Hamilton Capital

Specialists in Financial Services

Canadian Banks

September 27, 2018

Using a Mean-Reversion Strategy to Increase Returns and Reduce Risk

On October 2nd, 2018, Hamilton Capital will be launching the **Hamilton Capital Canadian Bank Variable-Weight ETF (HCB)**. This ETF will consist of the Big-6 Canadian banks, rebalanced monthly to capitalize on the long-term mean reversion tendencies of the sector. Specifically, it will **overweight the three most oversold banks from the prior month (to ~80%) and underweight the three most overbought banks (to ~20%)**[1].

> **<u>Note to Reader</u>:** The following comment discusses and quantifies the historical mean reversion tendencies of the Canadian banks. All Canadian bank performance data is calculated using a methodology different from **HCB**. In addition, all past performance information is not indicative of future results, either for a hypothetical portfolio of Canadian banks or for the **Hamilton Capital Canadian Bank Variable-Weight ETF (HCB).**

The objective of **HCB** is to provide investors with exposure to the Canadian banking sector while offering the following benefits relative to an equally-weighted portfolio of the Big-6 banks:

i. the potential to generate ***higher long-term returns*** by capitalizing on historical mean-reversion tendencies;
ii. ***monthly dividend income***;
iii. ***increased diversification***, and;
iv. (most importantly, in our view) ***reduced risk in the form of lower drawdowns during periods of global market turbulence***, when the benefits of mean-reversion are typically the greatest

Mean reversion as a strategy is one of the most written about themes in Canadian bank investing. At the beginning of every year market commentators regularly extol the benefits of selling the "best performing" bank(s) from the prior year in favour of the "worst performing" bank(s). For example, a 2015 equity research report from BMO Capital Markets (BMOCM) measured the benefits of "single stock" and "basket" mean-reversion strategies and concluded that – based on their hypothetical historic back-testing – both strategies would have resulted in highly material outperformance[2]. **The "basket" strategy of Big-6 Canadian banks explained by BMOCM overweight (underweight) the three worst (best) performing banks and was/is based on the same principles as HCB.**

These types of mean reversion analyses often have limitations, specifically: (i) small data set (BMOCM used 10 data points/years); (ii) the absence of the impact of retail trading commissions, and; (iii) investors rarely do this

HCB
HAMILTON CAPITAL CANADIAN BANK VARIABLE-WEIGHT ETF

HBG
HAMILTON CAPITAL GLOBAL BANK ETF

HFY
HAMILTON CAPITAL GLOBAL FINANCIALS YIELD ETF

HFMU.U
HAMILTON CAPITAL US MID-CAP FINANCIALS ETF (USD)

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rebalancing on exactly January 1st each year.

For the purposes of measuring mean reversion we expanded the sample size to include monthly data over the last 20 years (i.e., 240 months ending August 31st, 2018) and simplistically measured the performance of the prior month's worst and best performing banks relative to the average of the other five Canadian banks. While this methodology is not the same as that to be employed by the **Hamilton Capital Canadian Bank Variable-Weight ETF (HCB)**, and emphasizing that prior returns are not indicative of future returns or the performance of **HCB**, it does offer three takeaways.

First, in the 240 months since 1998, the worst performing bank outperformed the average performance of its five peers in the following month 137 times, or 57% of the time. The average outperformance was +69 bps, while the median was +47 bps.

Second, when looking at the mean reversion effects for the Big-6 banks on a continuum, each of the three worst performing banks on average outperformed in the following month (while the three best performing banks underperformed). See table below.

While past returns are not indicative of future returns (or the performance of **HCB**), this evidence explains why mean reversion remains a consistent and popular theme for Canadian bank investors.

Canadian Banks - Monthly Mean Reversion
Performance of the Banks in Following Month from Worst to Best
September 1998 - August 2018

Last Month's Worst Performing Banks	#1	#2	#3	#4	#5	#6
Average Outperformance (Next Month)	+0.69%	+0.45%	+0.29%	(0.55%)	(0.37%)	(0.51%)
Median Outperformance (Next Month)	+0.47%	+0.44%	+0.43%	(0.45%)	(0.11%)	(0.37%)
# Months Outperformance	137	137	134	99	113	101
Total Months	240	240	240	240	240	240
Outperformance Rate (Next Month)	57%	57%	56%	41%	47%	42%

Source: Hamilton Capital, Bloomberg

Third, historically the outperformance is greatest in periods of high volatility, like macro corrections. For example, in the 24 months overlapping the financial crisis, i.e. 2008 through 2009, the average outperformance of the worst performing bank in the following month was +192 bps (median of +248 bps).

The **Hamilton Capital Canadian Bank Variable-Weight ETF (HCB)** is designed to offer investors an opportunity to potentially benefit from historical mean reversion tendencies of the sector while generating monthly income. It also offers the potential to reduce the overall risk of the portfolio, particularly during periods of elevated market stress, where the benefits of mean reversion have historically been greatest.

[1] Using the 50 day moving average
[2] In the January 5, 2015 report entitled "**Feature: Canadian Bank's Shareholders Win Again**", BMOCM outlined three investment strategies, including 'single stock' mean reversion trade and 'basket approach' to mean reversion trade. In the former, it was overweight (underweight) the prior year's worst (best) performing bank. In the latter, it was to overweight (underweight) the prior year's 3 worst (best) performing banks. **It did not disclose by what percentage relative to the index that each position was overweight or underweight.**

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