
# Tactical ETF - Primer

Q1, 2015

## Evolving with the markets

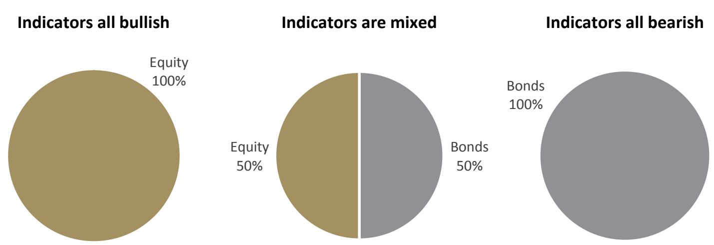
> *"I don't want to go through that again" – said just about every investor following just about every bear market.*

It is not easy to be tactical. Over the years both investors and advisors have been taught 'it's about time in the market that matters, not market timing'. Even if you embrace a more tactical approach, getting it right is a daunting task. It requires a very strong internal fortitude to make calls often against the consensus or prevailing views, which could just as easily prove wrong. Plus you need an approach that is repeatable and can be implemented very quickly and easily to be effective. Unfortunately, the private wealth industry is just not well suited or equipped to be tactical.

However, we believe the need to have a tactical component within a diversified portfolio has never been greater. Markets have evolved and have been experiencing bigger, faster swings than before, both up and down. This is evident in investors' minds and is supported by the empirical data. The TSX tumbled 50% in 2008, a huge drop by any standard. Since then, we have seen +91%, -24%, +44% and -13% during the latter half of 2014. Not fun. Volatility has been similar, albeit a bit less extreme in the U.S. market, making this a tough investing environment, especially for buy-and-hold investors.

So are we due for more market weakness or another period of strength?

While we have our views, nobody really knows. It is with this grounded view that we created the Connected Wealth Tactical ETF Portfolio in 2011. While extensive work went into the development and the results were tested back to the 1970s, the premise is fairly straightforward. **As the equity market rises, the portfolio tilts more towards equities and as the equity market weakens the portfolio tilts more towards bonds**. Since launch, the portfolio has been as much as 100% bonds during periods of weakness and 100% equity during periods of strength. Tactical ETF is a side-car strategy, designed to provide an automatic tactical component for a traditionally allocated portfolio.




### Investment Philosophy

**Bigger Market Swings** – Market swings have become larger and more pronounced in recent years due to a combination of fund flows, high frequency trading and more fast money, both up and down. A static asset allocation appears ill-equipped for today's markets. Designed as a sidecar strategy for traditionally managed assets, the Tactical ETF Portfolio provides a tactical component with the objective of reducing volatility.

**Systematic Approach** – Tactical ETF Portfolio utilizes a technical/quantitative approach to increase equity exposure in up markets and increase bond exposure in down markets. While the portfolio holds only a few key Exchange Traded Funds (ETFs), the holdings can oscillate between 100% equity and 100% bonds depending on the signals for the market.

**Richardson GMP Asset Management**

**Craig Basinger, CFA**
Chief Investment Officer
416.607.5221
Craig.Basinger@RichardsonGMP.com

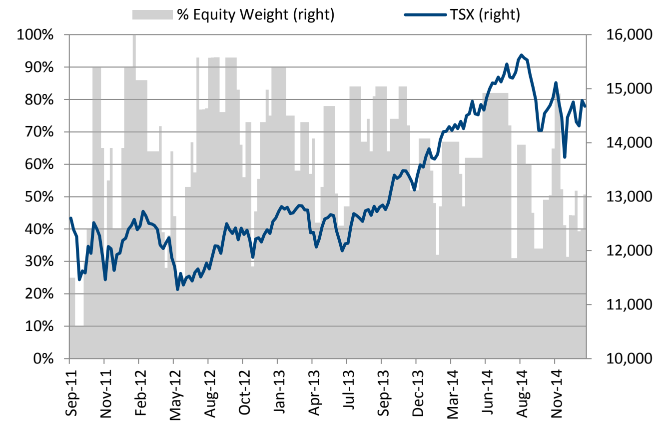
**Chris Kerlow, CFA**
Analyst
416.943.6156
Chris.Kerlow@RichardsonGMP.com

**Derek Benedet, CMT**
Analyst
416.943.6156
Derek.Benedet@RichardsonGMP.com

## Connected Wealth Tactical ETF

- The Tactical ETF Portfolio uses a systematic approach to increase equity exposure in up markets and increase bond exposure in down markets.
- The holdings oscillate between 100% equity and 100% bonds/cash using a handful of exchange traded funds (ETFs), dependent upon the indicator's short-term outlook for the market.
- With 80% of the portfolio following disciplined multi-factor signals, emotion is largely eliminated from the decision whether to be more bullish or bearish. The remaining 20% invests in ETFs based on the manager's discretion.
- This is a tactical investment strategy that utilizes ETFs as they are a vehicle that can easily and efficiently change the equity/bond allocation for the portfolio. This is not a model ETF portfolio.

**Tactical ETF portfolio equity weighting since inception & the TSX Composite**




Source: Richardson GMP Asset Management, Bloomberg

- A static asset allocation appears ill-equipped for big market swings. Adding Tactical ETF as a sidecar strategy to traditionally managed assets can provide a tactical tilt to an overall portfolio and reduce total volatility while not sacrificing expected returns. This is the foundation of the Connected Wealth Tactical ETF Portfolio.
- Considering the current bull market is in its sixth year, the time may be right to start adding more defensive oriented strategies.

## How to use Tactical ETF – sidecar strategy

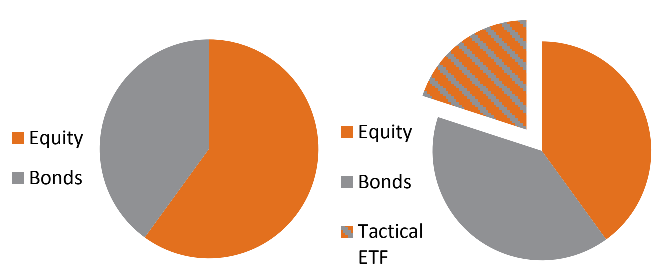
The Connected Wealth Tactical ETF Portfolio works best as a sidecar strategy combined with a traditionally managed portfolio that is long any combination of equity, bonds or alternative investments. The Tactical ETF's objective is to avoid or help insulate an overall portfolio from major market declines by rotating from equities to bonds. Conversely, during market advances the portfolio is designed to position more in equities. Since the portfolio launch in September of 2011, it has been as low as 10% equity (90% bonds and cash) and as high as 98% equity. The chart below contrasts the equity weighting in the portfolio since launch, clearly demonstrating the tactility of the management style.

Given the Tactical ETF Portfolio is a more active trading strategy and it can have periods when it is 100% invested in equity ETFs, it is best to include the Tactical ETF Portfolio in an investor's equity allocation. The weighting depends on the level of comfort with alternative trading strategies and sophistication.

As an example, starting with a 60% equity/40% bond portfolio allocation and replacing 20% of the equity allocation with Tactical ETF elicits a much more tactical portfolio. At times the portfolio will be 60% equity and 40% bonds while at the other extreme, when Tactical ETF is in defensive bond mode, would be 40% equity and 60% bonds. The average equity weighting of Tactical ETF over time has been 57%, which would equate to 51.4% equity and 48.6% bonds.

For the potential portfolio impact of adding various allocation to Tactical ETF, please see the section titled "How does Tactical ETF fit within a portfolio" on page 9.

**Adding Tactical ETF makes a Balanced mandate more active**




Source: Richardson GMP Asset Management

## Guiding Principle - Transparency

The team at Richardson GMP Asset Management has a number of guiding principles including Transparency. Regarding transparency, it is your money, and we believe you should not only see what you own but how it is managed. Tactical ETF is *not a black box.* In the coming pages we will share our models, sensitivities, how we developed the strategy, analytics on what kind of market it works best and what kind of market it doesn't work as well and of course how it has performed since launching in 2011. We dislike the opaqueness present in many strategies in the financial industry and strive to be different and transparent. It is your money.

## How it works

*Tactical ETF was designed for big market swings, to profit in big up swings and protect in big down swings.*

The Connected Wealth Tactical ETF Portfolio was designed to profit from the type of market environment that has large, pronounced swings and higher volatility. The portfolio, based on a number of technically/quantitative-driven trend and trend-exhaustion signals, invests in a varying mix of equity and bond ETFs. The strategy is designed to participate when the equity markets are rising and rotate into bonds when equity markets are deteriorating. This active tactical approach can provide a powerful diversification tool in conjunction with traditional investment strategies that remain constantly long the equity/bond markets.

While the portfolio holds only a few key ETFs, the holdings oscillate between 100% equity and 100% bonds, depending on our indicator's short-term outlook for the market. Eighty percent of the portfolio follows our multifactor technical/quantitative signals, removing emotion from the decision to be more bullish or bearish, with the remaining 20% at the manager's discretion.

**Tactical ETF Portfolio Structure**

| % of Portfolio | Equity ETF | Bond ETF |
|---|---|---|
| 50% | Canadian equity ETF | Canadian bond ETF |
| 20% | U.S. equity ETF | U.S. bond ETF |
| 10% | NASDAQ ETF | Corporate bond ETF |
| 20% | Managers Discretion ETFs | |

## The Signals

The Tactical ETF Portfolio incorporates three key decisions between three equity and three bond ETFs pairs driven by a number of indicators that drive 80% of the portfolio. These include Canadian Equity vs. Canadian Bonds for 50%, U.S. Equity vs. U.S. Bonds for 20% and the NASDAQ vs. U.S. Corporate Bonds for 10%. Each of these daily decisions is based on some similar and some different technical/quantitative signals. In selecting the underlying indicators for the portfolio, we focused on a combination of momentum, oscillation, trend-following and trend-exhaustion signals. A varying combination of indicators is applied to each of the three equity ETFs including Canadian Equity, U.S. Equity and the NASDAQ. A mix of signals dictates the amount in the equity ETFs, with the remainder invested in the appropriate bond ETF. Keep in mind, the Tactical ETF Portfolio owns bonds when it doesn't like equities. To minimize the portfolio turnover and risk of false signals, some signals must provide confirming indicators before a switch from equities to bonds or bonds to equities.

The two most widely used signals or models for the Tactical ETF are:

**Fear and greed:** This technical study incorporates a concept known as true range, which is the relationship between the current high and low compared to the previous day's close. The buy/sell indicator is based on the relative position of two moving averages of True Range for a stock, index, or in our case an ETF. This is an oscillation based signal.

**Bloomberg Trender:** As the name suggests, this signal is an indicator that helps identify the current trend, either up or down. This is a trend-following and trend-exhaustion indicator that also provides a trailing stop on up trends and a trailing buy point on declining trends. There is a buffer or sensitivity to help avoid being whipsawed if the market makes a sudden change in direction.

We combine these two models requiring both to confirm a change in the equity/bond mix before we trade. And, we use varying sensitivities which staggers how the model trades. This helps reduce the amount of trading but more importantly enables the portfolio to move in stages, not all at once.

**50 and 200-day moving averages:** This is one of the more stable and longer term indicators used in the Tactical ETF Portfolio, and also one of the most quoted. The indicator provides a buy signal when the 50-day moving average (MA) is above the 200-day moving average and a sell signal when it is below. It is commonly referred to as the 'death cross' when the 50-day MA crosses below the 200-day MA and the 'golden cross' when the 50-day MA crosses above the 200-day MA.

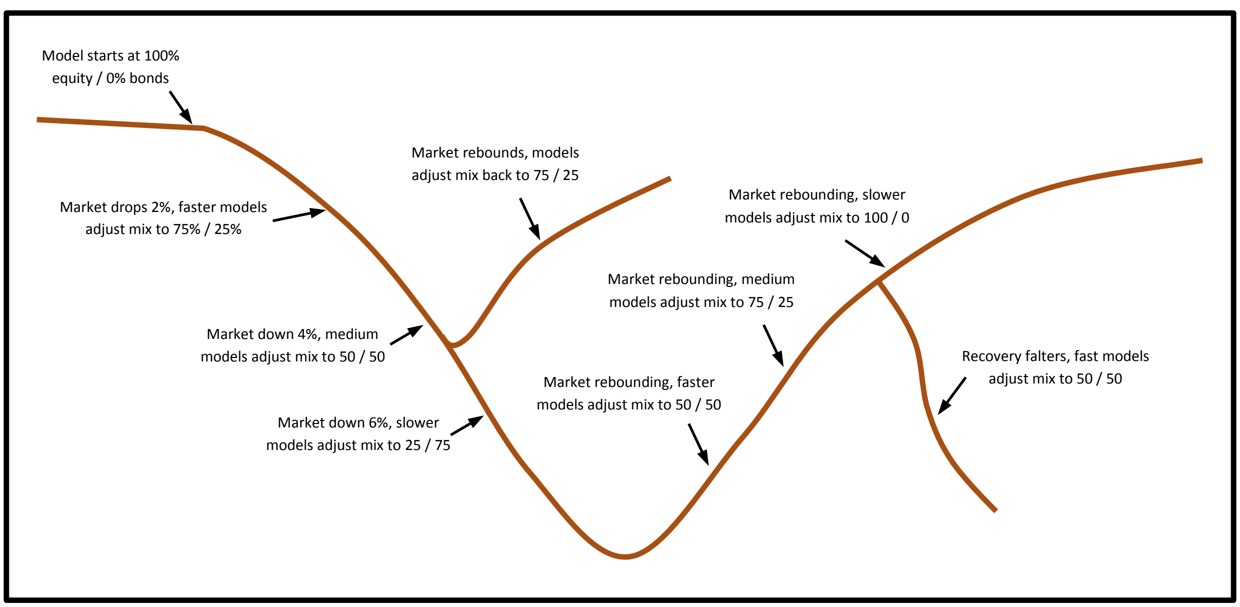
In the table below we have outlined the various models and sensitivity settings that we use in the Tactical ETF model. Fear and Greed (FG) are always paired and need to confirm one another before a switch is made. The numbers in the brackets are the sensitivities:

| Equity / Bond | Weight | Models |
|---|---|---|
| Canadian Equity vs Canadian Bonds | 50% | Fast: FG (5) & Trender (4)<br>Medium: FG (7) & Trender (6)<br>Slow: FG (9) & Trender (8) |
| U.S. Equity vs U.S. Bonds | 20% | FG (5) & Trender (6)<br>50 vs 200-day moving average |
| NASDAQ vs Corp Bonds | 10% | FG (7) & Trender (6) |

The remaining 20% of the portfolio is at the discretion of the managers. We use these indicators for our buy and sell signals as well, although we will occasionally use other ETFs including broad-based index or sector ETFs.

## Why we use multiple models and sensitivities

There is no perfect model, sadly. So much like in traditional investing, we diversify our strategy by incorporating a number of different signals that have different sensitivities. We also want to balance the outcome and portfolio turnover, which is a drag on performance. In the chart below we demonstrate how the various quantitative models change the asset allocation mix between equities and bonds under a number of different market scenarios. We are attempting to provide insight into how the strategy operates as markets move from strength to weakness and back to strength. Also, why we use various sensitivities.



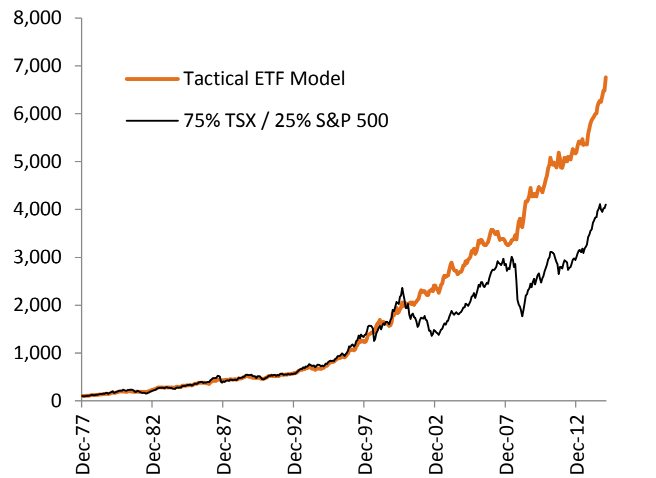
## Backtesting analysis/model development

As 80% of the Tactical ETF Portfolio follows the regimented technical/quantitative signals, we have the ability to backtest this investment process to highlight how it would have performed in different market environments. We backtested the 80% of the portfolio that follows our multi factor technical signals to 1977. Generally speaking, the model elicited much less volatility than the overall market, especially in down markets, with stronger performance overall.

Backtesting caveat – backtesting should always be viewed with a great big dose of salt as poor results are quickly discarded, changes made, until the strategy elicits a certain result. It is imperative to contrast backtesting to actual real life performance once launched. Plus, attention should be focused on when the strategy works and when it doesn't, not just the final result (both appear later in this report). Still, backtesting can provide greater insight into a strategy in conjunction with the real performance data.

Note: Back-tested data excludes the 20% manager discretionary component from 1978 to 2014, and is gross of fees.

**Tactical ETF Portfolio backtesting vs. total return benchmark of 75% TSX and 25% S&P 500**




Source: Richardson GMP Asset Management, Backtested performance

From a return and risk perspective, the investment approach backtested well due to its defensive characteristics in major down markets. Throughout the entire backtesting period the Tactical ETF Portfolio had an annualized return of 11.9% with 8.9% volatility (standard deviation) compared to 10.5% annualized return and 14.5% volatility for the benchmark.

| | Annualized Return | Annualized Volatility | Risk Adjusted Return |
|---|---|---|---|
| Tactical ETF Portfolio | 11.9% | 8.9% | 1.2 |
| Benchmark (75% TSX & 25% S&P) | 10.5% | 14.5% | 0.7 |

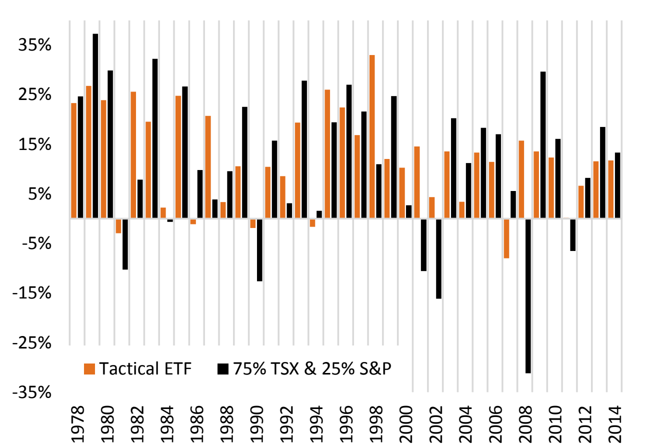
Source: Richardson GMP Asset Management, Model Returns, Annualized Volatility is Standard Deviation of Monthly Performance Data, risk free rate set at 1.0%

## Risk reduction characteristics

There is no magic bullet when it comes to investing. And while the Tactical ETF is designed to tilt towards equities in up markets and bonds in down markets, it doesn't necessarily catch market tops or bottoms. The strength of the investment process comes in helping to avoid the majority of the portfolio damage when markets take a significant decline. There is a trade-off, however, as the Tactical ETF Portfolio will not fully participate in an upward move in the market. After all, when the signals are all bullish it owns broad-based ETFs, which, by definition, are the market. This avoidance of extreme positive and negative performance can best be seen in the next two graphs.

Based on the back-tested data and portfolio data since launch in September 2011, we plotted the calendar returns from 1978 till present for the Tactical ETF Portfolio and the Benchmark of 75% Canadian and 25% U.S. equity. While the Tactical ETF did tend to underperform slightly in up markets, it significantly outperformed in down markets.

**Calendar return distribution of Tactical ETF vs. Benchmark**

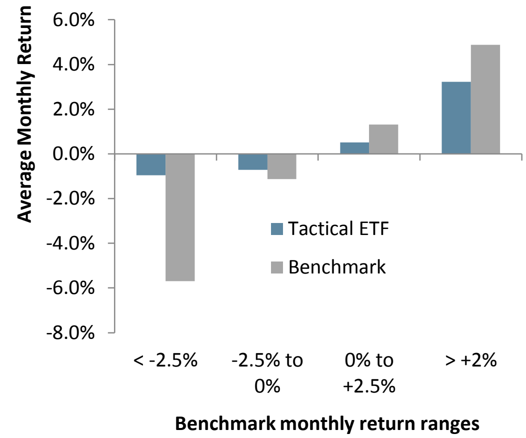



Source: Richardson GMP Asset Management, Back tested data 1978-2014, gross of fees

In an upward moving market, the model did trail the equity markets, only participating in 62% of the appreciation on average against the blended benchmark (75% TSX & 25% S&P). But in a down market, the model's defensive characteristics kicked in, and only participated in an average of 27% of the declines compared to the benchmark.

As another way to cut through the data, we looked at months that the benchmark fell by 2.5% or more and contrasted the average performance of the Tactical ETF during those months. We then sliced various return ranges of the equity benchmark and measured how Tactical performed.

**Sacrifices some upside for avoiding a lot of downside**



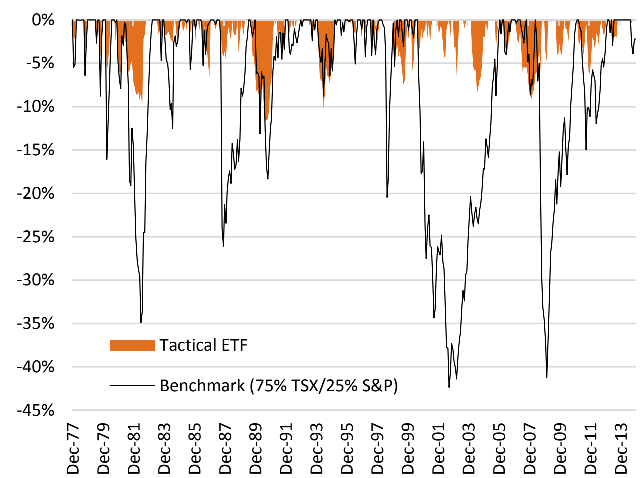

Source: Richardson GMP Asset Management, Backtested data 1978-2014, gross of fees

## Drawdown

While standard deviation remains the industry norm for measuring risk or volatility, there are some other metrics that provide additional insight. One that has increasingly gained in use and popularity is drawdown, which measures the degree the portfolio and benchmark have declined from their highs. This is how most investors think of risk: how much has the portfolio gone down in the past? In the chart below is the drawdown for the Tactical ETF Portfolio and benchmark, once again using backtested data from 1978.

While the Tactical ETF often suffered from short declines similar to the benchmark, the portfolio performed very well during any of the larger market declines during the backtesting period.

**Tactical ETF vs. benchmark drawdown**




Source: Richardson GMP Asset Management, Back tested data 1978-2014, gross of fees

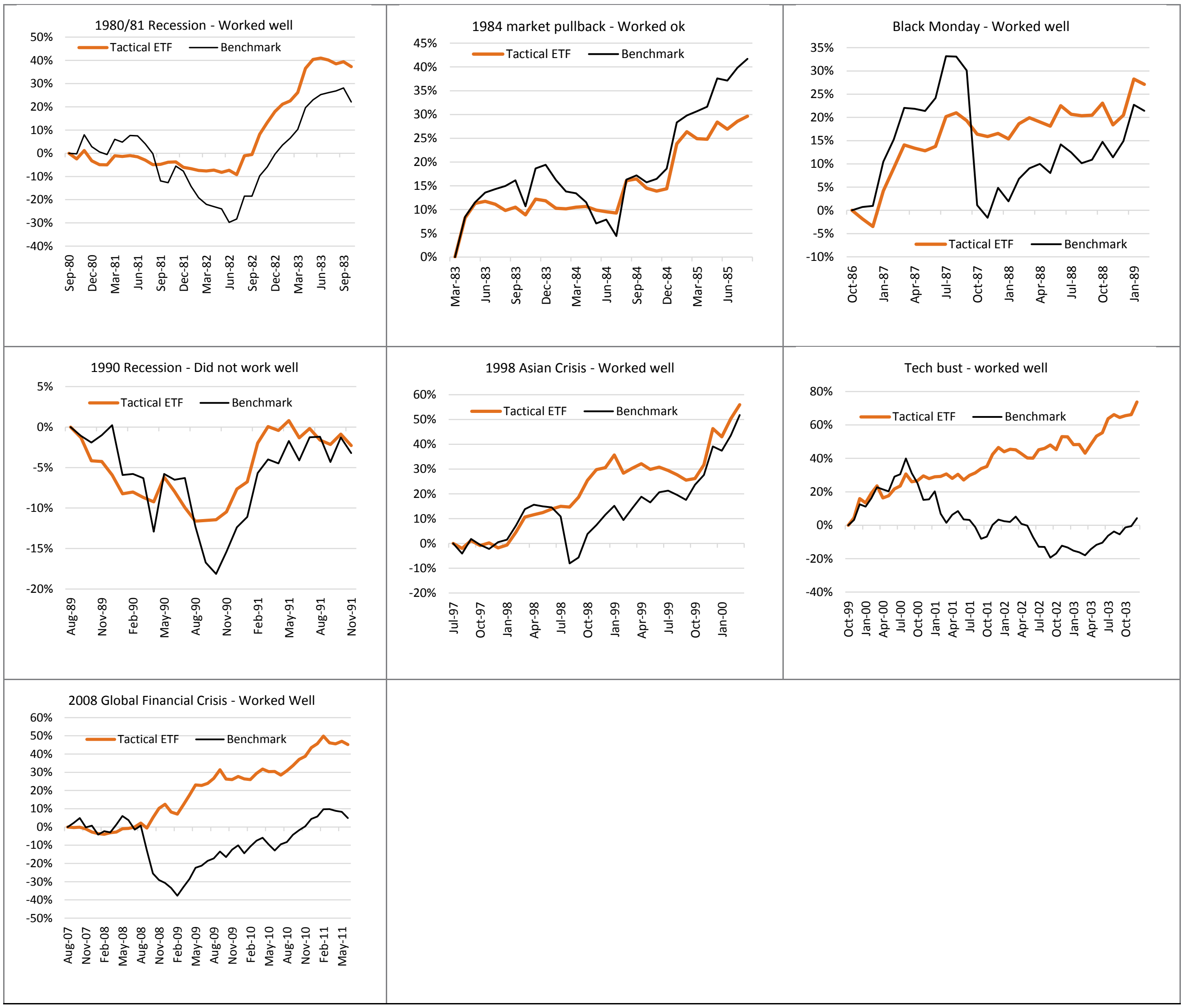
| | Tactical ETF | Benchmark (75% TSX/ 25% S&P) | TSX Composite |
|---|---|---|---|
| Best 1-year | 54.4% | 78.3% | 86.9% |
| Average 1-year | 12.3% | 11.9% | 12.3% |
| CAGR | 11.9% | 10.5% | 10.5% |
| Worst 1-year | -11.6% | -36.2% | -39.2% |
| Worst Peak to Trough | -11.6% | -42.4% | -43.3% |
| Months to recover | 7 | 40 | 23 |
| Annualized SD | 8.9% | 14.5% | 15.8% |
| Downside Deviation | 4.1% | 11.5% | 12.6% |
| Sharpe Ratio | 1.23 | 0.66 | 0.60 |
| Correlation | 0.67 | | |
| Beta | 0.41 | | |

Source: Richardson GMP, back tested data to 1978

## When it worked and when it didn't

In our backtesting analysis and development there were periods of both negative absolute performance and periods of market underperformance (relative to the benchmark of 75% TSX and 25% S&P). We are comfortable with underperformance when markets are strong as long as when markets are weak, Tactical makes up this lost ground. As we designed this to be a side-car with other assets, our key focus is how it can help protect the overall portfolio during bad times.

Based on the monthly backtested data, Tactical ETF certainly managed most big market declines in good fashion. We have included charts for each below including the run-up to the period of weakness plus a few quarters as the market heals.




Source: Richardson GMP Asset Management, back tested data

In most instances of market weakness, Tactical ETF performed as designed. The most notable exception was in 1990 and the culprit is interest rates. This model is predicated on the market behaving in a risk-on and risk-off fashion. This is the norm over the majority of periods in the market. Risk-on are periods investors are taking on more risk, equities are rising in price and typically bond yields are flat or moving higher as well (bond prices flat to down). Risk-off is when investors are selling equities and looking for safe haven in bonds, bidding yields lower and bond prices higher. Sometimes, we have risk-off periods and bond yields are moving higher (prices lower). The Tactical ETF is not a fan of those periods. The early phases of the 1990 recession was such an occurrence.

This was also the case in the 1994 recession that saw bond yields move abruptly higher, and we experienced a brief spat of underperformances when bond yields moved higher in 2013. Although the overall market didn't decline much, Tactical did have a tougher time.

We also looked at all periods that the Tactical ETF was underperforming the benchmark by a certain percentage or more on a rolling one-year period. Most importantly, what kind of market is the Tactical ETF underperforming the equity markets. Essentially, in almost all cases of underperformance, it's during raging bull markets or abrupt rebounds following bear markets (V shaped bounces). The average performance of Tactical ETF when trailing the benchmark are in the double digits.

| On a rolling 12-month period, trailing the benchmark by: | Average performance of Tactical ETF | Frequency |
|---|---|---|
| 10% or more | +12.7% | 16% |
| 7.5% or more | +12.9% | 30% |
| 5% or more | +13.2% | 42% |

Source: Richardson GMP Asset Management, back tested data

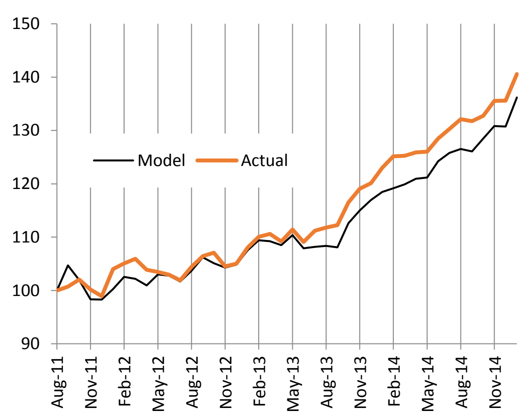
We also noted very late in bull markets, the Tactical ETF tends to underperform. Diving deeper into the data, it seems late in the cycle volatility is much higher and returns tend to be higher. With the trend less certain, Tactical tends to be more defensive which hurts the performance, that is, until the bear market takes hold.

## Since Launch

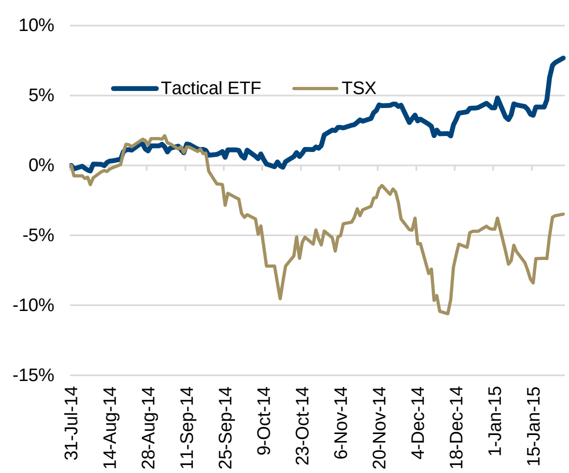
We launched this mandate in September of 2011 on the Separately Managed Accounts platform, with the portfolio manager as the first client. Of course the first task with over three years actual performance is to measure reality against the model. Now there should be some variation due to trading, operational nuances and the 20% discretionary component of the strategy. The big question is whether we are adding value controlling 20% or reducing value relative to the model. Good news, we added value, about 4.4% relative to the model since launch.

Finally, how did the Tactical ETF portfolio perform during the recent period of market weakness? The chart below is daily and shows how the portfolio tracked as oil was falling and the TSX was going through some tough times. When the TSX was down over 10% since the end of July, Tactical ETF was still up about 3%.

**Tracking actual portfolio returns vs. model**




**Tactical ETF during the recent market weakness**




Source: Richardson GMP Asset Management, gross of fees

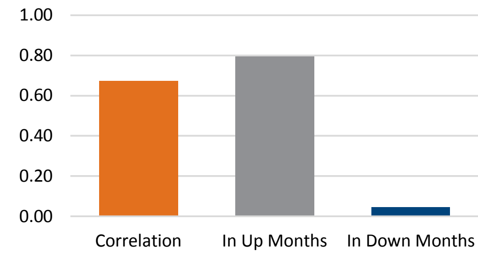
## How does Tactical ETF fit within a portfolio?

The objective of the Tactical ETF Portfolio is to provide capital appreciation with lower volatility and correlation to the overall equity market, providing a strong diversifier. Based on the back-tested performance, the Tactical ETF Portfolio had a 0.67 correlation to the blended benchmark of 75% Canada and 25% U.S. equities. More importantly, it had a 0.79 correlation in up months and a 0.05 correlation when the benchmark declined during the month. This is where the risk reduction characteristics really shine.

This risk reduction was also evident when the Tactical ETF Portfolio was combined with past returns for the S&P/TSX Composite. The TSX has been one of the better performing indices during the past couple of decades as we have benefited from stable banks and from producing much of what the world wants (namely commodities). But with this has come a high level of volatility, which was brought to light during the 50% decline in late 2008. From a traditional risk measure, the Standard Deviation for the TSX over the past 20 years has been 15.4%.

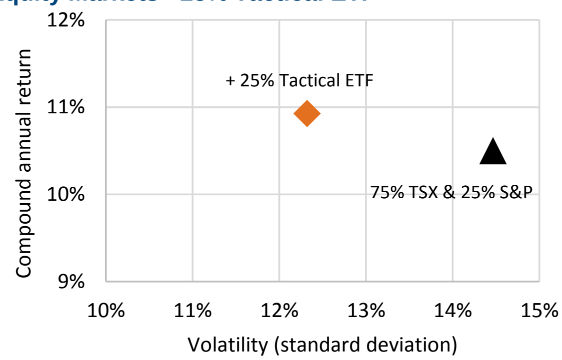
Using a sidecar strategy, we contrasted an all equity portfolio comprised of 75% TSX and 25% S&P 500 with the same portfolio after adding 25% Tactical ETF. There was a slight uptick in performance based on the compound annualized growth rate (CAGR) but more impressive was the decline in risk (Standard Deviation) from 14.5% to 12.3%, more than a 15% reduction in volatility.

**Tactical ETF Portfolio correlation to the benchmark in both up and down months**




Source: Richardson GMP Asset Management, backtested results to 1978

**Equity Markets (75% TSX & 25% S&P 500) vs. Equity Markets +25% Tactical ETF**




Source: Richardson GMP Asset Management, back tested results to 1978

## Portfolio Manager Final Thoughts

Our team believes we have created a unique strategy that offers a powerful tactical diversification tool for investors. We also believe both the Separately Managed Accounts platform and our Connected Wealth mutual fund format offer cost effective access to the strategy. The performance since launching in 2011 supports our development process and provides efficacy for the strategy.

The development and research doesn't stop. Acknowledging rising interest rates have tended to cause the strategy to not perform at its fullest, we have adjusted our strategy slightly to focus more on lower duration bond ETFs. We believe this should help performance if/when bond yields rise.

Based on our backtesting and performance since launch, the risk reduction characteristics really kick in during extended down markets. While not catching tops or bottoms, during big swings, either up or down, the Tactical ETF Portfolio tends to be more heavily weighted in the outperforming asset class. We believe this is an effective strategy to incorporate within a portfolio to create a more tactical solution. If you would like to learn more about the Tactical ETF Portfolio, please contact your Investment Advisor.