

Many sources advise investors not to chase performance, but this study suggests that what everyone 'knows' just isn't so for six broad stock indexes. This has serious implications for the traditional approach to asset allocation.

Is past performance really indicative of future results?

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Don't chase performance! You have probably heard that admonishment many times from investors, advisors and academics. Chasing performance happens when an investor allocates money to investments that have performed well relative to other investments. Many investment companies have marketing material geared to teaching investors not to chase investment performance.

However, every once in a while something comes along that truly shocks us and completely changes what we know to be conventional wisdom.

For instance, for years doctors and dieticians have been telling people to cut back on fat to lose weight. Then the late Robert Atkins showed us in his 1992 book, *Dr. Atkins New Diet Revolution*, that we can eat all the fat we want and still lose weight. It was once common knowledge that excessive weightlifting would throw off a golf swing until Tiger Woods aggressively began lifting weights and became the greatest golfer in the world.

Is it possible that we have erroneously entrusted our investment portfolios to similar modes of conventional wisdom?

Our analysis shows that the conventional wisdom of not chasing performance is false as it applies to broad categories of stocks. First, we will disprove this common advice. Then we will show you how the results of our analysis have serious implications on the traditional approach to asset allocation.

TRADITION RULES

We will label the traditional approach to asset allocation as diversification between broad categories of stocks with periodic rebalancing to ensure an optimal allocation. Many investment companies and advisors have services that accommodate this strategy. This approach has been embraced by many educated investors, and its popularity has expanded. (See "Right Moves Now For

Mutual Fund Investors," *Bottom Line*, Sept. 1, 2002, and "Five Rebalancing Mistakes To Avoid," *Financial Planning*, December 2000.)

The stimulus to conduct this study was marketing literature from several major investment companies that indicated the pitfalls of chasing performance and the benefits of traditional asset allocation and rebalancing. Many of these companies have marketing literature that indicates how an investor could increase return and reduce risk by diversifying between these different accounts and rebalancing for a target allocation.

Most of this marketing literature uses the past 20-25 years of broad categories of stock fluctuations to drive this point home. To minimize arguments about our chosen investments, we decided to use

MARKETING ADVICE

The reports below produced by these investment companies suggest following the hot performers isn't a smart financial move. Our study using comparable data suggests otherwise.

- "Callan's Case for Diversification," Strong Institutional
- "Still trying to time the market? Here's some food for thought," WM Group of Funds
- "The Potential Benefit of Diversification," Fidelity Investments
- "20 Years of The Best and Worst Case for Diversification," MFS Investment Management
- "What's Wrong With Investing in Last Year's top Asset Class? It's No Longer Last Year," SunAmerica

the same indexes and time periods currently used by several companies (see "Marketing advice," below).

STUDY SETUP

We chose six indexes: S&P/Barra 500 Growth and S&P/Barra 500 Value, designed to measure the performance of the growth and value styles of investing for large capitalization domestic stocks; Russell 2000 Growth and Russell 2000 Value, designed to measure the performance of the growth and value styles of investing for small-capitalization domestic stocks; and MSCI EAFE Growth and MSCI EAFE Value, designed to measure performance for growth and value investing in international stocks from Europe, Australia and the Far East.

The time horizon analyzed is Jan. 1, 1980, through Dec. 31, 2001, similar to that used in industry marketing literature. We used three rebalancing time frames: annually, quarterly and monthly, the times frequently used by investors, advisors and investment companies.

Our initial investment is \$10,000 with any gains or distributions assumed to be reinvested. No other monies are added. No income taxes on gains/losses are considered as these transactions occur within a tax-deferred vehicle. Management and advisor fees are not taken into account, as they would have a negligible effect on the results.

HOLD VS. CHASE

We analyzed two strategies. Strategy A is the "buy-and-hold method" for each market index. We invest \$10,000 into each of the six indexes with no rebalancing for the entire time horizon. Any gains or dividends are assumed to be reinvested back into the respective asset class. We wanted to use these results as a benchmark against the rebalanced results (see "Investment performance analysis, 1980-2001," above).

Strategy B is "Chase performance." With this strategy, we invest \$10,000 based on the prior period's performance. We then transfer the entire value of the account at the beginning of each new

INVESTMENT PERFORMANCE ANALYSIS, 1980-2001			
Strategy A: Buy and hold			
Russell 2000 Value			\$ 226,232
S&P/BARRA 500 Value			\$ 209,293
S&P/BARRA 500 Growth			\$ 200,568
MSCI EAFE Value			\$ 164,338
Russell 2000 Growth			\$ 74,263
MSCI EAFE Growth			\$ 68,418
Strategy B: Chase performance			
	Monthly	Quarterly	Annually
Chase the winner	\$316,899	\$298,993	\$734,644
Chase 2nd	\$344,228	\$173,653	\$158,360
Chase 3rd	\$179,515	\$74,228	\$112,012
Chase 4th	\$101,352	\$380,793	\$108,576
Chase 5th	\$122,552	\$51,905	\$80,554
Chase the loser	\$33,863	\$56,317	\$68,042

period into the appropriate asset class based on its prior period performance.

To accomplish this, we determine how the different indexes performed during each year, quarter and month. We assign a rank to each index based on its performance during that time period. The best performer is designated the winner, the second best performer is designated second, the third best performer is designated third and so on. We then rebalance the entire value of the investment based on this performance.

On the monthly basis, we first use the "chase the winner" strategy and allocate the entire value of the account to the index with the highest prior-month return. On a quarterly basis we allocate the entire value of the account to the index with the highest prior-quarter return. This process is then completed on an annual basis, where the entire value of the account is allocated to the index with the highest prior-year return. We are simply chasing performance on a monthly, quarterly and annual basis.

We then use the same process for the second best performing index, reallocating based on the prior-month's, quarter's and year's performance. This process is continued for the third, fourth, fifth and worst performing indexes.

HOLDING PENALTY

Strategy A "buy and hold" has a range

from \$226,232 to \$68,418. The best-performing index was the Russell 2000 Value. The worst-performing index was the MSCI EAFE Growth. This strategy represents a wide variation of investment performances.

Strategy B "chase performance" has a range from \$734,644 to \$33,863 with the best performance coming from the "chase the winner" strategy on an annual basis. The worst performance comes from the "chase the loser" strategy on a monthly basis. This strategy also produces a wide variation of returns, but, unlike Strategy A, we find persistence in performance.

"Chase the winner" produced significantly higher returns for each period analyzed. On a monthly basis, the results were higher by \$283,036; on a quarterly basis, the difference was \$242,676. Rebalancing annually increased returns by \$666,602.

Our evidence suggests there are strong relationships among the indexes' performance over annual, quarterly and monthly time periods. The "chase the winner" strategy produces consistently strong results for these periods as well as higher returns over all the "buy-and-hold" results. The "chase the loser" strategy produces consistently poor results for these periods as well as lower returns than any of the "buy-and-hold" results.

Conventional wisdom of "not chasing

performance" is nearly the worst strategy that could have been used the last 22 years, yet this is the advice from many major investment companies analyzing the same 22 years with the same indexes.

THRILL OF THE CHASE

Next, we divided the results from Strategy B into two groups: the nine highest performers and the nine lowest performers, ranked according to their performance. The rebalancing strategies that increase wealth the most chase the strongest performers from one period to the next (see "Riding the performance trail," below). "Chase the winners" strategies and "chase 2nd" (monthly, quarterly and annually) all appear among the highest performers while "chase the losers" and "chase 5th" all appear on the lowest performers list with one exception: "Chase 5th" strategy on a monthly basis produced the ninth highest return, barely making the highest performers group.

This grouping portrays a consistent pattern based on past performance. If the prior period's returns are good, there is a better chance that performance will continue in the next period; if performance is poor, it is likely poor performance will continue into the next period.

A possible explanation of this could be related to money shifting among the different indexes. Many advisors and investors tend to make changes based on what their monthly, quarterly or annual statements indicate, tending to follow success. For example, Mutual Fund A did well according to my statement so I will allocate more to Mutual Fund A. This tendency results in artificially driving up the price of the index that Mutual Fund A replicates to a level that it can sustain temporarily.

This may be the reason that strong performance tends to follow the winners over short time horizons. This also could explain why other studies have found similar results. Zwirlein and Reddy

(2000) showed that mutual fund returns can be enhanced through a follow-the-winner strategy on a quarterly basis with only a moderate increase in risk. Hendricks, Patel and Zeckhauser (1993) found that the relative performance of no-load, growth-oriented mutual funds shows persistence over different time horizons with recent top performers outperforming recent poor-performers.

KEY FACTOR: SECTOR

Although our results are similar to these studies, our interpretation is that mutual fund sectors (large-cap, small-cap, growth, value), not the mutual fund manager, should be credited with the persistence in performance over the short term. We agree with the results of a study by Detzel and Weigand (1998) that indicates persistence in fund performance appears driven almost entirely by trends in certain well-known and widely publicized investment categories.

Therefore, when making decisions on money allocation, investors should consider size and style characteristics of the mutual fund's objectives as well as trends in performance.

The traditional approach to asset allocation involves developing an investment profile for an investor. Based on this investment profile, the investor or advisor develops an optimal asset mix that has targeted percentages for different asset classes. As the portfolio's asset classes fluctuate, the investor or the advisor rebalances the portfolio to maintain the optimal asset mix. Rebalancing according to this approach actually buys the losers and sells the winners — close to the worst technique an investor could have used in the last 22 years.

GETTING REAL

Although our study indicates that one of the best ways to increase returns is to buy the previous period's top performer, it is unrealistic for most of us to invest the entire growth portion of our portfolios into one asset class because of risks involved. A more logical approach would be to allocate more money to the

RIDING THE PERFORMANCE TRAIL

Highest performers		Lowest performers	
1. Trail winner annually	\$734,644	1. Trail loser monthly	\$33,863
2. Trail 4th quarterly	\$380,793	2. Trail 5th quarterly	\$51,905
3. Trail 2nd monthly	\$344,228	3. Trail loser quarterly	\$56,317
4. Trail winner monthly	\$316,899	4. Trail loser annually	\$68,042
5. Trail winner quarterly	\$298,993	5. Trail 3rd quarterly	\$74,228
6. Trail 3rd monthly	\$179,515	6. Trail 5th annually	\$80,554
7. Trail 2nd quarterly	\$173,653	7. Trail 4th monthly	\$101,352
8. Trail 2nd annually	\$158,360	8. Trail 4th annually	\$108,576
9. Trail 5th monthly	\$122,552	9. Trail 3rd annually	\$112,012

BREAKING WITH TRADITION

Traditional approach (Rebalanced equally on an annual basis)		Active management (Rebalanced according to performance on an annual basis)	
S&P BARRA 500 Growth	16.66%	U.S. Treasury bills	15%
S&P BARRA 500 Value	16.66%	Best performer	25%
Russell 2000 Growth	16.66%	2nd best performer	20%
Russell 2000 Value	16.66%	3rd best performer	15%
MSCI EAFE Growth	16.66%	4th best performer	8.33%
MSCI EAFE Value	16.66%	5th best performer	8.33%
		Worst performer	8.33%
Total return	\$160,941	Total return	\$209,673
Standard deviation	14.81	Standard deviation	13.60

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asset classes that have performed well and decrease the amounts in the asset classes that performed poorly.

A potential method to implement this strategy is discussed in Roger C. Gibson's book, *Asset Allocation Balancing Financial Risk* (McGraw Hill 2000), using two types of asset allocation models. One model calls for passive management in which an investor's targeted percentages for different asset levels don't vary far from the optimal asset mix. The other model is active management, which allows more flexibility in the degree to which the specific asset class deviates from the optimal asset mix to exploit market opportunities.

The strategic allocation is the same for both management styles — 16.66% for each of the six indexes. The main difference between the two is in the upper and lower limits that trigger rebalancing. The lower limit is 15% and the upper limit 18% for each fund with passive management. The lower limit is 6% and the upper limit 26% for each fund with active management.

FLEXIBILITY PAYS OFF

The extra flexibility allowed in the active management approach could also help to control portfolio risk. Investors then must ask how much investment performance they are willing to give up to reduce risk. The answer can come from modeling hypothetical allocations with portfolio optimization software.

"Breaking with tradition" (left) shows

how an investor can increase returns by maintaining flexibility between all sectors while reducing risk over the traditional approach by incorporating a static amount in Treasury bills in an account. The traditional approach shows an allocation diversified equally among the market indexes and rebalanced equally on an annual basis. The active management approach also rebalances annually, but this approach has increased flexibility that allows the investor to allocate a higher percentage of the portfolio to the better-performing indexes and less to indexes with poor performance and includes Treasury bills to lower risk.

The data indicate the active management approach yields a 20% higher return with 8% less risk. This supports the argument that the more you allocate to the best performers and the less to the worst performers, the better your return.

LIMITATIONS

As with any study, ours has limitations. We did not include several asset classes because (1) their objective is not growth, (2) they are not common investments or (3) they lacked long-term data. Examples are short-term debt, domestic and international bonds, real estate securities, investment hedges, commodities and other specific equity sectors.

When you model hypothetical portfolios, remember that our analysis focused on passively managed indexes. Many investors use actively managed accounts. If you fit into this category, analyze the

portfolio makeup of these accounts to see how closely they represent the indexes in this study. Persistence can be attributed to the index it replicates. The stronger the relationship to the indexes we analyzed, the more applicable the results of our study will be for you.

Another limitation to consider with an actively managed mutual fund is style drift. A prospectus might state that it is a large-cap value fund, but under close analysis you may find it drifts significantly toward large-cap growth stocks. Monitor past history of the account or the manager of the specific investment to determine if problems with style drift have occurred, a factor that could damage investment performance.

Another limitation is the time horizon analyzed. Some may argue that the time horizon is too short and not representative of a true market cycle. We chose this time horizon for it to be comparable to the marketing literature.

The final limitation is the tax ramification. Our analysis assumed that these strategies were implemented in a tax-deferred account. In a taxable account you must consider the impact of taxes.

BE ACTIVE

The relationships between index performances from one period to the next have serious implications for investment management. The traditional approach for portfolio rebalancing has been nearly the worst strategy we could have used the last 22 years. However, with small changes, we can exploit opportunities and increase wealth accumulation.

If history is an indicator of the future, the results of our study could be beneficial for you. At the least, it should encourage you to do your own analysis and question the norm. It worked for Tiger Woods and Dr. Atkins.

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