Separating Signal from Noise

September 21st, 2016

The *Harvard Business Review's* October 2016 Issue has a fascinating article on the cost of inconsistency in decision-making. A few relevant excerpts:

> "The problem is that humans are unreliable decision makers; their judgements are strongly influenced by irrelevant factors, such as their current mood, the time since their last meal, and the weather. We call the chance of variability of judgement as *noise."*
>
> "Where there is judgement, there is noise – and usually more of it than you think. As a rule, we believe that neither professionals nor their managers can make a good guess about the reliability of their judgements."
>
> "The problem with noise is effectively invisible in the business world (or Investment Industry - ed.); we have observed that audiences are quite surprised when the reliability of professional judgement is mentioned as an issue … ***experienced professionals*** tend to have a ***high confidence in the accuracy of their own judgments***, and they also ***have high regard for their colleagues' intelligence. This combination inevitably leads to an overestimation of agreement***."
>
> "The most radical solution to the noise problem ***is to replace human judgement with formal rules*** – known as algorithms – ***that use the data about a case to produce a prediction or a decision***."(1)

This should sound very familiar to many of you. The Harvard study reflects our core belief that as Portfolio Managers, we add the most value by adhering to our investment process (i.e. the algorithm) coupled with the deliberate exclusion of opinion-based analysis.

Yes, we have opinions like everyone else – the trick is not to let those feelings, no matter how certain we are of their logic or validity, to influence what our investment algorithms tells us to do. Experience has taught us that more often than not, the market 'knows' more than we do.

Discipline trumps conviction, as the saying goes.

Noise, Noise Everywhere

Let's look at some of the noise investors have to continually process. Listed below are a few headlines from the financial media during the month of September. Before you look, take a moment and ask yourself how you feel about your expectations for market growth over the next 6-12 months (positive, neutral, or negative – pick one).

"Credit Suisse – Adding Hormel Foods (HRL) to *Focus List*" (a Focus List is a "top pick" list)	Sept 27
"Factset Earnings Insight – For Q3 2016, the estimated *earnings decline* for the S&P 500 is -2%)	Sept 12
"Reuters News – Race into commodity risk stalling"	Sept 9
"Reuters News – *US services sector* activity slows to 6 ½ year low"	Sept 9
"Reuters News – North Korea conducts 5th and largest nuclear test"	Sept 9

Now after reading these headlines, did anything change? Are you curious about Hormel Foods as a potential buy? Are you concerned about what the earnings decline portends for next quarter? Are you more inclined to reduce commodity exposure? Are you thinking about cancelling your visit to South Korea?

By comparison, a piece of data that is more signal than noise should answer questions like these:

- What are the odds that a stock added to the Credit Suisse *Focus List* produces a positive return within twelve months? Within 24 months? How much, on average?

- What's the average return on the S&P 500 twelve months after a modest 0-5% quarterly *earnings decline*? Does it even matter? Is there a strong correlation to earnings declines and future market losses?

- How often are service sector stocks higher within a year of new six-year-lows in the *US services sector activity* level? By how much?

A piece of information without a practical analysis of what it's worth is just noise. As the Harvard article implies, this noise just adds to the inconsistency of the investment decision making process.

So if that's all Noise, what does a signal look like?

For a piece of information to add value (i.e. be a signal), it has to give us a 'tell'. When I play poker with my 9 year old son (for Jelly Beans, not money, of course) he tends to giggle incessantly when he bluffs. That's a pretty good 'tell' that tips the odds in my favor.

From a market perspective, we saw a similar tell about 6 months ago. We use many different data inputs in our buy/sell algorithms – one of which is affectionately termed "MOOPTI". MOOPTI is a measurement of the % of Optionable Stocks[(2)] showing positive weekly momentum and is a proxy for investment demand for large liquid companies (**MO**mentum of **OPTI**onable stocks).

On March 17th this year MOOPTI reached a high point seen only 7 times in the last 20 years (Figure 1 and Figure 2 from Dorsey Wright and Associates March 17th, 2016 article titled "MOOPTI Moves to 90%").

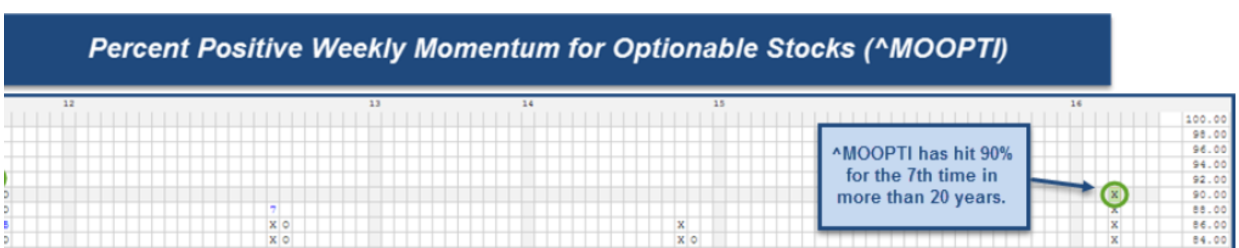

Figure 1: % Positive Weekly MOOPTI

So how is this signal, and not noise? How do we use this information to increase the odds of making money?

While we can't predict the future (and politely poke fun at those who try), what we did know back in March was:

- This is a rare occurrence, which adds simplicity and significance to the signal
- Every other time (6 instances) this has occurred, the broad markets were higher six and twelve months later by a fairly healthy margin (see arrows under chart on the next page)

MOOPTI Trips Above 90% and SPX Returns

Date hit 90%	Reversal to O's	Cross Level	# Days to reversal to O's	S&P 500 Returns: Reversal to O's	1 Month	3 Month	6 Month	12 Month
11/2/1998	11/16/1998	91.04%	14	2.18%	5.37%	13.53%	20.11%	21.24%
9/10/2004	9/20/2004	90.80%	10	-0.15%	-0.16%	5.70%	7.59%	10.46%
12/19/2008	1/9/2009	91.72%	21	0.28%	-4.25%	-11.70%	3.76%	24.17%
4/3/2009	4/24/2009	94.76%	21	5.68%	4.16%	9.59%	22.24%	39.83%
9/16/2011	9/22/2011	91.93%	6	-7.11%	0.70%	0.30%	15.47%	20.54%
10/28/2011	11/11/2011	92.79%	14	-1.65%	-7.20%	2.43%	9.20%	9.87%
3/11/2016	-	91.21%	-	-	-	-	-	-
		Average	14	-0.13%	-0.23%	3.31%	13.06%	21.02%

Figure 2: S&P 500 Historical Results

At the time (back in March), we acknowledged the possibility that 'this time could be different'. However, with 100% of the previous instances of MOOPTI levels over 90% producing positive six to twelve month returns, we knew the odds were in our favor (of achieving positive returns).

Here we are 6 months later from the date of the March 17th MOOPTI signal. Based on the period from March 17th to September 21st (when this article is being written):

- The S&P 500 broad index is up +7.4%
- Our Global ETF Growth Portfolio is up +9.8% [3]
- Our North American Growth Portfolio is up +14.6% [3]

The message?

1. Signal versus Noise.
2. Algorithm over Intuition.
3. Stack the odds in your favor.

As always, if you would like to learn more about our Cameron Woods investment solutions give us a call (we answer our own phones) or send us an email. We'd be happy to listen.

(1) Noise: How to Overcome the High, Hidden Cost of Inconsistent Decision Making, by Kahneman, Rosenfield, Gandhi and Blaser.
(2) Optionable Stocks are stocks that the exchanges deem large enough and liquid enough to have options (puts and calls) written against them.
(3) Gross of fees.

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CW Portfolios – Performance (gross of fees)

Stock Models	Model Code	2013	2014	2015	YTD (1)	Annualized
North American Growth Portfolio	M32	-	8.0% (7)	15.8%	3.5%	14.2%
Benchmark (2)		-	6.7% (7)	5.9%	8.7%	10.7%
Canadian Growth Portfolio	M24	1.2% (6)	13.7%	0.5%	6.2%	7.6%
Benchmark (3)		1.9% (6)	10.4%	-8.4%	16.8%	6.9%
Focus Stock Portfolio	M23	-	-	10.0% (8)	8.2%	11.1%
Benchmark (2)		-	-	0.6% (8)	9.4%	5.9%

ETF Models	Model Code	2013	2014	2015	YTD (1)	Annualized
Global Growth ETF Portfolio	M37	-	-	4.5% (9)	6.5%	7.0%
Benchmark (4)		-	-	-7.0% (9)	8.3%	0.5%
Bond ETF Portfolio	M38	-	-	-2.0% (10)	7.9%	3.5%
Benchmark (5)		-	-	-0.6% (10)	4.8%	2.6%

(1) as of September 30th
(2) 50% iShares TSX Composite Index ETF (XIC)/50% SPDR S&P 500 ETF (SPY) (Converted to CDN$)
(3) 100% iShares TSX Composite Index ETF (XIC)
(4) 34% iShares TSX Composite Index ETF (XIC)/33% iShares S&P500 Index ETF (XSP)/33% iShares MSCI EAFE Index ETF (XIN)
(5) 100% iShares Canadian Universe Bond Index (XBB)
(6) Dec 17th- Dec31st
(7) Oct 21st- Dec 31st
(8) Feb 4th - Dec 31st
(9) Mar 3rd - Dec 31st
(10) Feb 23rd - Dec 31st

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