Research Paper Management

The Act of Rebalancing the Portfolio

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ABSTRACT

Expectation of risk and return are determined by a portfolio's asset allocation. Over the time, market return can cause one or more assets to drift away from their initial target asset allocation, leading to portfolio that may not reflect an investor's risk tolerance. An investor should decide which rebalancing strategy he should adopt in order to maintain his initial target asset allocation. This paper presents why an investor should rebalance their portfolio and the different rebalancing strategy that investors can adopt to maintain their target asset allocation.

KEYWORDS

Why Rebalancing Portfolio?

Portfolio rebalancing is a tool used to control portfolio risk. It's a way to maintain the risk to expected-reward ratio that investor have chosen for their investments.

Asset allocation is one of the major factor for determining risk and return of a portfolio. Each asset class generates different returns, so the asset allocation of the portfolio changes accordingly from the target asset allocation. Therefore to get back to the portfolios original risk and return, portfolio should be rebalanced.

Let say an investor examines risk tolerance and decide to invest in a portfolio of 40% stocks, 30% bonds, 20% cash and 10% gold. The data in figure 1.1 shows the risk and return of each asset class. So the expected risk of the portfolio is 4.09% and expected return is 11.10%. As the time moves, portfolio will drift one way or another. Portfolio could easily drift into a blend of 80% stocks, 10% bonds, 5% cash and 5% gold, just because some asset class will grow faster than others. As your asset allocation drift from initial target allocation, there will be change in portfolio's risk and return, this may leave investor exposed to more or less risk than they can take. Assuming all asset class has same risk and return (data in fig. 1.1), the new portfolio risk will be 8.12% and return

Figure 1.1

Asset Class	Risk	Return
Equity	10.48%	15.00%
Bond	5.60%	9.00%
Cash	1.61%	6.00%
Gold	13.31%	12.00%

will be 13.80%. In this case, from a unit of risk taken, investor generates a return of 1.7%. Whereas on initial asset allocation from a unit of risk taken, investor was able to generate a return of 2.71%. This shows that drifted portfolio of the investor is less efficient in generating additional return for the additional risk investor has taken. So the act of rebalancing is done in order to set back investor's portfolio in to initial target asset allocation to maintain portfolio's overall risk exposure and efficiency.

When to Rebalance Your Portfolio?

But the question is how often an investor should rebalance their portfolio, thus avoiding increase or decrease in portfolio risk. Following are some of the rebalancing strategy which are used prominently:

Periodic Rebalancing

Portfolios are reset to their target allocations periodically such as annually, half yearly, quarterly or monthly, regardless how little the portfolios asset allocation has drifted from its target asset allocation. Determining the frequency with which to rebalance the portfolio largely depends on the investor's risk tolerance.

The data in Figure 1.2[A], compares results for the periodic rebalancing strategy using several different frequencies such as monthly, quarterly, half yearly and

Figure 1.2[A]

Rebalancing Frequency	2 Year CAGR
Monthly	10.99%
Quarterly	10.47%
Half Yearly	9.95%
Yearly	9.90%

annually. The target asset allocation used is 40% stocks, 30% bonds, 20% cash and 10% gold and the time period is Jan, 2012 through Dec, 2013. The figure 1.2[A] assumes that each portfolio is rebalanced at the predetermined interval, regardless of the magnitude of deviation from the target asset allocation. As the figure 1.2[A] shows, the portfolio that was rebalanced monthly generated a 2 year CAGR of 10.99%. Similarly, the portfolio that was rebalanced quarterly generated a 2 year CAGR of 10.47%. And the portfolio that was rebalanced half yearly generated a 2 year CAGR of 9.95%. Similarly, the portfolio that was rebalanced yearly generated a 2 year CAGR of 9.90%.

Figure 1.2[A] : For calculating the returns; data of Cnx Nifty is considered for equity, I-Bex for bond, T-Bill index for cash and gold price for gold.

Threshold Rebalancing

In threshold rebalancing strategy portfolios are adjusted if and when a particular asset class deviates from its target allocation by more than a certain percentage. Investors following this strategy, rebalance the portfolio only when asset allocation drifts from the initial target asset allocation by a predetermined threshold limit. The rebalancing events could be depended up on the portfolio's performance relative to its target asset allocation.

For example, the initial target asset allocation is 40% equity, 30% bond, 20% cash and 10% gold and the threshold limit for rebalancing each asset class is +/- 5%. The portfolio will be rebalanced back to its initial target asset allocation if any of the asset class drifts away from its threshold limit. If a market rise caused equity to climb above 45%, equity would be sold and other asset classes are purchased until the original 40% target had been restored.

Risk-Based Rebalancing
Risk based rebalancing strategy is similar to threshold rebalancing strategy. In risk based rebalancing strategy, triggers are based on the expected risk of the portfolio as a whole. When risk rises above a certain predetermined threshold, high risky asset classes are sold and low risky asset classes are purchased.

Active Rebalancing
Instead of following a systematic strategy for rebalancing, this strategy prefers to rebalance the portfolio opportunistically. Portfolios are rebalanced to its initial target allocations as needed, based on short term expectation of the asset class

Conclusion
Investing your money and leaving the rest to the fate of the financial markets is not reasonable. As the assets perform well, their weights in your portfolio will grow, and as assets weaken, their weights will decline. Failing to rebalance can take investor on a ride that can be never anticipated, as the investor would experience risk exposures that were never intended. Following a disciplined approach to rebalance your portfolio can enhance your returns and provide a smoother ride along the way.

"Rebalancing usually requires you to sell certain assets and buy others, and these transactions come at a cost, cost such as tax and transaction cost. These are costs you must incorporate into any decision while rebalancing. "

As there is no universally optimal asset allocation, there is no universally optimal rebalancing strategy. Each strategy has got its own pros and cons. Investor has to decide appropriate rebalancing strategy taking into account factors such as investment time horizon, risk tolerance level, tax, transaction cost and expected market conditions.