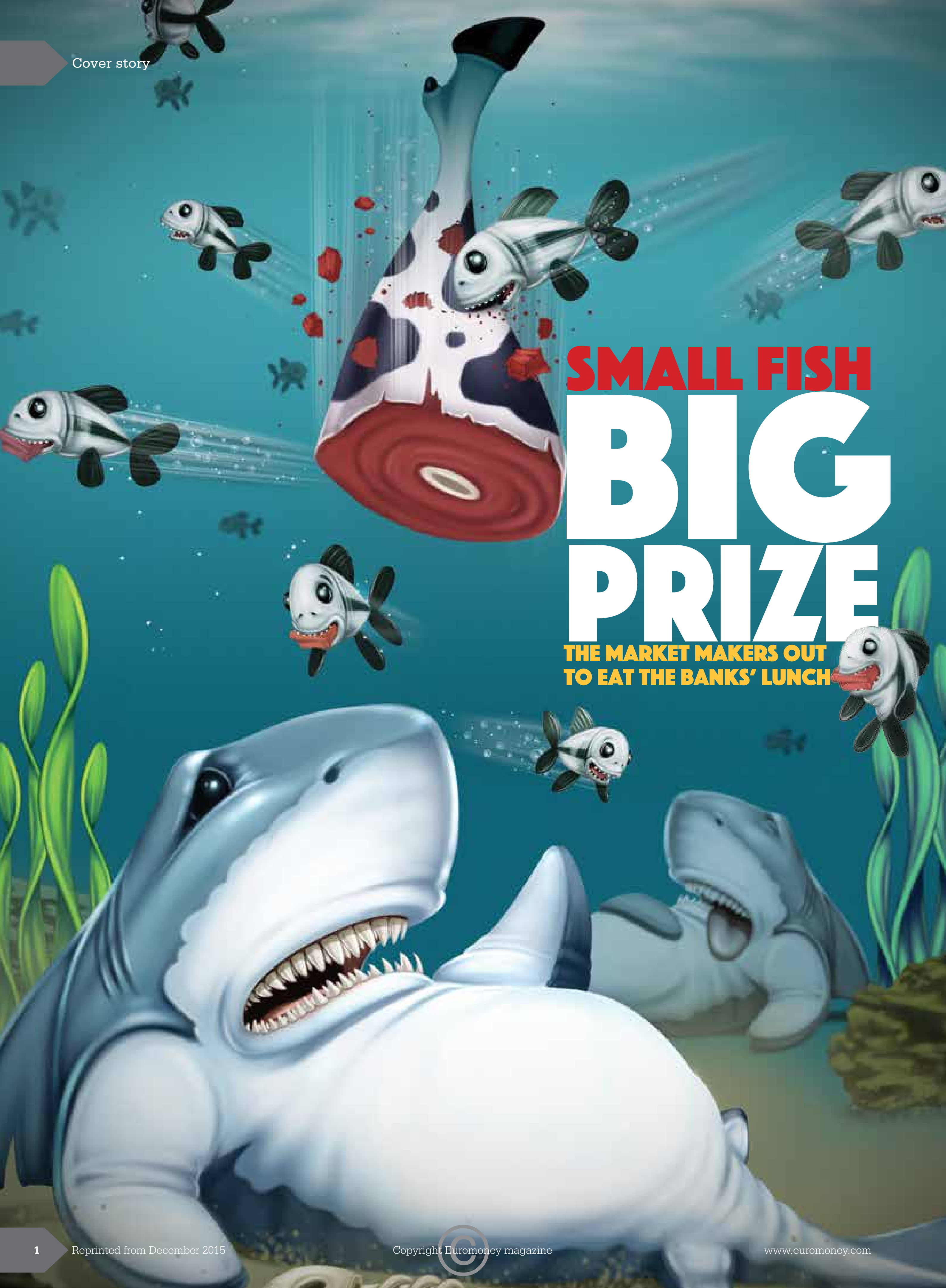


SMALL FISH BIG PRIZE

THE MARKET MAKERS OUT TO EAT THE BANKS' LUNCH

New specialist liquidity providers are nibbling away at the share of the big universal banks in more and more parts of the FICC markets. In swaps, government bonds, foreign exchange, credit, and in securities financing and repo, new entrants are on the march, stepping up to fill the gaps left by the retreating banks. Tech savvy, led by quants and data engineers rather than the expensive traders sitting on the scrap heap of most banks' inferior tech, the new entrants now just need people with the skills to win over large numbers of customers

By: Peter Lee

Tidjane Thiam, chief executive of Credit Suisse, stood up at an investor day in London at the end of October to outline a new strategy to revive the bank's fortunes. Noting the collapse in customer volumes in August and September, Thiam said: "All the pressures have been on fixed income." He duly axed large swathes of his firm's macro rates business.

Thiam wasn't the first CEO of a bank with a big trading business to reach this conclusion, and he won't be the last. Indeed just a week later John Cryan, recently installed as CEO of Deutsche Bank, executed what would until very recently have been a staggering U-turn for the German bank.

"In global markets, we are going to cut severely our engagement in interest-rate trading strategies," Cryan told analysts, "likewise in flow credit trading and the trading of high-risk-weighted securitized products." He added that "in global markets we expect to off-board about half of the current list of clients, because economic returns on those relationships are inadequate for us."

For them, yes. But for others, perhaps not. Eight years after the financial crisis, the new landscape of fixed income trading is starting to emerge. That landscape involves some different firms, but some very familiar names.

None is more familiar in global fixed income than that of Bob Diamond, the man who built Barclays Capital into a FICC powerhouse over the course of more than a decade.

Diamond, for example, has made a big investment in South Street Securities through his vehicle Atlas Merchant Capital.

South Street, a Finra-regulated specialist broker dealer in US treasury and agency repo and securities financing, was spun out of Citigroup after the merger with Travelers in 2001 for the simple reason that the combined entity, now including Salomon Brothers, did not need two repo desks. It toiled away under the radar in the years running up to the financial crisis, struggling to make a living in a market dominated by the G-Sifi banks.

Come 2015 and its main struggle now is to do all the business customers want to do with it.

South Street has a strong niche in repo – another area the traditional bank market makers are exiting – but you sense Diamond's ambition runs much further than that.

Why?

"It seems to us that regulation of the Sifis and G-Sifis is going to drive even more of the traditional securities business towards new entrants for a host of reasons," Diamond tells Euromoney. "The capital requirements on the biggest banks are now enormous. They comprise buffer upon buffer. Concern over too-big-to-fail remains the top issue for policymakers in the US, UK and Europe and with it comes the focus on reduction of complexity at large banks and separation of deposit taking from market risk."

Diamond continues: "So not only is more capital required, it is also ring-fenced, inflexible capital, not capital that rises and falls in line with market and business volumes. And you have the leverage ratio which constrains businesses like repo which may be low-risk because of the associated balance sheet size."

As with South Street, most of these 'new entrants' are anything but. The firms have been trading in their markets for many years; some of the people for many years longer than that.

Take Zar Amrolia, once one of the architects of Deutsche's flow monster franchise, now a recent convert to new forms of market making at XTX Markets, of which he is co-CEO. XTX is a London-based trading firm spun out of the hedge fund GSA Capital Partners in July 2015 and which makes markets in cash equities, futures, commodities and in its most recent and fastest growing segment, spot foreign exchange.

"Liquidity is diminishing because the number of participants willing and able to commit risk capital is going down and the cost of providing it safely has risen," Amrolia says. "Banks may still provide this service in future but liquidity provision is going to be a specialized function and not all of the banks will be able to do it. Remember that most liquidity providers still run an inverted talent pyramid, with a few traders paid very well and a whole stack of technologists and quants paid less. In the future, it may well be the other way around."

These new entrants are good at the markets they operate in. They have state-of-the-art technology. They have limited capital.

They understand and take risk.

Then there's the most telling aspect of all. At this time of reduced liquidity in fixed income markets, the banks withdrawing their market-making capabilities are themselves starting to rely on these new, non-bank firms for access to it.

Surely it's only a matter of time before the banks' clients begin to do the same?

NEW NON-BANK MARKET MAKERS may lack the banks' balance sheet size, their agglomeration of bundled services, their sales networks and bilateral credit lines with big asset managers, but the new firms have three important advantages: they have state-of-the art technology, simple and focused business models and while they are regulated, they are not burdened by regulation designed to protect against too-big-to-fail. In addition, they can move quickly, adjust their business strategies as the underlying market infrastructure evolves.

Citadel Securities is an electronic market-making firm, owned by but legally separate from the multi-strategy hedge fund that billionaire Ken Griffin founded just over 25 years ago. Citadel, like most other electronic market makers, is best known for its US equities markets business, but it has made big strides in interest rate swaps in the past year and has now entered the cash treasury market.

Paul Hamill is managing director and global head of FICC at Citadel Institutional Solutions inside Citadel Securities, where he leads the client-facing fixed income market-making businesses, including interest rate swaps, government and corporate bonds and credit default swaps.

"Our core competitive strengths lie in our experience as a leading electronic market maker across many of the largest markets, and of course because of our people and our technology," he says. "The marketplaces in which we believe we can deploy those strengths to maximum effect for investors are those that are transparent, open and to a considerable degree electronic. Post-crisis reforms have helped transform the swaps market by requiring platforms to end discriminatory access and allow new entrants, while central clearing eliminated the need for complex bilateral agreements between counterparties, allowing investors to reorient their focus toward best execution and efficacy of trading."

In October 2015, Citadel became the first non-bank clearing member of LCH. Clearnet's SwapClear, an interest rate derivatives clearing service. By self-clearing in swaps, the firm makes itself less dependent on the big banks, against which it is increasingly competing for client business, to clear for it.

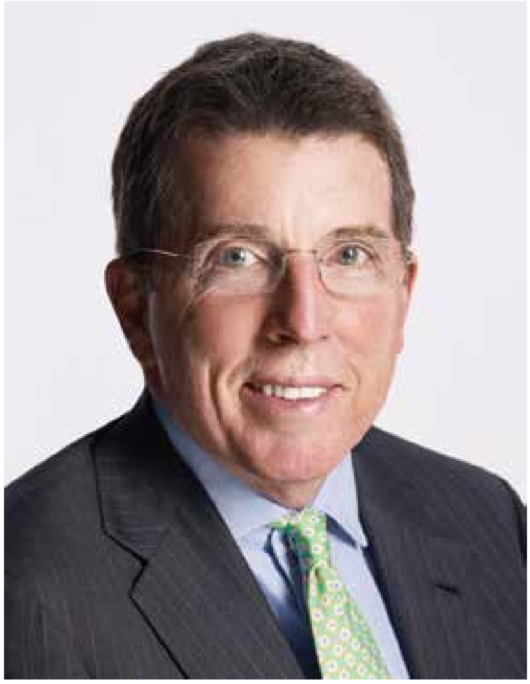
It's a milestone for the firm, which only launched in the interest rate swaps market in November 2014. "We differentiate by streaming fully firm prices on Bloomberg and TradeWeb in large size for customers, and we have gotten very good traction on that model, but we still have many more customers to reach and that is priority number one," Hamill says.

In the third quarter of 2015 in US dollar interest rate swaps on Bloomberg, Citadel was ranked number one by volume of trades; number three by value of risk traded; number one in response times; number one in hit ratios. "We continue to provide live pricing during all market conditions," Hamill explains, "even as volatility increases, when many of the traditional big bank dealers pull back."

The firm began market making in cash treasury bonds at the end of the third quarter.

The fact that a comparatively small, little-known electronic liquidity provider can establish such a position so quickly in a market the size of US dollar interest rate swaps emphasizes how strong technology can compensate for small balance sheet size relative to the big banks and quickly make up for lack of long-established customer franchises.

Having a big balance sheet used to be a badge of honour for the flow monsters that dominated FICC liquidity. But if that big balance sheet turns over comparatively slowly, if it is tied up – like much of Deutsche's is according to the new chief executive – in legacy long-dated structured and illiquid swaps priced without appropriate funding costs and often in the absence of two-way collateral support agreements, then it's nothing to shout about.



"Fixed income is the area in the firing line because it used to make so much of the money but now accounts for so much of the leverage"

Bob Diamond, Atlas Merchant Capital

It may be that smaller, nimbler more tech-enabled newcomers may provide much more liquidity to the market per unit of equity capital.

Hamill used to work at UBS where he was global head of FX, rates and credit execution services with responsibility for global futures execution, FXPB, and building the fixed income agency business which included the PIN (Price Improvement Network) corporate bond and CDS trading platform, and the Neo platform for SEF-traded swaps. He will have seen at first hand the pressures on big banks' systems and the internal tensions between voice traders and electronic traders.

In all markets, the key to being able to facilitate the high volume of large-size trades that many investors want to execute around market moves is how fast a market maker can hedge a position and reload its capital to put on the next trade. The perfect market-making model is to hit and lift, hit and lift, constantly.

But at most banks, systems are still set up for how markets operated five years ago, when a voice trader would put on risk and then the banks' systems would input and confirm the trade and only then update the risk systems. So today, if there has to be a pause while the bank dealer's risk systems are updated, if the bank cannot in the interim be sure that the risk it has taken on is reflected in its systems, then that inclines traders to widen the bid-offer spreads they are willing to display.

Hamill says: "Launching US treasury market making to our institutional accounts was a very logical next step. The ramp-up time there will be much longer, but we fully expect investors will see value in the same quality and format of liquidity as we have been providing in swaps; fully firm, large size and consistently available."

It is not transparent right now to what extent big dealers are already streaming live click and trade prices privately to select clients. The big banks say that they are doing this, though that is not clearly observable to anyone but the banks themselves and their biggest customers.

The streaming of live click and trade prices on the leading platforms is often touted as the critical moment for any market, where it shifts closer towards the equity-like model, now characterized by constant turnover in small sizes and algorithmic, automated execution of trades on exchanges and lit exchange-like platforms.

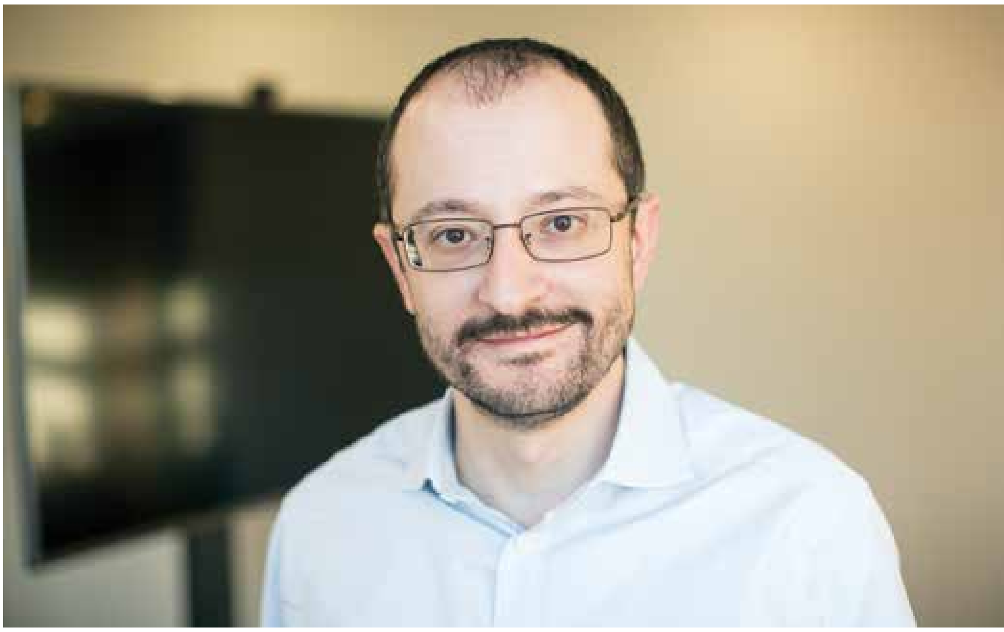
New entrant electronic market makers hope that, because their systems update in seconds or sub-seconds, what it takes most banks' systems minutes or multiple minutes to process, that will give them an advantage in fixed income that compensates for lack of relationship services, such as priority access to large allocations in new issues.

If many banks have been in denial about this, the speed with which Citadel Securities has established itself as a market maker in interest rate swaps might be a wake-up call.

In their report published this July into last October's dislocation in the US treasury market, US regulators struck a cautious note over the role of high-frequency traders categorizing them as principal trading firms, and pointing out that: "Most PTFs do not trade on behalf of clients and instead restrict their trading activity to proprietary positions. As a result, these firms make trading decisions, including liquidity provision decisions, primarily on the basis of immediate profitability and the level of market risk, rather than as a service offered in the context of existing customer relationships that are intended to be profitable over time."

This is hardly a revelation to anyone who works in the US treasury market, but the emergence of new electronic market

Its bid-offer spreads are much tighter; its response times much faster, at around 0.3 seconds on Bloomberg compared to an average across the leading swap dealers of five seconds. If you intend to enter a market that has been dominated by the same bulge-bracket banks for 30 years, it's as well to have something valuable to offer. If low rates continue to depress returns for asset managers in fixed income and they focus more and more on transaction costs, more volume might be expected to flow to whichever market maker displays the best price in large size, no matter what the historic relationship or how well-known the name.



"A lot of what appear to be liquidity providers are engaged in back-to-back hedging or what is sometimes called hot-potato trading. It's not immediately obvious but what they are doing is taking liquidity from one source and giving it to another. Less is sometimes more in terms of quality of execution"

Alex Gerko, XTX Markets

making firms setting up to do genuine end customer business is new.

Citadel Securities already trades with some of the largest asset managers in the world measured by assets under management.

Hamill did not leave UBS to come to a firm offering a watered-down version of what the global banks already provide.

IN OTHER FICC MARKETS TOO, WHERE liquidity that was once abundant now shows signs of becoming constrained, new non-bank market makers are stepping up. One such is XTX Markets.

Alex Gerko, a former quantitative analyst at Deutsche Bank, is co-chief executive of XTX Markets. He explains to Euromoney how the start of 2015 was a watershed for proving its worth to customers in foreign exchange. "We really stood up during the de-pegging of the Swiss franc in January. There are customers who have since told us that we provided up to 40% of their market-making requirement through that period, when a number of the traditional dealers simply stepped away from the market. Personally, I was a little disappointed that we were out of the market for 25 minutes while we were working through the safety checks in our systems. But we were soon back up at a time when customers needed liquidity and we earned a lot of credibility for providing that."

Customers could be forgiven for re-examining their relationships with big FX banks given that many of them colluded to rig the market fix and then failed to make even wide bid-offer spreads when most needed.

Gerko has also striven to differentiate XTX Markets as a genuine market maker, as opposed to a high-frequency trader that appears to be a liquidity provider at certain times but does not have the business model of maintaining live bid-offer prices in size or of warehousing customer risk. Gerko fears that the behaviour of some high-frequency traders has made it harder to convince customers of the validity of non-bank liquidity providers.

"A lot of what appear to be liquidity providers are engaged in back to-back hedging or what is sometimes called hot-potato trading," he says. "It's not immediately obvious but what they are doing is taking liquidity from one source and giving it to another. I think that customers may find that excluding some of these so-called liquidity providers may actually improve execution quality. Less is sometimes more in terms of quality of execution. In foreign exchange you also have to be very wary of the last look window and its impact on trades. When customers do their transaction cost analysis they must think about the market impact on them from previously rejected trades."

An indication of the kind of business XTX Markets is aiming to build came in September when it hired Zar Amrolia, former head of FIC at Deutsche Bank and a former builder of large customer foreign exchange businesses there and at Goldman Sachs, to join as co-chief executive with Gerko.

When Euromoney sits down with Amrolia at the company's offices in Mayfair in mid-November, for the year-to-date, the firm has done several trillion of customer business – yes, trillion, this is foreign exchange – much of it with banks but some with select end clients.

For those clients who want research, voice sales, credit, exotic derivatives, banks will always be needed. However, there is a subset of clients, which includes banks, retail aggregators and systematic funds, who do not need this and just want high-quality, low-market-impact e-liquidity. This is the space XTX Markets occupies.

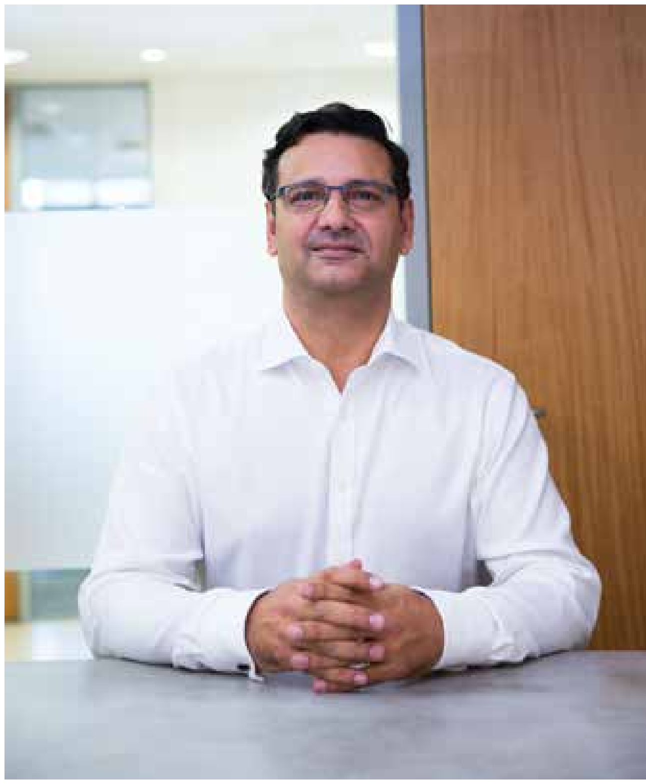
"We primarily operate a B2B model and have done several trillion of spot with one salesperson, zero traders and zero research," Amrolia says. "And we are able to do that because, rather than traders, we have the top talent in quantitative data analytics and a single state-of-the-art system that look at correlations across every market and prices risk dynamically. Whereas most big banks have a more fragmented infrastructure."

The firm's pitch to clients is that XTX Markets is willing to warehouse risk, instead of engaging in back-to-back hedging like a high-frequency trader masquerading as a market maker to customers. In the G10 currencies, its average holding period for risk is more than 10 minutes. That doesn't sound like a long time to participants in securities markets, but in foreign exchange that is a differentiator to many other non-bank liquidity providers that may hold it only for milliseconds.

That makes XTX Markets a useful counterpart for asset managers. The maximum portfolio size the firm can accommodate, according to Amrolia, is up to $250 million, which is up there with the lower reaches of the big bank dealers these days. "Many of the HFTs that stream prices are streaming in $1 million to $5 million," Amrolia says. "We are streaming in $50 million."

The firm hopes to push the FX business in ways that benefit customer business with an aim to stream live prices without any last look provision. For now, electronic market makers on most of the currency ECNs tend to differentiate pricing and bid-offer spreads between tighter spreads but with a last look provision that allows the so-called market maker to squirrel out of the trade, and wider spreads but with guaranteed completion. It remains to be seen if the debate might shift on certain platforms to a financial penalty against market makers for rejecting trades.

"What attracted me to this firm were a few key considerations. Firstly, Alex was one of the few voices from the hedge fund side arguing for speed bumps on EBS as I also was on the bank side," Amrolia says. "What that tells me is



"What we are saying to our liquidity partners is 'look, we can't give you any research, we can't give you any market colour or derivatives advice. All we can give you is the best price in large size'"

Zar Amrolia, XTX Markets

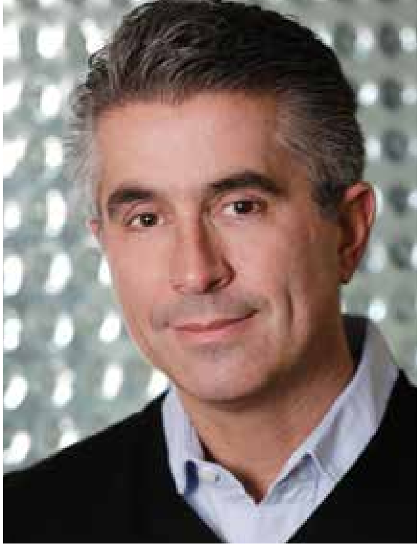
that this is a business not based on making money from speed and latency. Its technology is all about being smart, not about being fast. The second key consideration is the fact XTX anonymises its client data and formulates its prices using statistical data modelling based solely on publicly available data: a development which our end users should welcome. Thirdly, we warehouse risk and don't recycle liquidity. Finally, we both share the same passion for improving the market ecology for the benefit of all market participants."

It would seem likely that for a business full of data scientists, Amrolia would be a good man to come in and help build more direct customer relationships, though, less than two months into the job, there is a limit to what he will share with Euromoney.

If that is the plan, he has little chance on his own of ever building a client franchise of thousands of bank, real money, hedge fund and corporate clients like the one he had at Deutsche. It's quite a step change to an electronic market maker recently spun out of a hedge fund from a full-service global universal bank. "What we are saying to our liquidity partners," says Amrolia, "is 'look, we can't give you any research, we can't give you any market colour or derivatives advice. All we can give you is the best price in large size'."

It's not a bad pitch in these liquidity-constrained times.

It will be interesting to see if XTX Markets can climb the rankings in spot foreign exchange as far and as fast as Citadel Securities has in interest rate swaps. The two firms' stories distinctly echo each other. They have not got much attention yet, perhaps because of all the cynicism and suspicion of firms seen as having any connection at all to the world of high-frequency traders who are doing all this spoofing (the placing and swift cancelling of large orders to manipulate prices). It may take time for market participants to distinguish between the strategies of different groups of principal trading firms. But the need for the market making capacity they offer is only increasing.



"The lit market is almost a minor adjunct to the real dealer-to-client secondary market in US Treasuries and the question for regulators is whether and how that can be made more transparent"

John Shay, Virtu Financial

IN A SIGN OF THE GROWING ROLE OF the new electronic liquidity providers, in October the US Treasury included KCG and Virtu Financial on the Treasury Borrowing Advisory Committee of the Securities Industry and Financial Markets Association, a committee which comprises many of the biggest dealers and asset managers and makes recommendations to the Treasury on various technical issues of debt management.

Market structure is now at the centre of the debate.

John Shay, senior vice president for global markets at Virtu Financial, where he focuses on FICC, says: "The good news for the biggest asset managers, mutual funds and insurance companies is that through BrokerTec and eSpeed they can gauge probably to within one quarter to one half of a 1/32 where that five-year or 10-year US treasury should trade. But they don't have access to the interdealer brokers and the better the banks become at internalizing, the less important the external lit market becomes. The lit market is almost a minor adjunct to the real dealer-to-client secondary market in US treasuries and the question for regulators is whether and how that can be made more transparent."

Virtu is a technology-enabled market maker and liquidity provider that stands ready, at any time, to buy or sell US treasuries to large institutions and on any electronic central limit order book both on a disclosed and on an undisclosed basis. As the market evolves, Virtu plans to expand its mandate to include other fixed income instruments.

"If you think about how equity trading has evolved in the past 10 or 15 years, asset managers have gone from handing big blocks of shares over to dealers to work for a spread or commission to executing algorithmically, trading in much smaller lots but much more often," Shay says.

"Today, if an asset manager is doing $1 billion of treasuries, he's not clicking and trading with anyone. He is picking up the phone. But, over time, as the market evolves more in the way equities already have, and away from the traditional dealer channel towards order-routing, you can see spreads narrowing and a type of all-to-all market developing in US treasuries and other government bonds."

Hamill at Citadel Securities says: "We are pleased with the high volumes we have seen. When traders see a live executable price on the screen, and it's a great price, it becomes harder for a portfolio manager or execution dealing desk to take a worse price from another source. Customer preferences are evolving, many would much rather just click and trade than go back and forth negotiating around an indicative price. In addition, to state the obvious, most customers would rather pay less than more, and trade with less friction."

"The number one priority for institutional investors is liquidity, and that is something we provide, and we do so in a format that is very attractive to many portfolio managers and traders… the business is changing, customers increasingly want to trade electronically, they want faster execution with less friction, and they want liquidity to be there all through the day. We are focused on keeping it simple and providing exceptional delivery in those areas."

As Citadel Securities attracts more volume, it may even speed up its response times, and tighten its bid-offer spreads. In interest-rate swaps its bid-offer spreads are typically much tighter than the big banks'; its response times typically much faster, at around 0.3 seconds on Bloomberg compared to an average across the leading swap dealers of five seconds.

Having begun streaming live executable prices in benchmark treasuries of two-, five-, seven-, 10- and 30-year maturities, it may expand its coverage, looking towards near off the run bonds next. It has plans to move into European Swaps next year along with Credit Index trading. European government bonds are another obvious target market.

IF THE BANKS ARE NO GOOD AT trading because they have too many traders and not enough data scientists or engineers, then at least they will always be able to provide the plumbing for exchange of payments and the credit provision, for example through their prime brokerage services, needed in OTC markets which lack central clearing counterparties.

But across the markets large banks are now in retreat. Isaac Chang, global head of fixed income at KCG, the technology-enabled market maker and agency execution provider formed by the merger of Knight Capital and Getco, points out: "Banks have shrunk their repo books, partly because, where there is no central clearing, capital is charged on a gross balance sheet basis and they cannot net off exposures. Banks are saying that they have a 10% return on equity hurdle to stay in a business and repo doesn't meet that. But while it may be uneconomic for banks, this is a crucial part of the market ecosystem. If you want to be able to buy and sell bonds, go long and short, then you need to be able to borrow them and finance them."

Is repo a bad business to be in, or just a bad business for big banks to be in?

Nine out of the 10 largest repo dealers on Bloomberg are still big banks. The other one is South Street Securities.

The firm found itself in need of more external capital to meet, according to Jim Tabacchi, CEO of South Street, "the growing demand for our services as many traditional lenders in the high-grade lending space have capacity constraints as a result of post-crisis regulatory changes". It raised new capital from outside investors in July of this year.

The lead provider of that new equity was Atlas Merchant Capital, the firm led by former Barclays chief executive Diamond, who now sees abundant opportunity for new entrants amid the convulsions of the global banking industry.

Diamond explains: "US treasury financing and repo is actually a good-return, low-risk business, just one that it is very difficult for large banks to run today because of balance sheet size considerations."

He adds: "South Street Securities is a safe business with a lot of unencumbered cash. One of its key competitive advantages is in technology, such as the TradeBlazer system [a hosted collateral management solution] which we use ourselves and also licence to customers, that lets us run the business very efficiently."

South Street had run a specialized but narrow business focused on serving broker dealers and other financial institutions mainly in New York. Seeking outside capital was also the moment to find a path to the next level up. "We are not passive, financial investors, we are also business operators," says Diamond, "and we saw an opportunity to help this firm reach out directly to deal with money market funds, hedge funds and other core clients and so expand its margins."

Diamond continues: "There are for example, many pockets of cash at money market funds that now face restrictions on the amounts they can simply deposit with large banks and repo is a good alternative for these customers."

Now with a seat on the board of South Street Securities Holdings, Diamond says the firm is also looking at opportunities to do more with international customers, to extend into new business segments. It is exploring working with a futures clearing firm for example.

When South Street approached Atlas Merchant, Diamond jumped at the opportunity. "It used to be that when an asset like this became available, the world's biggest banks would snap it up in no time," he says. "But those buyers are no longer at the table. In fact, they are now sellers." Diamond sees this trend continuing.

At the same time, policymakers don't want a financial system in which participants take no risk because that would be safe but useless. Rather they want risk to be taken by smaller firms below the Sifi and G-Sifi level, reasoning that if they get into trouble at least they can be wound down. The age of the global oligopoly of flow monster universal banks dominating rates, bonds, foreign exchange and their related derivatives is over. It remains to be seen what new entrants will emerge and succeed and how underlying market infrastructure will evolve.

"Customers increasingly want to trade electronically, they want faster execution with less friction, and they want liquidity to be there all through the day. We are focused on keeping it simple and providing exceptional delivery in those areas"

Paul Hamill, Citadel Securities

Atlas Merchant is focused on the new opportunities as big banks get out of FICC businesses. Diamond says it is looking at around 10 possible investments. "Each one of those has come about as a result of new regulation whose squeeze is tightest in developed markets," he says. "As operators, as well as financial investors, we believe we have

Providing liquidity to liquidity providers

In all financial markets the biggest customers for liquidity providers are often other dealers. The fixed income markets have long operated with inter-dealer brokers which, in return for commission, will anonymously match up the leading dealers seeking to lay off risk through an inside market from which those banks' big asset manager customers are excluded.

But just like the customer market, wholesale liquidity is constrained.

KCG, a firm formed from the merger of Knight Capital and Getco, two of the big electronic equity market makers, sees an opportunity in fixed income to act not as an inter-dealer broker, but as an inter-dealer market maker, providing principal liquidity in on-the-run US treasuries through direct connections to the leading banks.

"Banks have faced a double challenge in fixed income market making because regulators have taken leverage out of the system and dampened volatility has kept profits low," says Isaac Chang, global head of fixed income at KCG. "We have thought very hard about the opportunity in fixed income and for the past three years have been investing in relationships to directly stream liquidity to bank dealer desks rather than focus on going to their customers, the institutional buy side."

This approach may have much to commend it given all the current noise around high-frequency trading. The problem with relying on high-frequency traders as liquidity providers – quite aside from all the concerns over spoofing as a set up for outright market manipulation and the suspicion of firms reportedly investing in microwave towers to boost their latency advantage – is that that liquidity can be easily withdrawn, invariably just when it is most needed.

A bank dealing through a direct link with a specialist market maker can at least measure the market impact of executing orders with that firm over time and gauge the depth, size, cost and reliability of its liquidity provision, as well as saving on brokerage commission.

Chang reasons that this better fits the specialist provider. "No matter how expensive capital is for banks, they will always have more of it than us and cheaper funding, which means they will have an advantage in warehousing less liquid securities" he says. "They also have a much larger franchise, more end customers through which to source flow and offset risk. So we decided to approach this by focusing on capabilities which are trying to be complementary to the banks. We can let the banks outsource to us the operational complexity and technology investment to connect to and execute on the exchange-like venues for on-the-run government bonds."

"For the past three years have been investing in relationships to directly stream liquidity to bank dealer desks rather than focus on going to their customers, the institutional buy side"

Isaac Chang, KCG

While KCG's technology is best suited to operating in highly-liquid markets, it is already considering extending its coverage of fixed income into the next most liquid sectors of the market, including the most recently issued off the run government bonds as well as into cleared and standardized interest-rate swaps.

One of the reasons why banks might welcome this and why it is so hard for them to find such complementary capacity is that the more tech-savvy of the large banks – think Goldman Sachs, for example – are doing a much better job of automating the internalization of customer orders. That leaves less trading to be done between dealers, each now with almost a worryingly large share of that shrunken secondary market.

Consolidation has come fast. "Three years ago there were many more dealers in US treasuries trading into the platforms and through the brokers," says Chang. "But today the top five banks have maybe 60% of the market between them, say 12% each, while banks 11 through 20 have maybe 1% each."

It seems the biggest market of all, US treasury bonds, is falling increasingly dark.

Surely if you're a central bank or the debt management office inside a government treasury department, you want some insight as to where your bonds are actually trading in real time. US regulators remain hung up on the sheer impossibility of working out what happened in the US treasury bond market during the 12-minute flash crash in October 2014. But if anyone tells you they know exactly how the market infrastructure will evolve from here, don't believe them.

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the strongest edge in the most challenged capital-intensive businesses that are toughest for traditional private equity firms to analyze on a price-to-ebitda basis and where the competition is less. That will be 75% of what we do."

And no prizes for guessing which business lines that entails.

"If you think about the traditional business lines of an investment bank, everyone still wants to be in M&A because it is capital light," says Diamond. "Equities, similarly, is not a big consumer of capital and so we may even see the big banks investing more there. Fixed income is the area in the firing line because it used to make so much of the money but now accounts for so much of the leverage."

He admits: "No one can yet say how the market structure will evolve. Will asset managers become market makers? Only if it is a profitable line of business, with appropriate incentives. Rather, I think we'll see a range of new entrants, many backed by entrepreneurs but also regional banks, including from outside the developed markets." EM