

Man Group Addresses Problems Of Portfolio Rebalancing, Offers Solution

valuewalk.com/2014/12/portfolio-rebalancing-man-group/

Mark Melin

Portfolio re-balancing essentially involves selling winners and buying losers, which doesn't work when markets are strongly trending

Rebalancing a stock and bond portfolio after the relative values of each investment have diverged seems logical, but this investment strategy can prove unprofitable if the mathematical concept of mean reversion does not take hold in the markets, says a study from Man Group / AHL Man, one of the oldest and most respected momentum-based hedge funds. There is a solution, the study points out.

Figure 1: Rebalancing magnified drawdown in 2008-2010

Cumulative returns to 60/40 portfolios of the S&P500 and 10-year US Treasury bond

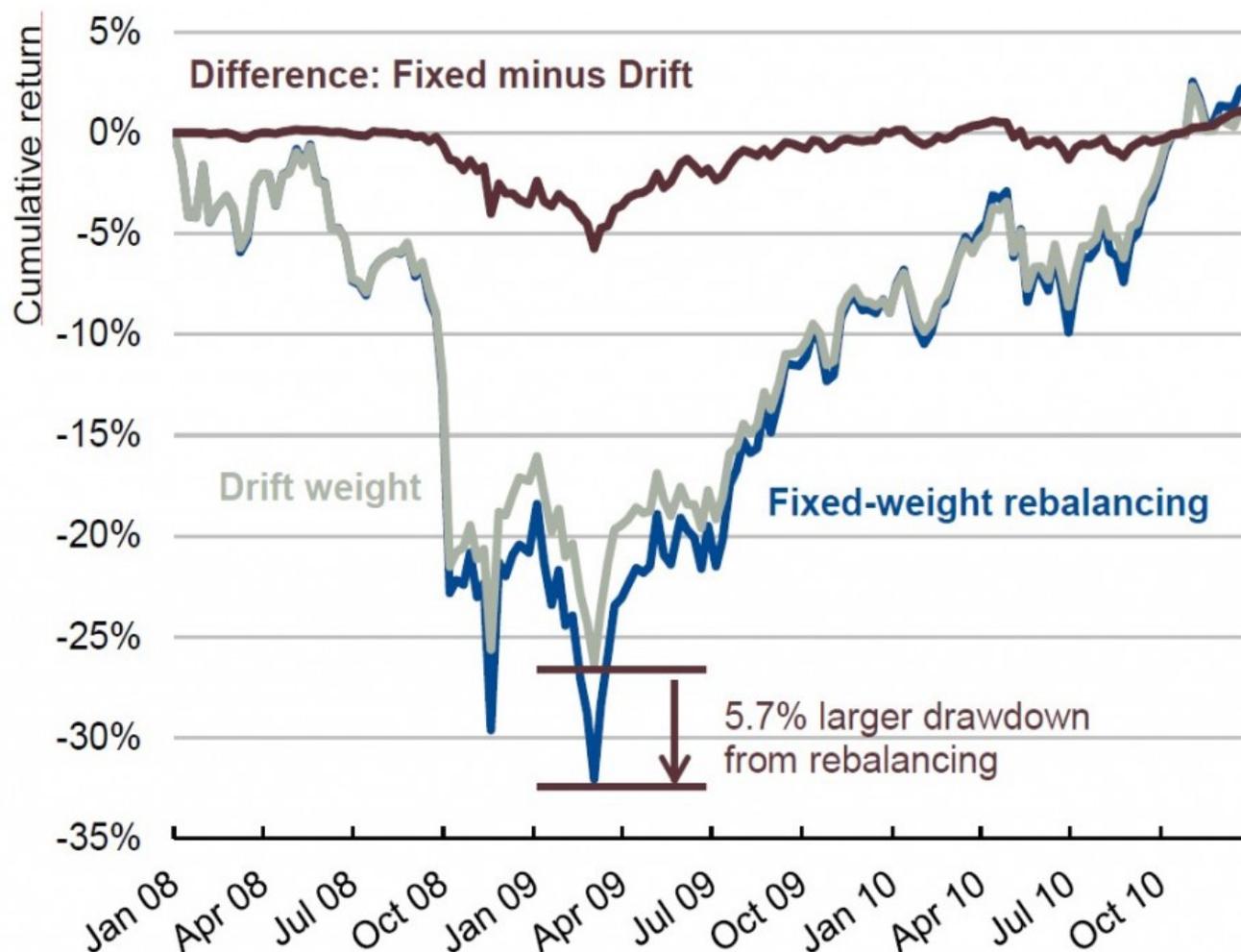
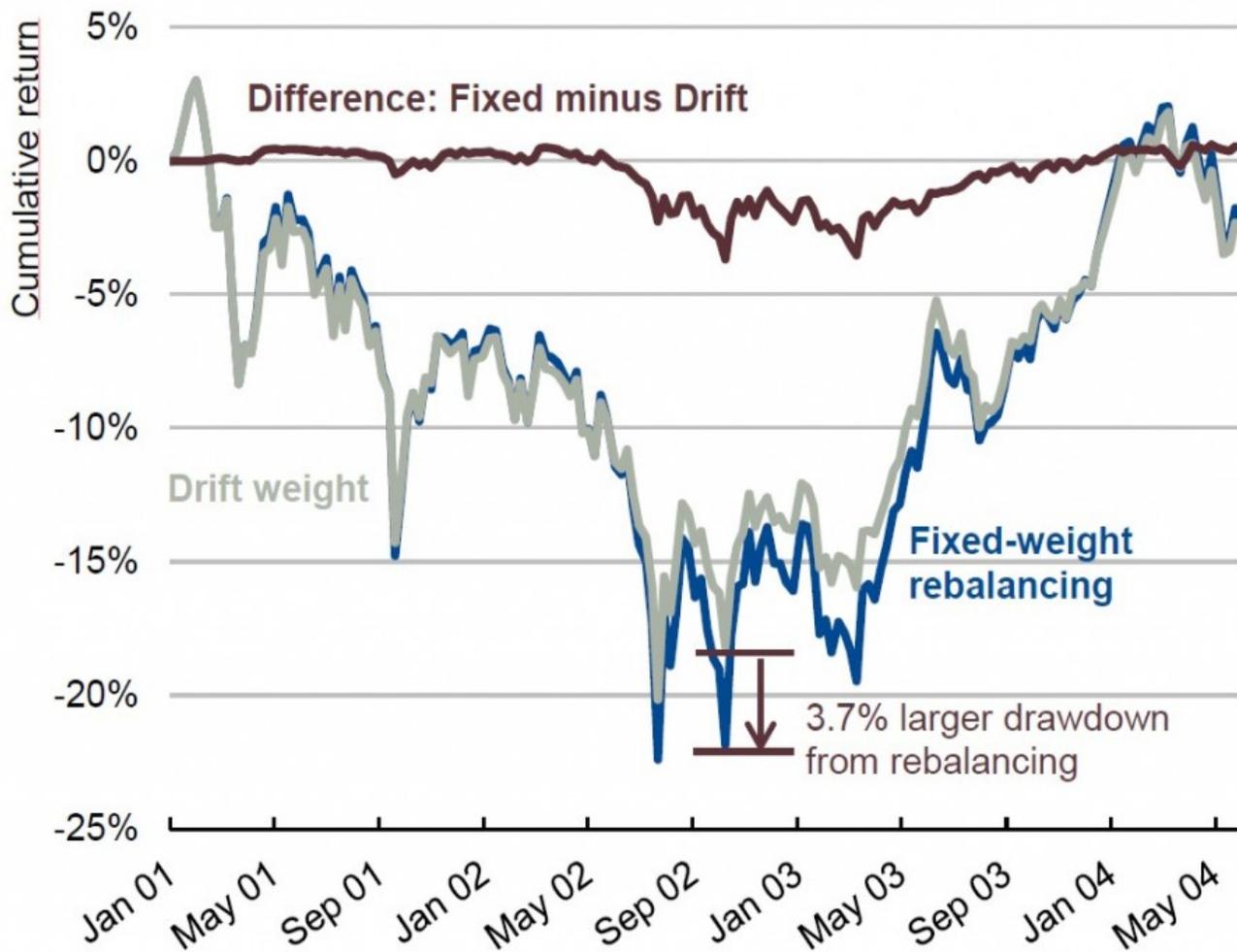


Figure 2: Rebalancing magnified drawdown in 2001-2004

Cumulative return to 60/40 portfolios of the S&P500 and 10-year US Treasury bond



Source: Reuters. Date range: January 2001 to May 2004. Monthly rebalancing.

Portfolio rebalancing: 60/40 allocation

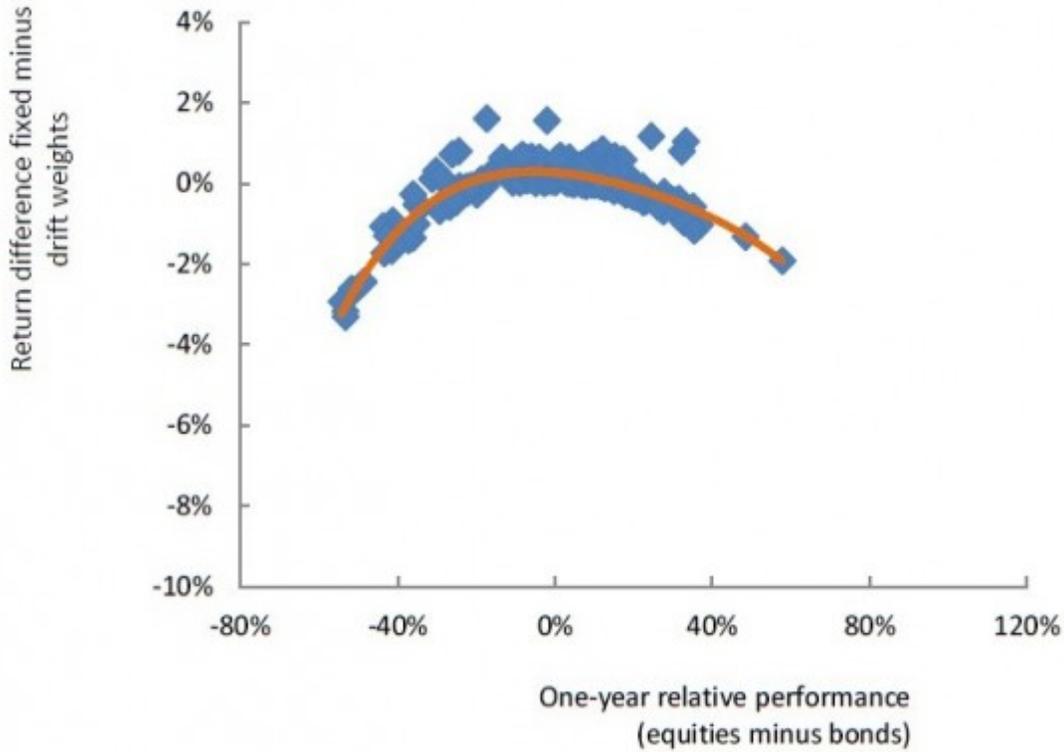
During periods when stock values have significantly outperformed the bond market, a 60 percent stock / 40 percent [bond allocation](#) can quickly become unbalanced. For instance, a 60/40 portfolio established at the start of 2013 would have morphed into a 74/26 portfolio in 2014 as stocks dramatically outperformed bonds, which were near historic highs in price during the period. Many investors, the report notes, re-balance the portfolio back to the more traditional 60/40 allocation.

There are a few issues with such a re-balancing strategy, including a “negative convexity” effect that is similar to a [short volatility](#) collar strategy where a call and a put are both sold. Under extreme price movements the downside losses of selling in the wrong direction can simply overwhelm the upside gains from the opposite end of the collar. Negative convexity is a concept normally associated with bonds that move below par. As the likelihood a bond is called increases, the price of the bond actually may drop, is the essential concept.

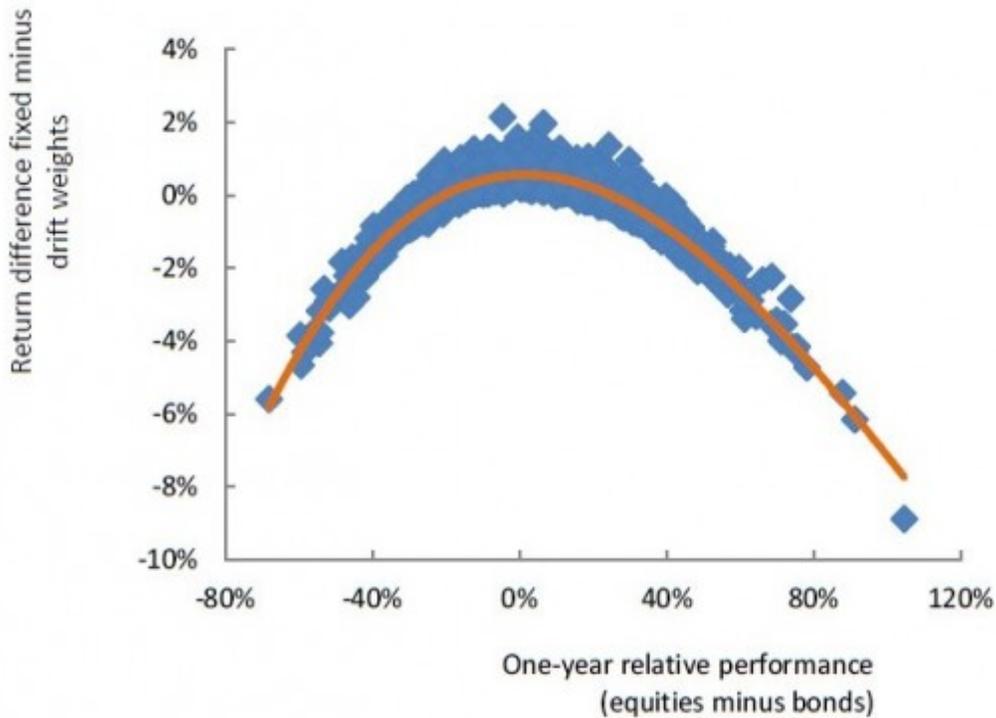
Figure 3: Fixed weights vs. drift weights: Performance difference over one year

A. One-year returns on empirical data

A. One-year returns on empirical data
Fixed-weight rebalancing *minus* drift weights



B. One-year returns on simulated data
Fixed-weight rebalancing *minus* drift weights



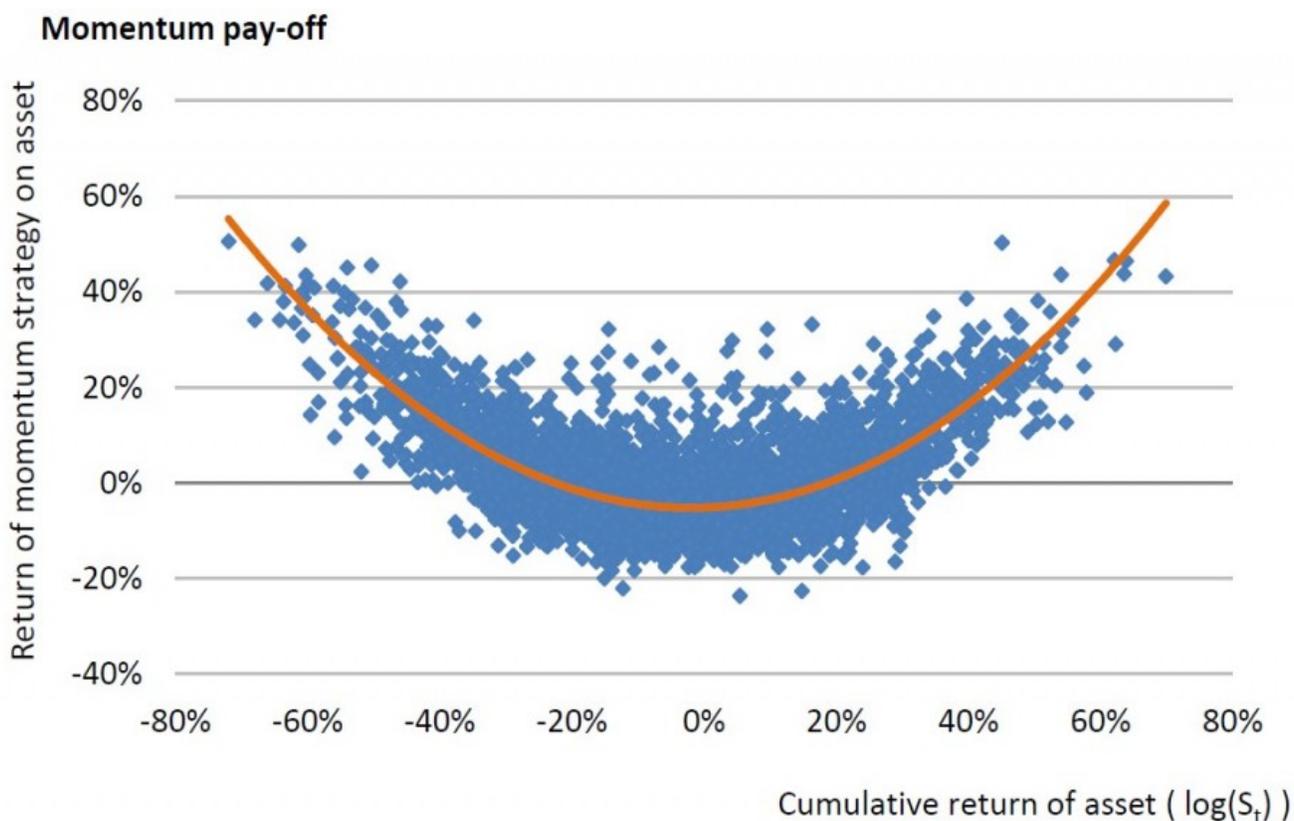
Source: Reuters, Man calculations. Date range: January 1990 to February 2014. Monthly rebalancing.

Portfolio rebalancing: The concept of mean reversion

The report authors, Campbell Harvey of Duke University and Nicolas Granger, Sandy Rattray and David Zou, all with Man Group or AHL Man Systematic strategies, along with Independent Douglas Greenig, provide a more succinct example. The group of researchers considers both the concept of mean reversion, which benefits portfolio rebalancing; and then they consider a [market environment](#) where momentum, or price persistence, remains intact.

Using the recent example of a 60/40 stock/bond portfolio transitioning into a 76/26 portfolio after stock rose in value, the paper points out that re-balancing essentially sells the winners and buys the losers. This strategy works when a market environment is in place that features mean reversion, meaning the trend in [price higher in stocks](#) reverses as does the trend lower in the price of bonds.

Figure 4: Momentum trading on a single asset over one-year periods, simulation



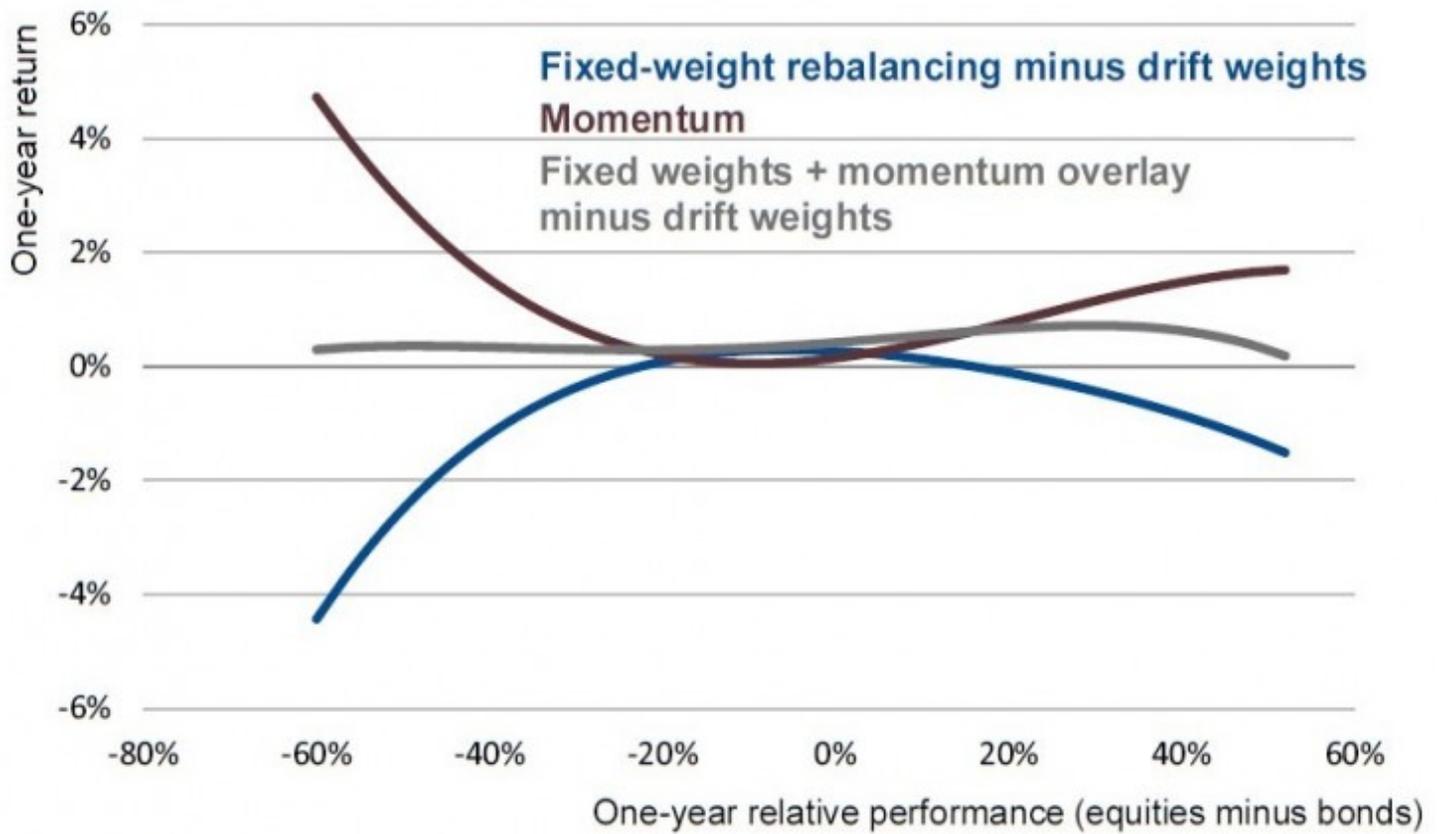
Source: Man calculations.

Impact of portfolio rebalancing on momentum overlay

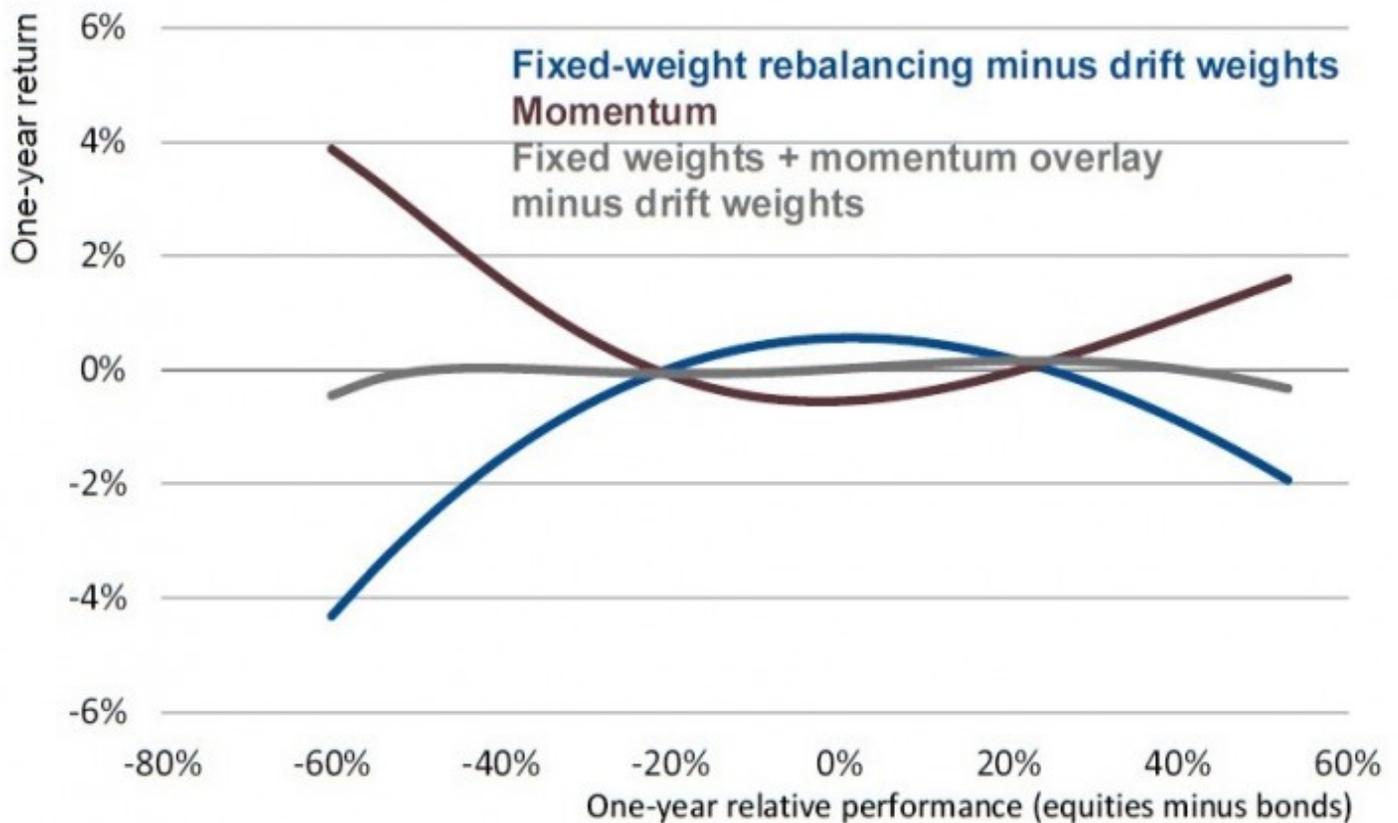
However, if markets continue to feature momentum, the price of stocks persists in its direction higher and bonds move lower in value, then the investor is experiencing the negative [impacts of re-balancing](#). This occurred during the 2008/2009 and 2000/2002 periods, when re-balancing done monthly exacerbated losses and increased the drawdowns by about 600 basis points.

Figure 6: Impact of momentum overlay on fixed-weight rebalancing

A. Empirical data



B. Simulated data



Source: Reuters, Man calculations. Date range: January 1990 to February 2014.

The answer to re-balancing dilemma, the report concluded, was to overlay a momentum price strategy alongside a re-balancing strategy. The study concluded, among other points, that “both theoretical and empirical analyses indicate that introducing a momentum overlay to a re-balanced portfolio reduces drawdowns and improves risk-adjusted performance.” In other words, carve out a percentage of a portfolio to include a [momentum strategy](#) as a portfolio hedge to the negative impact of portfolio re-ballancing

Read the full study [here](#).