Market Timing Works Where it Matters Most... in the Real World

Risk-adjusted returns show market timing at its best.

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Market timing's theoretical efficacy has been the focus of many studies (see Kester [1990] and Sy [1990], for example). Review of these articles suggests that, as the authors have adjusted their assumptions to reflect more closely the realities of trading, their results increasingly support market timing as an investment tool. Until now, however, there has been no empirical study of the market timers' track record. The purpose of this article is to apply the measurement tools of modern portfolio theory to the performance of a sample of real world market timers.

STUDY COVERING 1985 TO 1990

Since March of 1985, MoniResearch Corp. of Portland, Oregon, has published a newsletter monitoring the results of investment advisors who perform market-timing services for clients. Unlike market letter writers, these timers, by virtue of a limited power of attorney, actually implement timing strategies for their clients using, for the most part, no-load mutual funds. The result is a verifiable track record.

MoniResearch obtains continuous client statements from multiple mutual fund accounts for most timers monitored. It then extracts the buy and sell dates from each. In order to focus exclusively on the timing element and to create a level playing field, MoniResearch uses the S&P 500 with dividends reinvested as a surrogate for no-load mutual funds during buy signals. Following sell signals, it is assumed that investments are made in a medium yielding twenty-five basis points over the ninety-one-day T-bill rate (a proxy for a money market fund).

To prepare this study, we determined the monthly return using the MoniResearch methodology for the five-year period 10/1/85 to 9/30/90 for all timers covered by the newsletter who had provided continuous account statements to MoniResearch for the entire five-year period. The twenty-five timers who met this requirement managed amounts ranging from $7 million to $600 million (averaging $120 million), and averaged three round-trip transactions per year, with a high of fourteen.

Monthly returns for each timer based on the S&P 500 and T-bill rates were adjusted for the actual fees charged by each advisor. Calculations were made using the minimum fees charged (0.5%) and the maximum (averaging 2.11%). No fees were assumed in the case of buy and sell transactions because in the real world of mutual fund timing no such fees are charged by the vast majority of funds.

Comparisons are made to a buy-and-hold investment in the S&P 500 with dividends reinvested and in three-month T-bills. Results prove to be highly significant.

RETURN, VARIABILITY, AND RISK

Study results were evaluated according to the factors of return, variability of returns, and risk-adjusted return.

Return

The average annual compounded return on investment (ROI) achieved by the timers as a group during the period ranged from 13.10% to 14.94%, depending on whether the maximum or minimum fees were charged. This compares with an ROI of 14.85% for the S&P 500 with dividends reinvested, 11.18% for long-term U.S. government bonds, and 6.4% for T-bills.

Individual timer ROIs, with minimum fees, range from a low of 8.71% to a high of 22.31%. While the average timer was able to outperform the averages for investors charged minimum fees, the difference in performance was only marginally better than the S&P 500 at such fee levels. Individually, twelve of the twenty-five timers were able to outperform the averages during the period (see the Table).

Analysis of month-to-month performance reveals that returns generated by timers show exceptional performance in declining as compared to

TABLE 1

Market Timer Survey — Minimum Fees (0.5%) — Sorted by Alpha

Portfolio	Annual ROI	Alpha	Beta	Standard Deviation
S&P	14.85%	0.00%	1.00	5.42%
T-bills	6.40	0.00	0.00	0.00
Long-Term Govt Bds	11.18	3.13	0.20	3.32
60% Stks – 40% Bds	13.29	1.16	0.68	3.89
57% Stks – 43% T-bills	11.07	–0.16	0.57	3.10
Firm 20	21.98%	12.62%	0.35	2.65%
Firm 18	22.31	12.47	0.41	4.46
Firm 14	21.86	11.26	0.50	3.80
Firm 16	18.82	9.34	0.36	3.12
Firm 11	17.33	8.65	0.27	2.79
Firm 5	18.61	8.24	0.47	3.44
Firm 17	18.54	8.19	0.47	3.71
Firm 3	17.27	7.57	0.39	3.38
Firm 19	15.80	7.24	0.26	2.77
Firm 24	16.83	6.62	0.45	3.22
Firm 7	14.70	5.84	0.29	2.82
Firm 4	15.82	5.58	0.45	3.37
Firm 10	16.64	4.66	0.66	4.13
Firm 9	13.37	4.26	0.32	2.96
Firm 21	13.20	3.80	0.36	2.90
Firm 13	12.36	3.33	0.31	2.92
Firm 27	12.92	2.97	0.42	3.28
Firm 22	12.57	2.60	0.42	3.16
Firm 8	10.22	1.21	0.31	3.11
Firm 23	11.39	0.73	0.50	3.92
Firm 26	10.95	–0.08	0.55	3.03
Firm 25	9.00	–0.67	0.39	3.30
Firm 6	13.18	–0.70	0.89	5.01
Firm 15	8.71	–0.98	0.39	2.75
Firm 12	9.14	–1.43	0.49	3.73
Average Timer	14.94	4.93	0.43	3.35

advancing market months. In declining market months, the average timers outperform the S&P 91% of the time, while they better the index only 8% of the time in rising months. The average timer achieves 62% of the market's return in positive months, while experiencing only 34% of the losses in declining months.

Because the savings were so great in declining months, however, the timer results slightly exceed the market averages for the entire period. The average timer's net advantage in return in losing months (2.64%) exceeds their net disadvantage in return during rising months (1.63%) by 62%.

As the number of rising months exceeds the number of declining months, and as the timers had

fees to overcome and could do no better than the S&P's returns when invested in the "market," it could be argued that avoiding losses is more important than achieving high monthly gains in advancing markets in determining superior long-term returns. (As we will see, this is even more evident when risk-adjusted returns are considered.) It is worth noting that 92% of the timers outperformed the market averages in the October 1987 crash, and 96% outperformed the market in both the January 1990 fall and the August 1990 decline.

Variability of Returns

Because the returns of the managed (timer sample) and the unmanaged (S&P) sample are relatively similar, one might ask why an investor would seek to use a market timer. The one-word answer, one suspects, is risk. It has always been a tenet of portfolio theory that an investor presented with two investments expected to yield equal annual returns will choose the investment having less risk.

Investors do not have the luxury of the portfolio manager who always manages investments for the "long term," in neatly crafted quarters and easily defined calendar years. Instead, most invest for an event whose timing may not be so distant, and certainly cannot be so precisely quantified. It matters not to investors that at the end of five years they would have achieved a 15% return, if three months into the investment they are faced with a 20% loss and unexpected events dictate *then* as the time when they need the money back.

At the same time, the realities of the marketplace may dissuade the investor from using short-term, fixed-income investments with little real return after inflation. Hence, the need for a risk-averse investment in the equity markets. Many believe that market timing fulfills that need.

A number of risk measures can be applied to the sample to try to determine whether market timing really is risk-averse. Normally this is accomplished by employing measurements of variability of return. Reviewing the monthly returns of the timer sample, we find an average monthly standard deviation of 3.35, with a range of 2.65 to 5.01. This compares favorably with a balanced portfolio of 60% stocks and 40% bonds that has a standard deviation of 3.89. More important, with the S&P's average monthly standard deviation during the period of 5.42, every timer in the study exhibits a lower standard deviation than the S&P.

Measurements of variability versus the market as a whole are often accomplished through beta analysis. Compared to the S&P's beta of 1.00, the timers average just 0.43 for the entire five-year period, and range from 0.26 to 0.89. This is an average reduction of 57% over the variability of the market index, 37% versus the balanced portfolio. Interestingly, running the beta analysis of timer results against Ibbotson's monthly long-term government bond returns yields a 0.38 beta — a 62% reduction in return variability.

The standard deviation and beta studies strongly support the proposition that market timing reduces risk as measured by market variability. While the market-timing advantage in terms of ROI is only marginal, the reduced variability occasioned by this portfolio technique seems clearly superior to the untimed market average. This result should not be unexpected, as it is found that the average timer spent approximately 43% of the five-year period invested in relatively riskless T-bill equivalents, 57% of the time in stock.

Accordingly, we create a benchmark portfolio consisting of 57% stocks and 43% T-bills to represent the average allocation of the timers' portfolios. What we find is that even when we eliminate the effects of the composition of the average portfolio from the equation, the average timer still outperforms the benchmark portfolio on both a risk and return basis.

As shown in the Table, the average timer exceeds the benchmark portfolio's return 14.94% to 11.07% (a 26% improvement), while reducing return variability versus the market from 0.57 to 0.43 (an additional 25% reduction). At the same time, however, there is no further improvement in standard deviations, with a 3.35 timers' reading versus the benchmark's 3.10 (7% worse).

Risk-Adjusted Return

To fully appreciate the effectiveness of market timing, the measurement of risk and return can be combined using the statistic known as alpha. Alpha is the average premium achieved over an unmanaged portfolio of T-bills and the S&P 500 adjusted by market risk (as measured by beta). By calculating this statistic we can focus on the value added by market timing.

For study purposes, we calculated the alpha for each market timer over the entire period, assuming

MARKET TIMING FIRMS

—— Minimum Fees   —+— Maximum Fees

· MARKET TIMERS   + COMPARATIVE INDEXES
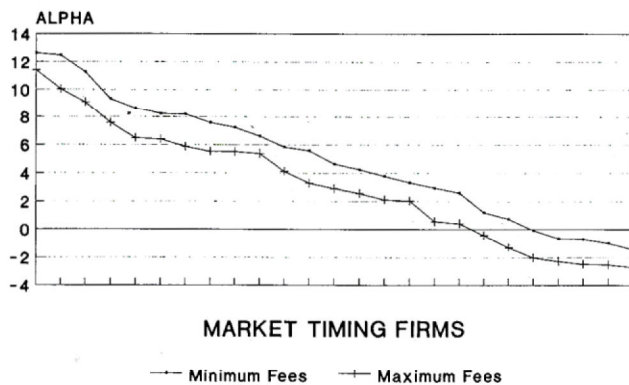
that the minimum market timer fee is charged. At a T-bill yield of 6.4%, as reported for the period by CDA Investment Technologies, Inc., our calculations yield an average alpha of 4.93% for the timers, with a range of 12.62% to -1.43% (see Figure 1). Eighty percent of the timers had positive alphas.
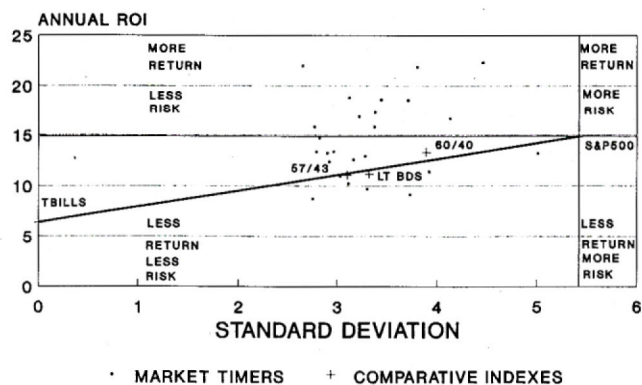
The results are not particularly sensitive to the fees charged by timers, as the average alpha falls only to 3.10% when it is assumed that the maximum fee is charged by each timer. With such fees, 72% of the timers still generate positive alphas.

On an alpha basis, the timers compare very well with other types of portfolios. They outperform the alphas of the bond and balanced portfolio by 58% to 325%. Importantly, the benchmark portfolio results in an alpha of -0.16% compared to the average timers' 4.93%.

Another way to measure the relationship of risk and return is to use the Capital Market Line. The CML is plotted by joining the intersection of the risk and return of T-bills during the surveyed period and that of the S&P 500. The Capital Asset Pricing Model asserts that a portfolio's return for any given level of risk may be derived by its location on the CML. Portfolios plotted above the line imply superior performance (a return greater than expected for the risk undertaken), while those below the line are thought to be subpar.

Figure 2 shows the Capital Market Line for the sampled period and plots the portfolio performance for each of the twenty-five timers and the comparison indexes. Significantly, eighteen of the timers, or 72%, are plotted above the CML, while the benchmark portfolio falls squarely on it. Although the average timer registers superior performance, a portfolio with the same exposure to stocks and T-bills turned in only the expected, average results.

CONCLUSION

Market timing as an investment approach has demonstrated significant viability for the period studied. Results by all measures appear superior to those provided by a buy-and-hold strategy. Risk, as measured by variability of return, was considerably less with market timing. While a handful of timers show inferior results, a substantial majority generated risk-adjusted returns in excess of those expected in accordance with the Capital Asset Pricing Model. Value added by market timing, as measured by alpha, is meaningful, even in the case of maximum fees.

It could be argued that the period studied had some bias in favor of market timing in that it includes periods of substantial market declines. On the other hand, a review of the period also discloses long periods of substantial advances. In fact, advancing months exceeded declining months thirty-eight to twenty-two (63.3% to 36.7%). Furthermore, the S&P's rate of return during the period materially exceeded the market's historical rate of return.

Finally, market timers do not claim to outperform the averages during market advances. In fact, measuring timers' performance only during such periods has no utility, as it assumes that the measurer can predict the future direction of the markets, a skill that market timing's detractors universally admit they do not have.

Market timers believe they should be tested, as other advisors are judged, by their risk-adjusted performance over a full market cycle, encompassing both bull and bear markets. Over the latest cycle, they seem to have passed the test with flying colors.

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