

# New Alpha in Quantifying Insider Behavior

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**Jonathan Moreland, InsiderInsights.com**

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*Converting the behavior of insiders into a profitable quantitative input requires fresh thinking, starting with the data feed.*

*The concept that the [insider data](#) filed at the SEC should improve investment results is a common sense conclusion supported by a raft of academic studies. So much so that insider data has earned a place on many lists of acknowledged anomalies to the Efficient Market Hypothesis. Yet insider data is still surprisingly underutilized by most professional investors--both quant and fundamentally oriented.*

This incongruity between insider data's promise and practical application is understandable, however, given the dearth of depth when it comes to both tagging the raw insider data properly, and applying behavioral measures to determine if an insider trade is actually significant.

Generating ratios and statistics from commodity insider feeds based on shares and dollar values traded may have worked in past decades to generate low-lying alpha, but there is a general sense in the quant community in particular that such commodity insider analysis has been "done". And rightfully so.

For quants, the problem of getting more intelligence out of "behavioral" insider data and converting it into a quantitative input starts with the data feed they use. Most commercial-quality insider feeds do a good-enough job of cleaning the data for typos and other manual errors. The better-quality feeds can also indicate if a transaction is related to a 10b5-1 (automatic trading) program or an incentive option transaction. But most insider data feeds stop adding value there. And most quants don't know that they need to do more to squeeze the next layer of alpha juice from this behavioral data stream.

For example, we've found that an annoying number of insider transactions that appear correctly coded as being "open market", aren't. By applying secondary data checks to the commodity insider data, we've been able to tag such mis-marked trades—which allows us to score them properly when the time comes. Two of the more simple checks for this purpose include determining if the number of shares on the form and the price paid for them are consistent with the market tape on the day. Other checks are proprietary.

Besides tagging for 10b5-1 transactions, we've also found that tagging a trade when restricted shares are involved leads to a more representative translation of the transaction codes on a form 4 when the scoring process begins.

So proper tagging when harvesting insider data is woefully missing from most feeds used by quants. So is an analysis of other trade metrics after the tagging process. For instance, demarcating when a trade represents a reversal of opinion by the insider relative to their prior trade is a useful scoring metric.

Even more valuable is having an insider feed that analyzes insiders' incentive options trades for further intelligence. The vast majority of the time when insiders exercise their incentive options, they flip them for a

risk-free profit. They don't even have to pony up the exercise price of the options for this millisecond trade. They use cashless exercise programs with their brokers, so they can merely pocket the residual profit.

But we've found that a surprising number of incentive option exercises by insiders actually represent a bullish *accumulation* of shares instead of a usually-meaningless flip trade. Some insiders only sell enough options to pay their exercise price and taxes. Others don't sell any of their options grant—which means they had to pay the exercise costs out of pocket. Having both these “opting in” behaviors (as we call them) demarcated as data inputs into an insider scoring engine is yet another addition we've found that adds value.

So does a full array of statistical metrics on an insider's historical returns. The insider scores that have been “done” involve merely the average return of a stock after the insider trades. We have found that a fuller array of statistics including mean, median, range, hit rate, and sample size are critical for a decision engine to acquire a better picture of an insiders' historical accuracy. You'd be surprised at how many supposedly significant statistical-only insider scores are based on just one or two data points.

Gathering those historical stats over multiple time frames based on both an insider's trade dates and filing dates--and for all the firms they are a registered insider at—also adds depth that can assist a computer's ability to generate a final insider-based rating for a stock.

At [InsiderInsights](#), we use all these inputs, among other proprietary data tags and behavioral factors, to generate an Insider-based Company Rating that has proven valuable for improving longer-term investment performance for fundamental investors. Specifically, between 2008 and 2013 the 3,471 stocks that earned our “Significantly Bullish” rating averaged a gain of 29% a year after the rating was assigned.

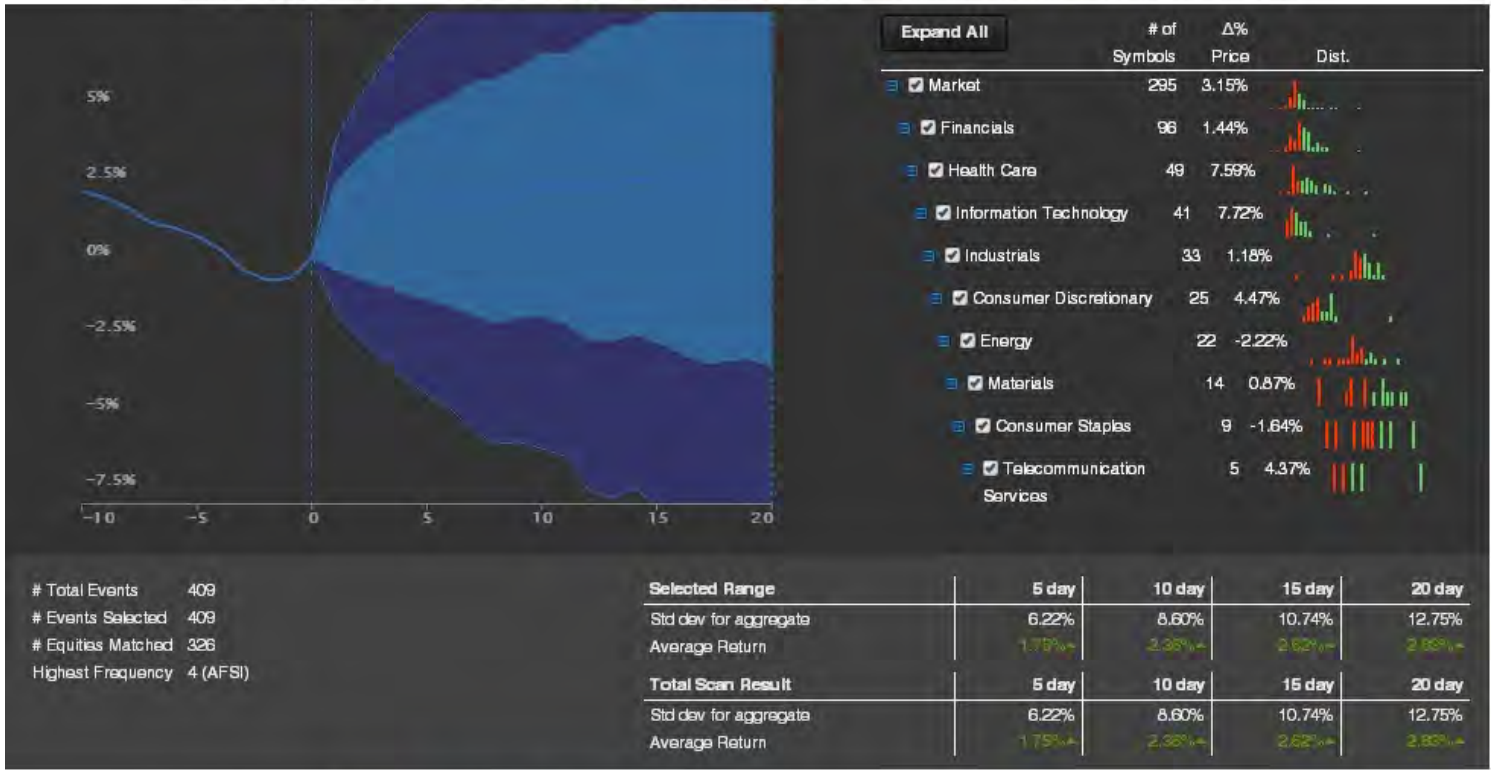
More important to quants, event studies run on QuantDesk, from Atlanta-based [Lucena Research](#), have recently validated our more in-depth insider tagging and rating process for shorter-term applications as well. QuantDesk's event studies clearly showed that InsiderInsights Company Ratings generated significant alpha within 20 days of a significantly bullish rating being achieved, with each of these insider “events” treated as a one-day “impulse”.

We've included the event study results from 2008 and 2013 below, but the alpha generation was consistent over the entire six-year period. The event study graphs also illustrate how the alpha that was being lost in the five days leading up to our ratings events in 2008, was dramatically reduced by 2013 from automations to our ratings process. Based on such results, Lucena Research generated a [white paper](#) that concluded our insider ratings have “persistent and meaningful value”.

With the concept of digging deeper into insider data generating more alpha validated, we believe we are still in the early innings of making insider data work for quants. This avenue of research has further promise to enhance development of market timing systems, as well as lead to the development of better insider-based indices that can be the basis of the next generation of smart-beta ETFs incorporating insider sentiment.

## InsiderInsights Company Ratings Event Studies Using QuantDesk, by Lucena Research

*InsiderInsights Rating = 1.0 – 3.0 | Date Range = 2013 | Forward Period = 1 | Universe = Russell 3000 + Russell MicroCap*



*InsiderInsights Rating = 1.0 – 3.0 | Date Range = 2008 | Forward Period = 1 | Universe = Russell 3000 + Russell MicroCap*

