

THE PORTFOLIO

Crash Helmet

PROPER REBALANCING CAN HELP PROTECT A PORTFOLIO WHEN MARKETS FALL APART. BY CRAIG L. ISRAELSEN

REBALANCING IS THE SYSTEMATIC process of reallocating assets within a portfolio. The objective is to keep each asset's share of the portfolio in line with predetermined percentages. For example, if a portfolio utilizes five different mutual funds and the goal is for each fund to represent 20% of the total portfolio value, the portfolio will need to be rebalanced periodically to maintain the equal weighting. This is because each fund will not likely have the same return each year. To rebalance, an investor sells shares of the best-performing funds and then uses the proceeds to purchase shares of the worst-performing funds.

That's all fine and dandy. At this point, it's practically orthodoxy. But does rebalancing protect a portfolio during periods of market stress? Yes, and I'll show you how. First, a portfolio with steady rebalancing performs better. Second, it ensures that an adequate amount of liquid assets are available in leaner times. Specifically, the bond and cash asset allocation buckets are much fuller in a rebalanced portfolio, should the investor need them in times of market turbulence.

THE LONGER TERM

The rebalancing analysis we used in this study assumes a seven-asset portfolio over a 38-plus-year period beginning Jan. 1, 1970, and ending Oct. 31, 2008. Portfolio assets included in this analysis are large-cap U.S. equities,



small-cap U.S. equities, non-U.S. equities, U.S. intermediate-term bonds, cash, real estate and commodities.

Here are the indexes used in the study as proxies for each asset class:

- **Large-cap U.S. equities:** Standard and Poor's 500.
- **Small-cap U.S. equities:** Ibbotson Small Companies Index from 1970 to 1978 and Russell 2000 Index

from 1979 to 2008.

- **Non-U.S. equities:** Morgan Stanley Capital International EAFE (Europe, Australasia, Far East) Index.

- **U.S. intermediate-term bonds:** Ibbotson Intermediate Term Bond Index from 1970 to 1976 and Lehman Brothers (now Barclay's Capital) Intermediate Term Bond index from 1977 to 2008.

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- **Cash:** Three-month government Treasury bills.

- **Real estate:** Dow Jones Wilshire REIT Index from 1978-2008 and the NAREIT Index (annual returns from 1970 to 1977). 1970 and 1971 were regression-based estimates, since the NAREIT Index (National Association of Real Estate Investment Trusts) did not provide annual returns until 1972).

- **Commodities:** Goldman Sachs Commodities Index (GSCI). As of Feb. 6, 2007, the GSCI is now known as the S&P GSCI Commodity Index.

To study the impact of rebalancing, we invested a total of \$10,000 in the seven-asset portfolio on Jan. 1, 1970. Each asset received 1/7th of the total investment, or \$1,428.

We also studied a portfolio that did not use year-end rebalancing. Each of the seven assets received a \$1,428 initial investment (for a total portfolio investment of \$10,000) at the start of 1970. No additional investments were made into any of the assets, nor were any of the seven assets rebalanced during the 38-plus-year period.

“In the End,” above right, displays the results of both portfolios. Over the nearly 38-plus-year period from Jan. 1, 1970, to Oct. 31, 2008, the ending account value of the annually rebalanced portfolio was more than \$104,000 larger than the ending account balance in the buy-and-hold client portfolio.

Perhaps even more significant is the massive difference between the ending account balances in bonds and cash. The annually rebalanced portfolio had a final account balance of over \$90,000 in bonds, whereas the buy-and-hold portfolio had an ending balance of just under \$29,000 in bonds.

The final balances in cash told an even more dramatic story. As the chart above indicates, an initial investment of \$1,428 grew to nearly

IN THE END

Over 38+ years, an annually rebalanced portfolio outgained a buy-and-hold portfolio by more than \$100,000, but the biggest differences were in cash and U.S. bonds.

*\$1,428 starting balance in each of the 7 assets	Large U.S. Equity	Small U.S. Equity	Non-U.S. Equity	U.S. Bonds	Cash	REIT	Commodities	Total Portfolio Value (Growth of \$10,000)
Annually Rebalanced	\$58,167	\$61,475	\$48,900	\$90,420	\$87,891	\$59,293	\$62,783	\$468,929
Buy-and-Hold	\$52,005	\$68,819	\$40,596	\$28,804	\$14,744	\$82,492	\$77,376	\$364,835

*Jan. 1, 1970 to Oct. 31, 2008

Source: Morningstar Principia, author research

ROLLING ALONG

There was an average rebalancing premium of about \$3,300 over twenty 20-year rolling periods (1970-2008).

*\$1,428 starting balance in each of the 7 assets	Large U.S. Equity	Small U.S. Equity	Non-U.S. Equity	U.S. Bonds	Cash	REIT	Commodities	Average 20-Year Ending Portfolio Value
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Average ending balances over twenty 20-year rolling periods

(Starting balance of \$1,428 in each sub-asset for a total starting portfolio balance of \$10,000)

Annually Rebalanced	\$14,625	\$14,395	\$13,711	\$13,961	\$13,647	\$14,285	\$14,332	\$98,956
Buy-and-Hold	\$19,326	\$20,196	\$15,084	\$7,792	\$5,424	\$15,949	\$11,834	\$95,606

Source: Morningstar Principia, author research

\$88,000 in the rebalanced portfolio, but to just under \$15,000 in the buy-and-hold portfolio.

Over longer time periods, assets that generate lower returns, such as bonds and cash, will be unable to produce account balances that keep pace with higher-returning equity-based assets. Why does this matter? In today's turbulent environment, it raises three important words—unexpected liquidity needs. Within any multi-asset portfolio, maintaining several assets that will provide immediate liquidity is vitally important. The equity carnage during the fourth quarter of last year is ample evidence of this crucial truth.

THE SHORTER TERM

Does a rebalancing “premium” manifest itself over shorter time periods? Since not everyone holds a portfolio for nearly 40 years, is there a rebalancing benefit over a shorter time-frame, say 20-year periods?

As seen in “Rolling Along” above, the average total portfolio balance over twenty 20-year rolling periods was over \$3,000 higher in the annually rebalanced portfolio. The ending bond and cash balances in the rebalanced portfolios were significantly higher than in the buy-and-hold portfolio. One obvious impact of rebalancing is that each asset has a similar ending account balance, which is not

true with a buy-and-hold approach.

“The Roaring Twenties” (see page 81), shows the growth of \$10,000 over rolling 20-year periods. The first 20-year period was 1970 to 1989. The second covered 1971 to 1990, and so on. The x-axis indicates the ending year of each 20-year rolling period. The annually rebalanced portfolio (light blue dots) had a higher-ending account value in 14 out of twenty 20-year rolling periods than the buy-and-hold portfolio (dark blue dots).

A buy-and-hold approach was superior during periods characterized by high returns and very few annual losses. Under those conditions, a buy-and-hold approach will outperform. For example, the buy-and-hold portfolio outperformed the annually rebalanced portfolio over the 20-year period ending in 1994 (1975-1994) by roughly \$15,000. During that particular 20-year period, the multi-asset portfolio had positive returns in 19 of the 20 years. Moreover, in 14 years the annual return was greater than 10%. The lone annual loss was in 1990, when the portfolio was only down 3.3%.

If an investor could look forward and predict consistently positive returns for his or her portfolio, a buy-and-hold approach would be the way to go. But, as already shown, in 14 of the twenty 20-year periods between 1970 and 2008, a rebalanced portfolio generated superior performance with an average rebalancing premium of nearly \$7,700 (that is, the rebalanced portfolio had a higher balance after 20 years by an average of \$7,700). A buy-and-hold approach proved superior in six of the 20-year periods by an average amount of \$6,700. On average, the rebalancing premium was about \$3,300.

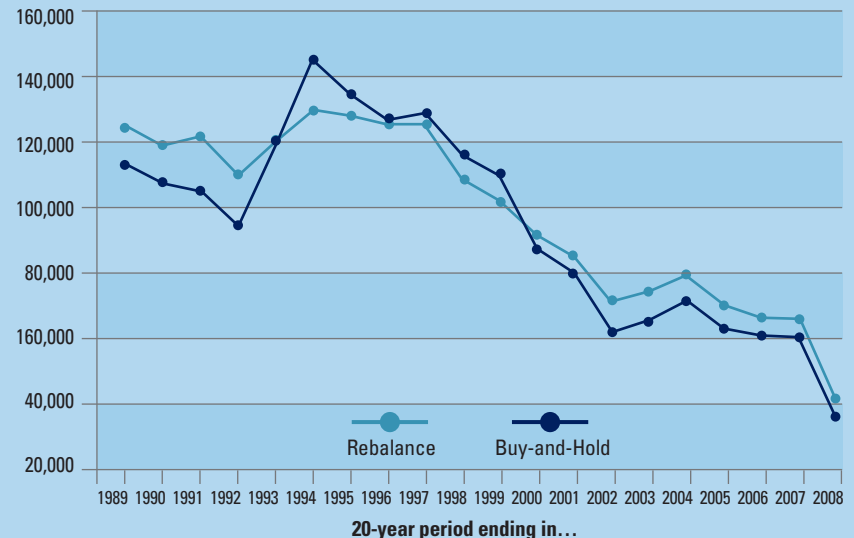
LOOKING FOR A LOCKBOX

A distinct benefit of rebalancing is that the terminal account values of the fixed-income components (bonds and cash) are higher. When rebalancing annually, the average 20-year ending account value in bonds was nearly \$14,000 and

THE ROARING TWENTIES

The annually rebalanced portfolio had a higher-ending account value in 14 out of twenty 20-year rolling periods than the buy-and-hold portfolio.

Growth of \$10,000 over rolling 20-year periods



Source: Morningstar Principia, author research

in cash nearly \$13,700 (from a \$1,428 starting balance in both cases). Using a buy-and-hold approach, the average ending balance after 20 years in the bond fund was roughly \$7,800 and the average terminal account value in the cash component was about \$5,400.

Why does this difference matter? As these two assets tend to have lower returns than equity and equity-like assets, they don't have the capacity to keep pace with the other portfolio components (in terms of dollar account value). As a result, the account balances, which were originally equal, become disproportional over time, with the equity components eventually dominating the portfolio.

This can be advantageous if, in the latter years of a portfolio, the equity-based assets perform well. But, if equity and equity-like assets crash, investors can experience heavy losses because of their disproportionately large allocations in equity.

Of course, this problem is solved by rebalancing. When equity assets have

strong annual gains, their excesses are diverted (i.e., rebalanced) to the fixed-income components of the portfolio (bonds and cash). Because bonds and cash seldom have negative returns, the gains are preserved in a sort of fixed-income “lockbox.” The contents of this lockbox are available should market or living conditions call for emergency liquid funds.

As investors get older, the notion of a lockbox becomes quite appealing. To achieve this lockbox, a portfolio does not have to be moved entirely to cash or bonds. Rather, systematic rebalancing from the beginning goes a long way in creating a safe haven. **FP**

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