



Rounding off a difficult year

The inflation market has experienced severe stress over the last year, with a lack of supply causing a huge imbalance in the market. Last month, Risk and roundtable partners Barclays Capital, Citi, RBS and UBS convened to discuss the outlook for the market

Risk: It has been a difficult market for inflation in the UK. On the supply side, there has been a massive shortage – corporates have been pulled back from issuing due to the credit crisis, private finance initiative (PFI) deals have been put on hold. We have also seen a massive de-leveraging of hedge funds over the past few months. Can you describe the dynamics of the market in the past few months and talk about the relationship between break-evens, cash and swaps in the UK?

Dariusz Mirfendereski (DM): About a year ago, the credit crunch was well under way. We were seeing a couple of hedge funds that were involved in this market suffer and being made to unwind trades. It was very small scale, although we were getting indications that perhaps using the monoline insurers was going to be hard. There were indications that the supply side may be constrained but it wasn't dangerous as such.

When the Mitchells & Butlers deal unwound this year, it piled on lots more pressure. Mitchells & Butlers was a large supply-side trade from 2007 and it being unwound effectively took away that supply. We then saw more pension demand and trades going through with supply constrained. The situation got worse when a lot of other things happened. In the UK market, for example, gilts were Libor-minus for as long as I can remember. Historically, there had been but a few occasions when nominal gilts went to Libor-plus briefly. But, this time, when nominal gilts went Libor-plus, there was no chance for linkers to buy on asset swap at Libor-plus and the very long end went into complete distress. The supply of last resort was the linkers on asset swap. Investors would always buy them on asset swap when they got cheap enough, but that wasn't really holding true. For a brief period, post-Lehman, we saw asset swaps in the long end in the UK market go out to +170 basis points and wider. Obviously, this wasn't going to last forever and there were eventually some more sensible investors who came in and brought the market down to more reasonable levels.

The market is coping as best it can with restrictions of supply, by turning index-linked gilts into swaps through the asset swap route at very cheap levels. Going forward, we have to work out other ways to source inflation swaps. Network Rail, for example, is an avenue of swaps through turning its bonds into asset swaps. The real secret of success in this market is to have a balanced two-way market.

It is a slightly different story for the European market. The supply-demand imbalance was also an issue and that was exacerbated by spreads changing, by hedge funds being forced to unwind. Many of them were the short-term supply.

The Panel

Christian Alibert Co-head of inflation trading, Royal Bank of Scotland

Benoit Chriqui Head of European inflation trading, Barclays Capital

Sebastien Goldenberg Head of inflation trading, Citi

Dariusz Mirfendereski Head of inflation-linked trading, UBS

Christian Alibert (CA): Another reason we saw demand picking up in the UK through the course of the year – in particular, the first half – was the record levels of the FTSE 100. That facilitated pension funds switching out of equity and into fixed income. It is going to be a little while now before those levels are seen again. Of course, a lot depends on people's motivations as well. You get the classic two-way situation where, at low levels of the FTSE, people will be nervously compelled into a transaction or they will sit back and think they should be patient. Whereas once the index reaches higher levels, some people will think it is opportune to switch. Others might decide to sit it out and ride their luck.

Sebastien Goldenberg (SG): In 2006 and 2007, there has been more non-government supply linked to the UK Retail Price Index (RPI) from private issuers than during the entire period from 1990 to 2005. Year-to-date, the total issuance is only one-tenth of the levels we saw in 2006 and 2007. The dynamic of all the non-sovereign supply in the UK market has inverted sharply in 2008. Some corporate issuers have used attractive low real yields and high break-even Inflation to front-load some of their funding needs. Even though nothing indicates that they are cash-rich, it seems that they are comfortable enough not to come to the market at these levels. Indeed, it has largely contributed to the lack of supply in the first part of 2008. The market had been relying on monolines and a handful of Libor investors to maintain the link between the asset side and the liability side. This handful of Libor investors is no longer supporting this market. The market was operating under the assumption that there would always be a price at which these investors were going to be there to bid wrapped corporate inflation-linked bonds, at any point in time. They were the back bid for the inflation-linked bonds in asset swap, whether it would be a sovereign or a corporate, wrapped or not. When the credit crunch began, the monolines were the first victims, and the appetite for corporate inflation-linked bonds dried up, even with credit protection. The lack of appetite for a certain type of credit risk has challenged a significant portion of the inflation sourcing, ultimately, destabilising the market.



Dariusz Mirfendereski

Risk: Where do you see the supply coming from?

Benoit Chriqui (BC): From the middle of last year to the middle of this year, we did witness a very large rally in inflation swaps, but this was not just due to supply drying up. First, you had some corporates that had pre-hedged issues but were unable to find investors and therefore had to unwind those hedges. Then we saw an increase in pension fund buyout business. We also saw de-leveraging from a hedge fund community, which historically had always sold inflation as it was viewed as too expensive. Finally, as volatility increased and banks started running into value-at-risk and risk limits, we started to see de-leveraging from banks that also had to buy back inflation. All of those factors, on top of ongoing traditional liability driven investments, really distressed this market and moved swaps to very rich levels, both outright and versus bonds.

The inflation market was hurt probably more so than other markets through the de-leveraging flows seen this year. The reason is that the inflation market is more of a warehousing market. The interbank market for inflation is typically smaller than the end-user client flows, so banks execute trades and then warehouse them for long periods of time, either as outright inflation or versus bonds. Typically, for domestic inflation such as Spanish or Italian inflation, you could keep positions on for multiple years and, at some point, there would be some interest on the other side. You would always keep them on some kind of relative value consideration. This is the same with 0% floors in euro, where banks did not sell 0% floors to clients to buy them back from other clients, they sold them through structured notes and then warehoused them at a level at which they felt comfortable. So inflation was much more of a warehousing market. And, in a de-leveraging market, all the warehousing-type asset classes fare worse because most of the market has the same position and those positions are not initiated at levels at which they can be unwound quickly. The whole landscape in terms of how much banks are able to warehouse now has changed from a year or two ago, and that has some serious implications on the inflation market and how much liquidity inflation traders can provide to their clients now. Dealers need to work harder to make sure liquidity they provide to their clients remains satisfactory.

In terms of supply, it will come back to the UK market. The UK is a very interesting market as it has very large real assets and real liabilities. Utilities, PFIs and rental streams from housing projects have explicit RPI linkage, so it is not so much a question of if supply will come back to the market as it is of when. Corporates have been used to this very efficient form of hedging-out their RPI assets by issuing inflation-linked bonds, wrapped by monolines, and bought by Libor investors. It wasn't the only route available but it was the only route used as it was the most efficient. Having raised large amounts of cash, when levels worsened, corporates were not in a hurry to look at new, more costly, routes, but that is slowly changing and, as they come to terms with the fact they will not be able to get those old levels, we are likely to start seeing some supply again.

One of the biggest hurdles is that the only accounting-friendly way for these issuers is to issue inflation-linked bonds, which, because of the credit environment now, is probably the hardest thing to place. If there was some relaxation of accounting standards whereby they could do derivatives directly, they would be able to access and hedge out these real assets at extremely attractive levels for them. Long-dated real rates are at zero or close to zero in the UK in derivatives because of this lack of supply.

Risk: A lot of the supply is facilitated by the banks, but the banks lack balance-sheet capacity. Will this hamper potential sources of supply?

CA: Going forward, undoubtedly things are going to be run leaner. The reason the inflation market has suffered so much has been that it naturally reacts more rapidly to a need to contain risk because its turnover is much less. Things are already definitely starting to find a new way of operating. So there is undoubtedly more co-operation between banks and clients. Both sides are opening up a bit more to get transactions done. We are seeing much more the benefit of relationship banking, of seeing the whole picture of what is going on through the entire cycle of inflation. You can create a circle of transactions that the banks are simply facilitators of. We are now being a bit more creative and selective about how we are putting these things together. But the same circle needs to continue, it is just going to be a little bit more to order. That is one thing we are going to be seeing more of – the wider bid/offer spreads, essentially the price of liquidity. That is one feature I think took a little while for people to embrace, but there is now an understanding that you can get transactions done if you work with people.

Risk: Do you agree there will be a return to a relationship banking model? Does this mean the broker market is dead?

SG: The broker market is absolutely not dead. However, banks are certainly playing a bigger role in intermediating between the liabilities and the assets. Relationships with end-users are even more important than they used to be, as warehousing from banks and hedge funds has diminished.

The global de-leveraging and the return of larger bid/offers have contributed to lowering the betting activity. The liquidity has returned to the real market-makers. Banks are trading with each other through the broker market in order to reduce the risks they have in their books, when they struggle to offload them using their relationships with their clients. Not so long ago, every single market-maker would trade for its own account and place some bets, relying on very liquid markets to exit fast if needed. It is no longer possible to rely on a few prices on the screens and just add a few basis points from a so-called mid to guarantee a safe execution, with a quasi certainty that you will be able to find the hedge in the broker market. Today, the broker market is acting in a different way. The end of the appetite from banks to warehouse large positions during months or even years is a real opportunity for brokers, and we continue to see strong activity. In the weeks following the collapse of Lehman Brothers, we witnessed record volume passing via the brokers, as banks could not find the other side and had no appetite to warehouse large positions. We have seen trades happening with 10, 20, 30bp bid/offer in the broker market, which is something we haven't seen since the inflation market had been considered as mature. The broker market is still providing some liquidity between banks but less so than before, and screen-based prices are not as reliable as they used to be. There is more bank-client type activity than there used to be.

Risk: Several of you have mentioned that the asset swappers have pulled out of the market. Clearly this cannot be seen as a sustainable source of inflation. Is that fair?

DM: It is very fair. More specifically, it is useful to look at the UK market and see the non-sovereign supply, where is it coming from? We have all mentioned PFI and securitisation of leases and rents, but the utility sector is pretty much the only corporate sector issuing. If the whole corporate sector, or a much larger section of the corporates, was issuing inflation-linked bonds, we wouldn't actually be here. If you go back to the late 1990s, a lot of the investors – pension and insurance company investors – stopped buying inflation-linked utility paper because they were full on that sector. You just can't expect a pension fund to have so much exposure to one sector. And, if they are the only game in town, that is the only way they could do it. So having this avenue of stripping out the credit from the inflation was essential for the UK market to get the supply to the right people. The utilities wanted to issue, and for a while what they did was they issued fixed and did inflation swap overlays with banks. The inflation swaps got into banks, went into pension funds and the utilities managed to get their paper out. The fixed paper was bought by a larger universe of investors and not just the inflation hedgers.

When that broke down because accounting regulations made it difficult to justify, and it became a negative for the utility companies to issue that way, we all came up with the asset swap route. It was better for a larger universe of banks because facing utilities requires credit lines, which certain banks are happier doing. If you are a lender, for example, it is much easier to do that. But, by using the collateralised counterparties like these asset swap investors, it opened it up to many more banks to get involved. That itself was a problem because the asset swap investors were not that many and most of them required monoline wraps, and the monoline insurers were a limited universe as well. One after the other, the investors were saying "I don't want this monoline, or I don't want that monoline". Ultimately, you can't expect that set of investors and those monolines to do \$10 billion a year, year after year after year. At some point they will be full in terms of capacity for that kind of paper.

In some ways it is a good we are now looking for alternatives. The alternative is to have a long-term change in accounting rules, which will make it the same for them economically to issue an inflation-linked bond as a fixed rate bond. These things take time. A number of banks have been working with the regulators and the accounting institutions to change this.

Risk: In October there were some major moves in the inflation market in the US and, in particular, with the break-evens there. Can you describe the activity you saw and explain the dynamics that caused them?

CA: In the space of some 10–12 days in October, we saw one-year inflation swaps fall to a low of -4.5% in the US, maybe a range of 5%. As had been alluded to when we talked about warehousing risk, there is a lot of embedded optionality in these notes. We've seen a steepening of inflation curves in a way that we'd never seen before. Traditionally they were incredibly flat and stable. If you think about the impact that this might have on the options market, volatility has picked up tremendously in terms of the overnight moves in where inflation swaps are fixing. Say you're trading an options book, things could move arguably 20bp in a day but, if bid offers are at 20 or wider, how do you go about capturing any of that? You're looking at options pricing and you're thinking in terms of what you can capture and volatility is exceptionally low right now. But, in terms of if you're getting shorted, in terms of what you're exposing yourself

to in marked-to-market movements, we're at records. It creates a strange dynamic in how people approach the market. If you're on the right side of the transaction, it's quite easy to write off the move in your favour. If you're trying to cover something, it's a matter of how quickly you're going to be able to right things. The screens are indicative only. It has been progress in one sense, market-makers are now market-makers and it takes some of the focus off clients that are optimistically thinking that screens should be representative of where transactions will always price plus or minus a small margin.

In the US, there has been a bit more focus on the short end of the curve. In the UK, pension hedging liabilities tend to be longer dated. Less so across Europe but still, 10–15 years is probably where the greatest liquidity is. Now, we are going to see an impact driven not so much by the supply and demand side and hedging but the impact on inflation curves from falling oil prices and expectations of where the next Consumer Price Index prints are going to be. Then we are going to see much greater volatility in the shorter term and that is where most of the option positions are focused. You've had the double whammy of benign options suddenly coming to life in a part of the curve where volatility is at absolute records. That is what we've been seeing day-to-day in the US. People are trying to extrapolate to what extent that is a US phenomenon, to what extent is oil coming lower having an impact on curves globally, to what extent are some of those embedded options in one market likely to be replicated in another, and over and above that, what fundamental latent demand is always going to be there to provide some kind of balance?



Risk: There were a lot of structured products sold over the last few years with embedded 0% floors. Given these moves in the market, does this mean that banks are suffering hefty losses on their options?

BC: Since 2003, there has been maybe \$10–20 billion of structured or medium-term notes, all with near-to or zero floors, five-year, 10-year-type transactions. The dealer community would be reasonably short those. But there have been other structures on other side, where dealers were buying volatility. Libor capped at inflation-type structures that were popular two years ago is one example. Another example would be asset swaps, particularly given the increase in implied inflation volatility. The dealer community is likely long inflation volatility there, having mainly sold bonds on asset swap. So the community is probably short, but less short inflation volatility overall than it would seem at first. In any case, there has definitely been a re-analysis of the whole volatility framework. After a period of incredible stability where both long-dated inflation and realised Year-on-year inflation was in a tight 10–20 basis point range, we've gone to an environment where realised volatility is nowhere near where Libor volatility is, particularly in the short end. Recent volatility in the short end was amplified by bond-lead pressure from balance-sheet reduction, energy price volatility and gamma hedging of these options as inflation started to get closer to zero.



Sebastien Goldenberg

On top of that, when there is a lack of liquidity and volatility increases, markets tend to trend much more. You don't have anyone who wants to capture ranges if you're not able to do both sides.

If you're long in an illiquid market that is going up, you're not going to sell into it because you have time. If you're short, you're going to be scrambling to cover, so market will tend to trend higher. Similarly, in inflation, as the markets sold off, somebody who was short would not typically have felt the need to hedge, but someone who was long either in bonds or swaps would be scrambling to sell, thereby exacerbating the sell-off. The markets sold off not so much because people were initiating shorts, but because no one wanted to or was able to oppose the move. Lack of warehousing capacity means it is not because inflation trades at 0, -1% or -2% that you will be likely to find many more buyers.

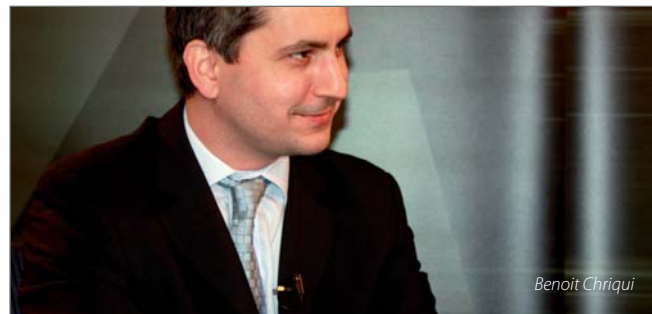
To come back to volatility, there was probably excessive repricing of floors in Europe. Inflation volatility is now very rich. Because there is not just one side of the volatility market, volatility should find some balance around current levels and stabilise, if not correct slightly. In the UK market, one of the reasons we haven't seen as much increase in implied inflation volatility is because the typical structure is limited price indexation rather than just 0% floors. These structures have embedded caps and floors, which are opposite, so tend to have less outright volatility exposure than the 0% floor structures seen in the EUR market.

Risk: It is difficult to have any conversation about financial markets without touching on the collapse of Lehman Brothers, which was a dealer in the inflation markets. Can you talk about the types of flows you were seeing initially after the collapse of Lehman?

DM: A lot of these moves that we had seen in the market had some element of the echo of Lehman Brothers. Lehman had lots of counterparties, inflation trades, net-net it was unlikely that it had a massive warehousing of risk where it was several billion of another index. But, if one side of the market came to replace them much more quickly than the other side, it would skew the market. Let's say, when the UK pension funds lost all their hedges with Lehman and they came to market much more quickly than the supply side had done or the other swaps that they had done with the other banks, the banks won't come to replace Lehman. If they had some trade in the European market where the supply side trade came to replace those, it all then depends on the timing as to whether everyone in the market had a clearing house and had told Lehman to unwind these positions in an orderly fashion. But what we saw was an example of first come, first served. The more active, more agile players would move fast. Some of the players who had decided there was some value within and didn't want to replace the hedge took time or didn't replace it. We're seeing a continuation of that. Of course a lot of those mis-timings created dislocations in the market, which made valuations go against a lot of people who had similar positions who

then had to unwind trades because they were seeing larger and larger losses. When hedge funds came to unwind, it made the situation worse. It was a domino effect. It wasn't distressing enough to completely kill the whole financial system but it caused severe ripples.

Another aspect that became clear post-Lehman was that, often when you have trades with counterparties and you have collateralised lines, the assumption on the credit side of the bank is that there isn't much you can lose. But when you get markets moving as rapidly as they did, if a collateralised call missed one day or was disputed one day, within two days, the market may have moved 30–40bp or more, then those collateralised swaps can't really be treated as they were before. The losses you face are substantial. Therefore, the whole way the market deals with derivatives, collateralised counterparties, initial margins will likely change. It is already changing the way hedge funds operate. These are all repercussions of the Lehman collapse.



Benoit Chriqui

Risk: In the wake of Lehman, are clients liaising with you in a different way? How important is counterparty credit risk among clients?

SG: After the Lehman debacle, the financial markets have tested the reliability of the collateralised trades. Although, in theory, the collateral should provide perfect protection for an unrealised gain embedded in a derivative transaction, the reality is somehow different. The favourite collateral is sovereign debt, and it is not possible to fire-sell a large quantity of assets without facing some execution costs, especially when the entire street is doing the same. Then the replacement trades will also be done at some costs. These costs can, in theory, be claimed to the administrator, but the recovery rate is likely to be low.

If you focus specifically on the inflation market, there has been a clear destabilisation of the market. Some actors are more reactive than others to execute their replacement trades, and some just decided not to replace their trades. For those who decided to replace them, there has been more due diligence regarding the counterparty risk they would take. The quality of the credit now takes a larger part in the decision process among clients. Less than a year ago, some clients would be only sensitive to the price, but today some institutions will gain some market share boosted by the strength of their balance sheet.

The intensification of the usage of clearing houses is providing greater protection for the interbank market. It is not the case for end-users, and it is not applicable to all asset classes, like the inflation market. Even in the case of the use of a clearing house, the risk is still shared by the market as the users share the risk in their quality of shareholders. The sharp increase of the volatility and the execution costs in all asset classes will increase the costs of any replacement trade exercise, should such a disaster happen again. The painful reality check that followed the Lehman debacle has forced the investor community to be more selective and to reassess with whom they want to do business.