



## Ruminations on Rebalancing

Rebalancing, according to Wikipedia, is “the action of bringing a portfolio of investments that has deviated away from one's target asset allocation back into line.” How to do that optimally is the subject of this paper. Below is a sample allocation to facilitate the following discussion of rebalancing. It should not be construed as a recommended portfolio in any way.

| <u>Asset Class</u>            | <u>Target Allocation</u> |
|-------------------------------|--------------------------|
| U.S. Large Stocks             | 20%                      |
| U.S. Small Stocks             | 10%                      |
| Foreign Stocks                | 10%                      |
| REITS                         | 10%                      |
| High Yield Bonds              | 10%                      |
| Investment Grade Fixed Income | 40%                      |

Following are the factors involved in rebalancing (in no particular order):

- 1) Due to the momentum that exists in the markets, rebalancing should be done slightly less frequently than it would be otherwise. Allowing an asset class that has grown (decreased) through good (poor) performance to remain overweight (underweight) can add value. Even if momentum effects don't add value net of costs as a trading strategy, *not* rebalancing is costless. Academic research has indicated that if rebalancing mechanically on a time schedule (monthly, quarterly, etc.) the optimal period is probably between one and two years.
- 2) If cash flows are expected soon, it may be prudent to delay rebalancing. If a deposit into the portfolio is expected, those funds can be used to perform the rebalancing with trades that would have to be done anyway to invest those funds. Similarly, if cash will need to be distributed from the account soon but not immediately, it may be prudent to wait until that trade is required and use it to perform, at least to some extent, the rebalancing.
- 3) If it is a taxable account, the recognition of capital gains should slow rebalancing while the recognition of losses should speed it. Note that I am not advocating that taxes should drive the asset allocation, but merely that at the margin, taxes should have some impact on whether and when an asset class is brought back into balance. Waiting until a holding becomes a long-term capital gain will almost always be appropriate. Also, in a taxable account where the owner's life expectancy is not long, allowing asset classes that have grown “too large” to remain that way to capture a step-up in basis at death may be prudent. The trade-off between a “sure” gain (if anything in the tax code can be considered a sure thing) of 15% of the gains vs. slightly higher risk from not rebalancing must be weighed.
- 4) The transaction costs are important as well. Generally this involves not just the commissions, but also the costs from overcoming the bid/ask spread and the market impact costs. These can be particularly large when the security is illiquid. Obviously, the lower the transaction costs, the more frequently rebalancing should occur.
- 5) The magnitude of the discrepancy is a factor as well. For example, an asset class that is 10 basis points (0.10%) out of balance is almost certainly not worth “fixing.” On the other hand, one that is 1,000 basis points (10.00%) out of balance almost certainly is.

- 6) The correlation of the asset classes that are out of balance matter as well. For example, suppose U.S. Large Stocks have grown to be 25% of our allocation, at the expense of Investment Grade Fixed Income which is now at 35% (versus the target allocation specified earlier). Given the dramatic differences between those two asset classes, rebalancing may well be prudent. Conversely, if U.S. Large Stocks have grown to be 25% at the expense of U.S. Small Stocks at 5%, the correlations and risk/return profiles are so similar that “fixing” it may be unnecessary.
- 7) The size of the portfolio matters as well. If the U.S. Large has increased to 22% while the Investment Grade Fixed Income has decreased to 38%, that may or may not be worth fixing. If the total portfolio is valued at \$100,000, the amount of the rebalancing trade is a mere \$2,000 – probably not worth the transaction costs. On the other hand, if the portfolio is worth \$10,000,000, the trade would be \$200,000 which might make sense.
- 8) If there is a better investment option available, rebalancing may be more attractive. Suppose our allocation to Investment Grade Fixed Income is slightly high with U.S. Large Stocks being low, but it hasn’t risen to the level that would normally trigger a trade. However, we have a slight preference for a different fixed income investment but not enough to warrant a trade. In conjunction with a slightly out-of-balance portfolio though it might make sense, fixing the out-of-balance condition would be two trades. Changing the fixed income allocation would also normally be two trades. But if we do both simultaneously it is only three trades: sell all the current fixed income and buy stocks and the replacement fixed income vehicle.
- 9) The number of asset classes to fix will affect the decision to rebalance as well. For example, suppose that U.S. Large has 24% while U.S. Small has 6%. Doing two trades to fix that may make sense (depending on all the other factors we have discussed). But if U.S. Large Stocks has 24% while U.S. Small Stocks, International Stocks, High Yield bonds, and REITS each are at 9%, the number of transactions – and thus the transaction costs – may make it imprudent.
- 10) The sensitivity of clients to trades may impact the decision as well. Clients in fee-based accounts are probably relatively insensitive to an additional trade, while a client in a commission-based account may be suspicious that the trade was done purely to generate another commission. This is a problem, and may lead to too little rebalancing in commission-based accounts to reduce this perception of over-trading (even if there isn’t any). So, oddly, a commission-based account can lead to too *little* trading from an objective standpoint, but it may still be optimal to maximize client happiness.
- 11) Academic research in the field of behavioral finance shows humans in general, and men and professionals in particular, have a propensity to over-trade. This is probably related to over-confidence and a need to “do-something” even if it isn’t particularly helpful (see Congress for example). When in doubt, don’t trade is probably a good rule.

The complexity and inter-relatedness of these factors is why we don’t use an automated system to rebalance our client portfolios. Rather, at least quarterly, we review and evaluate all the portfolios manually in light of the above factors to determine what trades, if any, should be made.

**Notes:**

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