

Derivatives Intelligence

OIS ROUNDTABLE 2013

Since the latter part of 2007, there has been an increased switch by market participants in adopting overnight indexed swap discounting for interest rate swaps. Last year, *Derivatives Intelligence* brought you its first OIS Roundtable, where discussions focused on challenges surrounding CSAs and valuations, and the subsequent technology developments being made by financial services companies. This year, *DI* takes the discussion further, looking more closely at areas including those currencies outside of G10 and how the Standard CSA initiative is progressing.

Managing Editor **Rob McGlinchey** sat down with senior officials from The **Royal Bank of Scotland**, **Bloomberg** and **LCH.Clearnet**'s SwapClear to discuss the latest trends, developments and challenges in OIS.

PARTICIPANTS



HARRY LIPMAN, global product manager for OTC derivatives at **Bloomberg LP**



PHILIP WHITEHURST, director, **SwapClear** product management at **LCH.Clearnet**



SIMON WILSON, global head of algorithmic rates trading and co-head of counterparty exposure management at the **Royal Bank of Scotland**



ROBERT MCGLINCHEY, managing editor of *Derivatives Intelligence*

Derivatives Intelligence: *Before we look at current developments surrounding OIS, let's first take a look back at the last few years and discuss why the market moved to OIS and how that market has developed.*

Philip Whitehurst: The watershed moment for us was probably the **Lehman Brothers** default. We had a pretty good performance in terms of the outcome for our participants, but it was clear there was something of a transition going on in terms of the bid behaviour. We felt there was a role we could play in reasserting a genuine consensus, and because we have such a straightforward collateralization policy, it was a natural thing for us to then adopt OIS discounting. This was really the genesis for us in terms of our involvement in the market.

Simon Wilson: I presume that happens because, during the default processes, it is the first time that you get a clear sense from a multiple number of banks about how to value a particular portfolio. So I guess it's less about the actual default and it's more that the process highlights it so very obviously, particularly when you get 12 banks sitting there and participating on valuing a single portfolio at a single point in time.

PW: You are absolutely right—we do have fire drills, but the acid test is the real thing. We saw clustering in the bids and that was indicative of the two different approaches that were prevailing at the time.

SW: It's worth pointing out that when I was trading swaps intensively during that period of time, we really started to notice the divergence between funding levels. This was happening quite a long time before the Lehman default—midway through 2007 was when you started to get a big

divergence between OIS levels and Libor levels. Historically, when Libor levels have blown out relative to straight overnight funding levels, it's been systematic of events to come, and that is certainly how it played out.

Harry Lipman: From a market perspective looking back at 2007, the indicators such as cross-currency basis and swap spreads, among the different Libors versus OIS, were precursors to stresses in the system. At **Bloomberg**, the concept of funding and discounting has always been talked about and dealt with from a valuation perspective. However, during the crisis, we saw that some of the bigger banks were charging and posting collateral; at that time, US Treasury bills, which were driven towards zero, made it quite clear that the risk-free funding curve was something other than Libor. What made everything interesting, from what we heard from buy-side clients, was that inception trades and unwinds warranted two different valuation curves, and seemed to be biased towards whatever worked best for the dealers at that time. So this whole concept of trying to find a proper valuation for non-par swaps, both in terms of inception trades and unwinds, became very challenging, and the degree of freedom was to shift the discount curve to match valuation with "the street".

PW: I would certainly amplify that point. In terms of our early adopters on the buy-side, one of the key reasons for several of them was the valuation certainty that the OIS discounting environment gave them.

SW: For market-making banks, it was a reasonably hard time because you have to explain to your clients and the buy-side as to why you are changing what you've been doing for the last 15 years, and why what we were all thinking was the right thing to do six months ago was no longer the right thing to do now. That education process was very difficult, being the first bank to approach a client and say, 'I apologise, but the valuation that you've been thinking of for your swap is no longer correct.' But I am reassured now that four-to-five years later it is recognised that those initial discussions were at least correct.

PW: It also gives it a backing or a validity that there is a central utility that can be looked upon. This is the way the market has moved for the wholesale side, so that is then a justification for those values to permeate through the user chain.

SW: The last thing to highlight is that it does stress the fact that it is very important to have an



extremely standardized contract and documentation if you want to have a liquid and fully functioning market.

DI: *I want to move on to looking at currencies next, particularly currencies that do not have an OIS curve. What is the current market standard for such currencies?*

PW: In terms of the currencies in which we deploy OIS discounting—we obviously had U.S. dollars, euro and sterling to start with. We then followed that up with Swiss francs in 2011, followed by yen and Australian dollar. We also have an imminent deployment in Canadian dollars, taking the number of currencies to seven. I think it gets interesting as to whether it will evolve all the way to 17 currencies or whether there is a natural end to that process in some of the smaller currencies.

HL: Jumping ahead, the Standard Credit Support Annex (SCSA) makes reference to 17 silo currencies, all of which have a single overnight rate from each currency's central bank. But beyond that, in places such as Mexico and Norway, and even for the overnight rates in Hong Kong, the U.S. dollar seems to be the currency to deliver for collateral, so to speak. We at Bloomberg are in the valuation business (and we are not moving collateral around), but we know from developed market clients and from emerging market desks on the Street, that the U.S. dollar is the funding currency. Therefore, one could value EM domestic swaps, using an implied cross currency curve via the cross-currency basis swaps markets; therefore, implying a funding curve— call it an implied OIS curve as in the case of MXN. But, in reality, it's not truly their overnight rate: it's

cost by using U.S. dollars to collateralize interdealer swap transactions.

SW: You need to remember that it is not specifically the central bank that has to create that market, it's really a reflection of the lack of liquidity in overnight funding in that



market. You may have a perfectly functional monetary policy system in that currency, it's just if the liquidity isn't there, then people won't be funding themselves in that currency. So there aren't enough transactions that go on to make it practical to use. It's unlikely that many banks will fund themselves in NOK, irrespective of whether there is a rate or a well-controlled monetary policy. It's most likely that people will do their funding for NOK trades through the cross-currency market, as that is where the liquidity and funding is.

PW: As far as our policies are concerned, we have a very straightforward denomination cash collateralization. You can potentially break out of that concept, but what is really important is to retain certainty of what the collateral needs to be at the point people trade. So long as you limit the choice around that, there is some scope to allow a transport currency. We will discuss later the cross-currency risk, but back to the point Simon made, it's all about what the people bid at the point when bad things happen, that's what matters.

DI: *So, with those currencies that have don't have OIS curve—from a modelling perspective with Mexico, for example—you have a joint calibration of dual-curve stripping in conjunction with a cross-currency basis swap. Therefore, is this something that should be put in place for other currencies, and, do you expect all non-G10 countries to be going down the road of trying to develop an overnight market?*

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not an overnight rate being governed through the auspices of the Mexican central bank. It is implicitly the funding

HL: This is what we have heard for places like Mexico: in terms of the valuation, it's always a matter of what information you are coming to the table with. For example, look at the domestic swap curve—in terms of calibration instruments, one needs to consider the standard cross-currency basis swaps between USD and MXN. Given that you can imply a funding curve, we are talking about a funding curve that can be 100 basis points lower than the domestic Mexican TIE



swap curve. The effect of dual curve stripping is roughly a function of the spread between the domestic curve, and the OIS (or funding) curve, as well as the steepness of the curve. Given that it is a wide spread of 100 basis points and a fairly steep curve, the net effect on, for example, 10y10y, results in 20 basis points differences in the valuation of a 10y10y par swap coupon when comparing USD funding valuation versus domestic TIE funding. Coming back to British Sterling, the effect of dual curve stripping (without cross currency effects) is probably more on the order of three or four basis points, and for the Euro it is probably a couple of basis points. Although some of these EM currencies are less liquid than G-4 currencies, and there are fewer of them, getting the modelling correct is important as it can have a huge impact on valuation.

SW: It is worth pointing out that if you are able to fund in a certain currency—so if you are a Norwegian or Mexican bank and have access to funding—you may very well have access to funding at a different level to what the rest of the market does. Therefore, the value of a swap may very well be different to the next person along, even though the terms of the CSA are exactly the same as what it might be with someone else. You are then beginning to get into the details as to how you fund yourself as a bank and institution and what impact that

has on your derivatives portfolio. So that is the key point—the value to another person may very well be different to your own value, irrespective of any kind of legal or contractual documentation.

HL: Touching on that point, there are two parts of this game from a valuation perspective. One is to work out what the interdealer community is doing, what is the assumed CSAs amongst them as they trade in the highly liquid transactions and what we call standard quotes in the market. Knowing those assumptions, we then produce calibrations consistent with this information. Once you understand those assumptions, in theory you could properly develop the forwards and your volatilities, in addition to a whole host of other things. When it comes to more of the discussion of, 'here you are as a hedge fund, here you are as a specific bank, how do you value your portfolio,' that is another topic. The next question would be, "What is your funding cost, and, in terms of others, what is the general funding cost?"

DI: *If we look more specifically at Mexico and Norway, for example, where you have a cross-currency relationship, how do you handle the valuations for such currencies?*

PW: For us, we will have to work through each issue methodically if we were to move away from the denomination currency approach we have at present. Its back again to that central point that clearing brings standardization. In one sense, people think of that as commercial terms such as day count fractions, but its also around collateralization policy. So long as people know what the collateralization policy is surrounding

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the contract they are trading, it gives a benchmark against which people can make prices to be collateralized in other ways. Our job is to be transparent as to what the contract is you are trading if you end up with a cleared swap.

DI: *At the OIS Roundtable last year, the main challenge facing the market was non-standard CSAs. Can you discuss*

how the SCSA initiative is developing and what benefits this will bring to the market?

HL: Bloomberg is in discussion with ISDA to be the calculation agent for the SCSA; however, we are not setting the SCSA contractual policy. We are involved in the execution of getting the numbers right with regard to the SCSA rates. The calculation is a method where a rate is applied to a particular silo currency, so that the valuations more closely match domestic OIS discounting. What it really allows you to do, when you deliver in an alternative currency such as yen, for example, is to value and collateralize a U.S. dollar cash flow. When you mix the currency there is a certain valuation edge or gain, which you can optimize or minimize from the perspective of the institution posting collateral. When I'm speaking of collateral, I'm only speaking of cash and not bonds—that's a whole other world of possible haircuts and nuances. Focusing on cash as collateral, there is a certain gamesmanship that goes on given the current CSAs that exist, where one can optimize and minimize this concept of delivery. The SCSA format essentially evens the playing field. So although one can still deliver seven different transport currencies for any one of these 17 silo currencies, you

the SCSA is somewhat limited. But the operational changes are fairly significant—the ability not only to deliver one currency but many currencies and additionally the ability to do the calculations correctly and have them validated



and communicated with our clients correctly is a fairly large change that's going to be required. So, it wouldn't surprise me to see the adoption somewhat muted, particularly in the context that we have the ability to clear, and that client clearing will become a much more dominant factor anyway. So it may be just simpler to do client clearing for the clients to clear the majority of the trades that they want to clear in order to get that standardisation, without necessarily having to impose the operational overload.

PW: It is a good opportunity to talk about the fact that we use the catch-all term "buyside" when in fact there are a lot of different user types out there. Some are exclusively using clearing eligible products, so the chances are the move to clearing will solve this problem for them. The other communities of users are doing a balance of business, some of which can be cleared and some of which can't. So, for those users, they are still going to have bilateral positions and they will probably want harmonisation between the collateralisation of the cleared business with the uncleared business, and that will probably drive them towards adopting the SCSA.

HL: The harmonization is a driving force for adoption. The other side to that, from what I understand from clients, is that they have existing CSAs and quite often are asked to pay money to the dealer community to unwind what might be an existing CSA into something that has less optionality or, ultimately, the final SCSA. Even though SCSAs are anticipated to be adopted and replace existing CSAs for non-cleared products,

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— Philip Whitehurst, SwapClear, LCH. Clearnet

still have the option of choosing an alternative currency. But the net effect of calculating this implied rate, in essence, levels the playing field, such that it would be equivalent to domestic OIS discounting. It is also consistent with the **LCH.Clearnet** framework. So we are in discussions with the **International Swaps and Derivatives Association** and we are hoping this will be released to the market later this year.

SW: From a market maker point of view, the thing that I would highlight is that the standard CSA does introduce a fairly large operational change on both the processes at the sellside as well as the buyside. It is worth pointing out that due to 90% of clients talking about regulatory change, the overhead of adopting regulatory change at the moment means that the ability to rapidly adopt the operational changes required for



the suggestion to do so for new trades or new transactions, or possibly when the pay-up exiting the old CSA into the new CSA is not prohibitive.

SW: Just to highlight the points that Harry and Phil have made, as a sellside firm we will be led by our buy-side clients. When our buy-side clients tell us that the SCSA is

the thing that they want and are going to require, then we will be led by that. Until we get that pull, if you like, we will be gentle with the technology overhead.

DI: *Looking ahead, one area that is developing is 'cheaper-to-deliver' surrounding collateral. How are you seeing that play out?*

SW: I am going to start with a little anecdote. We had a client discuss with us recently about the posting of collateral, and it was the first time that they had a look at what they were delivering as collateral and what they should be delivering as collateral. It's not something that we examine in that much frequency—we treat our portfolio as a holistic whole rather than looking at what every client is posting to us or what we are posting to them. This client had realised that they had been

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posting a type of collateral because it had been convenient for them. Had they been going into the market and doing a collateral transformation process and obtaining a cheaper

source of collateral, they would have taken an extra 20 or 30 basis points out of the collateral they were posting on a daily basis. It's therefore interesting to see that this level of expertise

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is filtering out to the buy-side and our clients. That was an interesting anecdote for the last two months and it's the first time really that we have seen that level of detailed interest along the lines of: 'What am I posting, how can I post it, how can I transform it, and what I am supposed to be doing here?'

PW: This is part of how the switch to OIS discounting came about for dealers, in that collateral management was a very distinct function. The traders were busy making the money and then the collateral management was a separate downstream activity. It was only when someone joined together the fact that the embedded funding expectations going on in the swap pricing were not being delivered by the collateral that was coming in. It became apparent that there was a leakage between those two activities. It therefore doesn't surprise me to hear that the buy-side clients are looking at a more integrated approach.

HL: I can certainly echo this pickup in interest. We rolled out what I would call an intrinsic valuation under these different collateral currencies, which is only applicable for G4. The intensity of the interest in this and other currencies has really picked-up. At Bloomberg, we plan to expand from G4 to G10 and G12, depending on how far we can go with the available cross-currency information, and build a slightly more robust system for this simplistic valuation—that is to say one currency at a time as a possible choice for delivery. The next level, which will come out later this year, has been coined the blended curve by the market. For example, if any of these G4 currencies are deliverable and based on the current swap and cross-currency quotes, you get what is the optimal curve and minimal or lowest yielding curve, which might consist of delivering dollars for the next 12 years. Then, all of a sudden cutting over to yen because that will be lower yielding at that time, which of course is calibrated to today's set of swap

quotes with no concept of true optionality. We call that intrinsic option valuation. We've also heard that some of the top-tier banks have thought about a more stochastic valuation, so putting it through a stochastic process or doing a Monte Carlo of some kind. We don't see that as necessarily worth pursuing at this point, for a number of reasons. First, we think the useful market inputs are not there for proper calibration, such as correlation or volatility of cross-currency basis swaps—there are no swaptions or caps on those instruments, at least not traded that I know of. So the market inputs for proper calibration in a stochastic sense are just not there. The other reason is that we also have other competing forces in the market—moving to clearing for vanilla products and clearable products as well as the SCSA which takes the gamesmanship away.

SW: The comment I would make on that is that we have looked at the optionality, but our fundamental business is a market making business to our clients. I don't necessarily want to be trading an exotic option with correlations and volatilities across multiple products. When I could do a 10-year swap, I really just want to only be considering the market making opportunity, which is also what my clients want me to do. Our driving force is going to be more toward standardization to ensure our clients can access that standardized set of trading rather than to try to establish any kind of market in this exotic or hybrid option.

DI: *So looking one year ahead from now, what developments do you expect to have occurred in OIS?*

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SW: I think the big thing really is regulation and the introduction of client clearing—the September deadline in Dodd-Frank will really be a key event where a significant majority of the market



on the buy-side begins clearing in earnest.

HL: I think from our perspective, it's a question of which currencies, which types of option valuation, or which interest rate models we continue to expand. The concept we started with was vanilla swaps, but we have also expanded our scope to include swaptions and simple option valuations. Our remaining challenges will be to push that out further. But I can't see the market moving backward—OIS is here to stay.

PW: The key is that we don't want to compromise the fundamental requirement for certainty in collateralization, but I think we would anticipate perhaps that it doesn't inevitably involve the development of an OIS curve in every currency. I also think OIS is here to stay. So I think you will see innovation in cleared products that fully account for OIS discounting. If you look at existing STIR products for example, OIS discounting creates an additional basis, so there is scope for new products to accommodate users that want an integrated and efficient margin result.

SW: The last thing I would say is that I also pay quite close attention to what Phil, **LCH.Clearnet** and the other clearing houses are doing from a product rollout. Currently, we have swaptions and other products not intimately involved in the OIS market yet, but as product clearing eligibility becomes available for other product types, it will become more of a dominant factor.

PW: That is going to happen. Swaptions and inflation are on track to become clearable so that is definitely something for the future.

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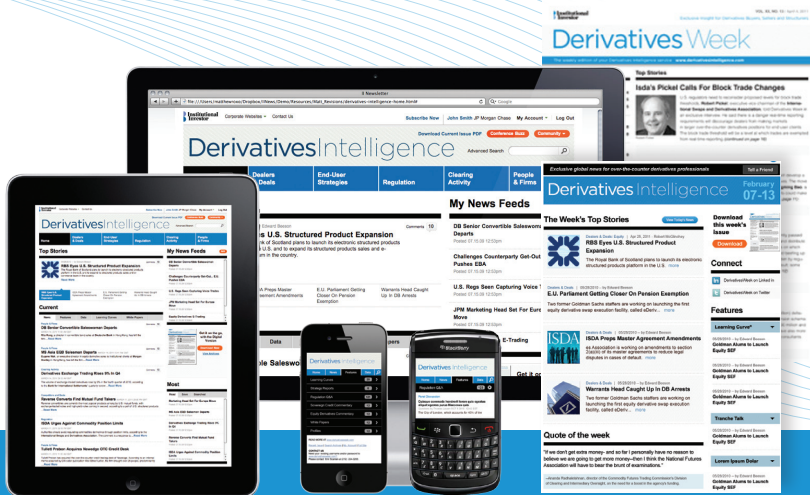
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