

Portfolio Rebalancing: An Essential Component to Long-Term Investment Success



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A disciplined portfolio management process has two phases: the first is the initial construction of the portfolio and the second is the ongoing monitoring and risk management. The initial phase involves establishing a long-term asset allocation strategy and structuring the portfolio with respect to benchmarks and levels of risk. The second phase consists of reviewing manager performance, managing tax exposures, and rebalancing the portfolio to the original strategic asset allocation weights.

While critical to long-term investment success, rebalancing is an issue that is often overlooked. Over time, target portfolio weights can diverge from their original settings due to market performance. Rebalancing returns the portfolio to its target weights, thereby keeping it within the overall risk tolerance, locking in profits, and buying assets with lower relative valuations (i.e., buying low and selling high).

A rebalancing plan, however, may entail certain costs, namely transaction fees, realizing capital gains, and potential performance drag. This paper discusses the benefits of portfolio rebalancing as well as the tradeoffs to consider when determining the appropriate frequency for rebalancing.

Why rebalance a portfolio?

Believes that asset allocation is the major determinant of a diversified portfolio's risk and return characteristics and is key to investors achieving their long-term objectives.¹ However, over time, as a portfolio's investments produce different returns asset weightings can "drift" away from their targets, leaving the portfolio with a potentially very different risk profile than when it was originally constructed. For example, consider an investor who begins with a moderate 60:40 allocation to stocks and bonds in 1987. Without any rebalancing, the bull

¹ Brinson, G. P., Hood, L. R., & Beebower, G. L. (1986). Determinants of Portfolio Performance. *Financial Analysts Journal*, Vol. 42 (4), 39-48

KEY IMPLICATIONS

Portfolio rebalancing is a critical, but often overlooked, part of the long-term investment process. Rebalancing helps portfolios maintain the appropriate risk tolerance, locks in profits, and allows investors to purchase assets with lower relative valuations. At the same time, rebalancing entails certain costs, such as transaction fees, realizing capital gains, and potential performance drag.

WHY REBALANCE A PORTFOLIO?

Investors may choose to rebalance their portfolios for several reasons. The most common reason is "drift." Over time portfolio weights often diverge or drift from their initial targets due to differences in asset class performance, resulting in a potentially very different risk profile. Investors may also adjust their target allocations to reflect changes in investment goals or financial circumstances. And occasionally, they may wish to rebalance to capitalize on perceived market opportunities.

HOW TO REBALANCE

Two basic approaches to rebalancing portfolios are:

1. Periodic Rebalancing
2. Tolerance Band Rebalancing

With periodic rebalancing, the portfolio weights are restored to the target allocation at regular intervals (monthly, quarterly, or annually, for example). Tolerance band rebalancing is undertaken whenever any asset class deviates beyond a predetermined target level (for example, +/-5%). Each has its advantages and disadvantages. For example, periodic rebalancing may incur unnecessary costs if portfolio drift is marginal from one period to the next. Tolerance band rebalancing requires more diligent monitoring of the portfolio and greater adherence to discipline.

A third option is a combination of these two strategies. Merrill Lynch Investment Management & Guidance (IMG) believes that a combination of periodic (approximately once a year) and tolerance band rebalancing (+/-5% per asset class) may be an effective methodology.

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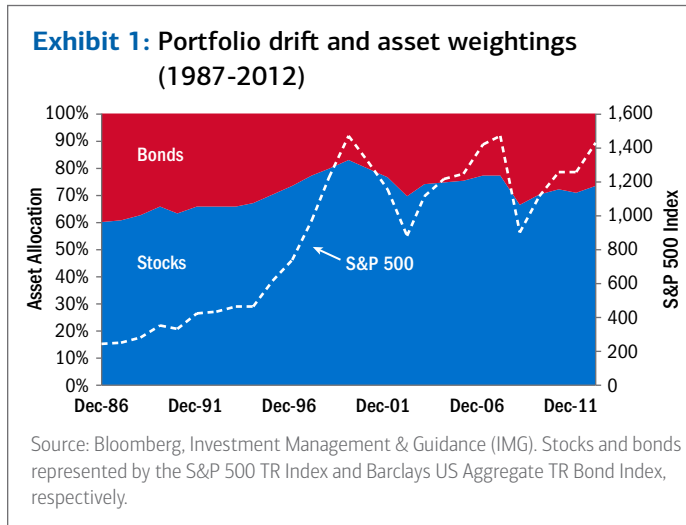
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market in equities of the 1990s would have skewed his asset weightings 80:20 to stocks and bonds by 2000 (see Exhibit 1), and in the process appreciably increase his risk profile. Rebalancing can help the portfolio retain its initial risk and return features.



While drift is the most common motive for rebalancing, investors may choose to periodically adjust their target allocations for other reasons as well. One is simply life. Over a long investment horizon, most investors will experience some changes in resources, liabilities, and goals and expect their investment portfolio to reflect them. Another is a change in market conditions. Investors may occasionally have strong convictions on the direction of financial markets. Capitalizing on perceived opportunities may demand amending existing portfolio weightings.

Thus, in a dynamic asset allocation setting, disciplined rebalancing will play an important role in realigning target weights to reflect both long and short-term changes in circumstances.

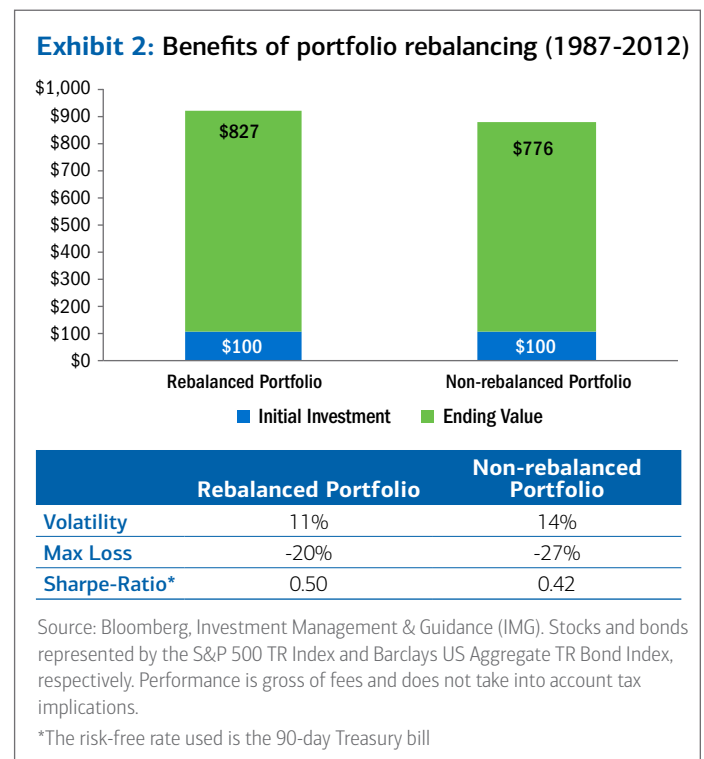
Rebalancing may seem counterintuitive

Drift and rebalancing will occur differently depending on the nature of the market environment and may not always feel intuitive. For example, in a trending market, rebalancing requires *selling* assets that have performed well while buying assets that have performed worse during recent periods. All else being equal, this will lead to a portfolio that underperforms an un-rebalanced portfolio as long as the trend persists. In mean-reverting markets, however, rebalancing leads to both increased returns and increased risk control. Because we do not know how

long a market will remain in either a trending or mean-reverting phase, rebalancing requires a strong commitment, whatever the pattern of historical returns.

Indeed, research in behavioral finance demonstrates that without a pre-defined investment approach investors can fall prey to behavioral biases that may cause them to buy and sell assets at the wrong time. For example, investors may rely more heavily on emotion than analysis, and try to “get in on a good thing” by chasing what is performing extremely well or following the herd into investments that others have said may outperform. Conversely, investors may avoid or exit seemingly unstable or unpopular investments. What is important to recognize is that average performance can follow extreme underperformance and outperformance, causing the investor to have bought “high,” while having failed to buy “low” – or to have sold “low,” while having failed to sell “high.” Setting up a rebalancing approach that provides objective guidelines around when and why to make buy and sell decisions can help mitigate behavioral drag on a portfolio, while also providing the investor more comfort and confidence in the investment approach.

This assertion can bare itself out in the long-run, where portfolio rebalancing should help minimize risk relative to the investor’s target asset allocation. Exhibit 2, below, illustrates the concept



Please refer to the last two pages of this document for additional important disclosure and risk information.

by comparing the performances of two long-term portfolios that start out with a traditional 60:40 allocation. One is rebalanced annually, and the other is not. The former has lower volatility, a lower drawdown and better risk-adjusted returns.

How often do you rebalance a portfolio?

Rebalancing frequency will be influenced by the degree of correlation among portfolio assets and their overall volatility. When the returns of the assets in a portfolio are highly correlated, the asset weights will change less over time, and the need for rebalancing is reduced. If the assets exhibit high volatility, their weights will change more over time, and the need for rebalancing is greater.

Rebalancing will reduce the portfolio's volatility, but the cost of rebalancing will also reduce the portfolio's net returns. An optimal rebalancing strategy, therefore, requires a risk-return tradeoff. Researchers have found that in most instances, relatively infrequent rebalancing (once a year or so) or relatively high rebalancing thresholds (+/- 5% of the asset's initial target weights) will be sufficient to lower risks without inordinately dragging down returns.

How to rebalance

Two approaches to rebalancing portfolios are:

1. Periodic Rebalancing
2. Tolerance Band Rebalancing

With periodic rebalancing, the portfolio weights are restored to the target allocation at regular intervals (monthly, quarterly, or annually, for example). Tolerance band rebalancing is undertaken whenever any asset class deviates beyond a predetermined target level (+/-5%, for example). With periodic rebalancing, transaction costs are incurred at regular intervals regardless of market performance, even if the portfolio is very close to its initial target weights. Conversely, tolerance band rebalancing reacts to market conditions, but the threshold that triggers transactions is fixed, and the portfolio is restored to the predetermined optimal weights.

Each approach has its advantages and disadvantages. With periodic rebalancing, the portfolio is regularly reset according to a calendar, but the portfolio may incur unnecessary costs if the portfolio's drift is marginal from one period to the next. With tolerance band rebalancing, the portfolio is reset once the asset weights exceed a certain target, which can reduce the

transaction costs associated with periodic rebalancing. However, this method requires a more diligent monitoring of the portfolio allocation over time and an adherence to the discipline.

The correct rebalancing strategy depends on each client's circumstances, because both strategies are valid. However, it is critical that you incorporate some measure of portfolio rebalancing discipline. IMG believes that a combination of periodic and tolerance band rebalancing is an effective methodology. We recommend rebalancing once per year with respect to tolerance band limitations to limit transaction costs (should the asset weight differ from the target slightly, no rebalancing is necessary). Furthermore, should large market movements result in asset weight shifts beyond tolerance ranges, consider inter-periodic rebalancing to re-align the portfolio with strategic goals.

Regardless of the approach you take, rebalancing based on objective guidelines can also serve a behavioral purpose: Keeping investors' focus on the overall portfolio rather than on the recent performance of a particular asset class or investment. This focus can be maintained via target weights, risk tolerance or strategic goals—all of which can help clients stay the course with a strategy that may help them achieve better outcomes. In fact, behavioral research shows that investors have an opportunity to enhance returns by about 1% to 5% annually by avoiding reactive behavior to investment performance. A more disciplined investment process that includes systematic rebalancing can increase the likelihood that the investor will not over-trade or "buy high" and "sell low."²

Summary

Investors who initiate strategic asset allocation but neglect to rebalance are far less likely to achieve their investment goals than those who do. Disciplined rebalancing also prevents investors from shifting asset weights in response to short-term events or trends, which can seriously compromise a long-term investment plan.

Our research shows that periodic rebalancing (approximately once per year) and tolerance bands of +/-5% per asset class are reasonable guidelines to balance the cost/reward tradeoffs.

IMG further recommends discussing rebalancing with your financial advisor toward the end of the year, in conjunction with discussions about tax-loss harvesting for taxable clients.

² See Liersch, M. & Suri H. (2012). *Innovations in Behavioral Finance: How to Assess Your Investment Personality* from the Wealth Management Institute and the academic studies cited therein.

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Indices are unmanaged and their returns do not include sales charges or fees, which would lower performance. It is not possible to invest directly in an index. They are included here for illustrative purposes. Performance represented by a hedge fund index is subject to a variety of material distortions, and investments in individual hedge funds involve material risks that are not typically reflected by an index, including the “risk of ruin.” The indices referred to herein do not reflect the performance of any account or fund managed by Merrill Lynch or its affiliates, or of any other specific fund or account, are unmanaged and do not reflect the deduction of any management or performance fees or expenses. One cannot invest directly in an index.

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S&P 500 Index: The S&P 500 Total Return Index is a market-weighted index that measures the total return, including price and dividends, of 500 leading companies in leading industries of the U.S. economy. This index is often used as a reference for the performance of the U.S. equities market.

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Technical Terms

Behavioral Finance: A field in finance that utilizes concepts from psychology to explain investor decision making.

Correlation: A measure of the strength of “linear” association between two asset classes. It quantifies the extent to which two asset classes move together. Correlation is computed as correlation coefficient, which ranges between -1 and +1.

Maximum Drawdown: The maximum peak-to-trough percentage decline in value experienced during the given period.

Standard deviation is a statistical measure of the degree to which an individual value in a probability distribution tends to vary from the mean of the distribution.

Sharpe Ratio: A ratio of total return, in excess of cash, to standard deviation. A measure of risk-adjusted return.

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