

# ETFReplay.com

## ETFREPLAY.COM

**Product:** ETF analysis with relative strength and moving average backtesting

**Requirements:** Internet Explorer, Firefox, Chrome, Safari, Windows XP/Vista/7 or Apple Macintosh

**Price:** \$29.99 per month

by Leslie N. Masonson

ETFReplay.com is an exceptional website that provides the analytical tools and backtesting capability for developing profitable exchange traded fund (ETF) trading and investing strategies. Currently, in the US there are more than 1,000 ETFs in existence with total assets exceeding \$1 trillion. This website covers approximately 600 of the most active ETFs representing greater than 98% of the US daily trading volume. The bottom 600 ETFs in asset size constitute only 2% of all ETF assets.

This site is independently owned and has no affiliation with any ETF family or brokerage firm. I've been using this website since December 2010 and I've been impressed with its capabilities, as well as the enhancements added since then. In addition, I used this website to develop two profitable ETF investing strategies that are the basis of my recently published ebook, *Profiting From ETF Rotation Strategies In Turbulent Times*.

The website is well-suited for self-directed investors and traders who want to build and manage ETF portfolios for short-term trading and long-term investing for their regular brokerage and/or retirement accounts. The ETF data for the backtesting applications is updated nightly, usually by 5:15 PM Eastern time, providing sufficient time to assess the market situation for any potential portfolio changes before the next day's market open. At the outset, it is useful to take a look at the overview and "About



FIGURE 1: HOME PAGE. This shows top ETF performs and latest blog postings.

us" tabs to learn about the philosophy of the website and the rationale for using ETFs in an active investing mode. After that, the user should view the introductory video on the home page.

The home page (Figure 1) lays out the website's ETF focus using 11 tabs across the top of the page. In addition, there is a listing of the 10 most recent blog posts, as well as the year-to-date returns of the 10 top and bottom ETF performers.

## ETF SUMMARY TAB

Let's start by viewing the ETF performance summary in Figure 2. It provides a snapshot of the current assets and return statistics for multiple time periods of the top few ETFs in nine categories such as equities (US and international), bonds, commodities, and currencies, among

others. This screen contains the name and ticker symbol of each ETF; its assets as of the end of the most recent month; percent return for one, two, five, or 10 days (user adjustable); and year-to-date percent return (total return) for the last three calendar years. By clicking on one category heading, all the ETFs in that category pop up. Each category is represented by a different color, which is useful in determining where the action is concentrated when testing portfolio strategies.

Further, by clicking on the ETF name, a detailed summary screen pops up with basic data (last price, dividend, yield, net assets, and more), as well as a bar chart of monthly total returns for a number of years, and two data tables with returns and dividends (if any) by quarter. The

portfolio of any ETF is obtained by clicking on the white square with the letter “I” that produces the ETF issuer’s website with information on that individual ETF.

## BACKTESTING ETF PORTFOLIOS

The most dynamic and powerful feature of the website is its backtesting capability. There are information-packed nine modules in this tab:

- ETF portfolio
- Moving averages
- Portfolio moving average
- Portfolio MA timeline
- Relative strength
- Portfolio relative strength
- Portfolio screener ranks
- Advance relative strength
- RS-combine portfolios

The two prominent modules for backtesting are the “Portfolio moving average” and the “Portfolio relative strength,” which will be covered under a separate subhead. Also helpful is the ETF portfolio module that lets users input up to 25 ETF ticker symbols and customized weighting (total weight being 100%). An option to go long or short each ETF is also provided. The user can select a test period and determine the performance of those ETFs against any preselected ETF benchmark. Statistics and a chart of the returns against the benchmark are provided.

Users can input any number of ETF portfolios by going to the “My Account” tab and clicking on the “Add portfolio” button. Ticker symbols and customized weights can be keyed in and saved for future use. Many portfolios can be set up with a maximum of 25 ETFs in each. Any of these portfolios can be backtested.

The “Portfolio screener ranks” module shows the monthly ranking of a diverse portfolio of 10 ETFs in Figure 3. This screenshot provides weekly performance ranking over the last 12 weeks ended May 24, 2011.

Color-coding by asset class demonstrates the ebbs and flows of each ETF’s strength or weakness. For example, since

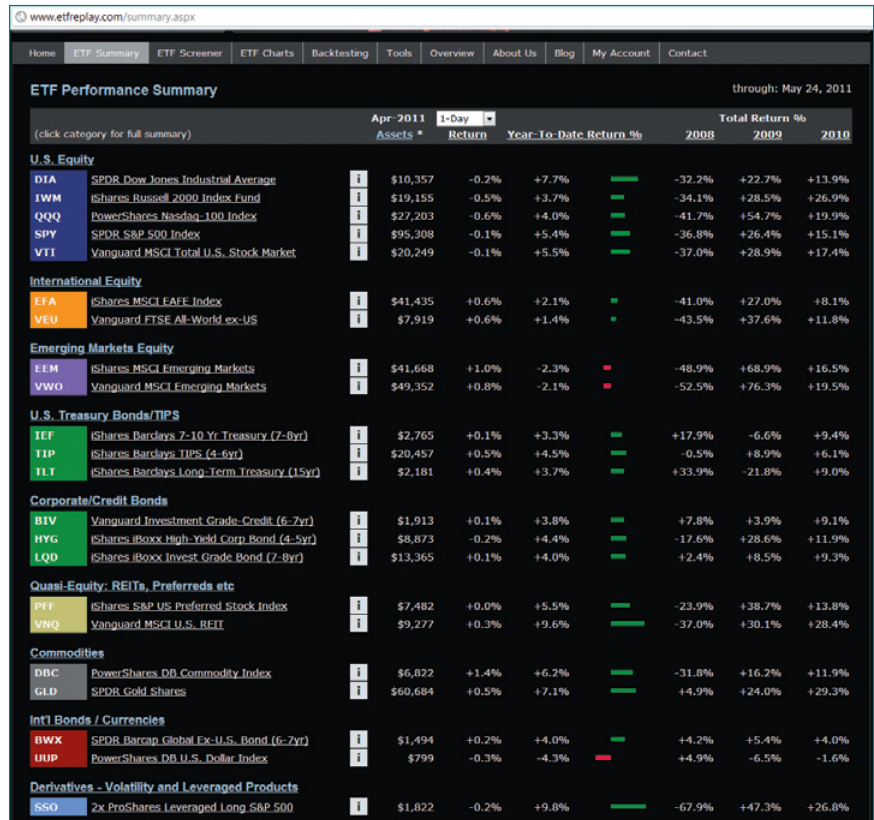


FIGURE 2: ETF PERFORMANCE REPORT. This provides a quick look at top ETF performers over various time frames. Color-coding distinguishes asset classes.

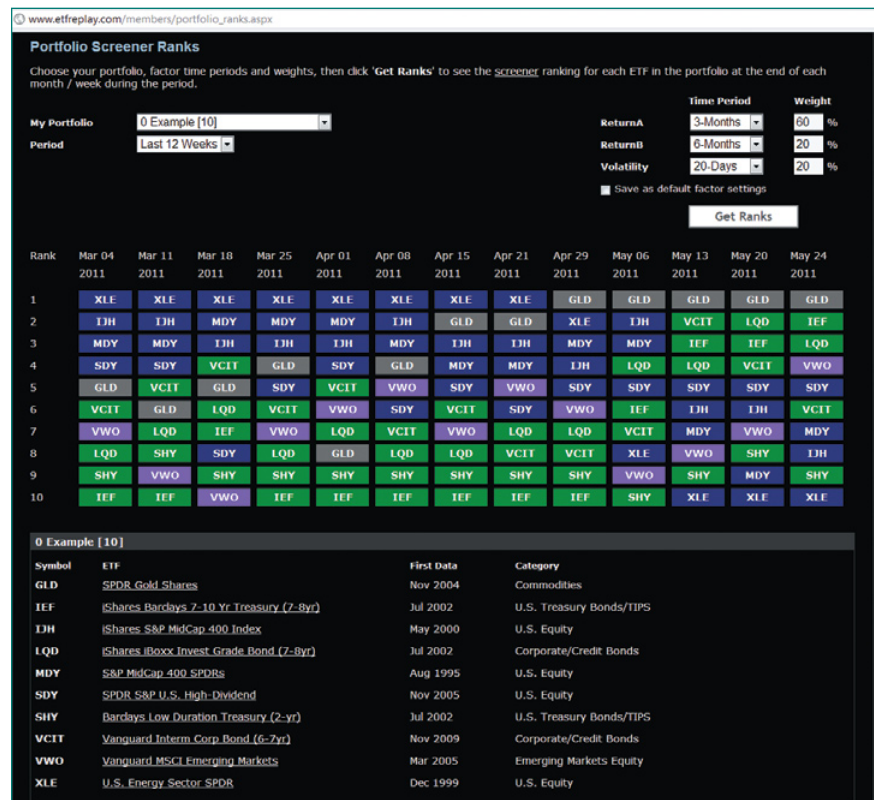
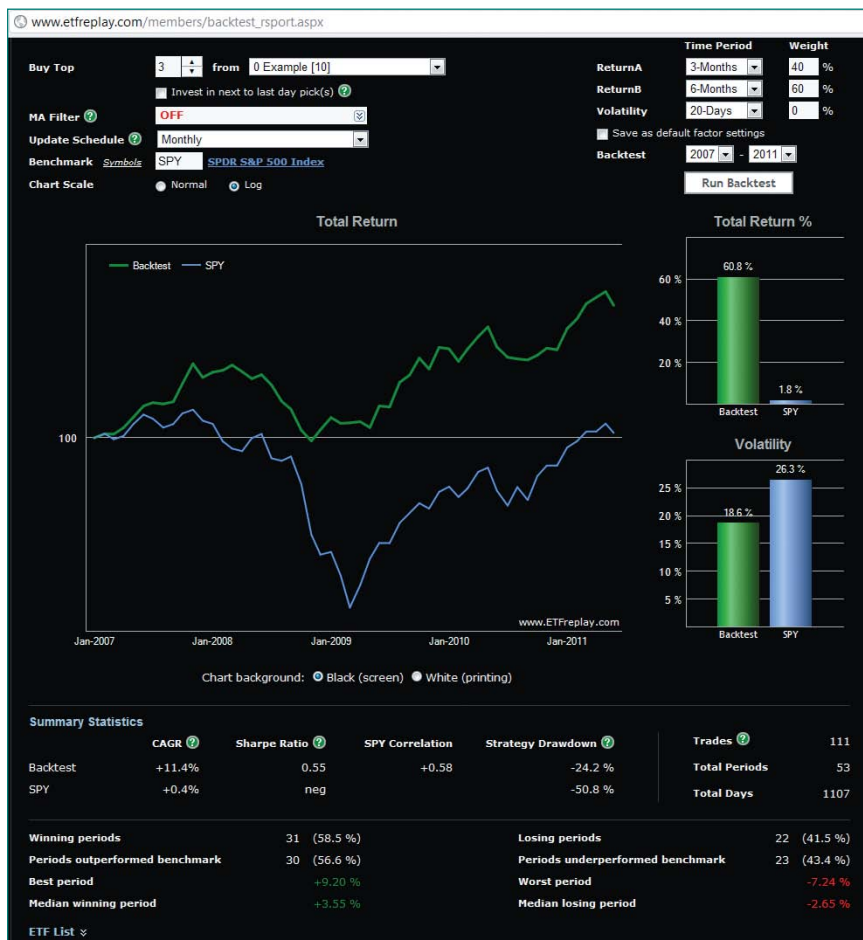


FIGURE 3: PORTFOLIO SCREENER RANKS. Portfolio ETF rankings over 13 weeks are shown. The ranking period is adjustable.



**FIGURE 4: RELATIVE STRENGTH BACKTEST RESULTS.** Complete statistics including total return, risk, and drawdown are provided.

April 29, 2011, SPDR Gold Shares was ranked no. 1 in performance based on a weighting of 60% for three-month relative strength price performance period; 20% weighting for six-month relative strength price performance period; and a 20% weighting for a 20-day volatility period.

However, for the previous eight-week period from March 4 through April 21, 2011, the US Energy Sector SPDR was ranked no. 1. Interestingly, that ETF dropped to last place during the most recent three weeks as of this writing. This illustrates the importance of tracking and acting on changes in ranking to increase portfolio returns.

## RELATIVE STRENGTH BACKTESTS

There have been many academic studies performed on the value and performance of relative strength analysis. They have all demonstrated the viability and profitability of investing in the strongest

market segments while avoiding the weakest market segments when using a relative strength price performance period ranging between six months to a year. Don't confuse relative strength analysis with the relative strength index (RSI) developed by J. Welles Wilder Jr. The RSI measures an equity's or ETF's price performance over a set time period, such as 14 days. On the other hand, relative strength analysis compares one ETF's price performance to another over varying time frames. This website is easy to use to backtest two well-known strategies, namely relative strength analysis and moving averages.

The variables for the portfolio relative strength backtest module as shown on the top portion of Figure 3 include:

- Number of ETFs to be bought: 1 to 10
- Moving average filter: Set to on or off. Its length can be set at two

months to 24 months. There are no weekly or daily options

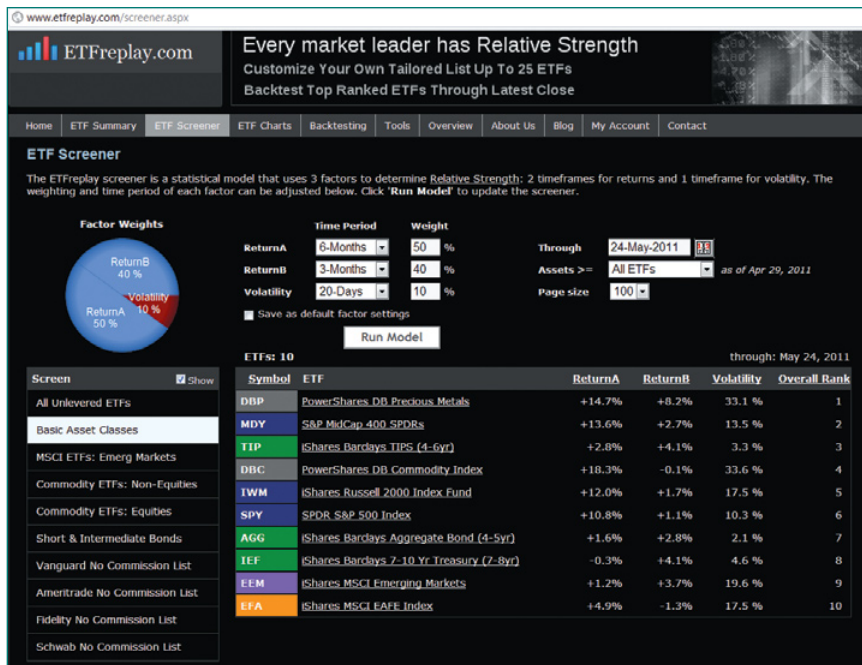
- Update schedule: Quarterly, monthly, semimonthly, and weekly (MA filter cannot be applied)
- Benchmark: User-selected choice ETF ticker symbol, such as SPY or VTI (Vanguard Total Stock Market)
- Chart scale: Normal or logarithmic
- Backtest period: Yearly from 2003 to present

Time period for relative strength analysis with weighting comes out to:

- Return A: One day to 36 months (in 10 different increments)
- Return B: One day to 36 months (in 10 different increments)
- Volatility: Two days to 36 months in eight incremental periods

The user can select two time periods for the relative strength performance. For example, a three-month and six-month period to measure price performance can be selected with a weighting of 40% for the former and 60% for the latter, with the volatility set at 0%. Different settings can be backtested to compare the results. There is no option to use stop-loss orders in the backtesting, which would have been useful.

Figure 4 shows the backtest results for the previously mentioned portfolio of 10 ETFs (see the bottom half of Figure 3 for the listing). All the key performance statistics including a chart of the backtest is provided. The total return is provided encompassing dividends and distributions. As you can see, from 2007 through May 24, 2011, the ETF portfolio achieved a 60.8% total return compared to the Standard & Poor's 500 benchmark return of 1.8%. This superior performance was accomplished with a lower volatility of 18.6% vs. 26.3%, and a much lower drawdown of 24.2% versus 50.8% for the benchmark. Moreover, there was a positive Sharpe ratio of 0.55 compared to a negative ratio for the benchmark.



**FIGURE 5: ETF SCREENER.** This module evaluates ETFs based on three factors — two relative strength periods and volatility.

Over this tested time period of 1,107 days were 111 trades.

### MOVING AVERAGE BACKTESTS

In the “Portfolio moving average backtest” module, the user can evaluate various moving average lengths that provide the most consistent profits with controllable risk for any previously saved or newly created ETF portfolios.

- Portfolio name and composition: User selected and determined
- Monthly MA length: Two to 99 months
- Benchmark: User-selected ETF
- Cash: User-selected ETF choice for cash position
- Backtest period: 2003 to present time in years
- Chart scale: Normal or logarithmic
- Update schedule: Monthly or semimonthly

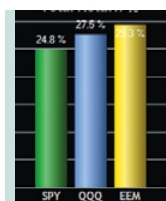
At the end of each backtest period (end or middle of the month), the software will calculate whether each ETF is above or below the chosen moving average. For the following time period, only those

ETFs above the moving average will be included. There is no option to use stop-loss orders in the backtesting.

The performance is based on end-of-month closing price. The program analyzes the best performers and ranks them in order. Depending on the number of ETFs selected for the portfolio, the program will rotate to the strongest ETFs in the portfolio at the end of each month based on its latest three-month performance.

### ETF SCREENER TAB

This tab ranks ETFs based on the weighting of three variables that can be adjusted according to your preferences. These are relative strength time frames (two can be selected, if desired) and volatility (annualized standard deviation of daily returns), which are used to rank ETFs from best to worst in their relative price performance over a specific time period. For example, you may simultaneously choose a six-month relative



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strength period with a 50% weighting, a three-month relative strength period with weighting of 40%, and a 20-day volatility period with a 10% weighting. An asset filter can also be applied, if desired, to select ETFs that meet certain thresholds in value (for example, \$1 billion; \$100 million; \$250 million; and \$500 million) or simply evaluate all ETFs irrespective of asset size.

If you select basic asset classes as highlighted on the left side of the screen, then the ranking screen would look like Figure 5 based on the settings indicated previously. One visually attractive and functional feature is that the color-coding enables you to see whether commodities, international, US equity ETFs, or other categories are bunched near the top or bottom of the ranking table. This color-coding is provided for all applications throughout the website.

On the left side of the screen, preset ETF portfolios are provided for review by users. These include all unleveraged ETFs, emerging markets, commodity ETFs, short and intermediate bonds, and no-commission ETFs from four brokerage firms including Vanguard, Ameritrade, Fidelity, and Schwab.

This last feature provides investors who maintain a brokerage account at any of these firms (and understand their specific requirements and rules) with the ability to select a portfolio from among those offered without paying commissions (at TD Ameritrade, a minimum 30-day hold period is required; otherwise, a selling commission is charged). In addition, you can build numerous customized ETF portfolios and save them for analysis in this screener. They would all be listed on the left side of the screen. By clicking on one or more of the customized portfolios, the ETFs would be included in the current evaluation.



FIGURE 6: ETF CHARTS. Compares up to five ETFs' price performance over varying time frames.

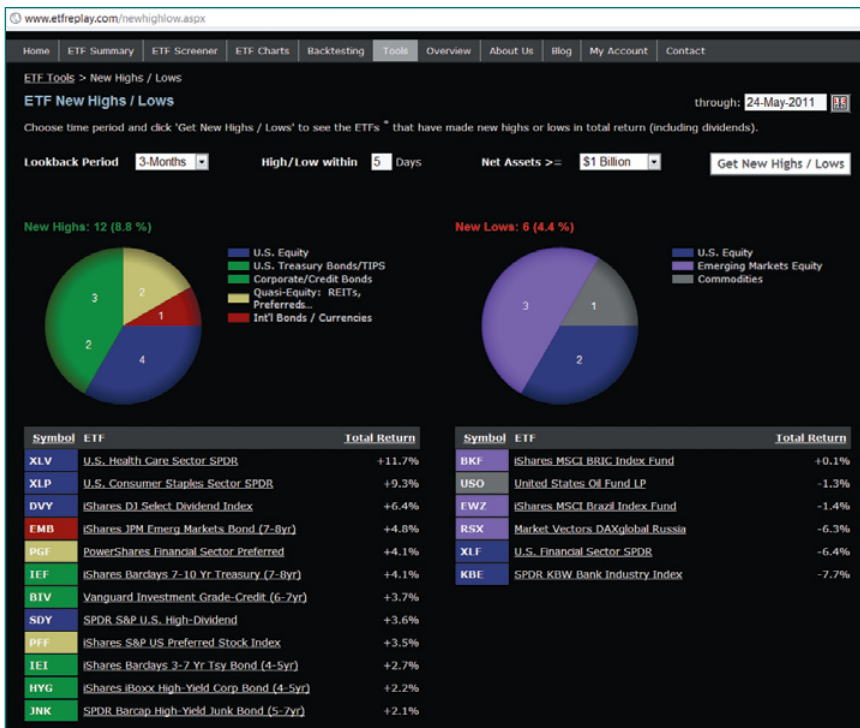


FIGURE 7: ETF NEW HIGHS/LOWS. This locates ETFs making new highs or lows over varying lookback periods within any number of days starting from today.

### ETF CHARTS TAB

This tab provides a line chart of total returns for up to five ETFs (with a black or white background for printing a copy) for selected time frames. Figure 6 shows

SPY, QQQ, and EEM for last 12 months with their total return and volatility shown as bar charts. The advanced setting tab allows you to obtain the CAGR % (compounded annual growth rate)

instead of the total return %, and the largest drawdown percentage, along with a chart of the changing drawdowns. In this example, the iShares MSCI Emerging Markets ETF not only had the largest total return, but also the highest volatility.

### TOOLS TAB

This tab contains six modules that provide you with additional information on ETFs. The “New highs/new lows” module (Figure 7) provides a listing of ETFs making a new high or low over a selected time frame. This listing can be viewed over a one-month to 24-month period ending today or a preselected date. Moreover, the list can be refined by using a net assets filter, as well as a filter indicating the ETFs making new highs or lows with any number of days starting today. This insight can be used to observe the trend in the market, since an increasing number of new highs indicate a strengthening and rising market and vice versa.

In addition, the rotation among market segments and sectors is easily observed. For example, commodities, international, or emerging market ETFs may start appearing on the new highs or new lows listing more frequently over a week or two, thus tipping the user off to a hot market segment or a weakening market segment. Getting into a sector early when it starts to make new highs will typically improve overall portfolio performance. William O’Neil, the founder of *Investor’s Business Daily*, is an advocate of buying stocks making new highs and concentrating on the strongest sectors, which certainly produced big winners for him and those investors using his momentum approach.

Figure 7 shows new three-month high/lows occurring within the past five days for ETFs with assets of greater than \$1 billion. Here you can see that XLV had a total return of 11.7%, followed by XLP at 9.3%. The worst performers were the banking ETFs — XLF and KBE.

Another module is the “Dividend yield.” This compares the yield on two ETFs or just the yield on one and is shown as a line chart over a selected time frame, as well as on separate bar charts by year, and in a table by quarter.

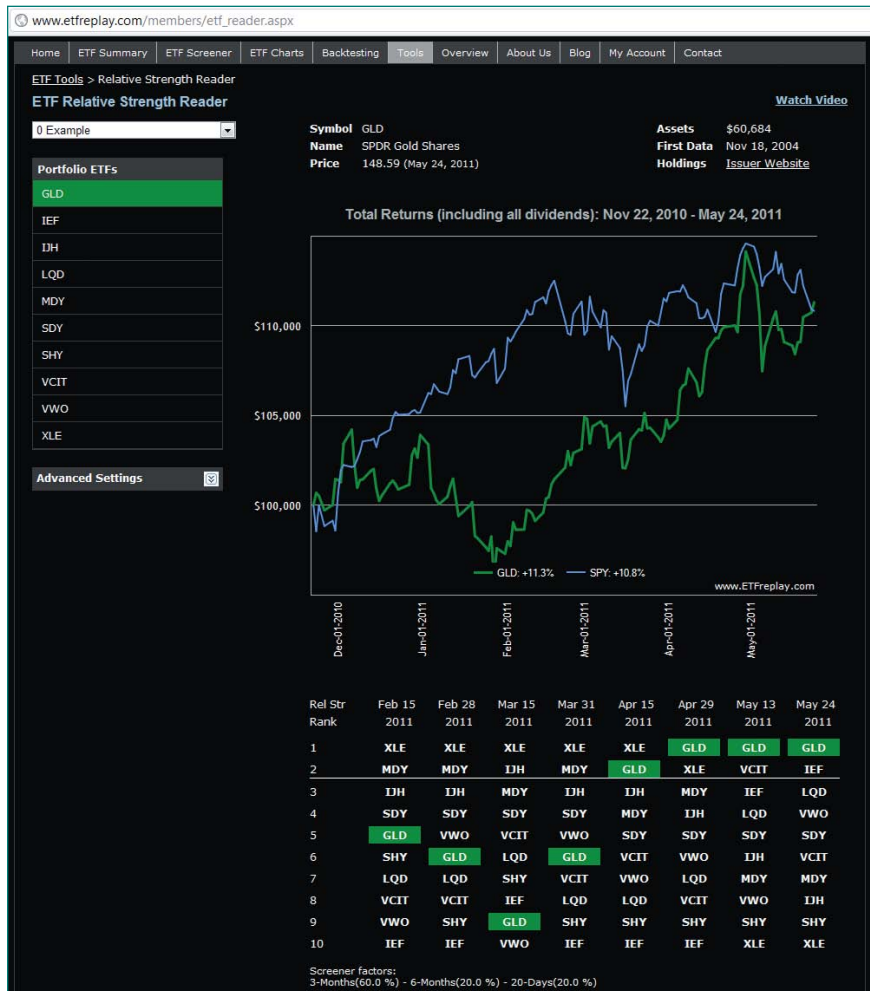
The “Volatility” module provides statistics on a comparative line chart of the volatility of up to five ETFs. Included is the data on maximum, minimum, and latest volatility percentage. The volatility period can be set from 20 days to 12 months and viewed on a line chart for a number of years back. Similarly, the “Correlation” module provides the correlation coefficient between any two ETF ticker symbols over a user-designed time period for a volatility period of 10 to 120 days.

The “Relative strength reader” module provides a quick visual of any ETF in an existing portfolio compared with a cash-equivalent short-term bond ETF, as well as the rotation among ETFs in the existing portfolios in bimonthly intervals for the latest six-month period. Figure 8 shows the 10-ETF portfolio with each of their rankings over a six-month period. “Advanced settings” offers a replay of past market rotations for prior periods up to six months in length that are charted for viewing. GLD, the highlighted ETF, is shown compared to the benchmark. Each ETF in turn can be clicked and compared to the benchmark.

Finally, the “Down day association stats” module provides insight into the performance of each ETF in any of your portfolios on days when the benchmark is down a specific user-set amount, such as 3% in one day. The module provides the number of days up and down of each ETF, the average daily performance, the worst and best day’s performance, and the correlation to the benchmark.

## SUMMARY

ETFReplay.com is a comprehensive, visually appealing website with an excellent layout and graphics that is coupled with extensive ETF performance, portfolio comparisons, basic charting, and superb backtesting capabilities using relative strength and moving averages. Some of the site’s features are available without charge, while most features require a subscription. This review did not contain all the possible screens with examples because of publishing space limitations. For self-directed investors who are swing or position traders, this ETF site offers a solid and quick backtesting capability.



**FIGURE 8: ETF RELATIVE STRENGTH READER.** Compares any ETF in a portfolio against the benchmark. In addition, it arrays ETFs in ranked order for past eight weeks.

**ETFReplay.com is a comprehensive, visually appealing website with an excellent layout and graphics.**

I would have liked to have seen a few more options in the backtesting modules. For example, I would have liked to simultaneously test three different relative strength periods such as one-month, three-month and six-month with different weightings. The website offers the capability to test a maximum of two periods together. My discussions with the site owner convinced me that this capability had been tested but didn’t provide any additional value.

*Leslie N. Masonson is the author of Buy Don’t Hold: Investing With ETFs Using Relative Strength To Increase Returns With Less Risk, and All About Market Timing. He has written software reviews and trader interviews for STOCKS & COMMODITIES. He can be reached at lesmasonson@yahoo.com. His website is www.buydonthold.com.*

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