

Trading risks and a spotlight on XVA

Panellists at Risk Live Europe 2023 discussed the usefulness, limitations and outlook for valuation adjustments

THE PANEL

Mark Findlay, Managing director and global head of financial risk analytics, S&P Global Market Intelligence

Stephen Nurse, XVA expert and former global head of risk and capital for the clearing, and futures and options business, JP Morgan

Malcolm Hibbert, Managing director and head of XVA trading, Crédit Agricole Corporate and Investment Banking

Gordon Lee, Head of markets quants, BNY Mellon

Moderator: Jasper Livingsmith, Director, treasury, European Bank for Reconstruction and Development

In a lively discussion at Risk Live Europe in June, panellists traced the evolution of different valuation adjustments – collectively referred to as XVA – discussing their usefulness and limitations in bilateral and cleared markets. They shared their future expectations for XVA and their thoughts on what needs to be tackled in credit risk management going forward.

The panel shared concrete examples of XVA trades, and the discussion even included a reference to the TV series *Is it cake?*, in which bakers compete to fool judges into thinking carefully crafted cakes are everyday objects. Gordon Lee, head of markets quants at BNY Mellon, evoked the analogy, saying that some XVAs may look like hedgeable financial instruments but are not, in fact, hedgeable: “The question is not ‘is it cake?’ but ‘can it be hedged?’”

Panellists discussed the following topics:

1. The evolution and outlook for XVA

The financial crisis that began in 2007–08 offered banks a huge incentive to properly price derivatives contracts to take into account funding costs, credit risk and regulatory capital charges, and to hedge these adjustment exposures. As other credit products were withdrawn in the wake of the crisis, quants that had been working in those areas “powered into XVA”, said Lee.

“As time progressed, it became clear that the XVA calculation [team] is really the only place within a firm that actually understands the cross-portfolio view across the firm,” he said, adding that the move to managing the derivatives business holistically has been the real revolution of the last decade.

Another huge shift resulting from the financial crisis was the move out of Libor into overnight index swap discounting.

Stephen Nurse, an expert on XVA and former global head of risk and capital for the clearing, and futures and options business at JP Morgan, said he expected more evolutions in discounting going forward. “The first was basically taking the implied forward marked-to-market [MTM] and then applying an adjusted discount rate to cater for the eligible assets, whether it’s a euro credit support annex [CSA], dollar CSA or one with bonds,” he said. “But then there’s a further evolution still to come, which [involves] evolving that forward MTM for changes in the MTM for instruments that also affect the change in the discount rate.”

For example, cross-currency swaps will change in value with the currency basis, and a bank will have discount optionality through a CSA affected by currency bases. “Those two react, so following on the forward curve and having a deterministic discount rate is an incorrect way to adjust it,” Nurse said.

The uncleared margin rules (UMR) and the wider push towards clearing is the next big area for XVA desks to explore, Nurse said. Even though there are no official valuation adjustments in the clearing space, work is now being done in that area. “They’re really about liquidity add-ons and gap risks,” he added.

2. The outlook for XVA modelling

Given the recent volatility and spikes in margin calls, more work is likely to be undertaken in this area in terms of XVA modelling, said Mark Findlay, managing director and global head of financial risk analytics at S&P Global Market Intelligence.

“Initial margin [IM] is very tricky still to model,” he said. “You have to be able to model the sensitivities through time. It’s very computationally expensive.” However, work is ongoing: “There is process modelling, and the International Swaps and Derivatives Association’s standard initial margin model [Simm], and some people are applying dynamic IM models, which we’ve done at S&P Global Market Intelligence as well.”

Malcolm Hibbert, managing director and head of XVA trading at Crédit Agricole, agreed on the complexity of XVA modelling and stressed the importance of understanding assumptions embedded in the models as they become more complex. People are now using artificial intelligence to make the models “much more efficient”, he said.

Volatile markets are also adding to modelling challenges, Findlay said. For example, rising interest rates are impacting funding XVA calculations as borrowing and lending costs change. “That requires asymmetric modelling. The situation has become more complex in probably the last 12–15 months, and I don’t see it getting any easier.”



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3. Hedgeability of XVA

The panellists discussed the extent to which XVAs can be hedged and the challenges this poses. “We treat XVAs [with] risk-neutral pricing – in effect, that there is a hedging strategy,” said Lee. “But let’s not kid ourselves, sometimes there is no credit default swap for hedging.”

Hibbert responded by saying that, while the capacity to hedge all risks is almost impossible, “there are instruments to macro hedge or instruments you can use to create a portfolio view, so you minimise profit-and-loss volatility”.

He gave an example of an uncollateralised euro/dollar foreign exchange swap, which would give the bank a credit exposure, a funding exposure and a sensitivity to the FX risk. The XVA desk would typically then hedge the FX trade and the credit sensitivities where possible. This hedge would then need to be rebalanced regularly, especially in a volatile market.

However, the expense of a dynamic hedging strategy can be prohibitive and people might therefore need to be more strategic, Hibbert said. “You might need to look at how your portfolio is diversified, as opposed to only the dynamic rebalancing of hedges.”

4. Techniques in the absence of hedging

With the ability to hedge constrained because of a dearth of products and liquidity, Hibbert stressed the importance of avoiding large concentrations of risk buildups in portfolios. “It’s not just about the capacity to hedge, it’s also about understanding and managing concentration risks and diversifying.”

Findlay added that cross gammas have risen to levels not seen for 8–10 years. “Back then, the portfolios had a different composition and level of capital,” he noted. To hedge today’s macro risk would require “expensive hedging options like contingency valuation adjustments or very difficult to value portfolios of swaptions ... It’s pretty scary. I can imagine everyone is searching for that silver bullet, but I don’t think anyone has managed to crack it.”

Nurse pointed to the UMR rules and the addition of collateral making the XVA calculation “more difficult and even more unhedgeable”. He said that getting IM and then daily margin from clients effectively provides “a daily resetting three-standard deviation option on the replacement trade struck at a 99% confidence interval out of the money, [which would] obviously never trade.”

5. Speed is key when responding to defaults

Nurse referred to a previous speaker, who said that what differentiated banks such as Goldman Sachs and Deutsche Bank from Credit Suisse in the Archegos default was the speed of reaction on the day. As well as needing the technology to view exposures in real time, firms need the organisational processes in place to act quickly. Additionally, courage is needed, Nurse said.

“If you closed out every customer that missed a collateral call within 30 seconds, you’d soon have no customers. You must be able to [distinguish between] genuine mistakes and actual defaults, and you need the courage of a soldier to make that decision.”

6. The case for clearing

Recalling his experience of large defaults such as those at Bear Stearns and Lehman Brothers while on the credit valuation adjustment (CVA) desk at JP Morgan, Nurse described the mechanics of unwinding a large customer as “an utter, utter nightmare”, involving a “huge scrabble for data” as firms work out their exposures and close out trades. Doing that in one day is “a Herculean task”, he said.

Moving to clearing makes the administration and operations significantly easier in the event of smaller clearing members defaulting. However, it remains to be seen if the process would work in the event of the default of a huge firm. Nurse said he suspects there would be “some paralysis in the clearing houses and in the marketplace ... in the unlikely event of a major dealer problem”.

Additionally, the complexity of derivatives today makes unwinding trades more challenging, noted Findlay. “We’ve just seen that with the contingent convertibles Credit Suisse had. And that’s just one institution,” he said, adding that a central counterparty (CCP) default would be “a very different prospect”.

Lee pointed to a “growing realisation that the industry is probably underpricing CCP default risk”, as there is no way to hedge this risk. He said early work is being done on the feasibility of a CCP CVA, and that could perhaps be the next CVA.

7. Managing XVA costs as an end-user

Jasper Livingsmith, director, treasury at the European Bank for Reconstruction and Development, talked about managing XVA charges as an end-user. “I would say to any end-users ... don’t underestimate what you can do to actually manage those costs,” he said. “You can manage your netting set facing your client, you can re-coupon your swaps. There are many things you can do proactively to mitigate these costs of doing business.”

He pointed also to the importance of being able to estimate the XVA charge and any refund yourself: “Either use a vendor or tool up your own quant team and have an idea of what that XVA refund should be on that trade or that netting set.”

8. Wish list

Findlay has seen increased demand for what-if capabilities, with clients wanting to be able to look at full sensitivities in real time. “There’s a big uptick in capital [following changes in] risk-weighted assets across different regions, so firms want access to sensitivities and full capital calculations,” he said.

He added that cloud services now have some “fantastic tools” that allow real-time calculations and repricing. “That’s where banks and hedge funds can help themselves; also vendors can participate in that space to provide capabilities.”

Hibbert said the application of new technologies will help with the central aim of XVAs, which is to add transparency to portfolios. “It’s about understanding the sensitivities, the concentration risk and having a full capacity to do those what-if analyses.” He believes machine learning will have a role in this.

Nurse said he would like to see the creation of a central, regulation-driven organisation that could inform firms of the total risk to the market of their customers. For example, if firms had known the total Simm number for Archegos to the marketplace, “Credit Suisse would still be here, because people would have known they had a massively concentrated position with five or six dealers”, he said. Although he doesn’t see this on the horizon, he describes it as “the nirvana”. ■