00	0.00	1.00

These firms included Merrill Lynch (12.84%), Bear Stearns (11.68%), and CS First Boston (10.01%).

The average annual return on the stock recommendations of Raymond James is truly impressive. To put this return in perspective, Figure 3 compares the average annual return of Raymond James' stock recommendations over the past ten years with the returns associated with the Consumer Price Index (CPI), Treasury Bills, Treasury Bonds, Corporate Bonds, the S&P 500, and the recommended stocks of the other brokerage firms. Several observations stand out in Figure 3. First, the average return for Raymond James' recommended stocks (13.98%) is over 4.5 percentage points higher per year than the return on the S&P 500 (9.35%), and more than 5.5 percentage points higher per year than the average return for the recommendations of the other brokerage firms (8.17%). Second, it is also noteworthy that the average annual return for the stock recommendations of the other brokerage firms (8.17%) is not only below that of the S&P 500 (9.35%), but also below the average annual return on Treasury bonds (9.67%) and Corporate Bonds (8.84%).

Another method to gauge the performance of the stock recommendations is the Cumulative Wealth Index (CWI). The CWI measures the outcome of investing $1,000 in the recommended stocks for the ten-year period ending December 31, 2002. In Figure 4, the CWIs are provided for the recommended stocks of Raymond James and the other brokerage firms as well as the S&P 500. The CWIs for the stock recommendations of other brokerage firms and the S&P 500 mirror each other over the decade. A $1,000 investment in the stock recommendations of the other brokerage firms and the S&P 500 was worth $2,255

and $2,443, respectively, as of December 31, 2002. On the other hand, a $1,000 investment in the stock recommendations of Raymond James was worth $3,770. Of particular note in Figure 4 is the performance of Raymond James stock recommendations relative to those of other firms and the S&P 500 during the downturn in the stock market since the year 2000.

Any sophisticated investor knows that one way to achieve higher returns over time is to take on more risk. The standard deviation of return and the historic range of returns are two simple ways to assess risk. As shown in Figure 2, the returns of the recommended stocks of Raymond James had a higher annual standard deviation (24.32%) than the recommended stocks of all brokerage firms (21.29%) and the S&P 500 (16.97%). In addition, the range of returns, as measured by the high and low quarterly returns, is larger for the stock recommendations of Raymond James than those of other brokerage firms as well as the S&P 500.

These two simple return variability measures indicate that Raymond James' recommended stocks were riskier than those of other brokerage firms and the S&P 500. However, modern capital market theory indicates that the appropriate way to gauge risk is in a portfolio context, and the proper risk measure is beta (*b*).[3] Beta is a regression coefficient obtained by regressing the returns on stocks on the returns of the overall market. In this study, that involves a regression of the average quarterly returns of the recommended stocks on the quarterly returns of the S&P 500. In this regression, alpha (*a*) is the constant term and it measures the risk-adjusted or excess returns generated by the recommendations.[4]

Figure 2 also provides the alpha, beta, and coefficient of determination (R^2) of the regression of the average quarterly returns of the recommended stocks on the returns of the S&P 500.[5] The beta for the recommended

FIGURE 3
Average Annual Returns for Alternative Investments
1993-2002

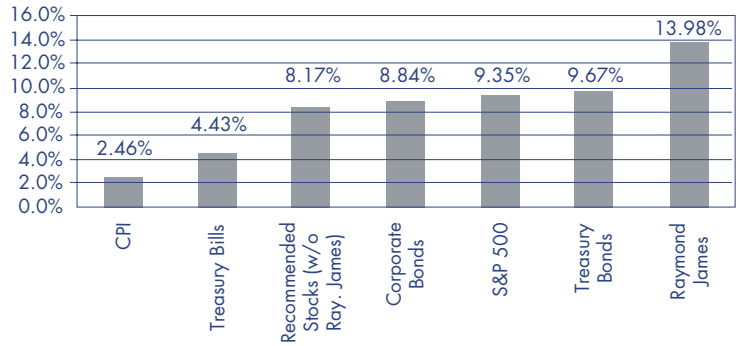
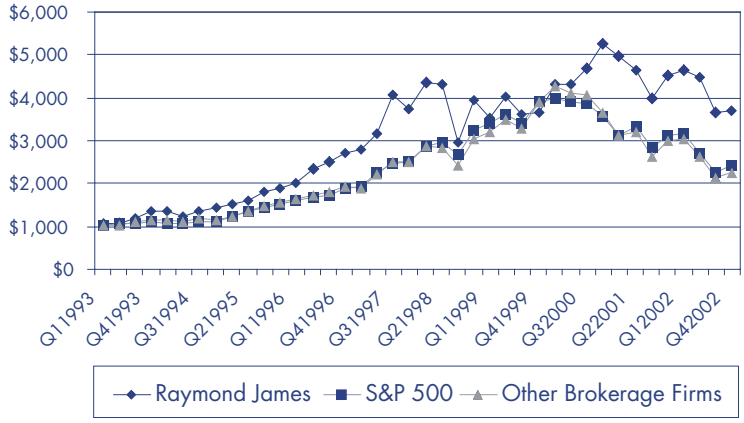


FIGURE 4
Cumulative Wealth on $1,000 Investment
Stock Recommendations of Raymond James,
Other Brokerage Firms, and the S&P 500
1993-2002



[3] Beta measures the risk that stocks add to a diversified portfolio of securities. The market has a beta of 1.0. A beta greater than 1.0 indicates higher than average risk, and a beta less than 1.0 indicates less than average risk.

[4] This regression, known as the market model, is specified as: $r_{pt} = a + b\,(r_{mt}) + e_{pt}$

r_{pt} is the mean quarterly return on the portfolio of the recommended stocks of the brokerage firms,

r_{mt} is the return on the market as measured by the S&P 500,

a is alpha, the constant in the regression, which measures the risk-adjusted or excess returns generated by the recommendations,

b is the regression coefficient which measures the systematic risk or the volatility of the return on the recommended stocks relative to the market, and

e_{pt} is the error term.

[5] The coefficient of determination, or R^2, measures the percentage of the variation of the return of the stock recommendations that is explained by the S&P 500 return. The higher the R^2 (1.0 is the maximum), the higher the correlation between the recommended stock returns and the S&P 500 returns.

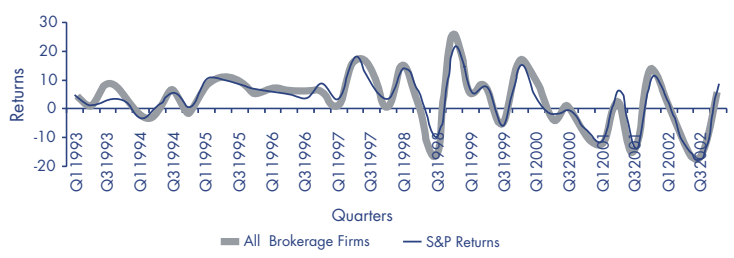
stocks of Raymond James is 0.94, which is the 2nd lowest of the ten firms and below that of the overall market (1.00) and the average for all brokerage firms (1.10). This indicates that Raymond James' recommended stocks are somewhat less risky than those of other firms. In addition, the quarterly alpha for Raymond James, which measures the risk-adjusted or excess returns generated by the recommendations, is 1.60%. This indicates that, on an annual basis, the stock recommendations of Raymond James provided a risk-adjusted or excess return of 6.54%. The coefficient of determination or R^2 for Raymond James recommendations also provides insights into its stock picks. Whereas the returns of the recommendations of the average brokerage firm had an R^2 of 0.78 with the S&P 500, the R^2 for the returns of Raymond James' recommendations was only 0.43. Hence, from a portfolio perspective, these picks have provided very good diversification.

Overall, compared to the stock recommendations of other brokerage firms over the past ten years, the recommended stocks of Raymond James (1) provided the highest average annual return (13.98%), (2) produced the largest risk-adjusted or excess average annual return (a = 6.54%), (3) had relatively low risk as measured by beta (b = 0.94), and (4) provided returns that had a correlation with the market (R^2 = 0.43) which was about half that of returns from the recommendations of other brokerage firms.

FIGURE 5
Summary Return and Cumulative Performance:
Brokerage Firms' Recommended Stocks and the S&P 500
1993-2002

	Average Annual Return (%)	Standard Deviation	Highest Average Quarterly Return	Lowest Average Quarterly Return	Cumulative Wealth Index	Beta	Alpha	R-Square
Brokerage Firms Recommended Stocks	8.97%	19.44%	25.8	(17.5)	$2,358.85	1.10	(0.24)	0.92
S&P	9.35%	16.97%	21.3	(17.3)	$2,443.46			

Comparison of Average Returns of Recommended Stocks and the S&P 500



DO ANALYSTS' STOCK RECOMMENDATIONS BEAT THE MARKET? The Performance of Brokerage Firm Stock Recommendations

You open a financial publication today, go to an investing website, or turn on CNBC today, and a Wall Street analyst will be giving his or her advice on what stocks to buy. The question is – should you listen to their advice? This issue is addressed by evaluating the return performance of the recommended stocks of all brokerage firms over the past ten years.

Figure 5 provides the return and performance figures from not only the recommendations of the ten firms in Figure 2, but also from those other brokerage firms who have been covered at one point or another over the years in *The Wall Street Journal*/Zacks Survey. The mean annual compounded returns for the recommended stocks and the S&P 500 were 8.97% and 9.35%, respectively. The standard deviation of the annual returns was 19.44% for the recommended stocks and 16.97% for the S&P 500. The CWIs for the recommended stocks and the S&P 500 over the ten years were $2,358.85 and $2,443.46. These annual return and cumulative performance figures indicate that the recommended stocks of brokerage firms produced returns that were slightly below those of the S&P 500, and were a little more volatile.

Also provided in Figure 5 are the alpha, beta, and R^2s. These are the summary statistics from regressing the average returns of the brokerage firm recommended

stocks on the S&P 500 returns. The R^2 of 0.92 shows there is a very high correlation between the average recommended stock returns and the S&P 500 returns. The beta of 1.10 indicates that the recommended stocks have a risk level that is slightly higher than the S&P 500. And the quarterly alpha of -0.24 suggests that average risk-adjusted performance of the recommended stocks was about 96 basis points per year below that of the overall market as measured by the S&P 500.

Figure 5 also provides a graph of the quarterly returns for the recommended stocks and the S&P 500 over the ten years. The thick line represents the returns of the recommended stocks and the thin line shows the returns of the S&P 500. This graph supports the results just discussed – the recommended stock returns generally mirrored the S&P 500 returns over the decade, but are a little lower and tended to be a little more volatile. This latter observation is especially noticeable during quarters of relative large movements – such as the 4th quarter of 1998 and the 2nd quarter of 1999.

Summary of Results

This study evaluates the recommended stocks of the major brokerage firms over the past ten years. The study uses quarterly data compiled by Zacks Investment Research and published in *The Wall Street Journal*. The primary conclusions of the study are:

1. While there is considerable variability in the performance of the recommendations of individual brokerage firms, the recommended stocks of Raymond James produced the best returns over the ten-year period.

Raymond James' recommended stocks provided an average annual return of 13.98%, which produced a risk-adjusted or excess average annual return of 6.54%. A $1,000 investment in the stock recommendations of Raymond James was worth $3,700 over ten years, compared to $2,255 for the recommendations of other brokerage firms and $2,443 for the S&P 500. Raymond James' recommended stocks also were relatively low risk with a beta of 0.94, and provided returns which had a low correlation with the market (R^2 = 0.43).

2. The annual and cumulative performance of the recommended stocks of brokerage firms was slightly below that of the S&P 500. Also, the recommended stock returns were a little more variable and riskier than the S&P 500.

The average compounded quarterly return for the recommended stocks and the S&P 500 was 8.97% and 9.35%, respectively. The associated 10-year cumulative wealth index (CWI) for the recommended stocks of brokerage firms and the S&P 500 was $2,358.85 and $2,443.46, respectively. In terms of variability, the standard deviation of the quarterly returns was 19.44% for the recommended stocks and 16.97% for the S&P 500. In addition, the average beta for the recommended stocks was 1.10. Overall, the recommended stocks of brokerage firms produced an alpha or risk-adjusted performance of slightly less than minus one percent per year.

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