

THE PORTFOLIO

Seeing Risk Ahead

HAVE INVESTORS ACCURATELY MODELED THE RISKS THEY TAKE? IS THAT EVEN POSSIBLE? BY CRAIG L. ISRAELSEN AND GEOFF CONSIDINE

DIVERSIFICATION IS SUPPOSED TO HELP manage total portfolio risk. If you have a diversified portfolio and one asset takes a huge loss, odds are the other assets will not follow in lockstep. Thus, the total portfolio will see muted losses compared with any single asset.

Diversifying a portfolio does not mean that it will be low risk, however. In the first three quarters of 2008, quite a few diversified mutual funds experienced enormous losses. For example, Fidelity Magellan (FMAGX) was down 30.6% year to date through Sept. 30, 2008, a period in which the S&P 500 lost 19.3%. Fidelity Global Balanced Fund (FGBLX) declined 14.8% over this same nine-month period. The Vanguard Balanced Fund (VBINX) dropped 11%, and the T. Rowe Price Personal Strategy Balanced Fund (TRPBX) was down 15.3%. My own 7Twelve Portfolio lost 14.2%. (For more information, see “A Perfect Portfolio” in the September 2008 issue of *Financial Planning* and at www.7TwelvePortfolio.com.)

Many investors are shell-shocked from the losses they saw this year. As broad market volatility rose, the volatility of individual asset classes also tended to rise. As a result, most portfolios have exhibited much higher levels of volatility this year than in the five previous years.

Investors may believe mutual funds are diversified since they own many stocks. In the downturn, though, many who put their faith in fund managers to diversify them got a rude awakening.



Developing a meaningful estimate of the loss potential in a portfolio, fund or individual stock presents a substantial challenge. But it is possible. The ability to calculate potential losses over a specific time horizon is at the core of modern risk management. And if investing is supposed to represent assuming risk to gain a future return, it's crucial for investors to know the risks they incur. This is often not the case.

WHY RISKS WERE IGNORED

With broad market volatility at or near historic lows from 2005 to 2006, investors took on more risky portfolios—assuming, apparently, that volatility wouldn't return. Well in general, broad market volatility runs from periods of low volatility to periods of very high ones. Making decisions on risk using a recent period of low volatility often leads to unpleasant results. A prudent approach

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to managing total portfolio risk uses models that account for these effects. An important question is whether advisors and investors generate a viable estimate of portfolio risk when making decisions. Are they aware of the worst-case scenarios and what they mean?

To answer this, we looked at how risk is calculated and whether the estimates for the most recent market meltdown were on target. “Do Loss Projections Work?” shows the projected 270-day (three quarters) risk for a series of funds plus the 7Twelve portfolio, using historical performance data through Dec. 31, 2007 and the default settings in the Quantext Portfolio Planner (QPP). QPP is a portfolio management tool that generates forward estimates of portfolio risk and return (visit www.quantext.com).

The 270-day/third-percentile return is the return the fund is projected to meet or underperform in the worst 3% of cases for a given nine-month period. The 270-day/first-percentile return is the return projected for the worst 1% of nine-month outcomes.

QPP projects risk in portfolios by combining historical data with a forward-looking statistical simulation. As such, developing estimates for maximum risk in actively managed funds is significantly more challenging. Who could have foretold, for example, that Fidelity Magellan would double its position in AIG to \$865 million in June 2008? These types of large, one-off actions make accurate risk forecasting in active funds difficult.

At the end of December 2007, QPP projected that FMAGX would lose at least 19.1% in the worst 3% of outcomes and at least 24.4% in the worst 1% of outcomes. FMAGX lost even more—due in part to large increases in positions in firms like AIG. Aside from FMAGX and FGRIX (which also had poorly timed active bets in financials this year), the year-to-date returns through September 2008 aren’t substantially worse than the projected first-percentile returns.

NOW WHAT?

The analysis shows it was possible to

DO LOSS PROJECTIONS WORK?

Aside from Fidelity Magellan, and Growth and Income (which had some poorly timed active bets in financials this year), the year-to-date returns through September 2008 are not substantially worse than the projected first-percentile returns.

Projected Downside Risk for 2008 vs. Actual Losses for Q1-Q3 2008

Fund/Portfolio Name	Fund or Stock Ticker	Projected 270 Day 3rd Percentile Return	Projected 270 Day 1st Percentile Return	Return for Q1-Q3 2008
Fidelity Magellan	FMAGX	-19.1%	-24.4%	-30.6%
Vanguard S&P 500	VFINX	-17.9%	-22.8%	-19.3
T. Rowe Price Personal Strategy	TRPBX	-12.4%	-15.9%	-15.3%
Fidelity Global Balance	FGBLX	-11.1%	-14.2%	-14.8%
Fidelity Growth and Income	FGRIX	-17.0%	-21.8%	-14.7%
7Twelve	—	-14.7%	-19.1%	-14.2%
Vanguard Balanced Index	VBINX	-10.6%	-13.6%	-11.0%

Source: Author research

estimate the scale of losses incurred by many, but not all, mutual funds and by the 7Twelve portfolio before the current market decline. This doesn’t mean we could’ve foreseen the mechanism for the decline or effectively timed it. The question is: Would advisors or investors have purchased these funds—or built these portfolios—if they realized the scale of the potential losses they were taking on?

We believe the market conditions during September and October 2008 represented first-percentile outcomes or worse, based on information in the market at the end of 2007. But September and October did happen, serving as a reminder that 1-in-100 events do occur. And a prudent risk-taker makes plans to survive them. In fact, the 1% worst case (the first percentile) is a standard metric for risk management.

It’s worth noting that risk models like QPP’s aren’t good at estimating extreme events that happen over short periods of time (less than one month). Some events have short-term market impact that defy our attempts to model them. Over longer periods, though, statistics are better behaved. Benoit Mandelbrot, the father of fractal theory, has extensively discussed the unpredictability of markets over

short time periods. Some experts (notably Nassim Taleb of *Black Swan* fame) believe financial models are fatally flawed by this, but others, like Eugene Fama, believe that markets become much more predictable over long periods.

Risk management isn’t about judging a mutual fund or portfolio. Rather, having the ability to estimate risk potential when pursuing an investment opportunity is an extremely valuable decision-making tool. Risk models are far from perfect, but they’re useful. Armed with a more accurate sense of risk, investors and advisors will be less likely to bail out of their investments during a storm—precisely because they have a better sense of the storm’s potential before it hits. **FP**

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