HFT Review
High Frequency & Algorithmic Trading

HFT in Russia

By Mike O'Hara
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The nature of the high frequency trading business is that HFT firms generally like to target "low hanging fruit". They spot an opportunity and - using their models and technology - proceed to pick it, quickly and efficiently.

This works well for a while, but what happens when - as is increasingly the case in the European and US markets - all the low-hanging fruit has been picked?

Firms are faced with a couple of choices. Either they can build more sophisticated models and adopt ever-faster (and more expensive) technology, to climb higher up the trees in an attempt to capture increasingly smaller increments of alpha. Or they can find a new orchard.

Is Russia the new orchard?

Some History

Until fairly recently, there were two main trading venues in Russia: Micex and RTS, both based in Moscow.

Micex (Moscow Inter-Currency Exchange) was originally created by the Soviet Union in 1989 to set the USD/RUB rate. After the fall of the communist regime, it expanded to become the main venue for trading Russian stocks. RTS (Russian Trading Systems) was established by a group of Russian banks in 1996 as an alternate venue to challenge the Micex monopoly. Since then, RTS's main focus has been derivatives, whereas Micex has commanded the majority of cash equity and FX volume.

In December 2011, the two venues merged to form Moscow Exchange.

Moscow Exchange & HFT

Following its successful IPO in February this year (heavily oversubscribed and valuing the group at over $4bn), Moscow Exchange is now positioning itself as the core of a highly competitive international financial centre, covering a range of asset classes including cash equities, government and corporate bonds, FX and derivatives.

Emmanuel Carjat, Founder and Managing Director of TMX Atrium, a low latency venue-neutral infrastructure provider, believes this is making Moscow Exchange a fairly significant magnet in that area of the world.

"From a European perspective, HFT firms have been looking to the West for some time, but they're now shifting their view towards Asia and the East. And the changing status of Moscow is one of the first steps on that shifting view", he says.

"The Moscow Exchange is out to capture HFT business and is learning from its peers that creating co-operative environments is generally more conducive to growing their electronic trading business. They've recently opened up a colocation facility in Moscow, they're making their data more available globally, and we're seeing a diverse group of clients moving into the market", according to Carjat.

"Winner Takes All"

The exchange is certainly keen to attract liquidity providers and market makers, particularly those trading in larger size and has adopted a somewhat unusual approach by running a "winner takes all" monthly competition to encourage larger players.

Roman Sulzhyk, MD & Head of Futures & Options at Moscow Exchange, explains "We're trying to improve the quality of the order book by encouraging firms to put in larger orders," he explains. "So starting from February, if you trade orders of 100 lots or more, all the volume from those orders gets counted towards a total, and whoever trades the most in that month gets a cash prize".

Why run a competition instead of taking a more traditional rebate approach?

"The idea is to encourage a different sort of behaviour. Right now a lot of the volume is with smaller players trading one-lot orders, so we wanted to create an incentive for people to do larger trades without making it worse for the little guys. In the future we may offer discounts for larger orders", says Sulzhyk.

HFT Opportunities

It is clear that the exchange is keen to attract HFT business. But where is the "low hanging fruit"?

I ask Tim Bevan, Managing Director, Prime Service Sales at BCS Financial Group, one of the leading Russian brokerage firms, to take me through some typical strategies his clients are adopting.

"Often firms start on the derivatives market and do single platform strategies to find their feet", he explains. Liquidity is very concentrated: index futures and USD/RUB futures account for over 90% of total liquidity, so that's what they'll generally trade.

"Then they'll build in equities and FX, both of which share the same API. With FX they'll trade the on-exchange market versus the big OTC pools of liquidity, which for USD/RUB are EBS, Match and Hot Spot. And there's a basis trade between the FX market and the futures".

What about cash equities?

"On the equity market, there's single stock arbitrage between London and Moscow (trading DRs on LSE's International Order Book versus local stocks on Moscow Exchange), and for a three-way arb, there's good liquidity in single stock futures. Then you've got the FX hedge against that with both the spot market and the future. So it's all there for the single-stock strategies".

Are there opportunities for delta-one strategies?

"Yes, you can trade various stock baskets versus the index future, which can be used to make markets in ETFs. Although the only liquid Russian ETF is the Van Eck Market Vectors product, which trades in the US (RSX US), the Russian future trades to almost the US close".

According to Bevan, firms generally start by assessing the opportunity and defining the strategy before going on to look at physical locations, data centres, co-location facilities, networking solutions between those facilities, round-trip latencies and associated costs.

"Understanding how the cost structure works is the second phase", he says. "All the frictional costs, such as data centre & infrastructure costs, exchange fees, indicative financing and commission profiles from the broker need to be input into the model. If the results look good, then the next step is to actually take in some data for a period of time and to assess how much profit there really is in the strategy".

Data & Connectivity

Bevan explains that there are various choices when it comes to taking in the data.

"There's API data & FAST data from the exchange, or FIX data from a broker. Depending on where the boxes are located and on the specifics of the matching engine, it could be different in each case. On the derivatives market, they've just done a big upgrade so API data seems the preferred option. For equities, FAST data is actually faster than the API data, but may not be as rich. So it's important to really research the options.

"Regarding connectivity", Bevan continues, "for arbitragers, the link between London to Moscow is key, the latency of that line really is of prime importance. So we spend an awful lot of time looking at the latest carriers."

The main links between London and Moscow are currently routed via Stockholm and Frankfurt. TMX Atrium offers connectivity via both routes, and recently announced sub-40ms round-trip times from London (INX) to Moscow (M1) via its Stockholm route.

Physical Infrastructure

The data centre landscape in Moscow is somewhat fragmented and complicated, with the production facilities for the ASTS (equities and FX) and SPECTRA (derivatives) platforms currently hosted in different locations.

The exchange's plan is to relocate all of its matching engines to the M1 data centre this year and ASTS is there already. However, longer-term the exchange has indicated that it will establish its own data center to host all of its matching engines, although neither a date nor a new location has been announced for the move.

Until recently, trading firms typically located their servers at the Makomnet proximity-hosting centre in the north of Moscow. But other options are now becoming available. Firms now have the choice of colocating their servers either at M1 or at carrier-neutral data centres such as IXcellerate, which - according to IXcellerate's CEO and Co-founder Guy Willner - offers a "Western-friendly" alternative.

Data Centre Issues

Willner, who previously founded IXEurope and served as President, EMEA at Equinix, highlights some of the issues that firms need to take into account when considering data centres in Moscow.

"First, firms need to look at how they are going to set things up. Who is your partner? Who's going to put the technology in place? What do you do if your platform is getting unstable? Do you have someone in Moscow who can get there immediately or are you going to have to fly someone out, struggle with their visa and have them turn up a week late? There's a level of support required, which you wouldn't usually require if you were in London, 20 minutes away from your venue."

"Secondly, who are your connectivity partners and how many do you have? Two or three is obviously better than one. It's the same thing as before, if there are any issues, who are you going to call? Who's going to answer the phone and have you checked other people's experiences of that technology service?"

Firms need to place particular emphasis on their disaster recovery and business continuity planning, according to Willner.

"For proximity trading, the choice in Moscow today is currently very limited and focused on one physical location, which perhaps doesn't offer the optimum in terms of technology and quality available. So a key questions people need to ask is, what's the backup? What happens if that data centre or the connectivity goes down? What's the business continuity plan?"

Trading Communities

The idea behind IXcellerate is not just to serve as a disaster recovery facility, however. Willner sees parallels with how IXEurope and Equinix grew.

"We're trying to create an alternative place for firms to establish their trading communities, where the starting point has a foundation in a much more sophisticated, more modern, infrastructure than what has previously been available, i.e. our clients are building on strong foundations. That's a much more sensible thing to do long term and it echoes what we did at Equinix in Slough", he says.

"What we saw in both UK and Frankfurt was that integrated communities started building up within the data centre, firms were able to source technology and exchange data and information from a range of different partners and different players. I see the same thing happening here. The carriers and vendors get to know the venue, they know what the customer needs, everything is just smoother and the wheels are oiled. And who knows, later on some of the trading venues may migrate to that data centre, and then you've got complete, seamless DMA".

T+2

One change that may have a significant impact in Moscow is the planned move to T+2 settlement. Currently, all trades in equities and bonds are pre-settled, which means that firms need to deposit the necessary cash or collateral prior to opening a trade. The move to T+2 will bring Moscow Exchange in line with other global trading venues that operate a "T+" model and is intended to make the exchange more competitive internationally.

One potential outcome of T+2 is that global prime brokers like Credit Suisse, Goldman Sachs and UBS may start offering direct access to Russia, but there is a big question mark over the implementation date. Originally planned for January 2013, the date has slipped to April 2013, but according to various industry sources, when it actually gets introduced and implemented is anyone's guess. Moscow Exchange is keen to point out however that brokers can participate in test trading already (see http://rts.micex.ru/s688).

One effect of the move to T+2 is that it could open up new opportunities for risk technology vendors, according to TMX Atrium's Carjat.

"Right now you don't really need a risk system because the money is already there", he says. "With T+2 settlement, you do need a risk system. And if you're doing more complex trades involving equities, derivatives and FX, possibly on multiple venues, then you need to further enhance your infrastructure. So one unanswered question is, who is going to provide the risk management systems? How is the overall risk going to be managed?"

Risks & Rewards

On the subject of risk, it's worth pointing out that Moscow Exchange allows "naked access" because it performs fairly conservative pre-trade risk checks at the exchange level. But there are other aspects of risk that need to be considered, says Tim Bevan.

"First, there's the country risk. Are you comfortable, as a foreigner, owning assets in Russia, and being exposed to the Russian judicial system? If you try and analyse it and get the legal or the regulatory surety that you would in the Western markets, those metrics aren't going to work in Russia, you're never going to get that level of confidence. You have to come at it from a different angle. And when you do, you realise that the risks are not that big."

So are the risks of doing business in Russia overplayed when compared to the potential rewards?

"Fear is a big factor, especially amongst US clients", believes Bevan. "And it is an inefficient market, but thank God, otherwise there wouldn't be any opportunities. Yes, it's a bit more difficult than Western markets and it all takes a bit longer, but that's why the margins are where they are. And there are plenty of firms with the appetite and the resources to want to get in, especially as pickings are getting fairly thin elsewhere. It's not just about finding new alpha, it's about hedging your business".

The last word goes to Roman Sulzhyk of Moscow Exchange, who is keen to welcome new participants, particularly market makers.

"We have various market making programs and we're spending quite a lot of money on bringing liquidity to the exchange", he says. "And this is all being done in a transparent manner".

"In the past, it would have been done in smoke-filled rooms where you wouldn't know who was doing what, but now it's absolutely transparent, it's all on the Web, if anyone is interested they can just call and see what we have to offer. We have a lot of incentives for market -makers to come in. And there's money to be made in Russia!"

