Revolution Annual Onsite

6/27/13 8:30-10:15am (MT)

Mark Chapin, Michael Mundy, Rob Olson, TR, MH

We conducted our annual onsite review of Revolution in their Broomfield, CO office. Over the past year Revolution has made several enhancements; implementing the Intra Day system into the Alpha program, moving to all electronic trade execution and researching further measures to reduce trading costs. The team seemed in good spirits and provided a high level of transparency, showing us the software systems that review trades, account information (including our trading level), and status of servers and other hardware. The office appears almost exactly the same as the previous visit in May of 2012, whiteboard walls covered with ideas, unicycle with flat tire in same corner, and an unused ping pong table. We did not identify any apparent issues or concerns and remain confident in the Revolution team and Alpha program.

Intra Day System Update

The Intraday model was implemented over the past year and has been actively traded. While the End of Day system (EOD) has a counter trend model and a trend model in addition to the 5 trend reversion models, the Intra Day system (ID) is solely comprised of trend reversion models - looking for interrupted trends. ID’s trend reversion models are essentially the same models that are in EOD but run more frequently with different time scales, meaning shorter look-back periods. The ID models can trade 2, 4, 8 or 16 times a day, but can trade even more frequently during periods of high volatility. Trade frequency is not based on splitting into even time intervals but rather dividing up the total volume into equal parts and trading based on those periods. The team treats EOD and ID as separate programs and the systems are run independently. ID currently receives 25% of the risk allocation, which Mundt said he feels is pretty close to optimal and is unlikely to change materially from that allocation in the near term. ID should do well when markets are “shocked” and correlation spikes, which was a weakness for their end of day models. Mundt noted that they are seeing the longest period of low cross market correlation in many years. These systems seem very complimentary and should reduce risk within the program.

Move to Electronic Trading

Trade execution for the Alpha program is now fully automated and all electronic. “All electronic trading” was a necessity for the more frequently traded Mosiac program but is also a benefit to the Alpha program. A year ago traders at FCI were still putting trades through for Revolution’s End of Day model with a given set of directives (i.e. percent of daily volume, etc.). The Intra Day model launched using electronic trade execution. FCI still provides back office support and trade reconciliation. FCI is owned by Jim Curley, Revolution’s marketer, so the move to electromic trading further removes the appearance of a conflict of interest. The move away from human traders is an effort to make trading measurable which helps in designing models (better prediction of costs and execution). The electronic trading incorporates all of their directives in a fully automated manner. The primary challenge to implement the new process was logistics and making sure the proper safeguards were in place should there was a bug or a trading partners systems went down. The team has been adding layers of error checking which is an automated process as well. The challenge was that the default action if an issue was noted was to stop trading, which can be an issue if the trading was an effort to reduce risk. If a trade should fail, which the team noted is almost always due to a connection with a broker going down, they have alerts set up to notify them that the error has occurred and they can direct the trade to a different broker typically within 10 minutes. They currently trade with 6 firms. Since they trade around the clock these errors can occur at any time so one of the principals is always on call, they rotate this responsibility weekly and said an error occurs about once a week. The fails safe is to liquidate the portfolio, which has never happened since inception.

Execution Efficiency Research

Their efforts have now turned to trading efficiency. As a firm (combining both programs), Revolution had over 6M trades last year. While this issue is most important for Revolution’s Mosaic program, which has twice the round turns per million as the Alpha program, there is also meaningful benefit for the Alpha program. The cost savings from these efforts are important for 2 reasons. First, they believe the current bank trading algorithms are less than optimal and are a drag on performance. Olson and Chapin showed us trade examples where these algorithms were buying at the top or selling at the bottom of spreads. Chapin noted that the bank algorithms were set up for equity markets with $0.01 ticks where buying a penny higher or selling a penny lower is less of a concern, but in futures markets ticks can range from $5 for some markets to $35 for U.S. long bonds. The bulk of the industry, long term trend followers, does not trade frequently so this inefficiency may only be a 10 to 20 bps drag on performance per year. Second, with lower costs more trades will make sense to implement through the Intra Day model, enabling them to trade more frequently. They have already implemented a solution in the Mosaic program, where due to the higher trade frequency the potential performance improvements are greater, using an independent (non-bank) algorithm provider called Quantitative Brokers (QB). QB piggy backs on banks’ connections to the exchange and holds trades at those banks, but uses savvier algorithms that will sit on bids longer, waiting for the trade to come to them, rather than “crossing the spread” and paying up to execute more quickly. The tradeoff is that each trade’s cost increases from $0.25 to $0.75 by using QB, so investors will initially see the cost but have to wait to see the results in performance which team estimates could be $4 per round turn. For the Alpha program, QB could potentially improve performance by 100 to 200 bps per year. The Revolution team said that they will propose the change to Alpha’s investors sometime in the next 3-6 months. Increase in trading costs (which is quite visible as a line item for investors) for better execution (which only shows up in improved performance) may be a challenge for some of their investors. Revolution will likely propose this to us in the future once they commit to the idea. They were able to implement it quicker in Mosaic due to the relationship with Dunn. QB algorithms started in interest rates and expanded into equity and energy markets, but are not available for all markets that Revolution trades. While they are currently working on further solutions that can be implemented across all of the sectors they trade (commodities, currency, equity, fixed income), the team would eventually like to find sector specific solutions to extract even more savings. Given the difference in AUM, Alpha has much less slippage or market impact than Mosaic.

Business Update

Revolution’s $700M relationship with Dunn is “status quo” and the team sees no issues. Alpha program’s AUM is now $75M and is seeing a great deal of interest.

Alpha was designed to have a 0.5 correlation to trend following over five year periods, but has had a 0.27 correlation over the last three years. Mundt said he was not concerned about the lower correlation to trend following and attributes it to the choppiness of the markets in past years. The team is more concerned with the Mosaic program’s correlation to trend following which should have a historical 0.0 correlation, but has had a -0.2 correlation of the past three years. They monitor and compare these statistics because the programs were designed to be differentiated by the level of correlation to trend following.

Operational update

The TRS has not caused any issues, they just more transactions of cash in and out in the Newedge accounts. We confirmed that Mundt is looking at the correct US bank file to find our trading level. Revolution adjusts the trading level for their accounts on a monthly basis, unless notified of a trading level adjustment or if performance is +/- 10% during the month.