INVESTMENT

# Fire! Fire! Is Low Volatility A Crowded Trade?

By: Harry Marmer

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Picture George Costanza screaming 'FIRE! FIRE!' and barreling his way out the door knocking over old women and children and you will have a very good visual idea as to what a 'crowded trade' means to an investment manager. Conceptually, a crowded trade occurs "when a security or strategy has attracted a 'large' group of investors" and "a crowded trade becomes 'bad' when everyone runs for the exits at the same time."[1]

The rise in popularity of low volatility strategies has been nothing short of breathtaking over the past three years with both the explosion of investment research articles and the launch of new products based on this concept.[2]

It is not surprising that with all this recent attention towards low volatility strategies, some investors have asked 'are these strategies becoming crowded?' We address this question and play investment detective investigating potential signs of crowding in low volatility based strategies.

## Herd Chases Stocks

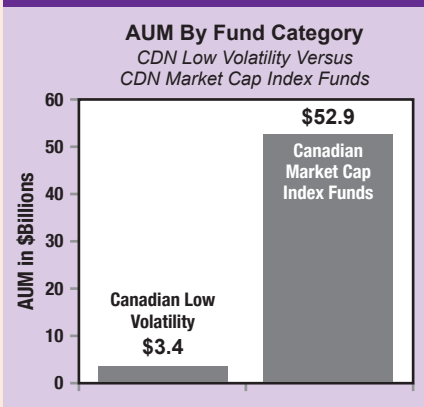
One could argue that by definition, low volatility stocks cannot suffer from crowding for as the popular herd chases these stocks, their volatility will increase and correspondingly these securities will exit the strategy. However, a wise investor will respond to this hypothesis by saying 'this time is different' which is a certain path to investment ruin. In that case, let us examine if low volatility strategies are becoming crowded.

The classic concept behind a crowded strategy is that there is simply 'too much capital' invested in it[3] (see *Chart 1*). As low volatility based strategies are considered 'smart beta strategies' and are often viewed as substitutes for market cap index based strategies, let us compare how much capital is invested in each of these approaches. *Chart 2* compares assets under management (AUM) in Canadian low volatility strategies versus the AUM in Canadian market cap index funds. The AUM in market cap indexed based strategies is more than 15 times greater than the AUM in low volatility based strategies. In the U.S., liberally extending the comparison, the AUM invested in market cap indices is almost 10 times as large as the AUM in 'smart beta' type strategies. It is clear that, relative to index strategies, there is very little capital invested in low volatility strategies.[4]

Ironically, these comparisons suggest that market cap indexed based strategies may be suffering from crowding. Indeed, this is the case as popular market cap indices undergo a 'reconstitution effect' as they are rebalanced so there are significant abnormal returns around stock additions and deletions. This 'effect' is caused by the crowds of index fund managers and ETF providers rebalancing their market cap based index portfolios and strategies.

**Chart 1**

**Too Much Capital Invested In Low Volatility Based Strategies?**




*Source:* Hillsdale Investment Management/ eVestment Alliance/ ETF Insight/Canadian Institutional Investment Network. Date of fund AUM varies based on fund data availability. (Nov. 30, 2013 – Jan. 24, 2014)

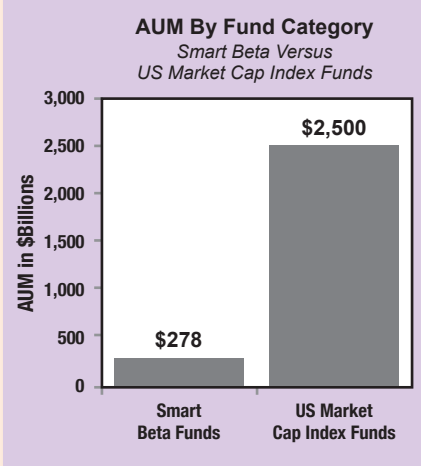
No such 'effect' has yet to be observed with low volatility indices.

However, there are other possible signals that the low volatility investing space is crowded.

To start, is the performance of these types of strategies very different than expected?

**Chart 2**

**Even AUM Of Smart Beta Strategies Is A Fraction Of AUM Indexed To Market Cap Strategies**




*Source:* **Smart Beta** strategies are transparent, rules-based investment strategies that are designed to provide exposure to market segments, factors, or concepts. (CFA Society, Russell Investments). Smart Beta data provided by Morningstar as of Dec. 31, 2013.
**US Market Cap Index Funds** include institutional passive index funds, retail mutual funds and ETFs. Institutional passive fund data retrieved from eVestment Alliance using large/mid/small cap passive index funds as of Sept. 30, 2013. Mutual fund data provided by Investment Company Institute as of Dec. 2012. ETF data provided by ETF Database as of Feb. 3, 2014.

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Low volatility strategies have fairly predictable excess return patterns relative to the market. More specifically, they are expected to outperform (underperform) during extreme market declines (upswings). If these strategies become 'crowded,' one would expect that the performance of these strategies would begin to deviate relative to expectations and outperform during market upswings or underperform during market declines.

The live performance of low volatility has been exactly as claimed suggesting no indication of crowding[5].

### Unattractive Valuations

If low volatility strategies are crowded with investors, the fundamentals for these strategies should be very unattractive and inconsistent with historical experience. In examining some of the typical fundamentals for low volatility, they tend to be currently in line with historical experience. More specifically, low volatility fundamentals are still more stable than the fundamentals of the market cap indices and they continue to illustrate the same consistent long-term characteristics relative to the market: smaller or lower cap, similar or lower price/book and price/earnings, and higher dividend yield. There is currently no indication of crowding leading to fundamental deterioration (see *Chart 3 to 6*).

### Factor Crowding

Quantitatively based strategies can suffer from what is known as factor crowding where too many investors are chasing a particular factor or set of factors resulting in an unexpected sharp deterioration in the strategies utilizing these factors. One particular factor that stands out for low volatility based strategies is higher dividend yield. Are higher dividend yielding stocks illustrating elements of crowding today?

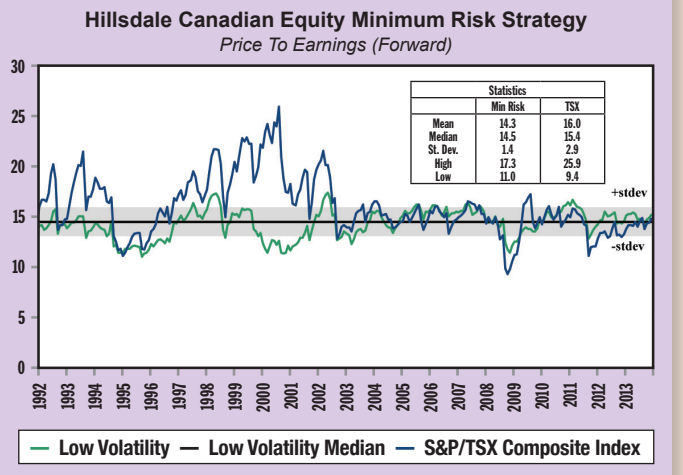
When considering stock investments, retail investors have recently illustrated a preference for higher yielding stocks.

However, equity income flows are only a small percentage of the total equity market (see *Chart 7*).

More favourably, in examining dividend yield, low volatility continues to illustrate a strong yield relative to the market consistent with long-term experience.

**Chart 3**

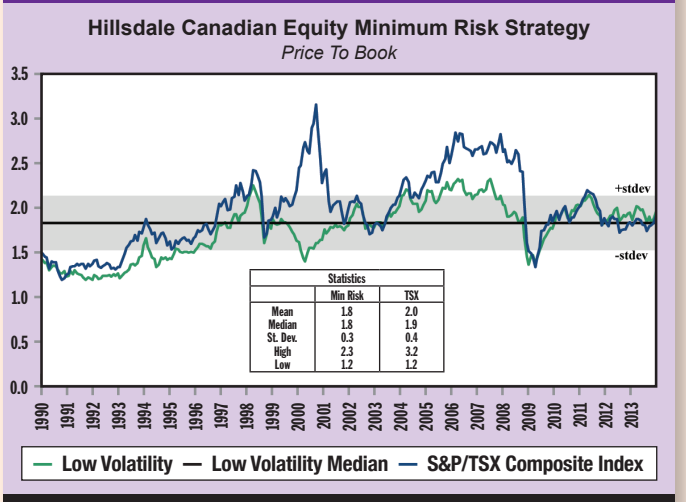
**Valuations: Low Volatility Valuations Are Relatively Stable And In-line With Historical Experience**




*Source:* Hillsdale Investment Management. Data prior to Oct. 2011 is based on simulation.

**Chart 4**

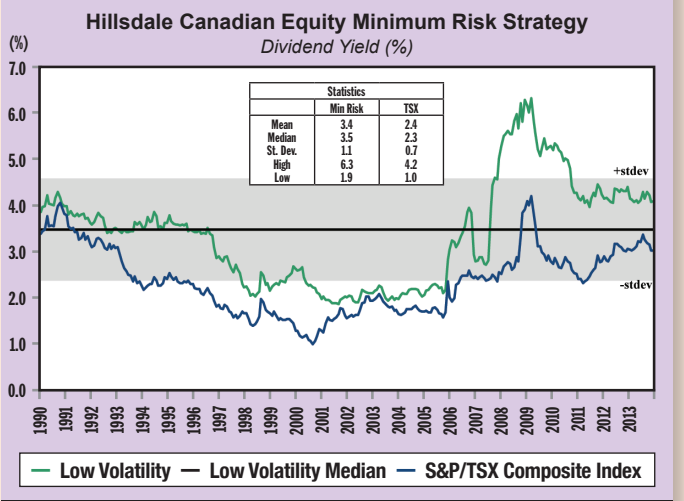
**Valuations: Low Volatility Valuations Are Relatively Stable And In-line With Historical Experience**




*Source:* Hillsdale Investment Management. Data prior to Oct. 2011 is based on simulation.

**Chart 5**

**Valuations: Low Volatility Valuations Are Relatively Stable And In-line With Historical Experience**




*Source:* Hillsdale Investment Management. Data prior to Oct. 2011 is based on simulation.

### Still Worried About Crowding?

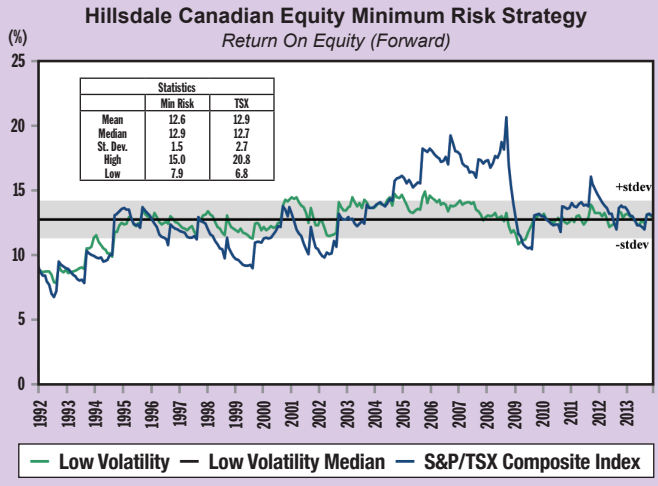
If you are still worried about crowding in low volatility space, monitor the asset size of your low volatility manager as both lower cap and liquidity are two risk/return premia identified in the low volatility anomaly. *Chart 8* illustrates that the dis-economies to size in for Canadian low volatility managers where the larger the assets under management, the greater the trade costs and delay of trades.

To monitor the potential of crowding, consider the following:

- 'Read' the popular press to see where the 'crowd' is going

**Chart 6**

## Valuations: Low Volatility Valuations Are Relatively Stable And In-line With Historical Experience

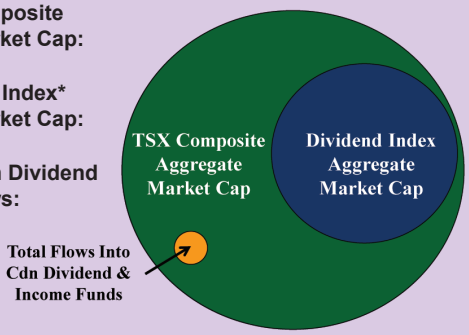



*Source:* Hillsdale Investment Management. Data prior to Oct. 2011 is based on simulation.

**Chart 7**

## Is There Crowding In Yield? Equity Income Flows Are Only A Small Percentage Of The Total Equity Market

- **Total TSX Composite Aggregate Market Cap: $1,776 Billion**
- **Total Dividend Index* Aggregate Market Cap: $640 Billion**
- **Total Canadian Dividend & Income Flows: $9.6 Billion**




* Dividend Index includes stocks with a dividend yield that is 1.3x that of the S&P/TSX Composite dividend yield.
*Source:* Hillsdale Investment Management. Data as of April 30, 2014.

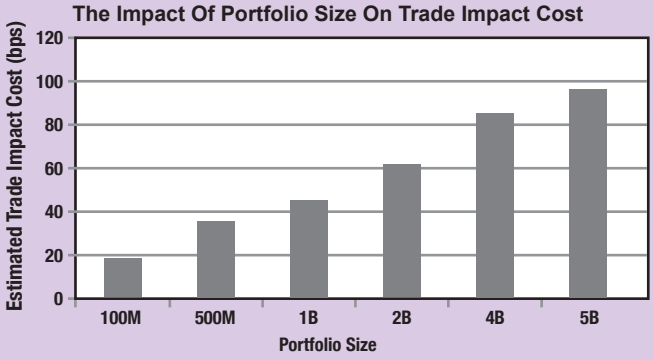
- Track securities holdings in the particular investment you are concerned about
- Measure intra-portfolio correlations to see which stocks, factors, or portfolios are moving together and why
- If you are managing a low volatility strategy, consider changing the rebalancing schedule, reducing the need for 'trading' speed, and employing a liquidity risk management system

### Last Thoughts

The 'talk' about crowding in low volatility strategies appears to be just that, talk. At this point, potential crowding scenarios appear unlikely or too distant in the future for investors with long-term investment horizons to seriously consider. Low volatility strategies are based on the assumption that market anomalies can exist. As with any anomaly, its characteristics can change or it can decay over time. One day, this strategy may indeed become crowded. However, there are currently no signs of decay caused by crowd popularity. **BPM**

**Chart 8**

## Liquidity Risk Management Is Important In Low Vol As Liquidity May Play A Factor In These Strategies, i.e. Asset Size Does Matter




*Estimated Trade Impact Cost based on ITG ACE Pre-Trade Estimate Model, VWAP (Volume Weighted Average Price) Strategy. VWAP is a measure of the average price a stock traded at over the trading horizon. Sometimes used as a trading benchmark.
*Source:* Hillsdale Investment Management.

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**Footnotes**

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1. Pedersen, Lasse Heje., 'When Everyone Runs for the Exit.' (Dec 2009), International Journal of Central Banking, Vol. 5, No. 4, pp: 177-199.
2. A quick sampling of published work over the past 40 years reflects this outburst of written articles over the past four years when 65 per cent (38 articles) of low volatility papers have been published. The author is particularly surprised by this 'resurrection' of ideas as the original work by Robert Haugen and Nardin Baker, 'The Efficient Market Inefficiency of Capitalization-Weighted Stock Portfolios' appeared in The Journal of Portfolio Management in 1991 and was actually discussed by the author at several conferences in 1992. Roger Clarke and colleagues suggest that from a practical perspective, the industry did not have the "computing power and econometric techniques" required to implement these ideas (Page 1). For example, "large-sample covariance matrixes include many separate security volatility estimates (i.e., 1,000 x 999/2 = 499,500) leading to estimation outliers that can dominate the optimized portfolio, a problem sometimes referred to as error maximization." See Page 3, in 'Minimum-Variance Portfolios in the U.S. Equity Market' by Clarke, Roger, de Silva, Harindra, and Thorley, Steven, in The Journal of Portfolio Management, Fall 2006, pp: 1-14.
3. For more details on the 'cycle of crowding' see Page 297 in 'Hedge Funds: An Analytic Perspective' by Andrew Lo, Princeton University Press, 2008.
4. It has been suggested that the rise in popularity in index fund investing has contributed to higher systematic equity market risk. For more on this, see the thought provoking article by Rodney Sullivan and James Ziong, 'How Index Trading Increases Market Vulnerability' (March/April 2012), Financial Analyst Journal, pp: 70-84.
5. For further details on what investors can expect from low volatility strategies please refer to 'Equity Minimum Risk Strategies: Building Better Portfolios Through Better Math,' by Harry S. Marmer, March 2014. The low volatility performance and stats shown in this article are based on simulated results of Hillsdale's Canadian Equity Minimum Risk Strategy.