Fear and greed have long been used to characterize market sentiment. What has changed in today’s investment climate is the speed at which the market vacillates between the two extremes. The shortened cycles led to a new sentiment description—risk on, risk off, or “ro ro.” One consequence of this bipolar attitude toward risk has been increased asset class correlations, negating the effective benefit of many traditional equity diversifiers. Meanwhile investors have been forced to investigate strategies that offer downside protection in addition to upside participation.

One solution to these competing desires is an option-based equity collar. A collar can provide portfolios with greater downside risk protection than standard multi-asset diversification programs while also allowing for profits during risk on rallies. The Options Industry Council (OIC), as part of its mission to provide education and research to institutional investors, helped sponsor research on the performance of the collar strategy against a range of exchange-traded funds (ETFs) across multiple asset classes, including equity, currency, commodity, fixed income, and real estate. In “Option-Based Risk Management in a Multi-Asset World,” Edward Szado and Thomas Schneeweis (2012) show that for most of the asset classes considered, an option-based collar strategy, using six-month put purchases and consecutive one-month call writes, provides the holy grail of investing: improved risk-adjusted performance and significant risk reduction.

Figure 1 and table 1 illustrate the benefit of an equity collar strategy on the popular SPDR® S&P 500® (SPY) ETF. Over the 55-month study period ending December 30, 2011, the 2-percent out-of-money (OTM) SPY collar returned more than 22 percent (4.5 percent annually), while the long SPY experienced a loss of more than 9 percent (~2.1 percent annually). The collar earns its superior returns with less than half the risk as measured by the standard deviation (8.4 percent for the collar versus 19.5 percent for SPY). One of the most impressive statistics supporting the potential benefit of equity collar protection is the maximum drawdown. During

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**TABLE 1: SUMMARY STATISTICS SPY ONE-MONTH CALL/SIX-MONTH PUT BALANCED COLLARS**

<table>
<thead>
<tr>
<th>SPY Collar Summary Statistics</th>
<th>SPY Total Return</th>
<th>ATM 1–Month Call, ATM 1–Month Put</th>
<th>2% OTM 1–Month Call, 6–Month Put</th>
<th>5% OTM 1–Month Call, 5% OTM 6–Month Put</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 1, 2007 to December 30, 2011</td>
<td>-2.14%</td>
<td>3.48%</td>
<td>4.47%</td>
<td>3.03%</td>
</tr>
<tr>
<td>Annualized Return</td>
<td>19.46%</td>
<td>6.68%</td>
<td>8.37%</td>
<td>10.42%</td>
</tr>
<tr>
<td>Annualized Standard Deviation</td>
<td>-0.02%</td>
<td>0.30%</td>
<td>0.39%</td>
<td>0.29%</td>
</tr>
<tr>
<td>Mean Monthly Return</td>
<td>0.01%</td>
<td>0.41%</td>
<td>0.57%</td>
<td>-0.03%</td>
</tr>
<tr>
<td>Median Monthly Return</td>
<td>-9.45%</td>
<td>16.95%</td>
<td>22.17%</td>
<td>14.64%</td>
</tr>
<tr>
<td>Period Cumulative Return</td>
<td>-0.16</td>
<td>0.36</td>
<td>0.41</td>
<td>0.19</td>
</tr>
<tr>
<td>Sharpe Ratio</td>
<td>-50.80%</td>
<td>-8.99%</td>
<td>-11.13%</td>
<td>-19.81%</td>
</tr>
<tr>
<td>Maximum Drawdown</td>
<td>93.38%</td>
<td>20.76%</td>
<td>35.85%</td>
<td>48.81%</td>
</tr>
<tr>
<td>Maximum Run Up</td>
<td>47%</td>
<td>40%</td>
<td>36%</td>
<td>51%</td>
</tr>
<tr>
<td>% Down Months</td>
<td>53%</td>
<td>60%</td>
<td>64%</td>
<td>49%</td>
</tr>
<tr>
<td>% Up Months</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>55</td>
</tr>
<tr>
<td>Number of Months</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>55</td>
</tr>
</tbody>
</table>
the study period, SPY experienced a maximum loss of 50.8 percent while the 2-percent OTM collar reduced this negative performance to a maximum loss of 11.1 percent.

Szado and Schneeweis (2012) evaluated the impact of collar strategies across a wide range of asset classes based on a set of trading rules (table 2). For each of the ETFs, the study analyzes an array of strike prices with defined initial moneyness where a six-month put is purchased and consecutive one-month calls are written. At the close on the day before the Saturday expiration of the calls and depending on the particular passive implementation, the initial moneyness of the calls and puts was set at: 25-percent, 10-percent, 5-percent, or 2-percent OTM, or at-the-money (ATM). At expiration, the calls were settled at intrinsic value and new one-month calls with the specified moneyness were sold. The longer-term put is held for another month. Once the six-month put expires, it is settled at intrinsic value and again rolled into new puts and calls with the specified moneyness and time to expiration.

The authors wished to avoid circumstances where the underlying prices decline significantly and new calls would have been written at lower (crossed) strike prices than the existing deep in-the-money (ITM) put. In these cases the long put and long underlying positions would counteract each other and the new call would essentially be written naked. Since writing naked calls is inconsistent with the risk-reduction goal of the collar strategy, Szado and Schneeweis (2012) implemented a rule to roll the puts to the strategy’s target moneyness and maturity based on the current underlying price on the day the new short call position was initiated. The put sale was rolled at the mid-point between the bid and ask and the new put is purchased at the ask price. All other executions in the study include transaction costs by purchasing at the offer price and selling at the bid price.

Conclusions
In contrast to earlier studies that concentrated on equity markets, Szado and Schneeweis (2012) provide extensive analysis of the performance of collar strategies over a diverse set of asset classes including equities, currencies, commodities, fixed income, and real estate. Their study covers the period after the June 20, 2008, inception of GLD (crossed) strike prices than the existing deep in-the-money (ITM) put. In these cases the long put and long underlying positions would counteract each other and the new call would essentially be written naked. Since writing naked calls is inconsistent with the risk-reduction goal of the collar strategy, Szado and Schneeweis (2012) implemented a rule to roll the puts to the strategy’s target moneyness and maturity based on the current underlying price on the day the new short call position was initiated. The put sale was rolled at the mid-point between the bid and ask and the new put is purchased at the ask price. All other executions in the study include transaction costs by purchasing at the offer price and selling at the bid price.

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Table 2 shows that the results are somewhat mixed from a total-return

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Investments & Wealth Monitor

**Feature**

Wealth MONITOR

Feature to import data from outside providers (although not necessarily comprehensively or fully automated—at least not yet). Some proactive financial-plan monitoring tools have been built into the new (and free) software platform inStream.

But ultimately, expect far more integration than even what these tools have achieved so far, which in turn will make many aspects of the financial-planning process easier. Imagine if financial-plan updates could be done in minutes, live in a client meeting instead of via a multi-day back-and-forth data-gathering process followed by data input to the planning software and an "updated plan presentation" meeting.

So what do you think? Is your firm an early adopter of the new technologies that will dominate plan monitoring and updating in the future? Do you or your clients use account aggregation software? Imports to your financial planning software? Have you tried inStream? Are you concerned that this automation will impact or change your value proposition with clients?

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**Kitces**

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that there are no generally accepted standards to guide these decisions. Without standards we cannot differentiate between good and bad. Accordingly, plan sponsors need to adopt TDF standards and, in our opinion, these standards should emphasize safety, especially during the critical transition period. Plan sponsors need to drive this rocket ship during the accumulation phase.

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**Surz**

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perspective. Two currencies (Australian dollar and Japanese yen), the two bond ETFs (HYG & TLT), and the QQQ and GLD had higher cumulative returns than any of the collar iterations. The authors suggest that with respect to total returns, option-based collar strategies tend to outperform when market declines are aggressive. However, the results indicated that the strategy tends to underperform in periods of extreme market rallies when the written call caps the gains of the underlying long position. While option-based collars may not provide complete protection for all products and in all market conditions, collars can provide significant risk control across a wide range of asset classes, significantly reducing volatility, drawdowns, and, in certain market environments, they also can provide enhanced returns relative to a stand-alone investment.

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**Gocke**

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Reference