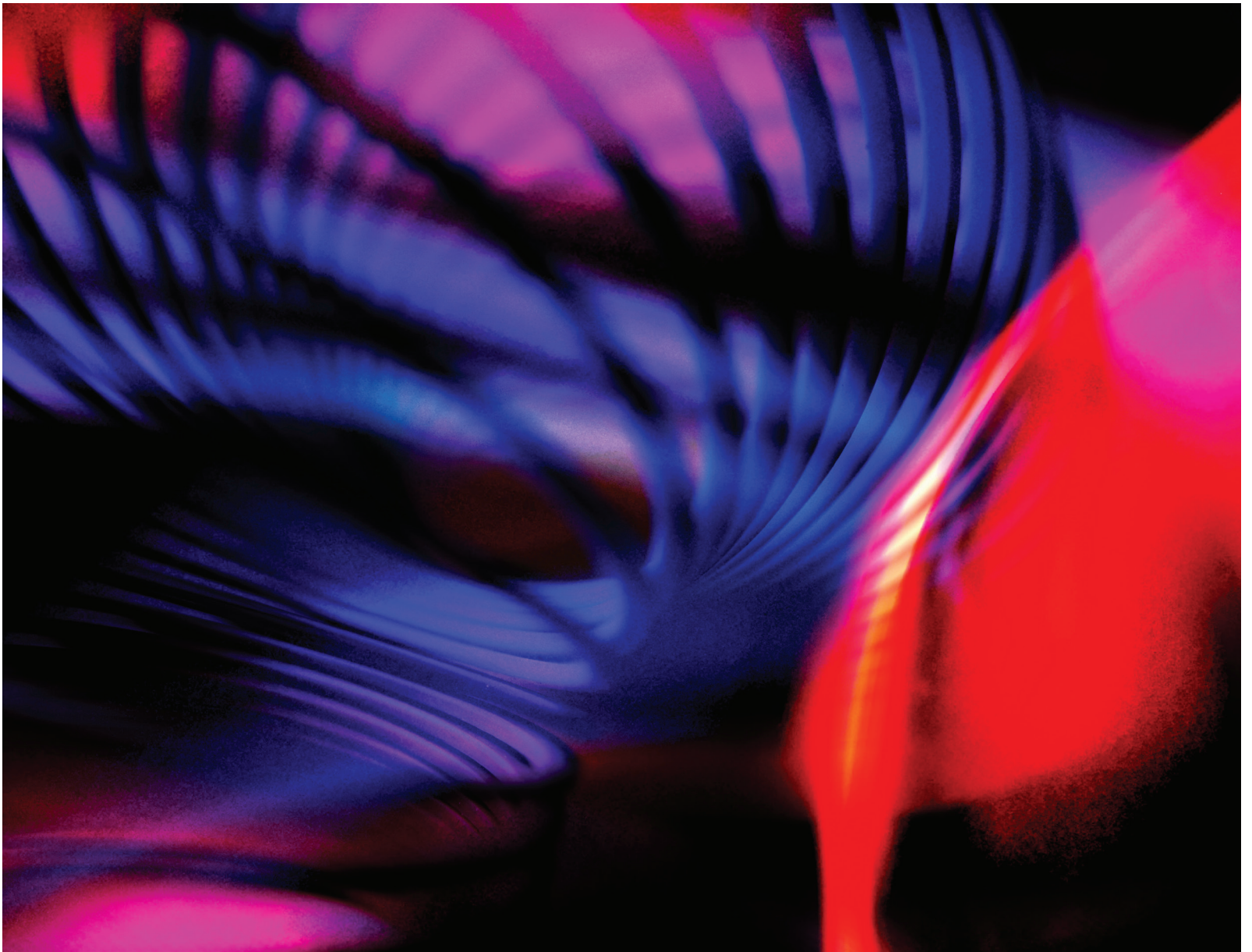


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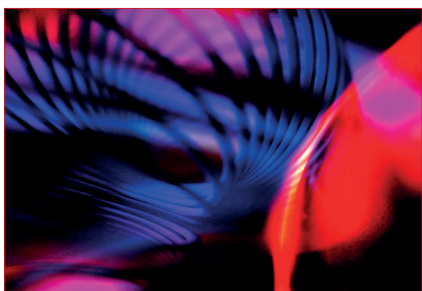
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Adapting to SA-CCR

Managing the increased cost of derivatives trading

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Cover image

Underworld111/Steven White/Getty

Published by Infopro Digital
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The Basel Committee on Banking Supervision's standardised approach to counterparty credit risk (SA-CCR) framework is already under way. The new formula for calculating derivatives exposures was implemented in June 2021 in the European Union and kicked off in January 2022 in the UK and US as part of the Capital Requirements Regulation (CRR II) package of reforms.

Backstop measures such as the Collins floor mean SA-CCR is a very important metric for banks' capital footprints. It is already having a disparate impact on banks and creating winners and losers, with different businesses having a rise or a decrease in risk-weighted assets (see page 18).

European banks are being offered temporary relief to lower the impact of SA-CCR as part of CRR III, but there has been infighting in Europe over these transitional rules (see page 22). As financial institutions continue to contemplate the collapse of Archegos, doubts loom over the usefulness of these standardised models for risk-managing single counterparties or portfolios (see page 16).

In any case, SA-CCR punishes uncollateralised swaps and directional risk, which make up a large proportion of the foreign exchange swaps and forwards market. This has prompted widening spreads for these products, as seen in the case of Citi (see page 4). So, after a decade of tight spreads, the market is expected to widen for FX forwards and swaps. This has led to demand for next-generation rebalancing tools as banks prioritise optimisation of these assets (see page 26).

The banks certainly have some criticism of SA-CCR, and are still not convinced that the switch from internal ratings-based models to standardised risk weights has been beneficial. SA-CCR was conceived 15 years ago, so some conservative elements – such as the alpha factor – were devised in a different time. Banks point out that they now have better data and faster technology, allowing them to use internal models for a more risk-sensitive view than the standardised approach can offer. But they are stuck with SA-CCR for now – and the choice is not between internal models and SA-CCR. Regulators have replaced the old, standardised approach – the current exposure method (CEM) – with this new one. While it may be too conservative, there is consensus that it is far more risk-sensitive than CEM, which is a very crude method for tallying up exposures. Industry experts discuss these issues and how banks are adapting to the new regime in a roundtable Q&A in this report (see page 12).

The increased cost of trading FX forwards and swaps will most likely result in banks changing how they price certain trades. Some products may become prohibitively expensive, which could prompt banks to change their business models. They might target different types of clients that have less directionality in their trades and more balanced portfolios. But experts agree they are likely to make these changes incrementally over several years, rather than upsetting clients with dramatic price changes from one year to the next.



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SA-CCR hits Citi's FX forwards pricing

Four clients say US bank has quoted "less competitive" spreads as a result of new capital regime. By Joe Parsons

Citi's foreign exchange forwards business has been among the hardest hit by new rules measuring CCR, with clients of the US bank saying it has widened its bid/offer spreads on short-dated Group of 10 trades because of the new rule.

Four buy-side clients that use Citi for FX forwards and swaps single out the US bank as having noticeably widened out spreads this year as a result of increased regulatory costs brought about by the standardised approach to CCR (SA-CCR), which ramps up capital costs for short-dated forwards. This rule came into effect for Citi, Goldman Sachs and JP Morgan on January 1, 2022.

"The majority of our volumes is rolling forwards, typically with one-month maturities, and we were told by them [Citi] that they were not going to be competitive [due to SA-CCR]," says a UK-based FX head at one large asset manager.

"The fear was that this would stretch to others in our bank panel. But the fact that it didn't is interesting," he adds.

A trader at one US hedge fund says he has seen "less competitive pricing" from Citi this year,

adding that the fund has executed no swaps with it as a result.

"If you ask three banks, they'll be third. If you ask four banks, they'll be fourth," says the hedge fund trader.

Some buy-side clients say Citi's bid/offer spreads on a roll have widened from around 0.4 basis points to a full basis point for some G10 trades.

Citi's spread widening was also confirmed by a second UK-based asset manager, while a trader at a US-based asset manager says he had heard anecdotal reports of Citi's widening but had not seen it yet himself.

Other banks were also known to be anticipating that Citi's forwards business would be hit hardest on the Street by the new rules.

The impact of SA-CCR can also be seen in filings made by US mutual funds to the US Securities and Exchange Commission, which are aggregated by *Risk.net's* Counterparty Radar tool. These filings list the derivatives trades on the books of the funds at the end of a given quarter, along with their counterparties.

"SA-CCR has made FX as an asset class more expensive for the banks. But the impact across our bank panel has been uneven, as some banks seem to have been impacted more than others"

Mike Eyre, Vanguard

Back in the first quarter of 2020, Citi was by far the top FX forwards dealer, boasting more than 15% market share of the G10 volume on funds' books, which amounted to more than \$111 billion (see figure 1).¹

However, it lost the top spot in G10 in the Q1 last year, falling to fifth place, where it stayed roughly for the rest of the year. But in Q4 2021 – a period when US banks were working hard to get their books ready for SA-CCR – Citi slid from fifth to ninth, leaving it with a 5.65% market share in G10 and volumes of just over \$40 billion.

Of Citi's \$24 billion fall in G10 in that quarter, around \$14 billion was down to declines with Vanguard and Pimco. This left the bank, which was the top counterparty of the two fund giants back in Q1 2020, eleventh with Pimco and sixteenth with Vanguard in G10 by the end of 2021.

And it wasn't just those two funds. According to Counterparty Radar data, Citi's volumes were down with eight of its 10 largest clients in Q4.

A spokesperson for Citi declined to comment.

Differing impacts

SA-CCR is particularly problematic for banks holding large books of forwards with maturities of less than one year.² At the end of 2021, Citi held \$9.9 trillion notionally in sub-one-year FX and gold over-the-counter derivatives contracts, according to its quarterly FR 9-YC filing to the US Federal Reserve. This was nearly 40% higher than its nearest rival, JP Morgan, which held \$7.1 trillion.



Under the previous capital measure, the current exposure method, these sub-one-year trades largely fell out of scope and did not add risk-weighted assets (RWAs). SA-CCR captures them for the first time.

SA-CCR also includes penalties for uncollateralised or non-cash collateralised trades and penalises directional risk, which make up a large proportion of the FX swaps and forwards market.

In addition, US banks are subject to the so-called Collins floor, which requires banks calculating RWAs for CCR to apply the harsher capital output of their internal model or a standardised model approved by regulators. That means SA-CCR could become the constraint upon which banks base their CCR capital calculations.

In Citi's first-quarter earnings, it detailed the impact of SA-CCR on its reported RWAs. The bank says SA-CCR resulted in a 49bp reduction in its Common Equity Tier 1 ratio – the measurement of a bank's capital against RWAs – meaning RWAs increased by roughly \$50.4 billion, according to calculations by *Risk.net's* sister title *FX Markets*. This was in line with its forecasts at the end of last year.

The RWA impact is in line with other US banks. JP Morgan also reported an increase of \$40 billion in RWAs from the previous quarter as a result of SA-CCR implementation. Morgan Stanley had previously said SA-CCR would raise its total RWAs by between \$35 billion and \$45 billion.

Mark Mason, chief financial officer at Citi, acknowledged on its first-quarter earnings call with analysts that the increase in RWAs, as a result of SA-CCR, will affect how it prices certain derivatives.

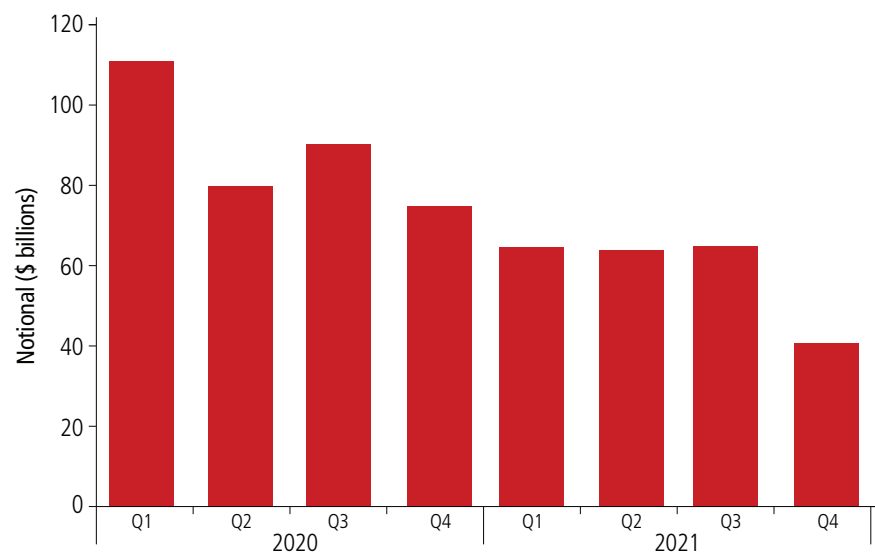
"As more RWA and capital is required for these types of positions, it's going to impact returns. And it will ultimately impact pricing as the market starts to incorporate this now-higher requirement," he says.

Not all banks will feel the same effects from SA-CCR, however. And as such, it may not have as much of an impact on their pricing. For example, UK and European banks, which adopted SA-CCR last year, don't face a capital floor, and buy-side traders say they have seen little change in pricing from these dealers. A bank's counterparties also make a difference – FX dealers trading in the interbank market or with hedge funds where there is a lot of two-way flow will generate portfolios that are more balanced with greater netting opportunities, reducing SA-CCR effects.

Mike Eyre, global head of FX trading at Vanguard, declined to comment specifically on Citi, but says he has seen SA-CCR affect dealers in different ways.

"SA-CCR has made FX as an asset class more expensive for the banks. But the impact across our bank panel has been uneven, as some banks seem to have been impacted more than others," says Eyre.

1 Citi's G10 FX forwards – total notional



Source: Counterparty Radar

"The banks' approach has been to try to manage any impact from the changes – the last thing they want to do is become less relevant to their clients. For the most part, we have not been affected by SA-CCR because we have a large, competitive bank panel, but we have seen a few instances where some have widened their spreads," he adds.

Banks have made efforts to tackle the problem by using capital optimisation vendors such as Capitolis and TriOptima.³ Here, dealers enter a series of new trades or novations to flatten risk with a single client or multiple counterparties. The more netting banks can achieve, the lower their capital exposures will be.

Capitolis has said it has reduced nearly a trillion dollars of notional exposure for financial institutions through a series of four multilateral optimisation exercises. It also saw participation from two-thirds of the largest global banks.

The firm's founder and chief executive, Gil Mandelziz, says SA-CCR is a game-changer, and as the market adjusts to this new reality, the economics of trading "massively changes".

"There's definitely some anecdotal evidence that prices in the markets have often become wider. That's because the cost of holding a position in certain cases has materially gone up and it's challenging for the banks to simply consume those costs when the economics don't work," he says.

Jay Moore, co-founder and CEO of FX HedgePool, says SA-CCR is for the first time shining a light on the true costs of putting on a new trade.

"When credit isn't explicitly measured it gets buried in the profit and loss generated from trading across a large portfolio of clients. Because of this, banks don't necessarily know which clients generated how many dollars of profit. One client trade may create a loss while another client trade more than makes up the difference," he says.

"Now, with things like SA-CCR, some banks are taking a more prescribed approach to explicitly measuring the impact of each trade on the balance sheet, which may force banks to think about pricing a bit differently. In this model, each trade has to kind of stand on its own two feet," he adds.

To address these concerns, a group of associations including the International Swaps and Derivatives Association, Institute of International Finance, and the Global Financial Markets Association submitted a joint letter requesting the Basel Committee on Banking Supervision to reconsider the implementation of SA-CCR.

"It is becoming evident as firms implement SA-CCR that the framework as written needs to be revisited given the timing of the finalised rule as it does not adequately reflect structural changes in the derivatives market and the overall regulatory framework since the standard was finalised," the associations said in the letter. ■

Previously published on *Risk.net*

¹ L. Becker (October 2020) *FX Markets*, Filings reveal biggest FX forwards dealers, <https://bit.ly/3OM3jbe>

² J. Parsons (December 2021) *FX Markets*, SA-CCR brings little succour for FX dealers and clients, <https://bit.ly/3nNFq7a>

³ J. Parsons (October 2021) *FX Markets*, US banks step up FX optimisation push as SA-CCR looms, <https://bit.ly/3AvCbsU>

BNP Paribas' CVA capital charge hits record high

Risk-weighted assets for potential drop in value of derivatives instruments reached €6 billion in June. By Lorenzo Migliorato

BNP Paribas' credit valuation adjustment (CVA) capital requirements jumped 18% in the second quarter of 2022 to the highest ever reported off the back of rising counterparty risk in the over-the-counter (OTC) book.

CVA risk-weighted assets (RWAs) rose from €5.1 billion (\$5.2 billion) at end-March – which already marked a record high – to €6 billion at end-June, the most since the bank began disclosing charges in 2014 (see figure 1).

The CVA charge accounted for 12.4% of the bank's total CCR capital requirement of €3.9 billion, up from 11% in Q1 and 8.3% a year earlier.

Year-on-year, RWAs for CVA climbed a whopping 73%, far outpacing the 8% rise in underlying exposures. This pushed CVA risk density – RWAs divided by exposure-at-default – from 7.2% to 11.6% over the same period, the highest proportion ever reported by the bank.

What is it?

CVA is an adjustment to the market value of derivatives instruments to account for CCR. It represents the discount to a derivatives' value that a buyer would demand after taking into account the possibility of a counterparty's default.

Rules in most jurisdictions, such as the European Union, require banks to set aside an amount of capital to shield against CVA losses, calculated using either a regulator-set standardised approach, an internally modelled advanced approach or a mix of the two.

As of end-June, 93% of BNP Paribas' CVA RWAs were calculated through the advanced approach. This relies on value-at-risk (VAR) and stressed VAR computation against changes in credit spreads.

Why it matters

The EU capital framework affords BNP Paribas a couple of levers it could pull – short of wholesale book cuts – if it feels its CVA charges are getting too hot.

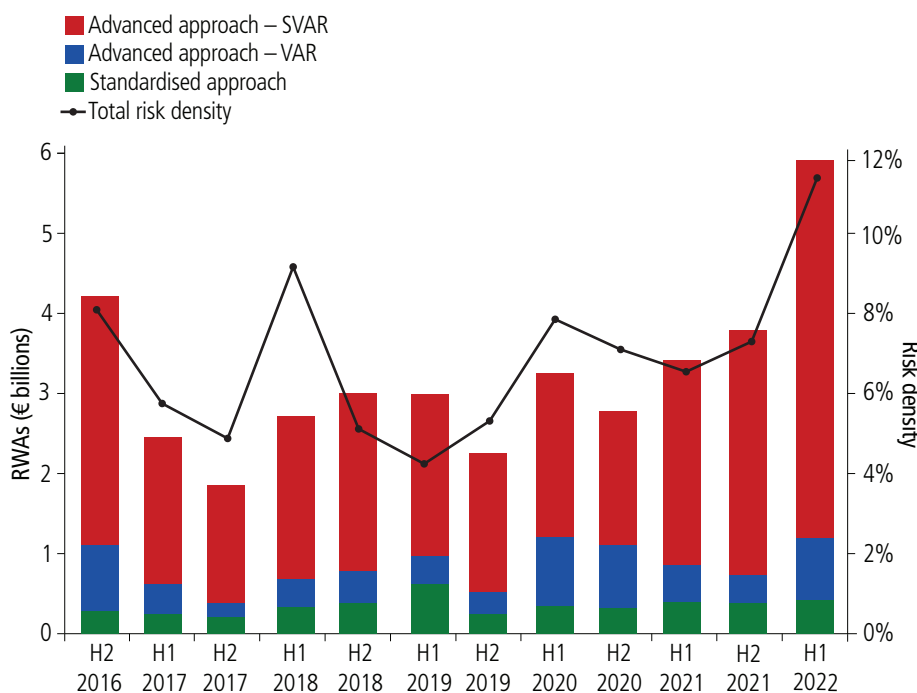
For one, the bank could buy more index and single-name credit default swaps to act as CVA hedges.¹ These instruments, however, also come with foreign currency and interest rate risk attached, which – particularly in the current volatile market environment – could end up nullifying any CVA savings.

BNP Paribas could also opt to clear more of its OTC derivatives trades. The latest available figures show the bank cleared just over 41% of its book at end-December, leaving room for improvement. This would, however, entail extra costs in the form of initial and possibly variation margin demanded by central counterparties, which risks alienating some clients.

For the moment, the bank can afford the increase in risk: the extra CVA charges since March equated to €166 million, or 0.2% of its Common Equity Tier 1 capital as of end-June. Less well-capitalised peers, however, may not be able to deal with the rise in charges as easily, and might have to shrink their derivatives portfolios. ■

Previously published on Risk.net

1 BNP Paribas' CVA RWAs and risk density



Source: BNP Paribas Pillar 3 reports

¹ European Banking Authority, Article 386, <https://bit.ly/3S5Xc1pu>



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How will US regulators perform the Basel III balancing act?

Largest banks seek offsets for higher capital requirements caused by possible end of internal ratings-based and internal model methods. By Sharon Thiruchelvam and Philip Alexander

As Michael Barr's nomination hearing concluded on Capitol Hill on May 19, you could almost hear Wall Street heave a collective sigh of relief. President Biden's second pick for vice-chair of supervision at the US Federal Reserve had reassured legislators repeatedly that he viewed capital levels in the US banking system as "quite high", "quite strong" and even "very strong".

This should indicate that Barr, if confirmed, would not use the implementation of the final Basel III package of rulemaking as an excuse to hike US bank capital. But that's a difficult juggling act. Federal Reserve officials have strongly signalled that the use of internal capital models for credit and CCR could be dropped. That wouldn't affect banks outside the top tier: only the eight US global systemically important banks (G-Sibs) and two of the largest domestic banks (Capital One and US Bancorp) use these advanced approaches. But Barr's predecessor, Randal Quarles, warned in his farewell speech in December 2021 that implementing Basel III could raise capital requirements for the largest US banks by 20%.¹

Need to know

- If the next Fed vice-chair for supervision wants to keep the capital impact of Basel III for large US banks roughly neutral, they will need to find ways to offset the elimination of internal capital models for credit risk.
- Some lobbyists are pushing for two separate capital stack calculations, but the industry is divided on the wisdom of this approach, and the Fed may fear it would stop the stress capital buffer being the binding risk-based metric.
- The banking sector is also strongly advocating for recalculating the risk-insensitive G-Sib surcharge.
- However, Democrat regulators may prefer less high-profile tweaks to the CCAR stress test and the new standardised approaches to credit and operational risks.

If Barr believes current capital levels are adequate, then as the vice-chair for supervision he will need to approve appropriate offsets when implementing Basel III. At his hearing, Barr pledged to give the capital framework "serious" attention if confirmed, saying he would review "the whole picture" before making changes to any one rule. "That includes... the Basel III endgame and stress-testing and the like," Barr told the senate banking committee.

"[I want to] make sure I understand the full package of potential issues and I want to make sure that I understand how the institutions are doing with respect to emerging risks as well," he told legislators.

Bankers say there's a further factor to consider. Democrat financial policy experts, including Fed governor Lael Brainard, have repeatedly suggested the US should activate the countercyclical capital buffer (CCyB) when the economy is growing more rapidly, something that never happened during the period of stronger economic growth before the Covid-19 pandemic. A senior capital manager at a US G-Sib suggests the flexibility to set the CCyB above zero will also need to be included when calibrating the final Basel III package.

As Barr's confirmation looks increasingly likely, US banks expect the final Basel III package to be proposed by late 2022 or early 2023. The largest US banks and their lobby groups are already discussing what positions they should take to try to ensure the removal of advanced approaches for credit and CCR does not cause a sharp rise in overall capital requirements.

The challenge is that no two large banks are exactly alike. For example, the adoption of the standardised approach to CCR at the start of 2022 had noticeably heavier effects on banks with large foreign exchange trading activities.

By contrast, Francisco Covas, a former Fed economist and now head of research at the Bank Policy Institute (BPI) lobby group, says vanilla lending activities "will receive some offsets on the credit risk side because the framework is more risk sensitive" under Basel III than under the existing rules.

Double trouble

Under the current framework, banks using the advanced approaches must calculate capital requirements using two separate methods. The first consists of calculating risk-weighted assets for all risk types – credit, market, operational and credit valuation adjustments (CVA). Banks can use internal models for this where appropriate.

The second, known as the Collins floor, consists of calculating risk-weighted assets (RWAs) for credit and market risk alone, but using only the standardised approaches. The regulator-set standardised outputs are often significantly higher than internal model outputs.

For all eight US G-Sibs, the Collins floor is now the larger of the two risk-based capital stacks. However, this does not mean there is no incentive to continue using internal models. If the advanced approaches stack were instead calculated using standardised RWAs, it would be far larger than the Collins floor, because it includes the extra risk types (operational risk and CVA). So advanced approaches still provide some capital relief.

And there is a further complication. Under the current regime, the advanced approaches and the Collins floor have different capital buffers added to them. The advanced approaches stack has a capital conservation buffer fixed at 2.5%.

The Collins floor, also known as the US standardised approaches stack, is topped off with the stress capital buffer (SCB) derived from the results of the annual Comprehensive Capital Analysis and Review (CCAR) stress tests. The SCB is set at a minimum of 2.5%, but can be considerably higher – more than 6% in some cases.

The scenario some lobbyists (especially at banks with large SCBs) want to avoid when Basel III is implemented is the creation of a single capital stack that includes all the types of RWAs calculated using Basel standardised approaches, with the SCB on top. In that scenario, requirements would be "hugely accreted from an RWA perspective," says a regulatory expert at a second US G-Sib.

To avoid this, some are advocating the maintenance of two separate stacks, with the old advanced approaches stack turning into the full Basel III capital requirements for all RWA types, using only the standardised approaches.

“The US standardised approach would continue to be the CCAR requirement, as it is today. The status quo would continue for the non-G-Sib banks because they’re not going to be subject to the Basel III endgame, but the biggest banks would continue to have to calculate two ratios,” says the G-Sib regulatory expert.

The Basel III capital requirement derived from this would generally be higher than the Collins calculation (because it includes op risk and CVA), but at least the fixed 2.5% buffer added on top would be smaller than the SCB for some banks.

The BPI’s Covas says there’s a “high chance” the agencies will pursue this option, and it would be his preferred choice, although that it is not the BPI’s official position.

But some lobbyists are much more sceptical about the idea, especially those at banks whose current SCB is the same as – or just above – the capital conservation buffer. For them, the large new standardised approaches stack wouldn’t just mean the end of internally modelled capital – it might also eclipse the SCB itself.

“You will plausibly have scenarios where the binding constraint will be the static 2.5% capital conservation buffer on top of this new predetermined standardised Basel III metric – not CCAR, not the advanced approaches,” says the head of capital management at a third US G-Sib. “[That] incentivises arguably more risk-taking, because the measure is not so risk-sensitive.”

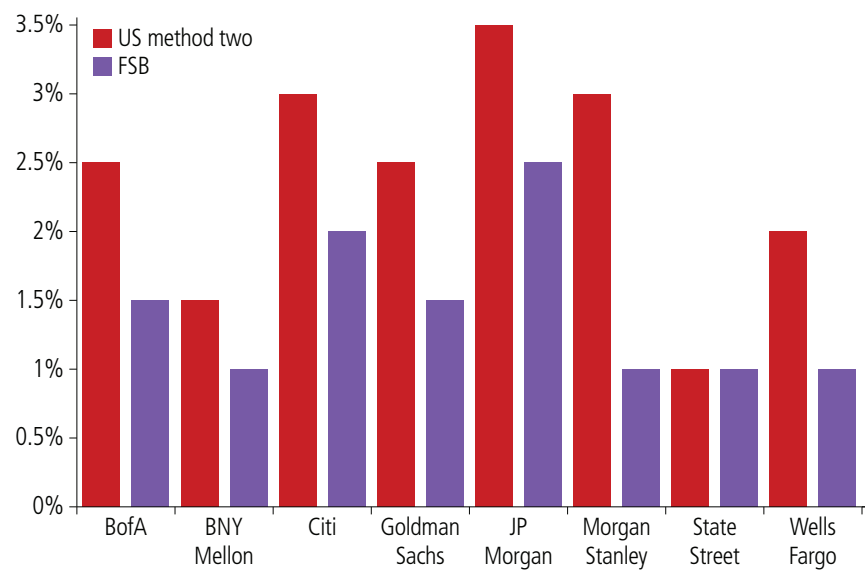
In fact, the senior capital manager at the first G-Sib thinks this potential outcome makes it likely that the Fed will reject the idea of two capital stacks. He points to the Fed’s longstanding use of CCAR as a source of reassurance for itself and the market that banks are resilient – for example, during the pandemic.

“I would find it odd if the Fed took a path that completely put the stress test in a sort of backseat,” says the senior capital manager. “I would guess that if the Fed had to choose, they would opt to retain versions of the stress test and SCB.”

The BPI’s Covas acknowledges that the double stack approach won’t be perfect.

“Clearly there are many banks that have a stress capital buffer at the 2.5% floor, and for them with the addition of the Basel III operational risk component and CVA, it’s very natural to expect RWAs to still go up,” says Covas. “Therefore, the binding requirements would come from Basel III standardised, and they would prefer alternative solutions.”

1 FSB versus US method two G-Sib surcharges, 2021



Source: Risk Quantum Research

No more talisman

The senior capital manager at the first G-Sib says he would expect the Fed to “dial back” on other parts of the capital framework to achieve something closer to capital neutrality, rather than undermining the role of the SCB.

In his parting speech, Quarles suggested the simplest offsetting option for the largest banks would be to modify the US G-Sib surcharge, as long as regulators could look beyond its “talismanic” status. In the US, the surcharge is set using the higher of two methods. Method one is the internationally agreed approach corresponding to buckets renewed annually by the Financial Stability Board (FSB). Method two is a gold-plated US-only approach, which works out larger than the FSB surcharges in almost every case – and much larger in some cases (see figure 1).²

Carter McDowell, associate general counsel at the Securities Industry and Financial Markets Association (Sifma), describes the status quo in the US as “gold plating of a buffer on top of a buffer”.

The Fed repeatedly came under pressure from Republican lawmakers during the Trump presidency to modify or strip out method two, but resisted these calls. In his parting speech, Quarles complained that regulators had originally promised to review the US surcharge methodology, but had “not followed through on our commitment”.

“Once these last elements of the Basel framework are implemented, there will be little justification for a super-calibrated G-Sib surcharge,” Quarles told his audience at the American Enterprise Institute in December 2021.

“I would find it odd if the Fed took a path that completely put the stress test in a sort of backseat”

Senior capital manager

Sean Campbell, chief economist at the Financial Services Forum, which represents the largest US banks, agrees reform of method two is long overdue. He says the largest banks’ G-Sib scores shot up over the course of the pandemic, thanks to historic amounts of quantitative easing.

The US method two measures absolute size, rather than relative size as under the FSB method. That has meant US method two G-Sib surcharges will increase just because the banking sector as a whole holds higher reserves at the Fed due to quantitative easing (QE). Campbell warns there will be further mechanical rises in the surcharge in store in January 2023 unless the Fed takes action.

“Increases in the G-Sib surcharge scores that have occurred over the last couple of years largely reflect the Fed’s macroeconomic stabilisation policy and do not relate to systemic risk by any sensible definition of the term, so it would be sensible for those changes to be unwound,” Campbell says.

The senior capital manager at a US G-Sib agrees: “We don’t think we need an additional G-Sib surcharge that largely all occurred as a consequence of quantitative easing.”



Less stress

However, reforming the G-Sib surcharge may be a bridge too far for Democrat-appointed regulators. Quarles noted drily in his farewell speech that some rulemakers seemed to have an “emotional attachment” to the surcharge. And as the Fed switches to a tightening mode, the argument that QE has artificially inflated the surcharge could become weaker.

Moreover, the senior capital manager at the first US G-Sib adds that simply converging method one and method two “wouldn’t leave room in case somebody wants to turn on the CCyB”.

All of which leaves lobbyists searching for other modifications that might pass muster with regulators.

The BPI and Sifma are pushing for adjustments to the global market shock component of the CCAR stress test, which in turn informs banks’ SCB. With the adoption of the Fundamental Review of the Trading Book (FRTB), Sifma expects market risk capital will increase for most of its member banks in any case. The new components included in FRTB, such as expected shortfall, are designed to capitalise the same kind of tail risks that are monitored in the CCAR global market shock.

There are further changes that could soften the new Basel III framework itself.

“This will all add up, so there’s going to be more discussions about how to tweak these rules – make standardised approaches a little bit more risk-sensitive if they are not risk-sensitive enough”, says the head of capital management at the third US G-Sib.

The first adjustment touted by the industry is the treatment of standardised RWAs for corporate exposures. Here, the EU has already trodden a diverging path from the agreed Basel standard. Specifically, the Basel rules allow a 65% risk weight for corporates if banks can demonstrate that the borrower has a low risk of default.

“The binding requirements would come from Basel III standardised, and they would prefer alternative solutions”

Francisco Covas, BPI

The European Commission has proposed easing the criteria for corporate borrowers to qualify as low risk, including removing the requirement that they be issuers of listed securities.

The BPI has presented research to US regulators supporting its view that banks should be allowed to use their own models to determine whether a corporate borrower falls into this category, and that regulators should follow the EU and remove the listed securities requirement.³

The BPI found a variability in RWAs of no more than 4.5% between banks using their own internal ratings to lend to the same borrower. “It was very small”, says Covas. “There will be some variability in RWAs, because banks have different ways of assessing the riskiness of creditworthiness of a borrower”.

The BPI sees this as evidence that would support allowing more risk sensitivity within the standardised approach. The suggestion is that if the bank estimates the probability of default (PD) of the obligor at below 50 basis points, the credit should qualify for the 65% risk weighting.

“We also show that the security listing requirement is really just a constraint on the number of entities that could receive the lower risk weight; it does not provide additional accuracy on the rating of the entity,” Covas says.

Flexing op risk

One element of Basel III RWAs may be set to ease of its own accord. The new standardised measurement approach (SMA) to operational risk incorporates a 10-year roll-off for large operational loss events. If the US Basel III package goes live in 2025 as bankers now expect, events such as the 2013–2015 legal settlements related to the financial crisis will no longer be included.

“A three-year forward SMA version of operational risk probably does include aggregate reduction of RWAs”, says the senior capital manager at the first G-Sib.

Covas says the US regulatory agencies “might also opt to make use of the flexibility the Basel framework permits for operational risk calculations”.

For example, historic losses are subject to an internal loss multiplier (ILM). This is set higher than one if the previous decade’s losses, multiplied by 15, exceed the other component of the op risk charge – the business indicator component. But there is an option in the Basel text for regulators to fix the ILM at one, and the European Commission has already proposed going down this route.⁴

The head of capital management at the third G-Sib says the decision to cancel the advanced approaches for credit risk leaves US banks “much behind Europe”. Consequently, avoiding further elements of gold-plating compared with the EU implementation of Basel III should be a priority for US regulators. ■

Previously published on Risk.net

¹ R K Quarles (December 2021), Between the hither and the farther shore: thoughts on unfinished business, <https://bit.ly/3w5Nwfv>

² FSB (November 2021), 2021 list of G-Sibs, <https://bit.ly/3aRikKl>

³ F Covas and B Stepankova (January 2022), Consistency in risk weights for corporate exposures under the standardized approach, <https://bit.ly/31VibCA>

⁴ European Commission (October 2021), Proposal for a regulation of the European parliament and of the council amending regulation (EU) No 575/2013 as regards requirements for credit risk, credit valuation adjustment risk, operational risk, market risk and the output floor, <https://bit.ly/3OoBLb0>

European banks can't escape the SA-CCR hit, warns FX exec

European Union dealers may feel regulation's impact, although they are not yet directly affected, says Goldman Sachs' David Wilkins.
By Ben St. Clair

European banks will fail to dodge the counterparty credit charges that have made their US counterparts less competitive when trading foreign exchange forwards and swaps, says a Goldman Sachs e-FX executive.

With increased capital charges stemming from the standardised approach to CCR (SA-CCR), some US banks have been forced to widen their bid/offer spreads for certain derivatives quotes. The new regime hits uncollateralised FX swaps and forwards particularly hard, and European banks are said to have taken advantage of the situation.

Research by trade analytics provider BestX has placed the difference between US and European bid/offer spreads at 0.2 basis points since the regulation came into force at start of this year.¹ The impact may only be temporary, though.

"With any of these changes in regulation or market dynamics, it takes a while – months, even years – for a market to recalibrate. We're still in a moment of recalibration," said David Wilkins, global head of e-FX sales and head of Ficc execution services for Europe, the Middle East and Africa at Goldman Sachs.

"I don't think the European banks are necessarily going to continue to be able to price forwards and swaps almost as a free utility, because in the end, for the most part, they're going to have to fund dollars. Normally that comes from the US banks, and the US banks are going to pass that on in the wholesale market in increased spreads."

Wilkins was speaking on a panel at the FX Markets Europe conference earlier this summer (June 28).

The regulation requires banks to factor in the cost they would incur if an unmarginated trade were closed out after a counterparty default, as well as the cost associated with the potential increase in exposure between default and the transactions' closure or replacement. Those costs are then increased by 40% via the so-called alpha scalar.



Short-dated FX trades that managers constantly roll over tend to stay on a dealer's books as well, making them more expensive to trade.

The buy side has already noticed that at least one US dealer, Citi, has been pricing these trades less competitively, probably contributing to a drop in forwards volumes with US mutual funds.

"Everyone's noticed swaps' costs rise recently, but that's from a super-low base," said David Turner, head of FX trading for Europe, the Middle East and Africa at BlackRock, speaking on the same panel. "We were getting a lot of choice pricing last year."

The rule also took effect for JP Morgan and Goldman Sachs at the start of the year, but impacts vary.

"It's much more expensive for us to price forwards and swaps," said Wilkins. "The further you go out in the curve, the more expensive it gets – particularly for uncollateralised swaps, which is what a lot of asset managers do. A certain amount of that increased cost we can absorb as an organisation, and after a while, we then pass that on within the spread that we're charging."

Dealers have attempted to address the issues by using capital optimisation vendors like Capitolis and triOptima. Some in the industry have speculated that the regulation could push users towards exchange-listed products. ■

Previously published on Risk.net

¹ BestX (June 2022), *The impact of SA-CCR on FX swap trading*, <https://bit.ly/3wsl51t>

Optimising swaps and forwards

Mitigating risk and reducing all-in cost

A forum of industry leaders discusses the rising cost of foreign exchange forwards and swaps under the standardised approach to CCR, how vendors are adapting optimisation solutions to manage the impact of this new regime, and whether banks are likely to change the products they're offering



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What can banks learn from Citi's approach to the rising cost of foreign exchange forwards and swaps under the standardised approach to CCR (SA-CCR) and will they consider pricing these products differently?

Tobias Becker, Quantile: The move to standardised, risk-based modelling has profound implications for client business, particularly for banks that are constrained by leverage ratio regulation. Under the SA-CCR, short-dated FX business, mainly comprising FX swaps and forwards, becomes more capital-intensive as there is no term structure of capital charges. Whereas under the previous model, the current exposure method (CEM), short-dated FX exposures carried fewer capital implications, with the brunt of costs borne by longer-dated trades such as cross-currency swaps.

Another crucial change is the move to a risk-based rather than notional-based standardised approach (SA). Risk-based approaches are well understood in advanced exposure models, but new to the standardised model world. Banks will now have to consider the risk directionality of their client flow, including clients trading in the same way; for example, always paying USD versus receiving other currencies or if they switch between long, short and neutral risk positions, which is more capital-friendly under the SA-CCR. To what extent such behavioural aspects – the expectation of future trading rather than a standalone view of the specific trade in question – are being incorporated into banks' pricing will be interesting to follow. The buzzword here is 'capital velocity'.

Erik Petri, OSTTRA: Historically, higher client trade volumes resulted in larger capital exposures, so volume-based fee structures were an effective mechanism to price in the cost of capital. This fundamentally changes with the SA-CCR.

With the implementation of the SA-CCR, sell-side firms have seen the cost of servicing clients' FX trading needs increase because the capital cost now depends more on trading behaviour than volume. The price quoted, or fees charged, must ultimately reflect the costs associated with servicing the client – so it is not unreasonable to think that a proportion of the price charged is based on a client's strategy and/or size of its structural exposures.

Fabrizio Anfuso, Prudential Regulation Authority, Bank of England:

More broadly, there has been a switch from one regulatory capital metric – the so-called CEM – to SA-CCR. SA-CCR is a more sensitive but potentially conservative risk metric so, generally, banks have seen an increase in regulatory risk-weighted assets (RWAs) for some of their trades. Additionally, the introduction of capital floors in Basel 3.1 will constrain the benefits of internal models, the metric for that being the SA-CCR, at least for CCR.

With all that said, some banks are changing their approach to pricing capital products. They may not have done this for some products in the past because the capital cost was ultimately negligible or significantly smaller than other derivatives valuation adjustment (XVA) contributions. However, it's not surprising that, for some products, the banks can no longer ignore this. Whatever approach they develop to price this contribution will be based on the SA-CCR.

As a result of the new capital regime, will banks change the products they're offering? Will they expand into different assets that are treated better under the SA-CCR?

Erik Petri: The new regime does change the fundamental driver to capital requirements. The minimum size of capital buffers will be a function of risk rather than gross volume. It would be unrealistic to believe such a profound change for the industry won't have an impact on the product suite offered by banks. Clients will be looking to achieve a sweet spot between the all-in cost and the accuracy of hedging. Generally, there will be a disincentive to transact in capital-intensive products compared with those that provide sufficient hedging capabilities but at a lower all-in cost. Clients should now look to review the cost/benefit of their historic hedging strategies and adjust where appropriate.

Fabrizio Anfuso: Banks are using a couple of strategies to limit their exposure. One stream is to improve SA-CCR valuations, which rely on data. CEM didn't require extensive data granularity to get the best possible valuation. The SA-CCR is different and if banks don't have the right data they will struggle to get a good valuation out of it. Making sure they get the right number out of their SA-CCR implementation is no small undertaking. The SA-CCR is a fully fledged valuation



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methodology, and banks have invested a great deal of money and resources in making sure they support it with the right data and correct implementation.

Banks want to ensure they have the right cost/benefit analysis, and they may potentially favour some products or product combinations over others. There is certainly some level of optimisation that many banks can run – maybe not on the entire portfolio – but on some specific counterparties. Nevertheless, this type of strategy is not one size fits all for all banks or types of counterparties.

The second stream, which applies to most banks, is to bring up coverage on the internal model method (IMM). When it comes to Pillar 1 capital, there are two options for CCR: banks can either support an advanced valuation framework, IMM, to value the product; or they must rely on the regulatory method, the SA-CCR. Over the past few years, banks have invested in increasing the number of products they can run in IMM to limit the SA-CCR impact.

Adrian Docherty, BNP Paribas: Regulatory capital is a constraint for banks. Any distortion of regulatory capital away from genuine economic risk will therefore lead to an adaptation by the banks. This applies not just to the SA-CCR

but in other aspects of Basel IV. Rules using non-risk-sensitive metrics, such as the SA, distort the risk metric away from management's view of risk – and the two metrics are significantly far apart. Some of that can be tolerated in practice. The bank adapts naturally and finds opportunities that are less regulatory capital-intensive or less likely to cause the business to change. Ultimately, this is undesirable. Rules should reflect, not drive, risk management.

Tobias Becker: As with any regulatory regime change, the introduction of the SA-CCR creates winners and losers. The US SA-CCR proposals of a few years ago were heavily dominated by the commodities sectors, including responses from less common market voices such as dairy farmers and wind energy industry associations. This highlights the implications of commodities as an asset class. We've already discussed FX, where short-dated exposures can be considered losers versus the winners of long-dated FX. But the greatest beneficiaries of SA-CCR are collateralised and, even more so, centrally cleared exposures. Central counterparties (CCPs) enable the most efficient margining as well as risk netting between long and short positions versus a single counterparty.

The SA-CCR is designed with two major themes in mind: to penalise risk fragmentation across multiple counterparties and to improve the regulatory benefit provided by collateralisation, both via variation margin (VM) and initial margin (IM).

Well-collateralised rates and credit exposures can look more capital-efficient under the SA-CCR, although this is very client portfolio-dependent. Rates businesses among dealer banks have seen their client capital usage change dramatically, and the net result is often still increasing if the client portfolio is tilted more towards uncollateralised or directional exposures.

Are banks changing their strategies in other ways or hiring differently as a result of the new measures?

Tobias Becker: Central clearing is an efficient risk-netting node under the SA-CCR. Where this is not possible – or inefficient or incomplete – improving uncleared collateral agreements such as credit support annexes (CSAs) is a strong focus. Even the previous regulatory regime, especially the leverage ratio, was very unkind to imperfect ‘dirty’ CSAs such as non-cash/non-daily VM agreements. If you had a \$100 million derivative mark-to-market collateralised by the same number of top-rated government bonds or weekly margined cash, leverage regulation would ignore the collateralisation completely and assign a \$100 million leverage balance sheet impact. The SA-CCR takes this very punitive, binary treatment of ‘good versus bad’ CSAs even further. In the above example, the leverage balance sheet impact would increase to \$140 million because of the alpha multiplier of 1.4, even before looking at further impacts from the modelling of the potential future exposure, which is now focused on net counterparty risk rather than derivative notional.

At the same time, balanced client exposures with little directional (first-order or delta) risk can intentionally carry relatively small capital impacts. These can benefit relative value accounts such as hedge funds, which tend to run the large directional exposures in the cleared and listed space, reserving the uncleared derivatives space to second- or third-order risk-taking. But even here there are limits to the benefits of the new SA, as basis risk-taking between different indexes, for example, can again result in outcomes that look unfavourable to banks.

Finally, banks are more proactive encouraging their clients to engage in post-trade risk reduction exercises, such as bilaterally moving delta risks to clearing or via third-party optimisation services such as Quantile’s. The appeal to clients these days are often driven by capital capacity and allocation, and the move to a risk-based framework provides the parties with tools to enable them to be smart about counterparty risks rather than accept them as a given.

Erik Petri: As a result of shifting capital drivers, banks may formulate strategies more around client trading behaviours and patterns: for example, a client taking a long-term view on the market with large directional positions versus a high-frequency trading client trading in and out, driving large volumes but generating less risk. Different banks will identify and focus on different client categories depending where they expect to be able to offer competitive terms.

The interbank positions that are accumulated because of hedging client activity must continue to be actively managed to keep the cost of maintaining trading portfolios down.

The sales teams and trading desks that banks run today will probably continue to perform general day-to-day trading. They will, however, require support from central functions, XVAs, credit portfolio management or similar teams that look after the bank’s overall risk profile and cost of counterparty risk. There will also be increasing demand for new and better tools that allow banks to calculate, consolidate, monitor and optimise risk across counterparties over time to allow them to ultimately make better decisions.

As banks turn to optimisation of FX swaps and forwards, how are vendors adapting their optimisation solutions to manage the impact of the new CCR regime?

Erik Petri: As a vendor, OSTTRA always strives to deliver solutions that are as efficient as possible, while optimising the all-in cost of trading as the derivatives portfolios are managed over time. We manage this through:

- Building a large and strong network that maximises the potential of multilateral optimisation
- Allowing for multiple optimisation targets to be simultaneously considered to avoid unwelcome ‘whack-a-mole’ outcomes
- Leveraging risk mitigation techniques involving both compression and optimisation
- Streamlining the optimisation process by minimising the number of operational steps and maximising automation opportunities.

Tobias Becker: The focus is clearly on risk-based optimisation, such as counterparty risk rebalancing. In addition, the integration of centralised platforms to manage risk – for example, CCPs, exchanges and uncleared standardised platforms – is crucial to maximise the efficiency of any risk-based optimisation.

Quantile launched an optimisation service to target the costs associated with funding IM in FX in 2017, and has since extended the service so participants can optimise cleared and uncleared IM as well as risk-based capital under the SA-CCR and IMM simultaneously. By leveraging our established process and network to target risk-based capital, we can materially reduce the impact of the SA-CCR on FX portfolios.

Each risk portfolio is different, so dissecting exposures in such a granular, analytical way requires new tools and approaches compared with the previous regime where there was relatively little difference in risk measurement between comparable counterparties. Risk-based optimisation is much more demanding on the data side, not just with trade-level data but at other levels such as the counterparty portfolio, collateral arrangements and regulatory model choices. We are already seeing regulatory fragmentation away from the Basel standards starting to take hold in some jurisdictions, and Quantile’s service has a flexible objective function so participants can target the models and metrics that matter most in their jurisdictions to overcome this.

With European banks gaining a carve-out of the regulation, will other jurisdictions also be able to deviate from Basel for their own banks? Otherwise, wouldn’t such a global framework be unfair? Is it more likely Basel will reconsider the implementation of Basel altogether?

Tobias Becker: From an optimisation perspective, Quantile seeks to accommodate any relevant regulatory requirements for clients, yet, at the same time, is mindful that fragmentation can generate a less efficient result for the network of participants.

Standardised models have the advantage of creating a common risk language that is understood by counterparties in different regions – I sometimes call the SA-CCR the ‘Esperanto of counterparty risk’ – and it would be damaging if these common standards get watered down, not just from the perspective of an uneven playing field between market participants, but also from the view of best practice and excellence in risk management. We’re talking about counterparty risk here and, unlike in market risk, it always takes two to create as well as reduce it.

One encouraging sign is that, unlike the previous generation of standardised models, which have essentially been left untouched by regulators for decades, these new standardised models seem to evolve. As an example, Michael Pykhtin from the Federal Reserve (and a two-time recipient of the *Risk Quant* of the year award), has recently published a paper on what is seen as ‘SA-CCR 2.0’, with much improved terminology. The best outcome would be for these models to

be further evolved by the Basel Committee on Banking Supervision so that no jurisdiction will feel a need to refine them on an individual basis.

Erik Petri: OSTTRA is a neutral service provider that continuously monitors how the industry and the regulatory environment develops, with the aim of offering the best possible solutions, allowing the industry to function as efficiently as possible.

The challenges and opportunities differ between banks for many reasons – jurisdiction and regulatory differences are a couple of these factors. Our aim is to offer optimisation solutions that mitigate risk and reduce the all-in cost of trading, while considering potential differences between all participants.

Do you expect the SA-CCR to lead to a new wave of voluntary clearing? Or does clearing not add value in this context?

Fabrizio Anfuso: Clearing is certainly one of the strategies banks may use to reduce their regulatory capital footprint.

Some classes of products get conservative treatment and could offer some competitive advantage, such as credit default swaps or some long-dated, interest rate products. The increased capital regime may motivate banks towards more clearing. However, if banks decide to clear a trade, it is likely this was a collateralised transaction from the outset. In addition, apart from equity and commodities, SA-CCR is more sensitive than CEM in terms of handling collateralisation. So, if you have a collateralised transaction, you won't necessarily get a worse number now than you did before.

Tobias Becker: As previously discussed, central clearing can be a powerful tool for managing risk exposures in one central marketplace: the CCP is where market participants meet and exchange risk in comparison to a single counterparty, the clearing house. In markets where there is no clearing mandate, such as FX, the SA-CCR creates an incentive to clear on a voluntary basis, assuming the associated costs, such as IM and default fund, can be managed appropriately to realise the capital and risk benefits. This type of problem is well suited to multilateral optimisation, and Quantile is working on a number of initiatives to facilitate 'optimised' clearing.

How do you expect the new measures to impact other asset classes?

Tobias Becker: It's still relatively early days, but we've looked at the commodities sector already. Equities is another asset class in which directional exposures carry heavy capital impacts, but clearing and exchange-traded instruments are available to mitigate some of these.

Fabrizio Anfuso: The asset classes most impacted by conservatism are commodities and equities. Typically, banks have not had commodities in IMM, one of the least modelled asset classes. However, if firms have a sizeable commodities portfolio, they are now likely to consider investing in developing an IMM framework for these. Similarly, large banks generally run equities in IMM, although most will primarily support vanilla products and options. They may have large chunks of exotics that they used to process in CEM becoming expensive to process in SA-CCR. Thus, even if they support the asset class, they may consider investing more in bringing additional prices and models in the IMM framework to run at least part of their exotic portfolio.

Adrian Docherty: Where derivatives exposure is proving more costly, banks might look back at their original requirement, which is fixed-rate financing or foreign currency financing, and look to enter those markets. Therefore, instead of borrowing dollars and swapping them for euros, they could borrow the euros directly. In theory, this could alter the financing markets such that the need for derivatives was lower. Even so, this is likely to introduce inefficiencies and new risks.

Has the shift from internal to standardised risk models led to better CCR management?

Adrian Docherty: Not at all – quite the opposite. The switch from internal ratings-based (IRB) models to a flat, standardised risk weight is retrogressive. It ignores the technological developments and advances in data that have been made over the past 30 years. Good risk management uses information to form a differentiated, sophisticated and rich view of risk. To override that with a standardised, flat view is to degrade the quality of risk information in regulatory capital.

The SA-CCR is the small bit some people are focused on because their desk is chewing up lots of SA-CCR, but banks running a loan portfolio or mortgage book have the same problem. The whole ethos of Basel IV is retrogressive.

Tobias Becker: That is the question we're all looking to answer, and it's too early to tell. Sophisticated banks will typically say they have been forced to give up their refined internal model government for a more basic one-size-fits-all standardised model. I'd like to see standardised models given a chance. The standardisation creates a common platform to measure, interpret and ultimately exchange and reduce risk, which is simply not available in the highly bespoke world of internal models. It's promising to see the efforts in refining these new standardised models, so I'm hopeful we'll end up in a place where the standardisation and sophistication of risk modelling meet to create a new industry best practice.

Where did Basel IV go wrong?

Adrian Docherty: The decision to use standardised risk weights instead of IRB was wrong. There is an environment of cynicism towards models and self-modelled capital requirements. You can understand it, but the standardised view is too crude: either flat across all counterparties or based on external credit ratings.

If capital requirement regulations were seen as inadequate, we could have looked at why they were inadequate and improved them. Initial studies tried to understand the variability of RWA metrics and came up with the view that most of it was unjustified, and therefore IRB risk weights weren't at all compatible. From this it was decided we needed to scrap the whole thing and go back to a sort of Basel I-type approach. Subsequent studies found that wasn't the case and that genuine underlying risk factors – such as collateral, maturity, different counterparties within the same corporate group – were explanatory for most of the variation. A more considered study of the shortcomings of RWAs coming out of Basel II leads to the conclusion that these weren't perfect, but they were in the right direction.

The change of rules incorporated in Basel IV is quite reactionary – I think an overreaction. It takes us back to the 1990s with the sort of practices that happened the last time we had the SA. Many of these were risk-increasing and contributed to a risk deterioration. The financial crisis that erupted in 2007 developed during the Basel I regime, with some of the rules that were put in place such as the risk rating of AAA tranches and the use of conduits. So, we may be going back to a framework that contributed to the global financial crisis.

I can understand people wanting to look for a simple or radical solution, but I think this is the wrong approach. The whole driving of Basel IV away from informed, sophisticated assessments is a disappointing development. ■

>> The panellists' responses to our questionnaire are made in a personal capacity, and the views expressed herein do not necessarily reflect or represent the views of their employing institutions

Standard risk measures low-balled Archegos exposures

When a potential blow-up doesn't show up, what use are value-at-risk, the standardised approach for CCR and stress tests?

By Luke Clancy

Numbers often don't tell the full story. Just ask the bank board members who approved exposures relating to Archegos Capital Management in the months before the family office imploded, leaving a \$10 billion trail of losses for its counterparties.

The failure of board-level committees to spot the risks brewing in the highly leveraged investment firm have called into question the effectiveness of traditional stats such as risk-weighted assets (RWAs) or value-at-risk in providing red flags for losses.

"A single number never tells you anything useful," says the chief risk officer of a Europe-based swap dealer. "It's a cop-out if you just shove a table of numbers in front of someone and say: 'There's no red anywhere, it's all green, so you need to be happy.'"

Capital experts suggest CCR models were the only area where Archegos trades would have been visible, but the capital regime for CCR massively underestimated the exposure of the transactions.

Some say stress-test results may be more effective than headline figures as an indicator of likely blow-ups. Stress tests provide a range of results from different scenarios, and can offer more context than single numbers. However, Archegos exposure would not have shown up in the stress tests that US and UK

"A board is presented at least once a year with the scenarios that are used within the firm, and that's an area where a board member could then actually ask relevant questions"

Andreas Ita, Orbit36

regulators require the largest banks to undertake.

There are also fears that bank chiefs would simply be tempted to ignore doomsday data from internal stress tests – particularly if it calls into question profitable businesses such as prime broking.

"A prime brokerage business won't be economically viable if you stress it beyond the average of what the market assumes for stress," says Claude Moser, vice-chairman of risk consultancy Orbit36.

Archegos used total return swaps to build up long positions in media and technology stocks including Discovery and ViacomCBS (now Paramount Global). Its bank counterparties hedged this exposure by buying the underlying stocks. When the stocks went up, the banks used the proceeds to pay Archegos. When they went down, Archegos paid them the difference.

This derivative's structure generated zero market risk RWA and was not visible in VAR. RWA is the figure that banks use to set risk capital, while VAR measures the potential loss that a portfolio can experience over a given period.

Nevertheless, the overall exposure was significant. Archegos's prime brokers owned nearly 50% of the shares outstanding of GSX Techedu, a Chinese e-learning company, and more than a quarter of the shares of Discovery, for example.

Steep declines in the value of the stocks caused Archegos to default, and left its prime brokers facing losses, most notably a \$5.5 billion hit for Credit Suisse.

The SA-CCR punch

Aside from market risk, banks also calculated CCR for Archegos trades. Such risks are capitalised under the Basel Committee on Banking Supervision's standardised approach for CCR (SA-CCR).

Credit Suisse did not disclose the RWA figure attributable to the CCR of Archegos. But there are doubts over whether the SA-CCR would have captured the full risk of the trades Archegos was running.

Orbit36 estimates that Credit Suisse's \$20 billion notional exposure towards the family office equalled around \$1 billion of RWA. This compares with the bank's overall RWA of \$275 billion at the end of 2020. "There are gaps in the international standards. We applied the SA-CCR. You're talking about less than 1% of the group RWAs. At the board level, the exposure was simply too small to notice," says Andreas Ita, Orbit36 managing partner and formerly capital optimisation head at UBS.

Risk managers agree that aggregate SA-CCR figures aren't much use for risk-managing single counterparties or portfolios. Banks require "more granular" information in making the decision "to hedge, enhance or close a position", says the chief risk officer at a US swap dealer. "You need to present the story behind the number," adds the European bank's chief risk officer.

One way of providing more context is through stress-testing. Large global banks run a battery of stress tests – both internal and supervisory – to gauge the performance of their business lines in severe but plausible adverse scenarios. Internal stress tests are designed and conducted by banks. They account for bank-level idiosyncrasies, such as sector or geographical concentrations, and should provide the most granular results. However, they can be complex to interpret, and could be overwhelming for boards to review.

Regulatory stress tests have the advantage of being more transparent and interpretable. Each regulator applies a generic macroeconomic shock

Need to know

- Failed family office Archegos Capital Management used total return swaps to build synthetic holdings of tech and media stocks.
- For bank counterparties, the exposure didn't fully show up in standard risk metrics such as RWA and VAR.
- Experts say CCR measures would also have underestimated the true risk of Archegos's positions to prime brokers such as Credit Suisse, which lost \$5.5 billion from the default.
- The output of stress tests may have painted a more accurate picture of the risk – but this kind of information is not always available in board packs.

to the banks under its supervision. This makes the outputs easier to compare, but harder to spot bank-specific vulnerabilities not captured in RWAs.

Synthetic financing structures, such as total return swaps, are stress-tested by applying a market shock – say, a 50% collapse in stock prices. The replacement value of the derivatives – the amount owed by the client after the shock – is netted against the margin posted by the client as collateral. Unless the margin is paid in cash, the collateral is also subjected to the same shock. The net exposure – the output of the stress test – is what the bank could potentially lose if the client is unable to provide additional margin and is forced to default.

Stress management

Regulatory stress tests, however, are not all created equal. They prescribe very different shocks and have their own blind spots.

The Comprehensive Capital Analysis and Review is the annual exercise designed by the US Federal Reserve to assess whether US and foreign bank holding companies with over \$10 billion of assets have enough capital to survive a stress event. CCAR is generally considered the gold standard for regulatory stress-testing. However, Credit Suisse was able to sidestep CCAR by remotely booking its swaps with Archegos into Credit Suisse International, a UK banking entity that served as its global hub for derivatives activity.

As a result, the Archegos exposures were not captured when the Fed conducted stress tests in the third quarter of 2020. Those results were released in December that year, with Credit Suisse easily passing the stress test.¹

If the Archegos exposures had been subjected to the Fed stress tests, which included a global market shock scenario that assumed most assets would fall by 25%, it would have resulted in a hypothetical stress loss of up to \$3.7 billion, according to Orbit36.

The Archegos exposures also fell through the cracks of the UK's stress-testing regime. The Bank of England (BoE) runs its annual cyclical scenario (ACS) for the eight largest UK banks – but Credit Suisse International isn't one of those banks.² Furthermore, the ACS was suspended in 2020 due to Covid and is only being reintroduced this year.

Even if Credit Suisse International had been subjected to the ACS, the Archegos exposures would still have escaped scrutiny. This is because the BoE's stress-test guidelines exclude collateralised derivatives exposures – essentially assuming that margin will always be sufficient to allow unwinding of exposures without loss if a client cannot meet its obligations.

“A prime brokerage business won't be economically viable if you stress it beyond the average of what the market assumes for stress”

Claude Moser, Orbit36

Credit Suisse International is, however, subject to the UK's internal stress-test regime, run by the Prudential Regulation Authority. But the so-called internal capital adequacy assessment process also excludes collateralised derivatives exposures.

The Fed and BoE declined to comment on whether they were planning to update their stress-testing regimes in light of the Archegos failure.

Ironically, the European Banking Authority's (EBA's) biannual European Union-wide stress test – which has been much maligned, and was recently revised – did the best job of catching the Archegos risks. It prescribes an instant equity market shock of more than 50% and has no carve-outs for collateralised exposures or interbank trades. The Archegos trades would have registered a hypothetical loss of almost \$10 billion in the EBA stress tests – enough to set off the alarm bells of any risk committee.

While stress tests are a useful tool for spotting hidden risks in banking books, Ita at Orbit36 says bank boards must understand their design and shortcomings, and quiz risk managers about how they are conducted: “Usually, a board is presented at least once a year with the scenarios that are used within the firm, and that's an area where a board member could then actually ask relevant questions. Namely: do you assume that the shock evolves over time? How many exposures are temporarily uncovered in case the shock happens instantaneously? How do you deal with collateral? Is your internal stress test closer to the European stress test, the US stress test or the UK one?”

A retired former chief risk officer, who worked for several large financial institutions, says high-level executives are likely to see a bank's top concentrations from a counterparty perspective. But because VAR numbers are small, benchmarks to historic stress events are needed to appreciate the magnitude of exposures. Historically, markets have dropped 50%, so haircuts for a stress loss should be applied in the order of 25–50%, they say.

Shooting the messenger

It's unclear whether Credit Suisse's board looked at the results of any stress tests, internal or regulatory. Risk managers suggest that senior executives are often unwilling – or unable – to interpret the output of risk models. Moser at Orbit36 describes it as “model blindness”.

The European bank's chief risk officer says listing a bank's top 10 exposures by counterparty in a board pack is problematic “because very often the board isn't going to follow it from one period to another, especially if it changes quite a lot”.

He adds that the content of risk reports consumed by boards is also dictated by the preferences of senior execs: “In one case, I was asked to cut down my report. The people who put together the board pack perceived it to be too long. There was no padding in the first place, so I had to make some tough choices about what to cut.”

Orbit36's Moser takes a slightly different tack. He thinks even if relevant information on concentration risk is hidden away in a vast board pack, the risk committee of the board should “find the needle in these reports”. It comes down to the education and experience of the board members, he says: “A lot of people are sitting on boards with insufficient background around structural risk and the complexity behind models, being given a number to make them feel comfortable.”

The global financial crisis of 2007 revealed holes in the risk mitigation strategies of banks. In response, since 2016, banks must comply with the Basel Committee's principles enshrined in BCBS 239, which aim to strengthen the way that banks collect and report risk data.

Thomas Obitz, founder of consultancy RiskTransform, says BCBS 239 sends a clear statement that banks need to create adequate risk reports and that senior managers must heed them. But he adds that risk managers are sometimes wary of declaring a business line too risky.

“If you tell them that one of the exposures with a very profitable client may be a bit risky, and they have to reduce that, it might not necessarily be welcomed,” Obitz says, adding that he has seen situations with businesses rejecting new risk models because they produced a slightly higher capital output.

The European chief risk officer agrees, saying risk managers can shy away from presenting bad news because “people in power tend to shoot the messenger”.

Previously published on Risk.net

¹ The Board of Governors of the Federal Reserve System (December 2020), December 2020 stress test results, <https://bit.ly/3A8TJL>

² BoE (May 2022), Stress testing, <https://bit.ly/3RasRAu>

Standardised approach extends reach over US banks' credit and market risk

Gap between standardised and advanced risk-weighted assets at its widest ever for Bank of America, BNY Mellon, Morgan Stanley and Wells Fargo. By Lorenzo Migliorato

Standardised and modelled risk-weighted assets (RWAs) at six systemic US banks diverged sharply in the first quarter of the year, pushing Bank of America (BoFA), BNY Mellon, Morgan Stanley and Wells Fargo the farthest they have ever been from escaping the so-called Collins floor, Risk Quantum analysis shows.

Since 2015, US banks that use the advanced approaches to weight exposures must also calculate RWAs under the regulator-set standardised approach. If modelled RWAs are below 100% of standardised RWAs, the bank must capitalise according to the latter methodology.

At BoFA, the distance between standardised and modelled RWAs widened 2% to \$224 billion over Q1, marking the largest gap ever reported by any US bank. Modelled RWAs totalled 86% of the standardised figure – the second-smallest proportion ever, after the 85% marked by State Street in Q1 2015.

Wells Fargo saw the gap hit \$144 billion, with the proportion of modelled to standardised RWAs falling to 89%. At Morgan Stanley and BNY Mellon, modelled RWAs sat \$44.9 billion and \$4.9 billion below the respective standardised totals, leaving RWAs assessed using the advanced approaches at 89% and 97% of the standardised outputs, respectively.

While all top US lenders remain constrained by the standardised approach, Goldman Sachs managed to shrink the gap between outputs from \$28.9 billion to \$8 billion in Q1 – the narrowest it has ever been while the bank was below the Collins floor.

On the other hand, State Street, which had been within just \$269 million of escaping the floor in Q4 2021, saw the distance widen again last quarter, to \$11.7 billion.

What is it?

The standardised approach for calculating RWAs relies on rules and formulas set by regulators – based on methodologies designed by the Basel Committee on Banking Supervision – whereas the advanced approaches use banks' internal models, inputs and assumptions derived from their own data.

The standardised approach, given its broader scope, generally results in higher RWA outputs. Under the Collins amendment to the Dodd-Frank Act, US banks must report their regulatory capital ratios under both modelled and standardised approaches.

If standardised credit and market RWAs exceed total modelled RWAs, then a bank must calculate its regulatory capital requirements in reference to the former.

Standardised RWAs, therefore, form a so-called Collins floor, below which banks cannot reap any further regulatory capital efficiency from reducing their modelled RWAs by improving their models or bringing more business activities into scope.



Why it matters

Standardised models tend to react more sharply and swiftly to macroeconomic shocks, so it is little surprise they ballooned in a quarter where yields on five-year Treasuries almost doubled – albeit executives also cited a rebound in client activity and loan growth from an anaemic Q4.

Implementing the new standardised approach to CCR also contributed to RWA inflation at banks that waited until the January 1 deadline to do so – namely BNY Mellon, JP Morgan, State Street and Wells Fargo. Yet two of the banks where the standardised-modelled RWA gap hit a record high in Q1 – Bank of America and Morgan Stanley – had already adopted the SA-CCR in previous quarters, meaning the increase in their standardised RWAs was due to a mix of higher risk levels and growing balance sheets.

RWA inflation is just one of the fronts on which US banks' capital adequacy was battered in the quarter. And if the US and other major economies are hit with a recession – perhaps as a side-effect of higher policy rates to tame inflation – standardised outputs may inflate further still. ■

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To learn more

The complete data supporting this article can be accessed at www.risk.net/7946806

Regulation triple-whammy lops 63bp off StanChart's CET1

January 1 saw the introduction of the standardised approach for CCR, curbs on internal ratings-based modelling and the reversal of software capitalisation benefits. By Lorenzo Migliorato

Standard Chartered's risk-weighted assets (RWAs) jumped by \$6.3 billion at the stroke of midnight on January 1, as the bank implemented the revised standardised approach for CCR (SA-CCR) and regulator-mandated fixes to its internal credit risk models.

The tweaks inflated credit and counterparty credit RWAs by 3% compared with December 31, to \$226 billion, and shaved 31 basis points off the bank's Common Equity Tier 1 (CET1) ratio (see figure 1).

In line with the internationally agreed timeline, the turn of the year ushered in the SA-CCR for UK banks. It also saw lenders overhaul the internal ratings system that underpins in-house credit risk modelling, as part of the European Banking Authority's (EBA's) model repair road map, outlined in 2019.

On the capital side, January 1 in the UK marked a return to full deduction of software intangible assets – a post-Brexit departure from the European Union's regulatory regime – which shaved another 32bp off Standard Chartered's CET1 capital ratio.

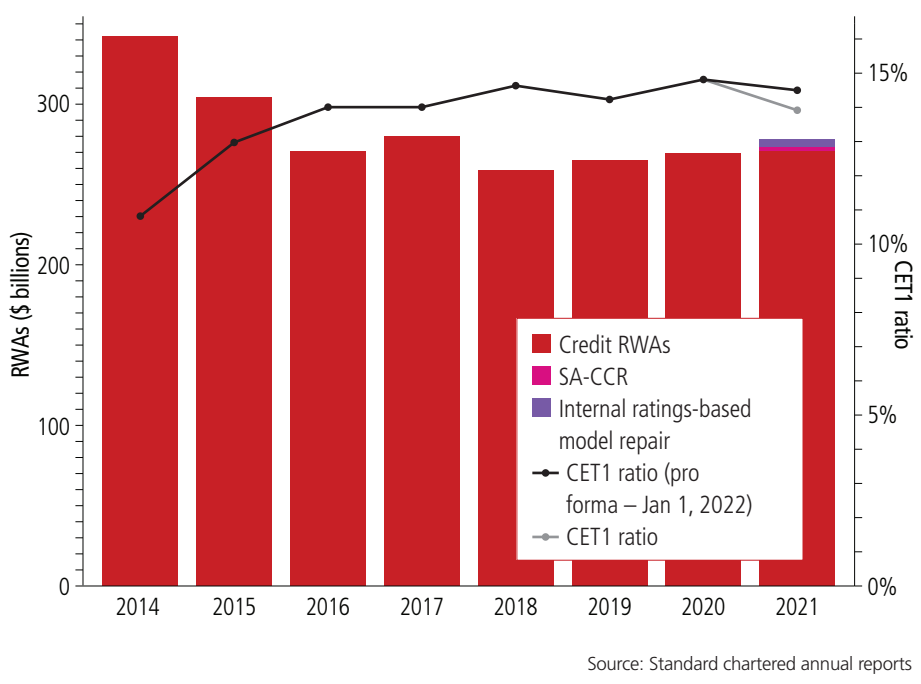
Pro forma for the changes, the ratio was 13.5% as of January 1, compared with 14.1% as of December 2021 and 14.4% as of end-2020.

What is it?

The SA-CCR replaces the Basel Committee on Banking Supervision's previous standardised CCR methodology. It is intended to be a risk-sensitive methodology that differentiates between margined and non-margined trades and recognises netting benefits. In October 2021, the UK Prudential Regulation Authority (PRA) said UK banks would have to switch to the SA-CCR on January 1, 2022, in line with the Basel Committee's timeline.

The EBA set out the internal-ratings-based model repair programme in 2016 to address concerns around "undue variability" of capital requirements undergirded by banks' proprietary models. In 2019, the agency set out an implementation road map stretching to end-2023.

1 Standard Chartered's RWAs and CET1 ratio



In 2019, EU lawmakers revised the treatment of software intangibles for regulatory capital purposes, allowing banks to amortise software investments' deduction over three years, thus bolstering their CET1 capital. The measure was fast-tracked to end-2020 as part of an EU package aimed at supporting lenders through the Covid-19 pandemic. However, the PRA expressed doubts about the policy's soundness and used its new-found independence from EU legislation to reverse the benefit.

Why it matters

The turn of 2022 hit UK banks with a triple whammy. But its impact, though heavy, is nothing Standard Chartered and its peers can't take.

If anything, CET1 ratios are back in line with 2019 levels, before bumper earnings – and payout restrictions – bloated capital reserves. Standard Chartered's January 1 ratio was only 40bp below

its 2017–19 quarterly average. Barclays' ratio, which dropped 80bp to 14.3% on the same policy changes, remained a full 120bp above the average for the same period.

For Standard Chartered, the ratio is now in the sweet spot of its 2022 target of between 13% and 14%. What could push it off-course may not be further regulatory RWA inflation – after all, the PRA has already set out its road map for implementing Basel III reforms. Rather, a plethora of macroeconomic risks, from volatility to supply chain high jinks and commodity price spikes, pose more hazards along the road. ■

Previously published on Risk.net

¹ Bank of England (October 2021), PS22/21 – Implementation of Basel standards: final rules, <https://bit.ly/3csY50i>

² EBA (July 2019), EBA publishes report on progress made on its roadmap to repair internal ratings-based models, <https://bit.ly/3ozXbaI>

³ Bank of England (December 2020), PRA statement on the EU requirement on prudential treatment of software assets, <https://bit.ly/3b4dr0s>

Climate is changing for derivatives valuation adjustments

Banks back increased use of global warming criteria when calculating valuation adjustments. By Natasha Rega-Jones

When pricing new long-dated derivatives contracts, dealers are increasingly factoring in how climate change will affect their counterparties' underlying business. To incorporate this additional risk, firms are developing new valuation adjustment methods.

The trend follows the publication last year of a paper by Chris Kenyon, head of quantitative innovation and valuation adjustment quant modelling at Mitsubishi UFJ Financial Group, and Mourad Berrahoui, head of CCR modelling at Lloyds Banking Group. Kenyon and Berrahoui set out a framework for a new derivatives valuation adjustment (XVA) that would take into account the physical and transition risks associated with global warming.

XVA desks say the lack of underlying climate data means it will be a while before the proposed climate change valuation adjustment (CCVA) becomes widely accepted. None of the banks *Risk.net* contacted have officially deployed CCVA within their XVA calculations, and only a handful of external firms – such as MSCI and Sustainalytics – are currently viewed as effective assessors of climate change risk. Nevertheless, banks say they are likely to pay greater attention to the effects of climate change when pricing derivatives.

"If a company doesn't try to become greener, will it disappear at some point in time?" asks the head of structured rates and XVA trading at a European dealer. "This type of question is likely to become part of the credit regime, and you can therefore think of it as some kind of additional credit valuation adjustment (CVA). I suspect there will be a high correlation between a company's environmental, social and governance (ESG) rating and its credit rating."

A second European dealer interviewed by *Risk.net* already has a reward and penalty system in place for ESG-linked derivatives, whereby the premium or rate a client pays depends on how successful it is in meeting specific ESG targets. The dealer's XVA desk is expanding that system so that a counterparty's climate credentials will be factored in when calculating the price of a derivative, regardless of whether the derivative is itself linked to ESG goals.

As such, counterparties' climate credentials – and the impact such credentials have on XVAs – will be accounted for within every derivatives transaction, and not just those labelled "green".

The head of CVA trading at the second European dealer admits that the current penalty and reward system is "somewhat arbitrary" when it comes to analysing the actual underlying risks associated with a given counterparty. "We're now trying to build some new modelling to improve the system," says the executive. "For example, if we face a counterparty with a BBB+ credit rating today, their CVA is based on that BBB+ rating. All else being equal, if that counterparty is super-green when it comes to climate transition, then that counterparty's rating is likely to improve in the near future to something like A-. Similarly, if you enter into a 20-year swap today with an oil producer, then surely there is a degree of additional risk facing that counterparty due to the brown nature of oil extraction."

The head of CVA trading states that the biggest challenge is the lack of available backtesting capabilities, so that judgements on a counterparty's preparedness for the climate transition can be rooted in "financial reality". The lack of underlying data means judgements are unlikely to be wholly quantitative, and a degree of arbitrariness will remain.

"It's intuitive today that if two clients have an identical credit rating of BBB+, but one is very green and the other is very brown, that the two clients have very different levels of climate transition preparedness," says the head of CVA trading. "The difficulty is moving from intuition to a financial quantification, which is very difficult to do as we lack enough history and backtesting. We're trying to build that historical backtested model as we speak but it'll be a long time before we're able to finish that work and submit it to the regulator for validation."

The Banco Bilbao Vizcaya Argentaria (BBVA) is among the banks looking to incorporate its counterparties' climate credentials when trading derivatives. Francisco Clavero López, head of the capital and inventory management trading desk,

echoes the concerns expressed by the head of CVA trading at the second European dealer about the difficulty in translating intuitive judgements about a counterparty's "greenness" into quantitative XVA or capital adjustments. "It's not easy to see how the greenness of a counterparty will affect the capital you have to hold against them if you don't know which metrics to hold them to account on," he says.



“The whole industry is moving towards analysing its portfolios and seeing how much of an exposure each has to brown counterparties, so we’re in the very early stages of this work now in order to actively manage these climate risks in the future. However, we don’t have a clear way to hedge that risk today as there is no set way to measure it.”

Daniel Cremades, head of XVA trading at BBVA, adds: “When we manage our portfolio today, we are quite sensitive to the fact that some names are much browner than others, and so we try to reduce the risk on those names as we suspect that the market will penalise them more in the future. Some names are already penalised and have a wider credit spread because of the way they behave from an ESG perspective, so there is already some penalisation towards certain names and that will likely only become a bigger penalisation in the future.”

One North American dealer says it is broadly supportive of looking at counterparties’ climate credentials when pricing derivatives. However, its head of XVA trading doubts the practicality of an official CCVA, given that banks tend not to engage in trades with counterparties as far in advance as the proposed model envisages: “The paper’s argument is basically that there is no observable market price for credit default swaps [CDSs] beyond 10 years and so people need to be aware that climate change is something that is going to make credit curves steeper than currently priced in. While I do agree with that sentiment, I don’t see CCVA being a massive game-changer for the market as CVA desks don’t yet have much risk this far out. Yes, credit will likely be more expensive in 30 years’ time. But because CVA books do not have much risk to it yet, it’s not something that impacts us at the moment. It is a good paper, just early essentially.”

“If a company doesn’t try to become greener, will it disappear at some point in time?”

Head of structured rates and XVA trading at a European dealer

Adjustment bureaux

The XVAs currently in use typically reflect the costs associated with trading over-the-counter derivatives, with dealers incorporating the adjustment into the price of a new trade. One of the main types is the CVA, which is included as an add-on to new derivatives trades to cover the cost of hedging the CCR and the capital charges associated with that risk.

Kenyon and Berrahoui argue that climate change could have an economic impact on a derivatives counterparty that is not currently being priced into the counterparty’s credit risk hedges – which are applied via single-name or index CDSs. The quants believe the impact could be immense, with the CVA of a counterparty’s trade potentially doubling in 20 to 40 years. They add that even risks that are forecast to crystallise in 70 years could increase the CVA of a 20-year interest rate swap by 23%.

A CCVA can reach such eye-watering conclusions not by looking at CDS spreads – the traditional way to calculate a CVA – but by turning to numerous integrated assessment models. Specifically, it would take into account climate scenarios and microeconomic and macroeconomic transmission channels in order to deliver economic impact scenarios. This is necessary because CDS liquidity is typically pooled under 10 years and is therefore only hedged that far out by CVA desks, whereas CCVAs are designed for much longer timeframes.

Kenyon and Berrahoui stress that, in order to calculate a CCVA, banks must use current pricing models to compute the CVA and the funding valuation adjustment in the first 10 years of a trade’s existence before switching to integrated assessment models. The pair also highlight that the entire CCVA model will need to be adjusted on a counterparty-by-counterparty basis, given that the impact of climate change will vary based on factors such as a counterparty’s business sector and geographical location. ■

Previously published on Risk.net

Smaller EU nations stare down giants in capital floor standoff

EU member states clash over severity of internally modelled output floors for cross-border bank groups. By Samuel Wilkes

In the heart of Brussels, a diminutive bronze statue portrays a small boy, stark naked and nonchalantly answering the call of nature into a fountain. Manneken Pis – the little peeing boy – has outlasted several occupations of Belgium’s capital by powerful European empires and has come to symbolise the defiant spirit of its inhabitants.

Now, in the Council of the European Union, Belgian diplomats are taking a similarly defiant stance. Along with a coalition of smaller EU member states, they are in a standoff against the two largest states in the union – and the European Commission itself – over two major aspects of the Commission’s proposals to apply a floor to internally modelled capital requirements.

Need to know

- As the European Union’s member states examine its proposals for an internal models-based floor on bank capital requirements, two major points of contention have come to light.
- A faction of smaller member states has objected to the floor being applied as one calculation of an entire group’s assets. Instead, they want it also to apply to subsidiaries of large banks, of which they are often the host nations.
- Their approach would likely lead to higher capital requirements for some EU banking groups.
- The EU proposals currently delay full application of the floor until 2033 through a series of transitional measures that blunt its initial capital impact – and could even be extended further, possibly indefinitely.
- These measures are also dividing member states; some want to bake them into law, while others want to ditch them altogether.
- Both fights have the potential to either tighten or ease the output floor in Europe and are therefore causing great uncertainty.

These smaller countries – in many cases hosts to the subsidiaries of larger EU home-states’ banking groups – want to apply the capital floor to those subsidiaries as well as at the broader group level proposed by the EU. Their intention, in large part, is to avert the eventuality of a host nation needing to resolve another country’s banking failure on its turf.

“If it comes right down to it, and the choice is between a whole group failing or a subsidiary being cut loose, host regulators simply can’t take the risk – and have to protect themselves in advance,” says Rod Hardcastle, a director in Deloitte’s centre for regulatory strategy.

The host nations pursuing this agenda are Belgium, Bulgaria, the Czech Republic, Ireland, Latvia, the Netherlands, Poland, Romania and Slovakia. Separate sources – including a diplomat representing a member state in the Council – identify Belgium as spearheading the move.

“There is one superhost and that is Belgium,” says a senior regulatory affairs manager at a European bank. “They lead the troops, and they mobilise countries.”

If they are successful, it could lead to higher capital requirements for some of Europe’s major banking groups, headquartered in the largest member states.

France and Germany, home to some of these cross-border banking groups, want to avoid this outcome, preferring instead that the floor be applied at the consolidated level only, as the EU proposed.

The output floor is one of the final elements of the post-crisis framework developed by the Basel Committee on Banking Supervision and agreed in December 2017. It requires a bank’s risk-weighted assets (RWAs) – the risk of its business as measured by its own internal models – to always be at least 72.5% of the total RWAs it would generate under regulator-set, standardised approaches. On October 27, 2021, the EC unveiled proposals outlining how the bloc should incorporate these final elements into the Capital Requirements Regulation (CRR III).

The proposals would require banks to calculate the floor at a consolidated level only – using the entire group’s assets – enabling them to recognise offsets between the floor’s effects on different business lines and thereby reducing the level of the floor.

But, in another flashpoint for EU member states, a series of transitional measures would dampen the floor’s impact until the expiry of an extension in 2033 – a deadline some states would like to see extended. Others want the measures deleted altogether.

Both fights will influence whether and when the floor either tightens – or eases.

Home-host standoff

The home-host floor fight is the latest clash in an extended struggle between the two camps over prudential rules. While the host camp can claim victory in the most recent battles – the CRR requires capital and liquidity requirements to be calculated at all levels of consolidation – the Commission’s departure from this precedent has stoked fury among host states.

“They feel that there’s been a kind of a breach of the home-host balance,” says a representative for an EU member state of the Council’s CRR discussions.

“The Commission’s proposal breaks that equilibrium, so it’s a matter of principle to a lot of those member states. It’s not going to move through the Council without those member states accepting the compromise.”

Host nations argue that the proposed application of the floor is a departure from the way capital requirements are set in the EU.

But the main reason they want more capital held at individual subsidiaries is that they do not believe banking groups will support local entities in all circumstances, which could lead to local regulators having to clean up a mess made by another country’s bank.

More capital at the subsidiary level would also ensure that the internal models of local entities aren’t underestimating the risks subsidiaries run locally.

“You can see there being a rationale from the host regulators’ perspective as to whether or not economic risks are going to be underestimated

in the subsidiary,” says Monsur Hussain, head of financial institutions research at Fitch Ratings. “The [local] model risks might well be underestimated if the output floor is applied solely at the consolidated level.”

A counter-argument to this view is that it could reduce banks’ ability to provide support to a weak part of the group.

“If one institution should get into trouble, the parent won’t be as able to help out this subsidiary [because] capital could be trapped in another subsidiary,” says Louise Sofie Skiffard, head of capital planning at Danske Bank.

The full shortfall doesn’t necessarily have to be met by such subsidiary resources, however. Banks can issue guarantees from their head office against some of their subsidiaries’ risks, which reduces the total RWA of the subsidiary.

“You can inject more equity into your subsidiary, and you can guarantee some of their risks,” says Adrian Docherty, head of bank advisory at BNP Paribas. “Both are in widespread use but [they] have limits to their application, such as internally set large exposure measures and going through various local legal processes.”

While acknowledging that if subsidiaries have more capital, the risk of their getting into trouble will be smaller, Skiffard says that “application on a consolidated level will make for a more efficient distribution and use of capital”.

Meanwhile, the Commission put forward a redistribution mechanism that would ensure capital requirements set by the floor are allocated to subsidiaries. The details are vague, but the broad idea is that, if a group is bound by the floor, then the

extra capital beyond the internal model calculation should be distributed according to each subsidiary’s contribution to the breach of the floor. Two sources say this was intended to head off opposition from host member states – unsuccessfully, it seems.

The senior regulatory affairs manager at the European bank is disappointed by the hosts’ speedy dismissal of this compromise without carrying out a proper impact assessment of the effect of the redistribution mechanism and how much capital it will allocate to subsidiaries.

“It just shows it is so politicised because this compensation mechanism that the European Commission has put in the proposals [has not even been] considered properly,” says the regulatory affairs manager.

The host member states’ complaints about the redistribution mechanism focus on its complexity – an aspect that is acknowledged within industry circles.

Their own proposals would increase capital requirements for some banking groups and likely result in more banks having the floor determine overall capital requirements than would have been the case with a consolidated-only floor. Although no-one knows precisely what the difference in capital will be for the European banking sector.

The closest answer is a study by the European Banking Authority, presented to the European Commission in March 2020.¹ Among its findings, the report says that one benefit for host member states is that applying the output floor to individual entities would level the playing field between subsidiaries of large foreign banking groups in their jurisdictions and their own smaller national banks.

“You can see there being a rationale from the host regulators’ perspective as to whether or not economic risks are going to be underestimated in the subsidiary”

Monsur Hussain, Fitch Ratings

Goliath versus David

Those in favour of a consolidated-only approach argue theirs is the way the Basel Committee envisages the rule to apply; the standards state that all Basel III rules should be applied at a consolidated level for internationally active banks.

But the joint efforts of the host nations are making them nervous that the opposing camp will prevail.

“There is a level of co-ordination with the host member states, which is why we’re very concerned that we will lose the consolidated approach overall,” says the source.

For large banking groups, the bottom line is that the hosts’ proposals could potentially lead to higher capital requirements – particularly for groups reliant on internal models throughout their businesses.

For the ‘home’ camp, France and Germany house the largest banking groups in Europe and so would stand to benefit from the potential offsets between businesses that are – and are not – affected by the floor.

For example, low-risk businesses such as residential mortgages are assigned low RWAs by internal models due to low historic losses in Europe.



That isn't reflected in the standardised risk weights used in the Basel Committee's credit risk framework, which is calibrated to reflect the combined jurisdictions' markets.

Meanwhile, internal models produce high RWAs for consumer lending, consistent with the standardised approach. If an internal model produces RWAs that are above the floor for consumer lending, that gives more room for mortgage RWAs to be below the floor elsewhere in the group.

One disadvantage for the home camp, however, is France's current EU presidency – a role that charges it with guiding legislation through the Council – which means it cannot be seen to take a proactive stance in any one side of a debate. Its presidency is due to expire at the end of June when the Czech Republic will take on the mantle. It seems unlikely that the Council will be able to agree the final version of the CRR before then.

For the European Commission, an output floor applied at individual level would go against its objective of creating an integrated single market, because it would increase costs for European banks running large cross-border businesses.

"The more internal allocation you have, the more fragmentation in the EU single market and crucially the banking union," says Scott Martin, a senior manager in Deloitte's centre for regulatory strategy. "Having fragmentation for cross-border banking groups that are operating within the eurozone is totally against the European Commission's macro-policy objectives."

Bottom line

The European Banking Authority (EBA) report submitted to the European Commission in March 2020 shows the baseline impact of the output floor on a consolidated basis – without transitional measures – reflecting compliance with the Basel Committee framework.

The capital increase from the reforms is mostly concentrated in the largest globally active banks in the EU, according to their last monitoring report published in September last year. This is evident in the output floor – for internationally active banks with Tier 1 capital in excess of €3 billion (\$3.27 billion), the floor resulted in a 7.4% increase, whereas all other banks experienced only a 2.2% impact.

The deviations from the Basel Committee's output floor aren't taken into account in the report, which was published before the European Commission's proposals.

"In terms of estimating and understanding the actual impacts of the solo-based requirements versus the consolidated level, it's really difficult to get a firm grasp of those numbers," says Fitch Ratings' Hussain.

While the EBA report looks in most detail at the impact of the output floor applied at consolidated-only, individual-only and at all levels, the EBA itself cautions against making conclusions based on its data, due to several limitations.

These include the fact that the data is from a reduced number of European banking groups; in a previous study, published in August 2019, the EBA analysed data from 115 banking groups, whereas the study of the different floor levels uses data from only 51 banking groups. The study also left non-EU entities out of its calculations.

Counterintuitively, it found that capital requirements would be higher overall for European banks with a consolidated-only approach versus a floor-only approach for individual entities. One reason is that a consolidated approach relies on the parent company's method for calculating RWAs, ignoring methods used at each subsidiary.

A parent entity using an internal model could therefore find itself bound by the consolidated floor on all the group's assets. By contrast, if individual subsidiaries use only standardised approaches, the application of the floor to each subsidiary would have no impact on each entity's capital requirements.

The host camp doesn't advocate an individual-only floor, however, but a floor at all levels – consolidated and individual. As a result, all banks would be caught whether the floor is more binding at consolidated or at individual level. And those banks for which the floor would be binding at both levels would face having a minimum capital requirement set at the higher of the two, and for a certain amount to be trapped in subsidiaries.

A. Impact of consolidated and individual output floors			
Impact of output floor	Number of banking groups	% change in Tier 1 minimum required capital due to output floor at consolidated level	% change in Tier 1 minimum required capital due to output floor at individual level
No output floor impact	30	0	0
Output floor impact at consolidated level only	1	Not disclosed to ensure confidentiality of group	Not disclosed to ensure confidentiality of group
Output floor impact at individual level only	6	0	2.3
Output floor impact at individual level > output floor impact at consolidated level	5	1.1	5.4
Output floor impact at individual level < output floor impact at consolidated level	9	23.9	9.9

Source: EBA

Large banking groups would feel the greatest impact on capital requirements if the floor were calculated at both the entity and overall group levels, in tandem with the deletion of the temporary measures. The least impact to them would stem from a floor calculated at parent-entity level, using the whole group's assets, coupled with the temporary measures becoming permanent (see table A).

Transition trials

A series of transitional measures within the CRR proposals, designed to dampen the impact of the floor, nonetheless adds to the unpredictability of the floor's impact – for various reasons.

Firstly, the European Commission has powers to extend the relief period past 2033. Secondly, one of the measures relies on member states to activate the relief, which opens up potential divergence between EU countries.

"The European Commission proposal allows options that delay the actual implementation of the output floor as designed by the Basel Committee," says Deloitte's Hardcastle. "That's one of the reasons it is quite hard to make an assessment of what the effect of the output floor really will be."

"If we take into account the proposed transitional arrangements... we can expect that the output floor will restrict the group at the earliest in 2033 when the transitional arrangements are set to lapse," says Danske's Skiffard. "It is of course important to state that the outcome of the negotiations is uncertain and may lead to further adjustments based on the final adopted rules."

The transitional measures also lower the standardised risk weights for CCR in derivatives trades, residential mortgages and unrated corporates.

European regulators have warned the Commission against using powers stated in the legislation to extend the measures further.

The Commission proposes to reduce the risk weight for unrated corporates, and to lower standardised risk weights in the output floor calculation for mortgage exposures secured by residential property, which are deemed to be low risk.

It is up to member states to decide whether the residential mortgage relief can be applied to mortgage exposures in their country. It will then be applied to all those exposures, regardless of whether the mortgage lender is based in the country itself.

This leaves concerns that some banks will not be able to benefit from the relief because their local authorities oppose the measures as deviations from the Basel Committee's rules – or as a potential financial stability risk if mortgage markets in some EU states are seen as overheated.

"What we find extremely bizarre is that the European Commission has put the discretion to apply this mortgage relief in the hands of member states," says a senior regulatory affairs manager at a European bank. "That will impact the output floor."

In a leaked document obtained by *Risk.net*, Germany, for example, states that the EU should be cautious of the potential risks stemming from the sector amid soaring prices but doesn't propose to delete the measure. Germany's national supervisor, Bafin, recently announced plans to increase its national countercyclical capital buffer from 0% to 0.75% and set a national systemic risk buffer at 2% on exposures to German residential mortgages. The measures are set to take effect from February 1, 2023.

But before member states are given a choice on the relief for mortgages, they must agree on the transitional measures as a whole. Comments in the working paper from December last year show a stark difference in attitude between member states that want to extend the transitional measures and those that want to get rid of them altogether.

Battle lines appear to be drawn along a similar pattern to those around the capital floor.

Belgium proposes to delete the measures for unrated corporates and residential mortgages but would allow for the SA-CCR relief to last until the Basel Committee proposes an alternative multiplier, rather than the EC being able to make the relief permanent.

Finland and the Netherlands make amendments that would delete all three measures, while the Czech Republic, Ireland and Poland label some or all of the measures as deviations from the Basel Committee's rules.

At the other extreme, Denmark argues for the transitional reliefs for unrated corporates and residential mortgages to be made permanent. France also supports the possibility of the transitional measures being extended.

"These carve-outs for mortgages and unrated corporates have a very long transition," says Docherty of BNP Paribas. "I think the imperative is that they are made permanent. They're necessary in order to make the CRR implementable, but they can't then be removed at a later date."

Suggested amendments made by France would set the unrated corporates exemption to lapse when the coverage for ratings in each member state reaches 75% rather than at the end of 2032. Corporates with ratings usually benefit from lower risk weights under the standardised approach.

France's proposed target is ambitious, especially as it applies to every member state individually. A study published within the EBA's August 2019 report found that only 21% of bank exposures to small and medium enterprises had external ratings, and only 25% of non-SME corporates.²

Germany stresses the unrated corporates exemption is of utmost importance and proposes the EC could extend the relief by five years.

Once these transitional reliefs lapse, the consolidated output floor is expected to bite some EU institutions quite badly.

But if they never lapse, the floor may never come into play. ■

Previously published on Risk.net



Manneken Pis, Brussels

¹ EBA, Letter to Mr J Berrigan re output floor and equity exposure, <https://bit.ly/3AykcCe>

² EBA, Policy advice on the Basel III reforms: credit risk, <https://bit.ly/3yKGRK6>

LSEG beefs up non-cleared ambitions with Quantile deal

Agreement to buy optimisation firm for £274 million strengthens LCH's foreign exchange foothold as the standardised approach for CCR bites. By Helen Bartholomew

The post-crisis stampede to central clearing has largely run its course. Volumes are colossal, running past the quadrillion dollar mark in annual cleared notional, but growth has stalled. While LCH SwapClear registered a record number of interest rate derivatives trades in 2021, annual cleared notional fell 13% to \$921 trillion – its lowest volume for four years.

With limited success ushering non-mandated products into clearing, London Stock Exchange Group (LSEG), LCH's parent, is sharpening its focus on bilateral markets. It's here the announced £274 million (\$374 million) acquisition of optimisation firm Quantile Technologies is expected to power a new wave of growth, as a revised capital and leverage regime rouses demand for next-generation rebalancing tools.

"What we're hearing from customers is a shift – certainly in rates – that clearing is a means to an end and what they are really interested in is how they can be more efficient with capital, margin and other resources," says Daniel Maguire, head of LSEG's post-trade division and chief executive of LCH Group.

He adds this trend is increasingly pushing beyond the notional-heavy interest rate derivatives market, as new capital measures including the standardised approach for CCR (SA-CCR) flip resource optimisation priorities to alternative asset classes such as foreign exchange.

"Clearing isn't always the answer. We're seeing the advent of more optimisation in the FX space and equity derivatives space. Quantile has a multi-asset capability and having these tools available will enable us to bring more value to customers who want to maximise their return on capital."

Quantile began life in 2015 offering margin optimisation services, which roll up banks' bilateral exposures and suggest new, offsetting trades. The firm, which now employs around 90 people globally, has expanded to other asset classes including FX and equity derivatives and is one of two vendors offering multilateral compression for cleared interest rate swaps at LCH.

LCH's foray beyond clearing began in 2016, with the launch of SwapAgent. By bringing bilateral trades under a standard credit support annex (CSA), SwapAgent aims to deliver many of the benefits of clearing, such as compression and optimisation. Growth accelerated in 2021 with annual trade counts hitting 10,000 – a sixfold year-on-year increase. Through its acquisition of Quantile, LSEG hopes to blur the distinction between cleared and non-cleared markets and extend its reach to more bespoke portfolios.

"You'll seldom find someone in an institution who is only head of rates trading for cleared or only head of rates trading for uncleared. Within LSEG post-trade, we have operated with this necessary but artificial dividing line between the cleared and uncleared products. Where we think Quantile is a very good strategic fit is in having that micro service in helping people optimise across their cleared and uncleared portfolios," says Maguire.

"If we have a database of trades in SwapAgent – a database of trades in pure bilateral

and a database of trades in the clearing house – everyone will have appropriate access to optimise. It's really going to be driven by customers and what they use."

According to Andrew Williams, Quantile's chief executive and co-founder, the acquisition will give the firm better access to banks within LCH's client base it has not yet onboarded, giving the potential to enhance the all-important network effect and fast track growth in tools designed for a changing capital framework.

"A big part of multilateral optimisation is bringing together a large network of counterparties to be able to simultaneously reduce exposures. The relationship with LSEG should really help us to build and extend that network by introducing us to a wider prospective client base. Being part of a larger group will also help us to launch further services over the coming years. We've been working on these services as a standalone entity, but we think this acquisition helps accelerate growth," says Williams.



FX focus

FX is an initial focus for the tie-up. LCH has had only limited success driving these non-mandated instruments towards clearing. While the central counterparty's ForexClear platform registered 14% growth in 2021, cleared annual notional of \$21.7 trillion remains a drop in the \$4.6 trillion-a-day FX derivatives ocean. Incentives to change the status quo are few and far between as physically settled FX swaps and forwards are exempt from non-cleared margin requirements.

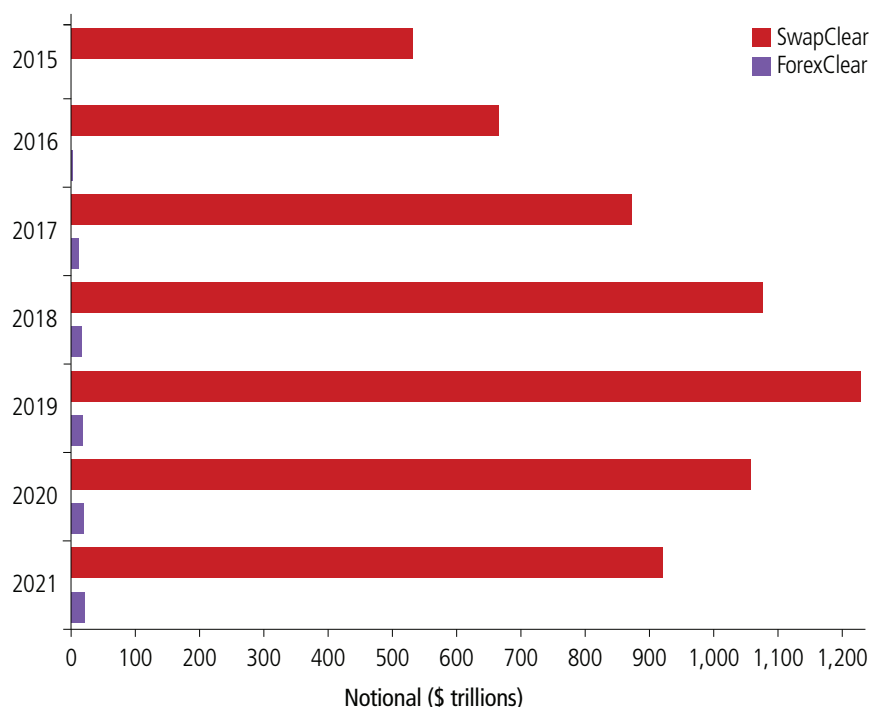
Yet these instruments face new challenges under the SA-CCR, which became compulsory for US banks on January 1. Banks in the European Union were required to adopt the new measure in June 2021.

While the outgoing current exposure method (CEM) calculates capital on the basis of gross notional, the SA-CCR's risk-sensitive approach nets down offsetting exposures. For well-hedged portfolios this may result in lower risk-weighted assets (RWAs) and risk capital. Yet FX portfolios face headwinds on a number of fronts. The SA-CCR does not weight trades by duration, meaning short-dated FX swaps and forwards deemed innocuous under CEM could guzzle capital in the new regime. Moreover, FX portfolios also tend to be heavily directional, meaning they will be penalised under the new framework.

Quantile is one of handful of vendors aiming to soften the blow. A new capital optimisation service has been piloted for FX through 2021. Following successful runs covering up to 35 entities, the service is expected to enter live production in the coming weeks.



1 LCH annual clearing volume



Source: LCH

“Risk-based capital is the main focus going forward as opposed to notional-based capital, reflecting the move from CEM to the SA-CCR. It’s changing how we think about optimising and reducing that risk,” says Williams.

It’s not only the SA-CCR driving optimisation efforts. The Comprehensive Capital Analysis and Review (CCAR) for US stress-testing, the EU’s large exposures regime and the internal models method (IMM) for calculating credit RWAs are all spurring a post-trade efficiency drive, sometimes with competing requirements.

“We’ve built the platform in such a way that a client can target one risk measure or a collection of risk measures. Our view is that you get a bigger network of parties when you cover more capital measures that may be relevant to different firms. Regardless of whether you’re optimising the SA-CCR, IMM, large exposures or CCAR, they’re all reducing counterparty risk, just measured in a slightly different way,” says Williams.

He adds that the capital optimisation service will be expanded to other asset classes, including rates, equities, credit and commodities.

LSEG hasn’t given up on its clearing ambitions and hopes to grow its services in FX and other asset classes. “I think there is a good case for more clearing of FX but it’s just part of the solution to making that asset class more efficient from a

capital, risk and collateral standpoint. There’s plenty more scope in the FX space and there’s a question mark over equity derivatives, but when it comes to the rates market, I think it’s pretty mature now,” says Maguire.

LSEG will acquire 100% of Quantile, including the undisclosed minority stake taken by US private equity firm Spectrum Equity, which pumped \$51 million into the company in January 2021.

Quantile will be housed within LSEG’s post-trade division but will operate as a standalone company to preserve the UK exchange group’s commitment to open access. Competing vendors, including TriOptima, will still offer multilateral swaps compression at LCH, while Quantile will continue offering services at other clearing houses. In October 2021, the vendor went live for multilateral rates compression at Tokyo’s Japan Securities Clearing Corporation.

“Compression still holds an important part in resource optimisation from a capital perspective, especially for G-Sibs [global systemically important banks] as the notional component of a derivatives book is still a significant input into the G-Sib score. But there’s also the operational efficiency of good housekeeping, so compression still plays an important part in terms of capital management and operational efficiency,” says Williams. ■

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Citi's share of cleared swaps hits new high

Latest quarterly increase, alongside that of Goldman Sachs, bucks trend across top US banks. By Alessandro Aimone

Citi's share of cleared trades accounted for more than 60% of its swaps book at the end of 2021 – the highest point on record for the bank and the second-highest level among the eight systemic US banks. The dealer reported \$23.1 trillion of cleared derivatives notionals at the end of December 2021, up \$395 billion from the previous quarter. Bilateral positions fell almost 8% to \$15.2 trillion over the same period, bringing the total notional amount of over-the-counter derivatives contracts to \$38.3 trillion – 2% lower than in the third quarter (see figure 1).

Figures from the quarterly systemic risk reports US dealers file to the Federal Reserve show the bank's share of cleared swaps hit its lowest point in Q4 2017, at 42.5%, before steadily climbing to 60.3% four years later.

Goldman Sachs was the only other bank in the group to increase its share of cleared swaps in Q4, from 48% to 50% (see figure 2). In contrast, Wells Fargo saw the biggest reduction, from 69% to 63%, followed by Bank of America, from 62% to 59%, and Morgan Stanley, from 54% to 52%.

On aggregate, the eight dealers reported \$202 trillion of OTC derivatives contracts, down 4.5% quarter on quarter. Just over \$109 trillion of these were cleared trades, down almost 6% over the same period.

What is it?

US banks produce quarterly systemic risk reports, known as FR Y-15s, which are used by the Federal Reserve to assess the importance of individual firms to the financial system and set capital add-ons accordingly.

OTC derivatives notional amounts are included in the reports, separated into those related to trades cleared through central counterparties and those conducted between firms without these intermediaries.

Why it matters

Unlike many of its US peers, Citi has been embracing clearing for quite some time. The upward trend recorded since 2017 and the latest uptick are testament to this commitment over the years.

Looking at the bigger picture, the share of cleared swaps across all systemic US banks has been oscillating between 47% and 57% over the past four years.

This could soon change, driven by a wave of regulations. The sixth – and last – implementation phase of the non-cleared swap initial margin rules is just six months away. Originally scheduled for September 2020, it was postponed by two years in the wake of the Covid-19 pandemic.

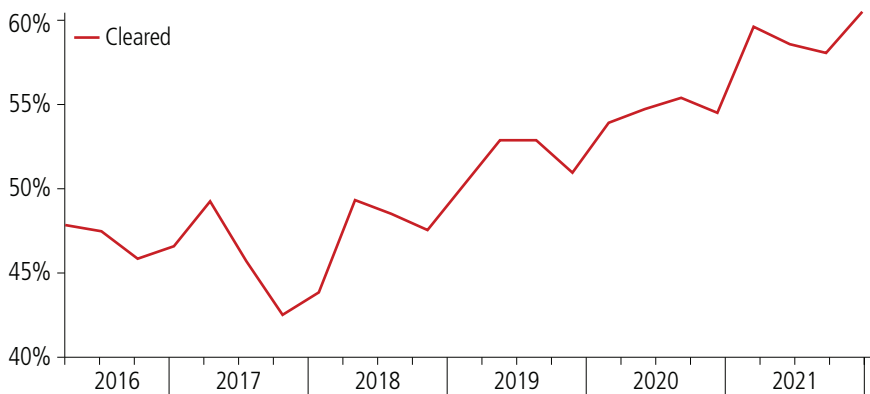
Phase 6 will lower the average aggregate

notional amount threshold for firms to be in scope to \$8 billion, as part of a larger regulatory push in the industry that incentivises the use of central counterparties for these types of trades.

Moreover, the standardised approach for CCR, which kicked in in January 2022, penalises uncollateralised swaps significantly. As banks adapt to the new framework to avoid facing higher costs, we might well see a spike in the coming quarters and a more defined trend. ■

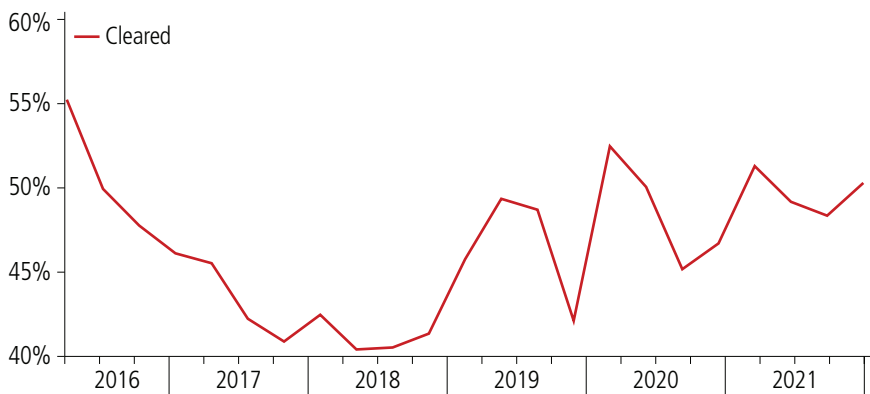
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1 Systemic US banks' share of cleared derivatives notionals (Citi)



Source: US bank FR Y-15 reports, Risk Quantum calculations

2 Systemic US banks' share of cleared derivatives notionals (Goldman Sachs)



Source: US bank FR Y-15 reports, Risk Quantum calculations

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