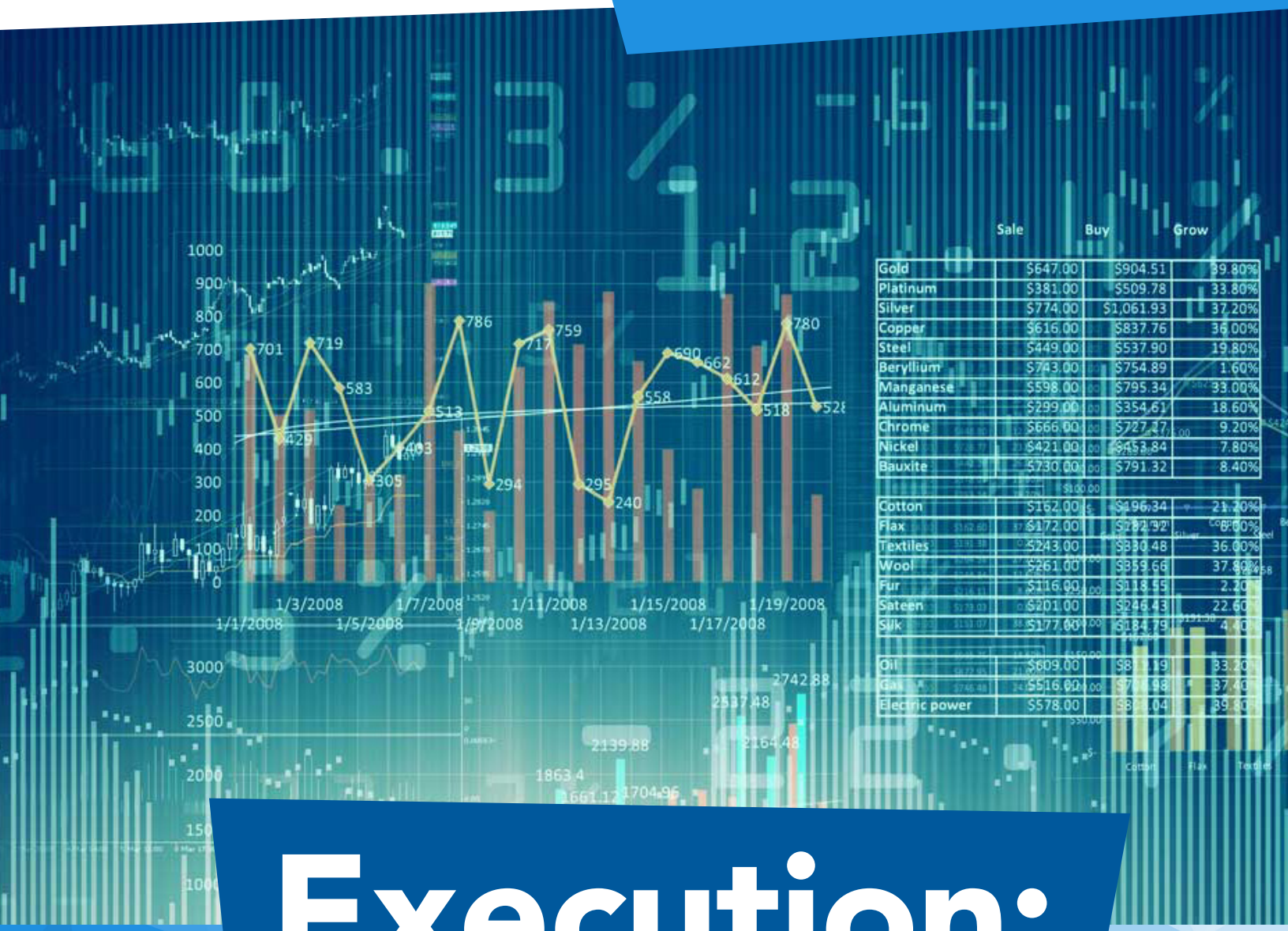
RCM-X



	Sale	Buy	Grow
Gold	$647.00	$904.51	39.80%
Platinum	$381.00	$509.78	33.80%
Silver	$774.00	$1,061.93	37.20%
Copper	$616.00	$837.76	36.00%
Steel	$449.00	$537.90	19.80%
Beryllium	$743.00	$754.89	1.60%
Manganese	$598.00	$795.34	33.00%
Aluminum	$299.00	$354.61	18.60%
Chrome	$666.00	$727.27	9.20%
Nickel	$421.00	$453.84	7.80%
Bauxite	$730.00	$791.32	8.40%
Cotton	$162.00	$196.34	21.20%
Flax	$172.00	$232.32	8.60%
Textiles	$243.00	$330.48	36.00%
Wool	$261.00	$359.66	37.80%
Fur	$116.00	$118.55	2.20
Sateen	$201.00	$246.43	22.60
Silk	$177.00	$184.79	4.40
Oil	$609.00	$8	33.20
Gas	$516.00	$7	37.40
Electric power	$578.00	$8	39.80

Execution:
The Cost You Can Manage

318 W Adams St 10th FL | Chicago, IL 60606 | 312-870-1537
www.rcm-x.com | algos@rcm-x.com

EXECUTION: The Cost You Can Manage

Successful hedge funds, commodity trading funds, and prop firms have long known that the time and money put into developing their trading strategies are just one piece of the puzzle when it comes to delivering alpha. There's also risk management, scouting new talent, ongoing research, and managing costs as efficiently as possible.

All of these efforts require valuable investments in not just data and technology, but also in developing relationships with vendors to negotiate rates. But beyond the negotiable costs, and fixed costs such as data and exchange fees out of the firm's control, exist one of the largest costs trading firms have direct control over – slippage.

> ***Slippage:*** *Difference between where trading model believes order to be filled, and where actually filled in the market. At the opening price, versus 2 ticks above the opening price, for example.*

Enter execution algorithms and transaction cost analysis (TCA) as a best practice for leading traders and portfolio managers, whereby they now have a framework to minimize slippage by quantifying these dynamic costs created by an ever-changing market. Without benchmarks against which to compare these costs, quantitatively sound algorithms for calculating optimal order placement, and a latency sensitive platform for deploying them to the market - trading firms may overestimate potential returns.

And this isn't just about squeezing some extra pennies out of your trades. Market participants managing money for investors also have a fiduciary responsibility to act in their clients' best interests. Those ignoring the possibility of improving returns via better execution, or incorrectly conflating trading costs with brokerage costs, may be falling short of their responsibility and potential. In addition, best execution requirements are drawing increasing scrutiny amid recent regulations such as MiFID II making minimal acceptable standards more explicit. Further, asset allocators and investors should ask managers how they seek and determine best execution, and managers should have execution policies they can discuss and quantify.

In the futures trading world, monitoring execution quality and optimization practices must be a focus for managers attempting to compete on a global stage. Futures markets are characterized by larger tick sizes than equities or foreign exchange, with microstructure characteristics such as large order queues and pro-rata matching making it hard for liquidity seeking orders to avoid crossing the spread.

> ***Liquidity Seeking Orders:*** *Orders that care more about immediacy of execution regardless of price level than tracking a specific price or volume benchmark.*

Add it all up, and average savings of a fraction of a tick over extended periods can improve performance by meaningful amounts, especially when dealing with often high turnover alternative investment strategies. Table 1 provides a simplistic example of the potential impact on performance, showing the annual cost in dollar and percentage terms for a $1 million account crossing the spread in several liquid futures markets.

Crossing the spread:
Buying at the offer or selling at the bid in order to attempt an immediate fill.

Table 1: Potential Execution Cost Impact

Product	Min Tick Size	RTs/$MM	Annual Cost of Crossing Spread	Impact on Annual Returns
E-mini S&P 500	12.5	2500	$31,250	3.13%
E-mini Nasdaq 100	5	2500	$12,500	1.25%
Crude Oil	10	2500	$25,000	2.50%
Natural Gas (Henry Hub)	10	2500	$25,000	2.50%
Eurodollar (nearest)	6.25	2500	$15,625	1.56%
10 Yr Note	15.625	2500	$39,063	3.91%
5 Yr Note	7.8125	2500	$19,531	1.95%
Euro	6.25	2500	$15,625	1.56%
Japanese Yen	6.25	2500	$15,625	1.56%
Corn	12.5	2500	$31,250	3.13%
Soybean	12.5	2500	$31,250	3.13%
Gold	10	2500	$25,000	2.50%
Silver	25	500	$62,500	6.25%

Increasingly Automated Markets

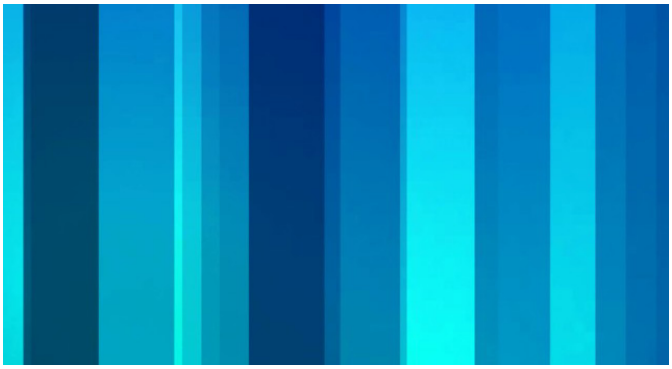
In analyses from 2015 and 2017, the CFTC examined the state of automated trading on the Chicago Mercantile Exchange (CME). Their initial findings and subsequent updates indicate an increase in the prevalence of automated trading (that is, computers actually managing the placing of the trades, not just the generation of trading signals) across the futures landscape. The broad agricultural, energy, and metals futures markets have followed the automation trend set by FX, equities, and interest rates, albeit at a slower pace, with approximately fifty to eighty percent of any product group's associated volume executed via an automated system. Large volume traders tend to utilize automation much more than small volume traders, who in some cases still do most of their executions manually via a trading screen or platform. A manager or broker manually executing a trade is often matching with one or more automated counterparties.

These automated counterparties (read: computers) can process more data and react more quickly than a human trader placing manual orders. While a manual trader attempts to work an order after receiving a signal to trade, automated order placing systems are rapidly calculating things such as implied and hidden liquidity, comparing the day's volume and price patterns to historic norms, and placing orders which may learn from and react to the patterns of simpler order flow. With futures markets becoming dominated by automated trading, the other side of your trades are increasingly taken by someone bigger, faster, and smarter. Execution algorithms can help reduce the amount being given up to the market makers, short-term opportunists, and high-frequency traders utilizing these automated order placement methods. As the old saying goes, if you can't spot the sucker at the table, you're probably it.

Trading Considerations

Many factors need to be considered when choosing what execution algorithm to use. An oil company, fixed income asset manager, small farmer, and mid-size commodity trading advisor (CTA) probably have different views on execution risk, but all would like to be able to execute trades as efficiently as possible. Products, and different expiration months within the same product, may display drastically different liquidity depending on things such as time of day, scheduled market announcements, and news events. Traders must balance signal risk, their own market impact, and market momentum or reversion in the prevailing market prices, as all three could potentially contribute to adverse performance. Algorithms often offer simple parameters (such as an 'Aggression' setting) which allow the trader to reflect their preference for this balance in a systematic fashion. And a good TCA can help decipher how costs break down along these lines to arrive at the best settings; but ultimately it is up to the manager or broker responsible for trading to take expectations and knowledge of past trades and select the optimal execution method and parameter settings.

Fragmented Space



The execution algorithm space offers numerous options in terms of providers and algorithms. Banks, brokers, and technology providers are mostly all now offering execution algorithms of one flavor or another, but there does not seem to be a clear-cut preference in the marketplace.

Market participants should seek the best possible execution provider and algorithms, both from a desire to improve performance as well as a fiduciary responsibility. They should seek providers skilled in understanding market data and exchange matching engine microstructure who offer algorithms tuned per product and market environment, and built on high speed, robust technology stacks. They should seek a provider with flexibility to offer custom solutions if they feel their execution needs are beyond the abilities of vanilla, off-the-shelf algorithms.

Market Microstructure:
The details of how a market centers match orders to facilitate trades, and the study of how those details affect the behavior of market participants.

RCM-X and its execution algorithms fit that description. Managers, investors, and other stakeholders concerned with execution costs and their impact on the bottom line owe it to themselves to make sure their execution is following these best practices.

Call Mike Aufmann at **312-870-1537** to discuss your current execution practices and how RCM-X can help drive performance gains in that area.

ABOUT RCM-X

RCM-X was launched as a subsidiary of RCM Alternatives in 2017 to provide trading technology and risk management services to the professional trading and investment management space. The company controls a library of execution algorithms available via front end platforms, builds custom algorithms for clients with unique parameter needs, and sells and supports the implementation of Strategy Studio software for those looking to design a solution themselves.

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www.rcm-x.com
algos@rcm-x.com