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NODAL CLEAR

Clearing house innovation of the year

Risk Awards 2017

Steadying the ship

In the world of derivatives market-making, sustainability and consistency are closely linked. A business that is not run sustainably will, in the end, be inconsistent: it will widen its spreads, cut clients or retreat from some products.

This year's awards provided numerous examples of firms seeking to achieve both – to steady the ship after years of regulatory and pricing upheaval.

At Societe Generale Corporate & Investment Banking (SG CIB), the run-up to the UK's referendum on EU membership was accompanied by a set of unusually specific instructions from senior management and the board: "[They] were not keen on losing a large amount of money on this day, or making a large amount of money. They were focused on being insensitive to event risk," says Bruno Gaussorgues, the bank's global head of market risk.

SG CIB responded by tailoring stress tests to the event, taking into account some unusual specificities – the fact that the vote took place soon after the quarterly expiry of Euro Stoxx options, for example. This prompted it to reduce negative gamma positions in forex and interest rates, so it could go into the event with the ability to provide liquidity.

It also sought to make its autocallable products business more resilient. Recent years have seen dealers frantically switching the issuance tap on and off as underlying indexes have tumbled, forcing simultaneous re-hedging of bank portfolios. Last year, SG CIB responded with a tool that tests the book's resilience to stress, forcing it to behave more conservatively.

Sustainability was also a big aim for the equity derivatives business at Bank of America Merrill Lynch (BAML) last year. As it ramped up issuance of retail products in a bid to outmuscle retreating rivals, it built up the usual array of exotic exposures. In the past, traders might have been happy to warehouse such positions, but BAML has built its franchise on repackaging exposures and selling them on to investors.

Products that accurately mimic the underlying exposures from dealers' structured products books are in short supply, but BAML invented a new one in late 2015, allowing it to quickly hedge 50% of its Korean autocallable book by selling clips to institutional investors, and freeing it up to keep writing new business.

Sustainability is a familiar theme for this year's lifetime achievement award winner, Yann Gérardin. He built the equity options desk from scratch at Banque Nationale de Paris in the 1980s, and had turned BNP Paribas into one of the leading equity derivatives franchises in the world by 2008. When the crisis struck, Gérardin realised earlier than many of his peers the business model would have to change, as regulators piled on new capital requirements for market risk. He cut the business's balance sheet and funding usage, and, by 2012, was ready to begin taking market share again just when other banks were exiting the equity derivatives business.

In the rates market, where the derivatives world's leviathans need to execute huge, regular flows as well as one-off jumbo trades, clients prize consistency but have not always been able to find it. Citi and Goldman Sachs were both lauded for their reliability here, with Citi becoming *Risk*'s derivatives house of the year for the second time in succession, while Goldman was named the top rates house.

Calmness and consistency were attributes LCH, this year's clearing house of the year, wore as a badge of pride in 2016. Following the UK's shock vote to leave the EU, the central counterparty (CCP) refused to expose its members to undue risk by extending credit or permitting the *ad hoc* netting of client margin calls, as other CCPs chose to.

This year's quant of the year, Jean-Philippe Bouchaud, has also made a career out of doing things the hard way, eschewing popular finance theory and immersing himself in hard data to get a real-world view. "Many economic theories – such as the principle of efficient markets – seem to be more inspired by some kind of underlying political agenda than a strict understanding of what is going on in the markets. Similarly, a lot of models used in mathematical finance seem to be more driven by their convenience and the possibility to answer a question with a number, rather than taking the time and thinking about the problem," he says. ■

Risk Awards 2017

Clearing house innovation of the year

Nodal Clear

Vertical exchange silos are an oft-maligned feature of the financial markets. Critics argue such models, where an exchange controls both trade execution and clearing, can be anti-competitive and result in higher costs for end-users. Nodal Exchange is proving that vertical integration has plenty of benefits for customers, too.

In 2015, the bourse – the sole independent player in the fiercely competitive US power trading market – decided to bring clearing in house from LCH, its partner from launch in 2009.

Nodal wasn't unhappy with LCH's service, stresses Paul Cusenza, chairman and chief executive of the Tysons Corner, Virginia-based firm – but it was pretty obvious electricity clearing was little more than a fringe business for the over-the-counter markets behemoth.

A little over a year later, with its market share burgeoning and a host of new products in the offing, Cusenza is delighted with the switch. "When you want to introduce new products, and have a single integrated view of your market, clearing for yourself obviously offers strong benefits," he says.

The transition of client positions from LCH, comprising contracts worth a notional $24 billion for 340 million megawatt-hours of power, had to be managed extremely carefully, as did the transfer of a $100 million default fund. But the biggest challenge Nodal Clear faced was designing an initial margin model to safely and accurately measure risk across that portfolio, while also allowing members to recognise the benefits of margin offsets where appropriate.

At first, the CCP considered simply replicating LCH's historical value-at-risk methodology. But it ultimately plumped for the expected shortfall (ES) variant, because of the refinements it offers in mapping the expected distribution of losses during extreme-but-plausible scenarios – which makes it well-suited for modelling the idiosyncratic risks of the power market.

"Losses in our market don't follow a normal curve. VAR assumes normality, but ES offers a mechanism to handle those fat-tail events more effectively. It's worked out extremely effectively so far. We're very happy with the way it's performed. It's a true risk-based measure; it dynamically adjusts based on the risks that are there," says Cusenza.

When the model was tested and implemented, Nodal's clients saw a broad rise in initial margin requirements compared with LCH's methodology. But far from lamenting this conservatism, dealers laud it: "Whenever another exchange launches a new contract, the first thing we ask is, 'what's their margin versus Nodal's?'," says a senior futures risk manager at a large US bank.

By the numbers, Nodal's strategy is working: its share of the US power market rose from around 21% at the start of 2016 to 26.4% through year-end, as measured by open interest – taking a chunk out of long-time market-leader Ice's share – with its trading volumes virtually doubling during that time. The next step, Cusenza says, will be to add functionality for power options, followed by a move into natural gas – where there are obvious synergies and opportunities for portfolio offsets – later this year.

Paul Cusenza

Cusenza pins all of this on the CCP's decision to plump for ES, rather than VAR. "The accuracy of the model makes it effective; it's conservative, but efficient. We can hold the right amount [of margin] because we have an excellent model. If you don't have an accurate model, you frequently end up holding more margin – and you could be holding it in the wrong places; a model that demands more margin across a portfolio could still be risky, because you could be under-pricing some risks. We're not using a dull wooden sword to perform surgery here; we're using a scalpel."

Nodal's margin model has been a revelation in the commodity markets, where many contracts are still margined using the decades-old Standard portfolio analysis of risk (Span) methodology. Though tried and tested, Span is simplistic compared with VAR modelling, subjecting portfolios to price moves during different stress scenarios with the use of historical data and levying margin accordingly.

Some have long-argued Span is unsuitable for clearing electricity markets, which are subject to not only the whims of demand and supply like other commodities but also more idiosyncratic risks, such as prolonged and unexpected bouts of severe weather, changes to grid capacity, and suppliers going offline with little or no warning.

"Span can't handle a widely diverse portfolio appropriately, because it can't handle all those different risk factors simultaneously. It's not suited for our markets," says Cusenza.

The futures risk manager agrees: "A Span calculator is essentially a dumb instrument. If you program it to tell you 2+2=5, it will keep telling you that it is, without knowing otherwise."

VAR-based models aren't infallible either – certainly where they are inappropriately fine-tuned. During the severe polar vortex of January 2014, when power prices spiked and margins went haywire, LCH sought to apply *ad hoc* add-ons to its existing methodology. This attracted criticism from some quarters, with dealers saying the sizing of the margin add-ons wasn't made clear, making for uncomfortable discussions with clients.

Cusenza insists Nodal's approach strikes the right balance between prudence and capital efficiency. "Our model is conservative, and we're proud of that; we're here to manage risk, and I always want that to be the case. That is a badge of pride. But by the same token, we want to offer clients maximum capital efficiency, and we can do that because we're confident in our risk-based methodology," he says. ■