

## DERIVATIVES SPECIAL REPORT

November 2014



## ■ Market review

Derivatives volumes reach new record highs as the industry rebuilds confidence.





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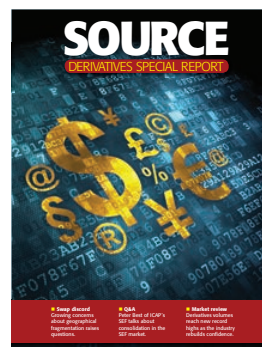
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## A Letter From The Editor

While regulatory change has presented huge challenges for the global derivatives industry, there is reason for optimism as derivatives activity continues to increase year after year. Today, derivatives are being used in a wide variety of applications to provide vital solutions that ultimately affect the lives of people from all walks of life.

Over the coming years, we can expect to see both continued growth in derivatives activity as well as further, broad evolution in the practices of market participants. While Dodd-Frank has already fundamentally altered the structure of the US derivatives market, Europe's EMIR, being at least two years behind its transatlantic counterpart, is also likely to have a big impact. Such is the scale of regulatory change that there may well be unintended consequences of new rules designed to reduce systematic risk and generally increase transparency.

In many ways, regulation has created a new set of risks for institutions to manage. Firms should question whether their own internal infrastructure and general organisational approach is adequate to meet the challenges and opportunities that are being presented in this rapidly evolving market. Market participants and other stakeholders must decide how best to position themselves to ensure that they can both survive and prosper.

The year 2014 is shaping up to be another monumental year for derivatives. In this edition, we cover some of the biggest issues currently facing the derivatives industry and look ahead to what we can expect from 2015 and beyond.

James Hester  
Editor





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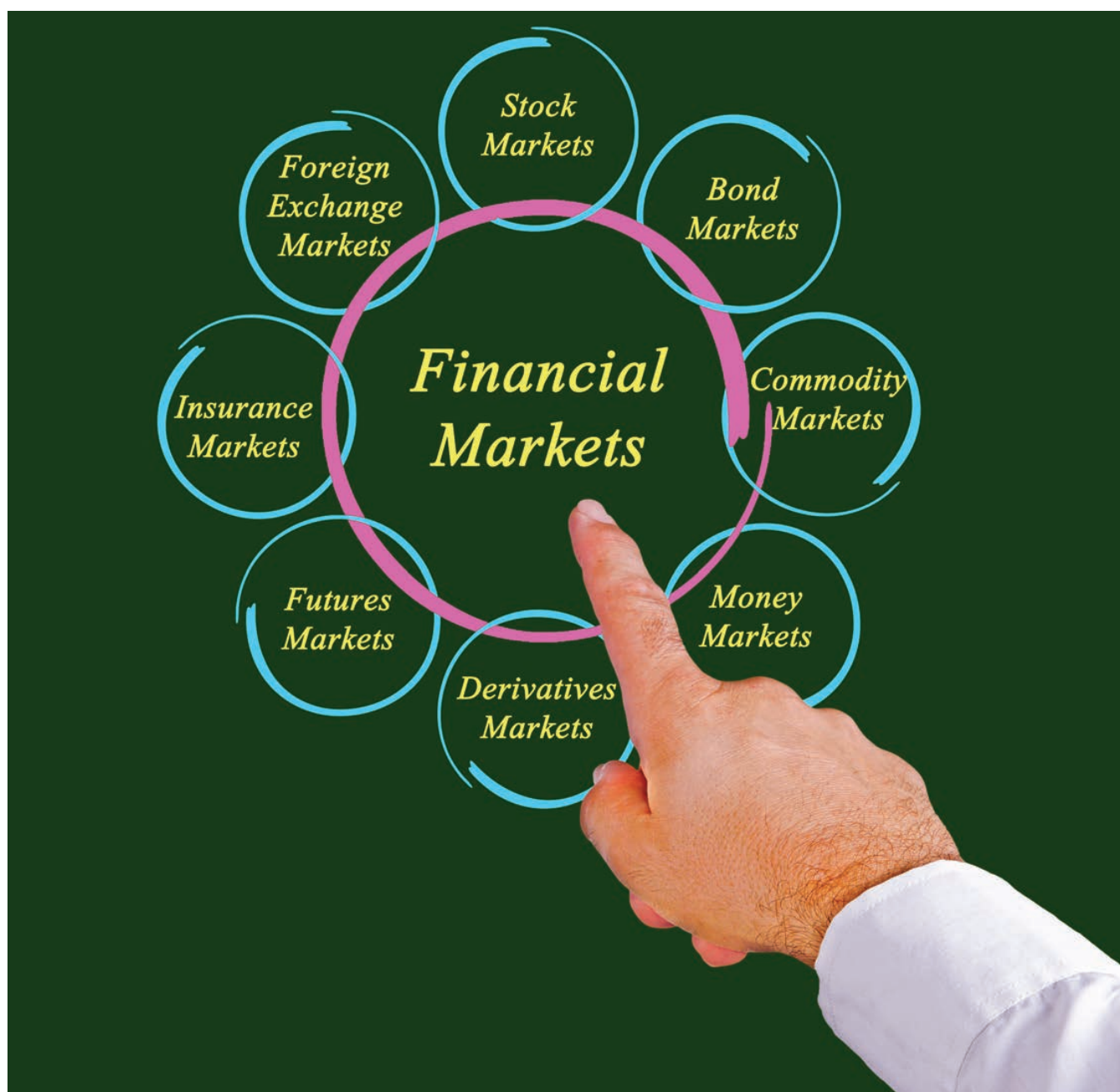
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# Derivatives market reaches new record high

**Interest rate related instruments continue to account for the lion's share of OTC derivative positions.** By John W. Labuszewski and Lori Aldinger, CME Group

**T**he size of the derivatives market has reached a new record high as the industry continues to rebuild its confidence.

The Bank for International Settlements (BIS) publishes information regarding the total outstanding value of over-the-counter (OTC) and exchange-traded derivatives positions on a semi-annual basis.

BIS's May 2014 release, covering data through December 2013, suggests that the overall size of the derivatives industry, including OTC and exchange traded products, increased substantially during the 2nd half of 2013 to a new all-time high water mark.

Likewise, the notional value of CME Group open interest experienced significant gains during the 2013 calendar year.

## Outstanding Values

Outstanding notional values in the OTC market advanced nicely from \$692.9 trillion in June 2013 to \$710.2 trillion in December 2013. This represents a 2.5% advance over the six month period and a new record above the previously established high of \$706.9 trillion in June 2011.

However, the notional value outstanding for the global exchange-traded derivatives industry (organized futures exchanges, including futures and option markets) declined to \$64.6 trillion in December 2013 from \$69.1 trillion in June 2013, representing a 6.5% decline advance over the six-month period. Indeed, the exchange-traded derivatives industry remains some 22.1% below a peak of \$82.9 trillion achieved in June 2011 and 32.1% below the all-time high of \$95.1 trillion established in June 2007.

The notional value outstanding for CME Group markets rallied to \$33.9 in December 2013 from \$32.4 trillion in June 2013, representing a 4.6% increase over the six-month period. This figure remains 23.6% below the all-time high of \$44.4 trillion in June 2011; and, 20.6% below a peak of \$42.7 trillion established in June 2007.

These statistics must be explained against the backdrop of economic events over recent years. In particular, the economic and regulatory impact of the subprime mortgage crisis, peaking in 2008, has impacted the markets

tremendously.

Derivatives activity was initially constrained by deleveraging and general cautiousness on the part of the customer base. While activity was further limited to the extent that Fed zero interest rate policies caused rates to remain at historic lows, recent economic growth has motivated the Fed to taper its Quantitative Easing ("QE") programs in 2014.

The crisis also resulted in the passage of the Dodd-Frank financial reform bill of 2010 with its mandate to establish standardized clearing for OTC derivatives. This mandate went into effect during the first half of 2013 and has bolstered confidence in OTC derivatives markets. This new found confidence is reflected in the growth of the interest rate swap (IRS) market to \$584.4 trillion in outstanding notional value as of December, representing a new all-time high.

## Misleading Statistics

We hastily add a note of caution to any comparison of the notional values of OTC versus exchange-traded derivatives. In particular,



■ John W. Labuszewski

discrepant accounting practices between the two marketplaces may render such comparisons potentially misleading.

Consider the fact that when futures are bought and then sold, they are offset, resulting in a reduction in open interest. But both the long and short sides of an offsetting OTC derivatives transaction are typically carried on the books until expiration, often for years, even when they offset economically, resulting in inflated OTC notional values.

If OTC derivatives were offset like futures, anecdotal evidence suggests that reported exposures may be reduced 75%-95%. While, some OTC positions may be offset through "tear-up" or "compression" services, the BIS data does not address the magnitude of this activity.

Paradoxically, the liquidation (in an economic sense) of OTC positions can even result in advancing outstanding notional values as offsetting positions are established. But it is impossible to accurately assess this effect based on the BIS data.

Many feel that a more accurate comparison between OTC and exchange traded derivatives may be found by examining the notional value of volume or "turnover" per OTC vernacular. That comparison may be made by reference to the BIS Triennial Survey. Note that exchange traded derivatives compare very favourably to OTC derivatives in this regard.

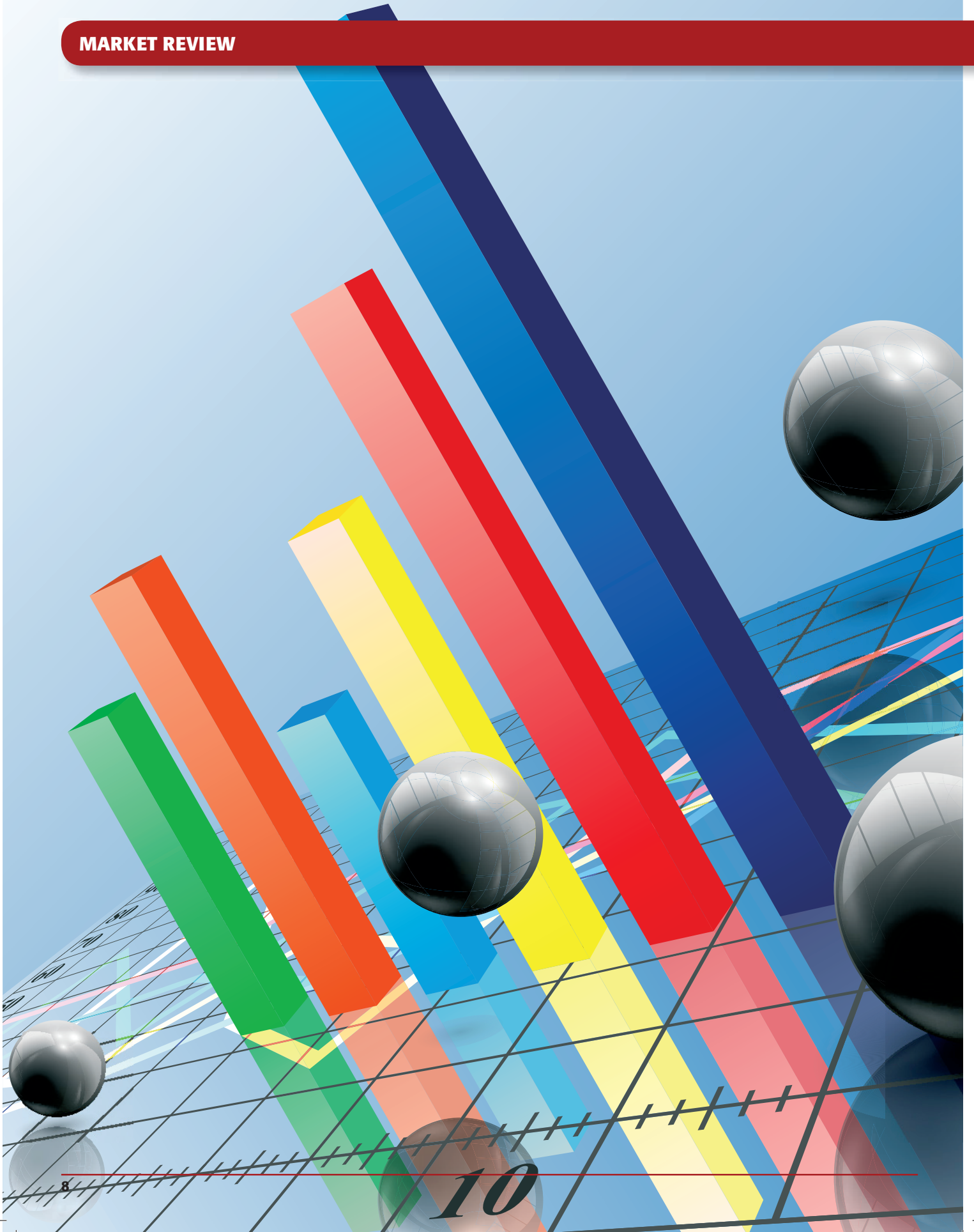
## Market Mix

Interest rate related instruments continue to account for the lion's share of OTC derivative positions established but not yet terminated. Interest rate related products now account for \$584.4 trillion or 85.3% of the \$710.2 trillion industry. FX and credit derivatives were valued at \$70.6 trillion and \$21.0 trillion or 10.3% and 3.1% of OTC notional value outstanding, respectively. Equity-linked and commodity derivatives brought up the rear with market shares of 1.0% and 0.3%, respectively.

The credit derivatives market continues to retreat at the swiftest pace of all OTC sectors. In the mid-2000s, credit derivatives represented the fastest growing segment of the OTC derivatives industry. But this sector has most keenly felt the fallout of the subprime crisis. The outstanding notional value of credit



## MARKET REVIEW



derivatives had declined to \$21.0 trillion by December 2013. This is 63.9% off the peak of \$58.2 trillion observed in December 2007.

### Value at Risk

While it is interesting to examine statistics regarding the overall value of the OTC derivatives industry, we caution that “notional values” are just that - they do not necessarily reflect value at risk.

However, BIS further recognizes a substantial “unallocated” portion of the derivatives market. Gross market value represents the sums of the absolute values of all open contracts with either positive or negative replacement values evaluated at market prices. One may think of gross market value as representative of the mark-to-market (MTM) or potential liquidation value of OTC derivative positions.

Note that gross market values in the OTC derivatives markets were reported at \$18.7 trillion as of December 2013, down 7.4% from the \$20.2 trillion reported as of June 2013. Current gross market value is some 47.0% below the peak of \$35.3 trillion recorded in December 2008.

#### Comparing Value at Risk

There are no available statistics in the exchange-traded derivatives markets that are comparable to

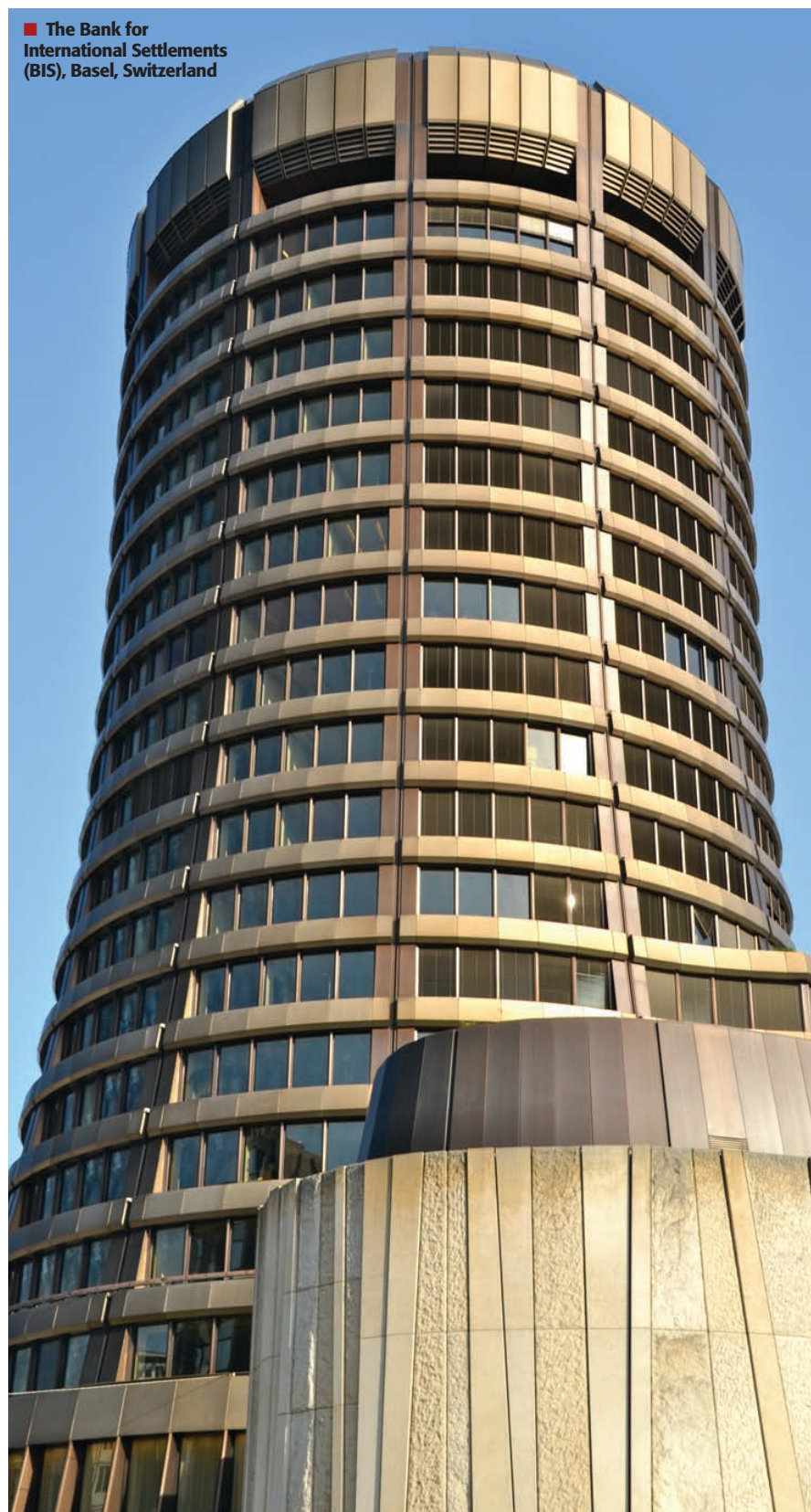
gross market values as calculated in the OTC markets. That is because exchange traded derivatives, i.e., futures markets, are commonly marked-to-market on a daily basis. As such, traders pay any losses and collect any profits on a daily basis.

Thus, there are no “unrealized profits or losses” in the futures markets. Of course, if an OTC market participant should default after accruing an unrealized obligation to the counterparty of a transaction, that counterparty may be unable to collect on all or part of that obligation. This is a classic example of counterparty credit risk. In essence, Gross Market Value represents the “Replacement Cost” associated with re-establishing an OTC derivatives position subsequent to a counterparty default.

In fact, one might examine the original performance bond or “margin” on deposit at futures clearing houses to assess the magnitude of risk that is represented in the exchange-traded derivatives markets. Performance bonds are typically calibrated by clearing houses to cover one day’s close-to-close price movement with a high degree of confidence.

While such information is certainly of interest, it does not provide a direct comparison versus the gross market values of OTC derivatives, which may accumulate over extended periods of time.

■ The Bank for International Settlements (BIS), Basel, Switzerland



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# A new dawn for derivatives

**Despite the financial crisis, non-dealer financial institutions are increasingly waking up to the benefits of derivatives** By James Hester

**W**hile there has long been a perception among commentators that derivatives activity bears little relevance to the real economy, the latest data paints a very different picture.

In fact, 65% of over-the-counter interest rate derivatives activity now involves an end user on one side and a reporting dealer on the other,

with participants primarily using derivatives to hedge risks and reduce volatility. The importance of this segment has risen dramatically over the past decade or so, considering that it only accounted for 34% of the total back in 2001.

Analysis by the International Swaps and Derivatives Association (ISDA), meanwhile,

indicates that the remaining 35% of derivatives turnover activity relates to dealer market-making and the hedging of customer transactions, which are essential for market liquidity and the facilitation of client trades.

## **Rising trend**

According to semi-annual OTC derivatives



statistics from the Bank of International Settlements (BIS), interest rates derivatives notional outstanding reached \$584,364 trillion at the end of 2013, a 19% increase on the \$489,706 trillion registered a year earlier.

Meanwhile, average daily turnover in OTC interest rate derivatives reached \$2,343 billion in 2013 versus \$2,054 billion in 2010.

Within this total, trades between dealers and non-dealer financial institutions have risen particularly strongly over the past few years, increasing from 46% of average daily turnover in 2010 to 58% in 2013. This category includes the likes of pension funds and insurance companies as well as central counterparties.

Today, non-dealer financial end users by

far represent the largest customer type with daily turnover of trades involving such entities having risen steadily over the past decade, from \$450m in 2004 to \$1.35 trillion in 2013.

### **Non-dealer financial institutions**

Such institutions use derivatives for economic purposes, from pension plans hedging the inter-



## MARKET ANALYSIS





est rate and inflation risk inherent in long-dated pension liabilities to insurance firms controlling the risk presented by guaranteed variable annuity contracts.

UK pension funds, in particular, have been increasingly using derivatives as part of liability-driven investment (LDI) strategies where asset allocation decisions are based on the ability to meet current and future liabilities. Through LDI, interest rate swaps, caps, floors, and swaptions are being used to manage the uncertainty and volatility of funding levels. In combination with this, derivatives are also commonly used by pension funds to manage inflation risk. Indeed, the use of derivatives by pension funds has become extremely important given the issue of rising pension fund deficits and ageing populations.

Derivatives are also being used more and more by insurance companies who use complex actuarial assumptions on longevity to draw up life insurance policies. In a similar way as pension funds, insurance firms now employ a wide variety of derivatives in order to manage the liabilities relating to their life insurance obligations. According to a 2012 report by the US Federal Insurance Office, the five largest US insurers reported more than \$1 trillion in

derivatives outstanding in 2012.

Building societies, meanwhile, are also important users of derivatives with these institutions widely using interest rate derivatives to manage the mismatch between predominantly short duration floating-rate borrowings and their longer-term mortgage book. While being exposed to duration risk in differing interest rate environments, mortgage lenders are also exposed to prepayment risk, which is the risk that their customers may pay off their loans early, leaving them with unexpected mismatches. Hence, mortgage lenders tend to hedge risk through derivatives, including interest rate swaps, swaptions, caps and floors.

This is therefore another important area where derivatives are having a direct interaction with the economy. As ISDA points out in a recent whitepaper: "The availability of mortgages would become constrained without the ability of banks and building societies to hedge the risks posed by fixed-rate mortgages, or free up balance sheets and raise funding to continue lending."

Asset managers, meanwhile, are another significant user of derivatives as they seek to hedge unwanted exchange rate risk, protect portfolios against a sharp fall in markets or

increased volatility. Arguably, this ultimately plays an essential role in maintaining the health of the global economy, as the ability of asset managers to preserve and create wealth is essential for international investors.

## Misconception

According to BIS data, the other component of end user trades, along with non-dealer financials, relates to non-financial customers, accounting for around 7% of average daily turnover in 2013. This latter includes trades involving non-financial companies and governments, where derivatives are commonly used to switch foreign borrowings into domestic currency as well as the use of inflation swaps to hedge inflation-linked revenues.

While interdealer activity accounted for the remaining 35% of derivatives turnover in 2013, there is still sometimes a misconception that this segment somehow relates to speculation rather than contributing to the economy at large.

"This view is incorrect and ignores the market-making role of dealers, and the regulatory constraints that have been imposed on banks since the financial crisis," says ISDA.

Coinciding with the aftermath of the financial crisis and regulatory changes that will prevent banks from engaging in proprietary trading, the proportion of all OTC derivatives turnover attributable to this segment has fallen sharply in recent years. In combination with this, a larger proportion of interdealer activity is now thought to be related to market-making activity and the hedging of customer transactions.

## Changing market

When we consider data trends over the past decade it is clear that there has been a huge shift in the derivatives market. As recently as 2007, for instance, interdealer activity was the biggest segment of the market, accounting for around 47% of the total, broadly in line with its share of the market in 2004.

Aside from incoming regulatory changes, however, that have undoubtedly already curtailed the use of derivatives in proprietary trading as banks restructure their operations, there has also been a significant increase in the use of derivatives by non-dealer financial institutions as they have increasingly woken up to the benefits of derivatives to manage risk and generally offer innovative solutions for their business. This is underscored by the steadily rising trend in the use of OTC derivatives by such institutions over the past decade.

While the financial crisis and the subsequent regulatory response appears to have all but eradicated the use of derivatives by big institutions for the purpose of proprietary trading and speculation, the use of derivatives for real economy, risk management solutions looks set to grow and grow.



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# Who remembers Pittsburgh?



By Larry Thompson, General Counsel of DTCC and  
Chairman of the Board of DTCC Deriv/SERV LLC.

**T**rade reporting is now a reality in many jurisdictions around the world. Market participants have made great progress in meeting their reporting obligations as regulators have worked hard to educate the industry on the new rules and market infrastructures have played a key role in enabling the reporting process. But mere compliance with regulations is far from being the end game as significant challenges remain before the trade reporting mandate is able to achieve the original goal specified by the G20 in Pittsburgh in 2009: the identification, and thus ability to mitigate aggregated systemic risk in the global derivatives industry.

Instead of addressing the systemic issue, current focus seems to be using trade repos-

itory data for the purposes of identification of market abuse and enforcement. Not a bad by-product but not the original use envisioned by the G20.

So what is preventing the achievement of the G20 original vision? The largest impediment seems to be the lack of a cross jurisdictional agreement on what data is required to achieve this goal. So what data is needed and what exactly do you do with the data once it is collected? Once this has been established, a global data set could be defined rather than the current situation where the data sets are region or country specific with, in some cases, significant differences between the requirements. There is also the question of timing of reporting which although potentially not significant to the long

term goal of systemic risk identification, is another level of complexity to be addressed. Only then can the data be aggregated and converted into information capable of assisting regulators in their quest to identify and mitigate systemic risk on a global scale, which is critical in the cross-border derivatives market.

For this to be achieved, it is essential that there is a clear distinction between local and global regulatory objectives, with the former focusing on micro-prudential oversight such as market surveillance, and the latter focusing on macro-prudential oversight, namely monitoring the build-up of risk in the system as a whole. Given that the derivatives market is inherently cross-border, for example, a UK entity trades with a US entity on an underlying Japanese





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asset, the need for access to data that occurs outside of the jurisdiction but has a nexus within that jurisdiction is crucial to accurately assessing market impact in times of stress or crisis.

Once a 2-tier data set (a global data set for systemic risk and a national or regional data set for market abuse) is established and the elements defined and represented in a common way, each jurisdiction can work to harmonize the global elements of data within their local rules. Once harmonized, data quality will rise thus increasing the likelihood of successful aggregation. And where global standards exist, it would make sense to adopt them. This has been particularly effective in the area of the Legal Entity Identifier for example.

The second challenge relates to legal requirements enacted by some jurisdictions which, perhaps unintentionally, prohibit data from being shared. For example, the Dodd Frank Act in the US incorporates an 'indemnification clause' requiring non-US regulators to indemnify the US regulators and trade repositories from data misuse before access is granted. This creates a financial and legal hurdle for non-US regulators and effectively prevents them from viewing their own data held by US trade repositories. Further work should be carried out on the necessary steps to be taken to amend legislative limitations and privacy laws that will allow for the sharing of data outside of the

local jurisdiction and subsequent aggregation of this data.

One recent example of where this international cooperation has been successfully achieved, is the bilateral Memorandum of Understanding (MoU) recently signed by the Monetary Authority of Singapore (MAS) and the Australian Securities & Investments Commission (ASIC) to allow trade repositories licensed in one jurisdiction to provide relevant data to the authority in the other jurisdiction. This agreement together with ASIC's alternative trade reporting arrangements is a step in the right direction in fostering greater cooperation among international regulators which is essential for successful cross-border oversight, and we would hope, a model for other jurisdictions to follow.

A slightly older, but no less successful example of how data standardization and data sharing has worked in practice is the work of the OTC Derivatives Regulators' Forum (ODRF), a body of more than 40 regulators, which was established to coordinate the voluntary sharing of credit default swaps (CDS) data held by trade repositories, across jurisdictions and in accordance with governance and access guidelines. DTCC, having established its Trade Information Warehouse (TIW), a trade repository and post-trade processing infrastructure for OTC credit derivatives, used the guidelines provided by the ODRF to provide global regu-

lators unfettered access to detailed transaction data on virtually all CDS trades executed worldwide in which they have a material interest to monitor systemic risk. The success of this initiative was due to the standardized data that the TIW held which meant it could be accessed and interpreted by regulators globally in the same way, according to the ODRF guidelines.

Lastly, once the regulatory purpose of data aggregation and the corresponding global data set has been identified, regulators must turn their attention to the question of who performs the aggregation and what governance is required. An appropriate governance model can allow for a public and/or private sector solution to provide such a service with a regulatory college that supervises the activities and provides the necessary approvals.

Great progress has been made towards the G20 goal of global transparency, but the work is not complete. Continued collaboration amongst regulators, policy makers, service providers and market participants is key to achieving the original goal of the G20 which is to monitor the build-up of risk across the financial system and avoid new shocks on the scale of those seen in 2008.

Remember Pittsburgh - now let's finish the job.

**DTCC**



# Swap discord

**Geographical fragmentation and slow take-up in electronic trading raises key questions.** By James Hester









■ Scott O'Malia, chief executive of the International Swaps and Derivatives Association

When swap execution facilities (SEF) were launched in the US last year there were high hopes that electronic trading would fast become the preferred means of transacting OTC swaps. A year on, however, there is evidence of disappointing take-up in electronic trading and growing concerns about geographical fragmentation, raising key questions over the current evolution of the swaps market.

Swaps data continues to indicate a reluctance to trade electronically through SEFs as well as increasing regional fragmentation. The latter trend has been especially pronounced for euro interest rate swaps since SEFs went live in the US, with European dealers increasingly opting to trade with other European parties rather than US firms.

Along with the issue of geographical fragmentation and a continued preference by many market participants to engage in voice trading methods, SEFs are also having to contend with the reluctance of many buy-side firms to sign up with them directly. Against this backdrop, there are increasing expectations that there will soon be a round of consolidation within the SEF market as underwhelming volumes mean that many of the 20 registered venues are already struggling to make a profit.

### Swap challenge

In the aftermath of the 2009 financial crisis, G-20 leaders pointed to the limited pricing

transparency, high leverage, and opaque risks attached to the OTC derivatives market, and agreed to make legislative changes in order to reshape the market. The subsequent legislation that followed, in the form of the Dodd Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank) and the European Market Infrastructure Regulation (EMIR) rules, sought to reduce systematic risk largely through increased transparency and oversight. Common to both the European and US acts was the emphasis on increased standardisation, central clearing, higher standards of conduct and the use of electronic trading platforms.

However, many buy and sell-side firms alike argue that maintaining a truly global OTC derivatives market is key to ensuring sufficient liquidity, and the generally more stable trading environment that comes with having a diverse range of potential counterparties. A wider range of participants should theoretically allow trades to be transacted at the lowest possible cost, thereby boosting market efficiency.

Data from L.C.H. Clearnet SwapClear certainly points to increased fragmentation across the global Swaps market since SEFs went live in the US in early October last year.

In short, there has been a dramatic change in behaviour as European dealers have become increasingly reluctant to trade with US counterparties. On some measures, the amount of business being transacted between US and European traders has fallen by around 70%.

**Cross-border harmonisation is a big concern. Without it, markets will fragment, splitting liquidity pools along geographic lines and increasing costs for end-users**

For instance, prior to October 2013, there were well over €650 billion in euro interest rate swaps (IRS) a month being transacted between European and US dealers. Since October last year, however, this business had significantly fallen off with the level of transactions having dipped below the €200 billion mark by May this year.

### Uncoordinated

Along with reducing market efficiency, some even claim the current trend is actually increas-

ing risk; smaller, regional pools of liquidity, as the argument goes, could be prone to increased concentration among market participants, with less transparency and more price volatility as a result.

While Europe has been moving at a different pace to, and is currently around two years behind the US in the regulation of swaps, there are worries that differences in the approach of the US and European regulators are also an issue. While America's Commodity Futures Trading Commission (CFTC) has been taking

a rule by rule approach to SEFs, many see the European approach as being much more principals based. While efforts to harmonise the two approaches have been underway since mid-2013, progress has been slow this year as European platforms have raised concerns over CFTC demands.

Scott O'Malia, the new chief executive of the International Swaps and Derivatives Association (ISDA) believes the CFTC may need to tone down its approach in the interests of achieving consistency across the US and Euro-

pean regulations. O'Malia is currently making the harmonisation of international rules a key focus for ISDA.

"Cross-border harmonisation is a big concern. Without it, markets will fragment, splitting liquidity pools along geographic lines and increasing costs for end-users. That's clearly bad for firms, it's bad for markets and it's bad for customers," says O'Malia.

### **Lower liquidity**

Meanwhile, ISDA also highlights an apparent



fall in US regional liquidity in the market for euro IRS, since SEFs were inception.

In tandem, with the overall trend for European dealers to increasingly shun their US counterparts, there has also been a notable uptick in trades between European and Canadian dealers. Data from LCH.Clearnet SwapClear points to a 30% cumulative increase in European-to-Canadian interdealer volume since August 2013, from €11.1 billion (\$15.1 billion) to €19.5 billion (\$26.5 billion) in May 2014.

In common with the trend seen in euro IRS, there are also signs of a similar pattern in US IRS transactions as European dealers have sought to trade with European dealers rather than US counterparties. The data all points to a fundamental change in the nature of the global swaps' market.

### Slow start

As well as the challenges on international harmonisation, the continued resistance towards increased electronic trading together with a general reluctance from some firms to sign up to SEFs directly at all, means it's been a diffi-

## We're certainly going to see a lot of evolution in this market going forward, which may be making some firms hesitant to engage until we see the dust settle

cult start for the smaller SEFs who have relied on electronic trading.

Although the US is well ahead of Europe in terms of the implementation of its respective derivatives rules, the US swaps industry successfully lobbied to be allowed to continue using voice methods as well as electronic trading.

While the electronic SEF venues appear to be more favoured by those undertaking the smaller transactions, the bigger players are still preferring to execute large swap trades through established relationships with select dealers. Compared with the futures market, OTC swap trades tend to be much larger and less frequent, as well as being concentrated among a smaller group of market participants.

Todd Skarecky, senior vice-president at Clarus Financial Technology points to data showing that the majority of SEF trades are actually still being done via voice and request-for-quote protocol, rather than using an electronic order book.

"A big chunk of the market is still really voice because there is always going to be this part of the market that's more bespoke. We're not anywhere near the kind of electronic order book that the regulator was hoping for," says

Skarecky.

An additional issue for SEFs though is that a lot of firms, particularly on the buy-side, appear to have decided to use alternative products such as futures instead so as to avoid having to deal with SEFs at all.

Kevin McPartland, head of market structure research at Greenwich Associates highlights the reluctance of many firms to engage with SEFs.

"Many have chosen to trade away from SEFs not because they are uncomfortable with electronic trading but rather because they just don't want to have to invest more time and money than they have to," says McPartland.

### Consolidation

According to data from Clarus Financial Technology, ICAP is currently the biggest SEF, accounting for 26% of the total nominal value of interest rate derivatives trades that have been going through SEFs as a whole. Unusually, it has both the US SEF designation as well as being classified as a multi-lateral trading facility (MTF), the European equivalent to a SEF, which allows it to take advantage of both US and European liquidity.

ICAP is followed by the likes of Tullet Prebon and BGC which have around 17% and 16% of this market respectively. Others such as Tradition, Bloomberg and Tradeweb together account for well over 30% of the market but there are several other SEFs with relatively small shares.

Faced with such a challenging market where volumes are stagnant among many relatively new entrants, it appears highly likely that there will be a round of consolidation among SEFs.

ICE Swap Trade, for instance, is one such player who has recently highlighted the problem of underwhelming trading volumes, raising expectations of imminent consolidation across the sector.

"We are definitely going to see a pick-up in M&A activity across this sector but the bigger players are only likely to be interested in those new entrants that have something special to offer such as unique technology," says McPartland.

With the relatively narrow margins from electronic trading making execution-only OTC swap trading an unsustainable business model for smaller SEFs, it also appears likely that many SEFs will increasingly look at other, more value-added ways to generate revenue.

### Choices

Underscoring the geographic fragmentation of the global OTC swaps market at present, European based platforms in the main have failed to qualify for SEF equivalency status. ICAP, however, stands out as having gone through the process of setting up a Lon-



don-based SEF, which is now registered with and regulated by the Commodity Futures Trading Commission (CFTC) as well as the UK's Financial Conduct Authority.

But the large number of SEFs already in the market is thought to have contributed to the reluctance of buy-side firms to trade through them. Having to use more than one platform to trade with their counterparties only adds to the complexity and administrative burdens.

There is therefore a growing belief that many firms would benefit from an aggregation of services such as those seen in the futures and equity markets, in which the prices on multiple venues could be accessed all in one place, through one connection.

"We're certainly going to see a lot of evolution in this market going forward, which may be making some firms hesitant to engage until we see the dust settle," adds Skarecky.

### Bigger is better

While there is general agreement that transparency has improved significantly since SEFs were launched, with much more information now available on what OTC trades are being transacted and at what price, there has been less progress on the aims of making electronic trading for OTC swaps the norm. Meanwhile, the swaps market has increasingly fragmented along geographical lines, leading to changes in trading behaviour.

As to the future structure of the global swaps market, much will depend on the success of efforts to harmonise international rules. Only time will tell if the global swaps market has become permanently fragmented on a geographical basis or whether this is just a temporary phenomenon. Meanwhile, as well as reducing general complexity among market participants, consolidation among trading platforms could also have a part to play in improving global integration. Indeed, some of the larger platforms have already shown that they are better equipped to meet the challenge of satisfying the requirements of differing global regulators.







# Optimizing Shared Technology to Increase Adaptability and Profitability in Derivatives Operations

By John Omahan, vice president, post-trade derivatives, SunGard's capital markets business

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Six years have passed since the financial crisis, and global financial firms are still looking for ways to better adapt to the ongoing regulatory and market challenges while alleviating fundamental post-crisis cost pressures. With regulations continuing to drive unprecedented change, the futures and derivatives landscape is experiencing major business and operational transformation as global regulations evolve around the new world of

central clearing. This combination of tightened margins and increased regulatory costs are driving firms to seek long-term cost savings by improving operational efficiency and making strategic technology decisions.

Managed services are gaining popularity as the strategic solution for non-differentiating functions. These services can help firms to leverage shared technology and intellectual property to help create scale, reduce risk and

increase profitability. Firms with the right technology and services in place will be in the best position of strength to adapt their business and create a long-term solution to overcome today's challenges, such as of OTC derivatives reform.

## **The cost of compliance**

Market changes, including increased capital and collateral requirements, have forced the re-pricing of many markets, leading some firms



to shrink or even shut down certain lines of business. The OTC derivatives market, in particular, is in the midst of fundamental restructuring that is also reducing revenue potential.

The cost of maintaining compliance is non-negotiable, so compliance budgets continue to rise. As a result, discretionary budgets that can drive revenue growth or operational efficiency are being hit the hardest. The end goal is to increase profitability, which is achievable by reducing total cost of ownership (TCO) and increasing efficiency in operations and technology organizations. By spending less on non-differentiating functions such as post-trade processing, firms can increase their capacity to support more business-building activities.

### The challenge of proprietary infrastructures

Proprietary infrastructures can be a real obstacle to boosting a firm's profitability as the firm's ability to cost effectively streamline its back-office systems is limited by its internal fixed costs e.g., staff and hardware. This is because firms' cannot share their infrastructure with other market participants to reduce cost of ownership as they can in a managed services environment.

Of course, firms will always need the ability to differentiate themselves and their services. However, there are significant commoditized processes that are replicated over and over again across the industry. Leveraging a managed services solution that scales commoditized operations -- by reusing people, processes and technology wherever possible -- helps firms

reduce TCO and achieve economies of scale.

### Leveraging the vendor relationship

The overriding need to achieve greater efficiency while reducing risk and TCO is overshadowing the need for business and processing control, resulting in firms questioning their current business models.

Increasingly, FCMs are looking to strategic vendor relationships to help them transform their existing business models and alter their cost structures, enabling them to focus their efforts and investments on customer-facing activities. Firms are leveraging managed services to increase efficiency, simplify regulatory compliance and reduce TCO. Because the vendor is invested in its own technology, development, testing, deployment and monitoring of the entire application ecosystem, it is consistently delivered, including interfaces with internal and external systems.

Firms can gain economies of scale from vendors' technology, people, process and expertise which helps to reduce costs with a longer term, predictable TCO. They can also more easily and quickly adapt to new market and regulatory requirements by leveraging the vendor's capabilities and expertise in its own technology, allowing firms to focus their efforts and investments on revenue-generating activities. Firms can also look to vendors to help them operate and manage discretionary change within their technology infrastructures and processes in alignment with their financial and business objectives. Risk can be minimized by leverag-



■ John Omahen

ing the vendor's operational processes, controls, security and technology to commoditize workflows and augment their current models.

Evaluating managed services offerings can be summarized into three key criteria: shared technology that integrates with third-party and proprietary technology; shared operational capabilities supported by the same core technology; and support for unique customer requirements that differentiate against the competition. Managed services solutions that offer these three criteria are the answer to increasing efficiency, reducing risk and decreasing TCO in the financial industry.





# Snakes and ladders

**Andrea More**, managing director, Global Collateral Services at BNY Mellon, talks about the opportunities and challenges presented by regulatory change.

**Q:** Can you elaborate on any negative implications that you foresee arising from EMIR? In particular, should we be worried about duplication?

**AM:** There may be negative implications arising from how EMIR is structured and implemented. Given that mandatory central clearing will not apply to all OTC derivatives, firms may find themselves having to support dual or parallel legal arrangements and systems, one for OTC derivatives that are centrally cleared and the other for any non-cleared OTC derivative trades. Obviously there is a knock-on effect in terms of operational complexity and costs. However, it is also possible that the phased implementation of EMIR will mean sell-side firms having to manage three parallel systems – one to manage their legacy, pre-EMIR environment; then, as EMIR is implemented, they will be forced to develop additional systems to handle OTC derivative transactions eligible for central clearing; and then potentially another to manage their non-cleared OTC derivative transactions.

**Q:** Do you think EMIR offers any opportunities for fund managers and if so what are they?

**AM:** The introduction of a central clearing obligation for eligible OTC derivatives means asset managers will benefit from the robust counterparty risk protection and default management procedures offered by a central counterparty (CCP), in addition to potential efficiencies in relation to risk-netting across those derivatives positions cleared via the CCP. These steps will enhance OTC market liquidity and may also offer efficiency improvements as a result of the standardisation of operational processes coupled with higher levels of trans-

parency.

**Q:** What do you see as the principal benefits of EMIR?

**AM:** Enhanced safety and transparency are the goals of EMIR. EMIR requires that specified categories of OTC derivative contracts must be cleared via a central counterparty, while those OTC contracts that are not eligible for mandatory central clearing will need to meet new risk management standards in respect of timely trade confirmation, portfolio reconciliation, marking-to-market and marking-to-model, dispute resolution, collateral management and the level of capital required to cover exposures. It also establishes organisational, conduct of business and prudential standards for CCPs and trade repositories. Details of new OTC derivative contracts need to be recorded via a registered trade repository.

**Q:** Do you think buy-side firms have generally prepared enough for EMIR?

**AM:** If you go back 12 months, firms had been running hard to ready themselves in line with the EMIR implementation timeline. However, the timetable was pushed back and aspects of the technical standards, and the ultimate design, of EMIR have still to be fully clarified. Consequently, some firms have been pushed into a holding pattern with their EMIR preparations, unable to commit to a final design until they have greater clarity around the technical and business requirements. For example, collateralisation requirements for bilateral OTC derivative transactions will adhere to guidelines mapped out in September 2013 by the Basel Committee on Banking Standards (BCBS) and IOSCO in their document “Margin Requirements for Non-Centrally Cleared Derivatives”.

But the technical standards for collateralisation of bilateral OTC derivatives, based on these provisions, are not expected to come into force until December 2015.

**Q:** What are the biggest changes that you expect to see for buy-side firms as a result of EMIR?

**AM:** Mandatory central clearing obligations for eligible OTC derivatives may result in higher aggregate clearing and collateralisation costs once clearing fees, initial margin and variation margin requirements are factored in. Meanwhile the use of non-cleared OTC derivatives could become significantly more expensive. The ability of a buy-side firm to negotiate collateral margining terms with a counterpart may also be impinged upon in the CCP environment.

**Q:** Will the implementation of EMIR prompt asset managers to revise how they utilise OTC derivatives in their trading and hedging strategies?

**AM:** I think it's true to say that there continues to be a debate within the industry regarding as to how the ramifications of EMIR in respect of both pricing and risk management will ultimately impact on the level of OTC derivative transactions. As you'll recall, EMIR requires the collateralisation of non-cleared OTC derivatives. The requirement for buy-side firms to reconcile their bilateral OTC derivatives holdings with counterparties is a new obligation for many firms.

**Q:** Where do we stand in terms of the current EMIR regulatory timetable, and what should we expect to see emerge in 2015?



**AM:** Non-cleared OTC is still set for the end of 2015. Central clearing was set to start in Q3 or Q4 this year but the timing has been extended. It will materialise within the next 18 months, but I think it will be a staged implementation, as with uncleared. It's hard to predict exact timeframes – but nevertheless it will happen.

**Q:** Why do you think EMIR appears to have lagged Dodd Frank regulation in the US so much?

**AM:** While the US is a very large and complex market, it doesn't have the many regulatory jurisdictions, insolvency regimes, currencies or

the competing groups involved in getting guidelines and regulations agreed that we have here in Europe. Europe has taken the consultative approach and wants consensus of process before the start of implementation, whilst the US regulators prefer to set the standards, get things started and then review what works and what doesn't. Neither approach is right or wrong – just different.

**Q:** Ultimately, do you expect to see any major differences between EMIR and Dodd Frank requirements for buy-side firms?

**AM:** The instrument coverage of the two regimes is different. Dodd Frank only covers OTC derivatives, whilst EMIR also includes listed derivatives. Trade reporting requirements are more onerous under EMIR. Under EMIR, collateral for CCP's must be held in a central securities depository (CSD), in many cases bifurcating collateral funding pools between custodian bank locations and CSDs. So it will take more work to properly locate and source collateral in a timely manner. That said, as these two regimes become more properly established, I can see them becoming more similar rather than distinct.

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# CCPs under the spotlight

**A tug of war between cost and capital adequacy raises fundamental questions over the central counterparty clearing house (CCP) model.** By James Hester

**W**hen the central clearing model for OTC derivatives was envisaged in the wake of the 2008 financial crisis the clear intention was to reduce systematic risk. However, the financial stability of CCPs themselves is increasingly being questioned as many market participants wonder what would happen in the event of serious contagion and widespread default.

A CCP is a mechanism of reducing counterparty credit risk by allocating losses

and managing any defaults that may arise from OTC trades between institutions. But the central clearing model arguably introduces a new set of systematic and operational risks into the market, particularly when one considers the scenario of CCPs being pushed to the financial brink by multiple, simultaneous default on the part of clearing members.

As profit maximising exchange companies that do not necessarily have implicit government backing in the event of financial

distress, there are understandable concerns over the potential for CCP implosion. Under the European Market Infrastructure Regulation (EMIR), CCPs must put a minimum of 25% of their own capital into a default waterfall provision. This is to be used after a defaulter's margin and default fund contributions have been consumed, but before losses are mutualised among other member firms.

There is, however, a growing body of scepticism on both the buy and sell-side as



to whether the existing provision is enough. While some CCPs have been applying for a banking licence in order to receive the funding capabilities of central banks in the event of distress, this has by no means been a consistent approach.

### Risk mitigation

Among the possible solutions for market participants are at least to attempt to control the risk of CCP default by spreading business between a greater number of clearing brokers and CCPs. This approach, however, could ultimately prove more expensive as buying power and the potential for netting is diminished. In this way, fund managers, for instance, would effectively face a trade-off between mitigating the risks inherent in the CCP model and maximising returns from investment management.

JP Morgan has proposed that CCPs and clearing members should put in place an additional buffer. The firm's white paper on CCP recovery and resolution procedures, released on September 11, proposes that CCPs and clearing members should pre-fund a supplementary recapitalisation provision, which would be held in escrow at a central bank or government agency. If a CCP got into trouble and used up all the capital available in its traditional default waterfall, the additional funds would then be released to rescue the CCP and establish a new default fund.

In the paper, JP Morgan argues that CCPs should contribute a minimum capital amount to the additional default fund – either 10% of clearing member contributions or an amount matching the largest single clearing member contribution, whichever is greater.

Blackrock, meanwhile, has also weighed in on the issue with co-founder Barbara Novick having recently complained that CCPs lack both capital and oversight.

### Who pays

Perhaps unsurprisingly, CCPs have so far resisted calls for increased capital provisions arguing that any increases would translate into higher costs that could ultimately make clearing much more expensive for participants.

In essence, the issue boils down to just how water tight we need CCPs to be, and whether the corresponding cost makes sense. At present, CCPs are probably adequately capitalised to withstand the default of one member firm but whether they need to be strong enough to withstand the collapse of several members at once is another question altogether.

With the cost of CCP clearing already more expensive than many other types of trading, particularly in terms of initial margin, any move that could increase costs further needs to be carefully weighed. And anything that puts upward pressure on costs could of course raise the prospect of consolidation among CCPs in the future. If this was to result in fewer CCPs, there could actually be an increase in the concentration of CCP risk.

### Market evolution

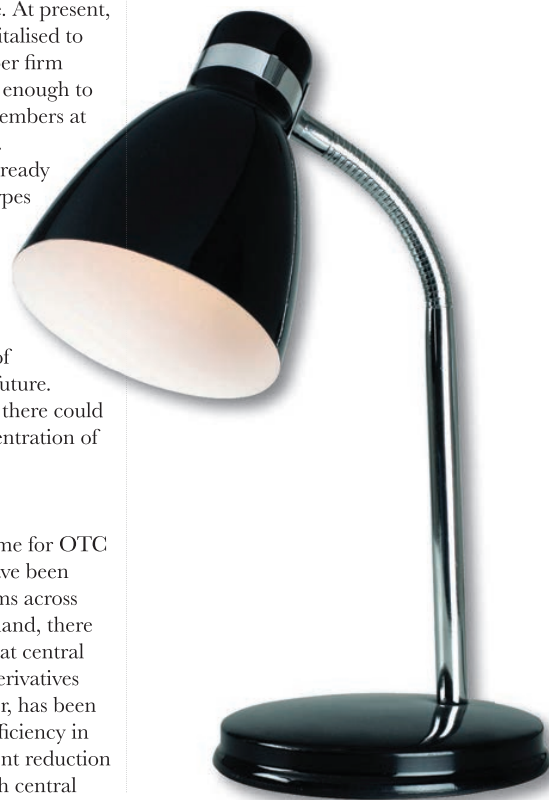
Ever since the central clearing regime for OTC derivatives was drawn up, CCPs have been a source of mixed feelings from firms across the market spectrum. On the one hand, there has always been the key concern that central clearing will push up the costs of derivatives transactions. This concern, however, has been tempered by hopes for improved efficiency in clearing trades as well as the inherent reduction in counterparty risk that comes with central

clearing.

Issues such as how CCPs conduct stress tests and the level of capital provision they need to hold will continue to be debated. However, pressure to keep down the cost of derivatives transactions at the same time as calls for CCPs to increase capital provisions appear to be pulling in opposite directions.

In many ways, a market with just a few CCPs but with implicit central bank backing and lower costs, would be preferable to a market with many CCPs, higher costs and questionable capital adequacy. Against this backdrop, it appears highly likely that there will be some evolution across the CCP market over the coming years.

The tug of war between cost and capital adequacy raises fundamental questions over the CCP model as it stands today. Arguably, the likes of central banks and government backed institutions tend to make the better counterparties as they can reap the benefits of very low, or even zero percent capital charges, as well as the theoretically limitless safety net that these vast reserves afford. It appears plausible then, that the CCP market will change overtime as participants call for more central bank involvement in order to reduce costs. Such an evolution could balance the seemingly conflicting objectives of low trading costs and greater capital provision.



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CCPs



# Resolution planning for CCP collapse

**End users could find the cost of dealing in derivatives increase as CCPs try to cushion themselves against any future failure.** By Andrew Davidson, director of risk compliance, KPMG

Later this year, the Financial Stability Board (FSB) will finalise how their Key Attributes should be applied to the recovery and resolution of Financial Markets Infrastructure (FMI). This will be closely followed in Q4 with the European Commission consultation on resolution regimes for FMI. However, a quick glance at recent developments in the UK may provide an indication of the ultimate direction of travel.

In June 2014, the UK's amended Financial Services and Markets Act 2000 came into force to ensure that a central clearing house (CCP) can continue to operate when its solvency is threatened, not due to a clearing member default, but because of investment or operational losses. This required the UK CCPs to change their rules to allow such losses to be mutualised amongst clearing members.

For many clearing members who are already seeing reduced levels of profitability and increased regulatory capital requirements, this may act as a catalyst to revise current pricing strategies and/or explore ways in which to pass on such potential losses to their underlying clients. There are already reports of some broker/dealers reviewing their existing agreements to determine whether investment losses

can technically be passed onto clients. If not, then end users could find the cost of dealing in derivatives increase as CCPs try to cushion themselves against any future failure.

Either way, it will likely be the end users of OTC derivatives, many of whom are them-

**As the volume of centrally cleared OTC derivatives grows, it may also be worth speculating as to whether a buy-side firm would ever want or could become a direct clearing member in the future**

selves regulated firms that will need to develop their own resolution plans to bear the costs. However, it is unclear whether they are aware of this potential risk and the resultant costs to their own business should a CCP collapse. Indeed, we have seen little evidence so far that the impact is being considered – this is one area of resolution planning that is already having an impact on the risk appetite of all buy-side and sell-side users of centrally cleared OTC derivatives.

Banks, asset managers, insurers and pension funds that deal in OTC derivatives (whether as buyers or sellers) need to assess the potential impact on their business (and the risks to their customers) and determine their response. Those responses will not only depend on the actions taken by CCPs, but also on the volume of OTC derivatives undertaken. For some, this may be a simple re-examination of the economics of derivative protection due to increased costs of trading. However for those undertaking a significant amount of OTC derivative trading, this will require a more thorough assessment, including re-assessing their operational risk appetite and determining whether they can or should be taking steps to mitigate potential losses from centralised clearing. All financial sector firms should also consider whether any of their own proposed responses to stress events rely on derivative solutions, and the impact that a CCP collapse could have on the availability of these at the time they are most required.

As the volume of centrally cleared OTC derivatives grows, it may also be worth speculating as to whether a buy-side firm would ever want or could become a direct clearing member in the future.





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# A revolution in counterparty risk management

**Collateralisation for OTC derivatives has become increasingly more widespread as a mitigant for counterparty risk.** By Michael Bryant, managing director of Intedelta

No area of risk management has undergone such change in recent years as counterparty risk. In the early 1990s most of banks' efforts focussed on market risk

management. Counterparty risk, meanwhile, was something of a backwater and banks applied the same credit risk management principles they adopted for their traditional lending

businesses. Risk measurement consisted of the application of very crude measures of exposure both for a bank's own internal exposure management purposes and for regulatory capital.



## RISK MANAGEMENT

The most advanced banks then turned their attention away from market risk and started to invest in counterparty risk measurement, developing measures of Potential Future Exposure (PFE) calculated using Monte Carlo simulation. The use of collateralisation also became more widespread as a mitigant for counterparty risk. Banks initially used the Credit Support Annex (CSA) to mitigate exposure to poorly rated counterparties such as hedge funds with which they were not prepared to take unsecured exposure. The use of the CSA soon evolved to be used on a bilateral basis between large interbank counterparties.

The 2008 financial crisis provided an enormous jolt to the financial system and shone a light on counterparty risk management practices. A plethora of financial regulation followed and in the counterparty space one of the most significant initiatives was the establishment of central clearing counterparties (CCPs) through which a large proportion of OTC transactions

will need to be cleared. All cleared transactions will be subject to an Initial Margin (IM) requirement but a large proportion of non-cleared derivatives will also require an IM.

The approach to Credit Valuation Adjustment (CVA) has evolved equally rapidly along a parallel path. For many years the largest banks have been using hedging techniques to manage their counterparty exposure. This activity was, however, confined to a small number of the most sophisticated banks. The introduction of accounting regulations requiring a CVA to form part of a bank's reported P&L accelerated the implementation of CVA. This introduced considerable volatility into banks' trading profits and increased the focus on the management of CVA.

In its post mortem of the financial crisis the BIS observed that banks' losses from CVA exceeded credit losses from actual defaults but that banks failed to hold sufficient capital against such losses. Basel III subsequent-

ly introduced a capital charge which now requires banks to hold regulatory capital for CVA. There have also been a number of other changes to the calculation of regulatory capital for counterparty risk.

### Traditional approach

We start the commentary on the evolution of counterparty risk management with the way it used to be. Elements of this approach remain to a greater or lesser extent in all institutions. The traditional approach focussed on the credit assessment of the counterparty. Transactions were largely uncollateralised and the measurement of exposure was unsophisticated. Credit risk managers based their assessment on due diligence of the counterparty – a review of the counterparty's financial results, business model, regulatory environment and management quality – and came to a view on the limits they were prepared to grant.

The traditional approach to counterpar-



ty risk is still an important discipline in an institution's toolkit for managing risk. Indeed, it could be argued that in hindsight greater emphasis on traditional credit officer judgement could have lessened many losses in the financial crisis where excessive reliance was placed on risk models and external ratings. In smaller and less sophisticated institutions the traditional approach remains the primary tool for managing counterparty risk. In larger institutions it has been supplemented, and in some ways eclipsed by the following innovations:

- Bilateral OTC derivatives are increasingly collateralised which substantially reduces counterparty exposure and risk managers need to place less emphasis on the tenor of transactions
- The introduction of central clearing will mean that risk shifts from the counterparty to the CCP
- New regulations mean that a large

proportion of non-centrally cleared transactions will need to be conducted with an Initial Margin. This will further reduce counterparty risk and therefore the degree of due diligence that institutions need to undertake

- Banks are increasingly establishing functions to actively manage CVA, which can diminish the need for a traditional approach.

### Advanced risk measurement

Market risk was the first area of risk management to undergo a quantitative revolution with the advent of techniques such as Value at Risk (VaR). In the counterparty sphere, sophisticated risk measurement was almost non-existent and most banks calculated very crude measures of exposure usually based on add-on factors. Banks then began to invest in counterparty risk measurement techniques and developed measures of PFE calculated under Monte Car-

lo simulation. Basel II further accelerated the move to a more sophisticated approach, and under the Internal Model Method the most advanced banks were able to use their internal models for the calculation of regulatory capital for counterparty risk.

Whilst the largest institutions will often implement a sophisticated risk measurement approach, this may be excessive for smaller institutions with relatively low levels of counterparty exposure. More simplistic risk measurement approaches, such as add-ons, coupled with a traditional approach to limit setting, may remain the most appropriate counterparty risk framework for such institutions.

### Collateralisation

The use of collateralisation for OTC derivatives has become increasingly more widespread as a mitigant for counterparty risk. A number of years ago banks would only trade under a CSA with their poorest rated counterparties





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such as hedge funds, with which they were not prepared to take unsecured exposure. Such CSAs were unilateral, meaning that the counterparty would need to post collateral to the bank but the bank would never post collateral to the counterparty.

There has been a progressive march towards collateralising a much higher proportion of OTC business. Today, most derivative and forward FX transactions between interbank counterparties are on a collateralised basis. Business with non-banking financial institutions (asset managers, insurance companies and pension funds) is increasingly collateralised, as is some business with large corporates.

In addition to an expansion in scope of the types of counterparties that are being collateralised the terms of CSAs have also become increasingly tighter. Most CSAs are now bilateral (i.e. both parties post to one another if transactions are out of the money to them), provide for daily collateral calls and have zero thresholds (the minimum mark to market before collateral is called).

The move towards increasing collateralisation is driven both by momentum within the industry to reduce counterparty risk and by regulatory capital calculations which give a benefit for collateralised business.

### Central clearing

One of the biggest regulatory changes to come out of the 2008 crisis was the move to central counterparty clearing. The precise regulations and timetables differ according to regulator but the thrust is the same – a large proportion of OTC derivative transactions will need to be cleared through a CCP.

Financial end-users have the option of transacting and clearing either through a clearing broker or to become a direct member of a CCP (subject to qualification criteria). Whichever route is taken, any counterparty risk which

### The traditional approach to counterparty risk is still an important discipline in an institution's toolkit for managing risk

would have existed bilaterally between the two counterparties is eliminated and shifted to the CCP. This change will significantly reduce the amount of counterparty risk in the system, although counterparties now have the task of quantifying their exposure to CCPs. Many institutions see their exposure to CCPs as a cost of doing business and therefore quantify their exposure to CCPs without necessarily limiting it. In many respects CCPs have become the



new institutions that are “too big to fail”.

CCPs have a multi-layered system of controls to mitigate counterparty risk. A default waterfall specifies how credit losses of a defaulting member will be dealt with. Losses are initially borne by the initial and variation margin deposits taken from clearing members and their clients. Individual CCPs have their own way of calculating IM requirements but global regulations stipulate a confidence level of 99% over a 5 day close-out period. In the event that margin deposits are insufficient to absorb the losses of a defaulting member, the losses will subsequently be allocated against the member's default fund contribution, followed by a tranche of the CCP's equity and then the surviving members' default fund contributions. If this is still insufficient, the CCP may make additional calls on its surviving members.

### Initial Margin

Coupled with Variation Margin (VM), the payment of an Initial Margin (IM) is an effective mitigant against counterparty risk. IM is paid upfront and VM is exchanged between the

counterparties as a transaction moves into or out of the money. If a counterparty defaults the VM should cover the counterparty's current market to market and the IM should provide sufficient cover against adverse market moves whilst the counterparty's positions are closed out.

IM has long been a feature of the financial markets. It was originally best known in the context of exchange traded derivatives where exchange members must make an upfront payment of IM to the exchange and also settle daily variation margin. In the OTC world the concept of IM has historically been less well developed, although is economically similar to the independent amount (IA) under a CSA. In financing transactions such as securities lending and repo the margin ratio is also economically similar to IM.

For OTC derivatives it was market practice to call IM/IA only when a bank was dealing with a less creditworthy and non-prudentially regulated institution such as a hedge fund. Most collateralised OTC business has historically been conducted without an IA. Many



of the losses incurred during the financial crisis might have been better mitigated had all transactions been collateralised, and had they been subject to an IM with specific segregation arrangements.

Transactions cleared through a CCP will be subject to an IM. A sizeable proportion of OTC derivatives will, however, remain non-cleared. For these transactions the Basel Committee on Banking Supervision (BCBS) and the International Organization of Securities Commission (IOSCO) have issued rules which will have the effect of subjecting a large proportion of non-cleared transactions to IM requirements. The requirement to post IM will be bilateral – both counterparties to a trade must post to one another on a gross basis with specific segregation mechanisms which do not allow IMs to be netted.

Under the BSBS/IOSCO rules a bank may choose either to apply a standardised schedule of IM requirements or to use its own models to calculate IM under principles laid down in the rules. It is unlikely that many institutions will choose the former as the standardised requirements are punitively high and would

likely render the bank uncompetitive. The use of banks' own models to calculate IM, however, is likely to create reconciliation problems between counterparties and there are a number of industry initiatives which are seeking to standardise IM requirements such as the ISDA Standard Initial Margin Model for non-cleared derivatives (SIMM).

### Credit Valuation Adjustment

CVA is an adjustment to the value of a derivative to account for expected counterparty losses. The most sophisticated banks have been calculating, and in some cases actively managing, CVA for many years. Accounting and regulatory changes have forced many smaller banks to follow suit and CVA is now an important component in the measurement and management of counterparty risk along with other valuation adjustments such as Debit Valuation Adjustment, Funding Valuation Adjustment and Liquidity Valuation Adjustment. The management of CVA within financial institutions (mainly banks) has undergone an evolution which in many institutions is still continuing. Banks often start by viewing CVA

as a pure accounting and regulatory capital calculation. Initial methodologies for the calculation of CVA are often fairly simplistic and typically apply historic probabilities of default (PDs) to the expected counterparty exposure to arrive at CVA. More sophisticated methodologies typically follow, such as using market implied PDs derived from Credit Default Swap (CDS) spreads. Banks often find that there is no CDS for many of their counterparties and they therefore need to adopt a proxying methodology to derive the PD.

Once a bank is in possession of a CVA calculated on a market implied basis it is able to price for counterparty risk. In the first instance this typically involves putting procedures in place to ensure that client transactions ade-

**Many institutions see their exposure to CCPs as a cost of doing business and therefore quantify their exposure to CCPs without necessarily limiting it.**

quately compensate for counterparty risk. This may be followed by the implementation of an internal transfer pricing mechanism whereby CVA is charged to the P&L of originating business lines or individual desks. This can have a motivational effect on the front office to ensure that risk is adequately compensated for and to incentivise them to enter into transactions with optimal counterparties.

The final stage in the evolution of CVA practices, which many banks have not yet reached or have chosen not to reach, is the establishment of a desk to actively manage CVA. The remit of such desks varies between institutions, but usually includes hedging activities to reduce the P&L volatility introduced by the CVA charge and to manage concentrations to specific counterparties, sectors or countries.

### Regulatory capital

Regulatory capital has taken on an increased importance since the financial crisis. For counterparty risk Basel II/III permits three methods of calculating counterparty exposure which feeds into the regulatory capital calculation:

- Current Exposure Method (CEM) – banks apply a prescribed set of fairly crude add-ons to the nominal value of transactions. The method gives very limited benefit for netting and collateralisation and does not take into account portfolio correlation or diversification effects
- Standardised Method (SM) – a more





risk sensitive methodology than the Current Exposure Method. Uses a formulaic approach prescribed in the Basel rules

■ Internal Model Method (IMM) – banks may use their own risk models to calculate Exposure at Default (EAD).

A bank may only adopt IMM after approval by their regulator, and gaining this status requires a significant investment in policies, procedures, systems and quantitative analysis. Many banks which adopt IMM see a significant reduction in their capital versus CEM or SM but historically only the largest banks have chosen to implement IMM. Basel III made a number of changes to the measurement of exposure under IMM including better recognition of collateral call frequency, size of positions to close out and selecting data from periods of stress.

In March 2014 the BCBS published its final standard on the standardised approach for measuring counterparty risk exposure (SA-CCR), which will replace both CEM and SM

with effect from 1 January 2017. SA-CCR is intended to better recognise collateral and netting effects and periods of stress. Banks which currently operate under the CEM or SM are currently reviewing the impact of moving to the SA-CCR and we expect that some may opt to move directly to the IMM.

The December 2009 BCBS consultative document “Strengthening the Resilience of the Banking Sector” noted that “Roughly two thirds of counterparty credit risk (CCR) losses were due to CVA losses and only one-third were due to actual defaults. The current CCR framework addresses CVA as a default and credit mitigation risk, but does not fully account for market value losses short of default”. In response to this weakness the Basel III framework introduced the CVA Risk Capital Charge. Basel III prescribes two methods for the calculation of this charge: the Standardised Method and the Advanced Method. The Standardised Method is a variance type formula and provides some relief for CVA hedges. The Advanced Method is only avail-

able to banks with an existing IMM approval and uses the bank’s VaR model for bonds to model spreads and requires an additional regulatory approval. This method provides more relief for CVA hedges, and the combination of IMM and the Advanced Method can lead to a lower CVA capital charge.


### A zero sum game?

This concludes our whistle-stop tour of the evolution, indeed revolution, in counterparty risk practices. In many areas the revolution has only just begun and the outcome remains uncertain. Will central clearing succeed in systematically reducing the counterparty risk in the system? Will the pace of regulatory change slow down and will risk managers be able to get back to focussing on managing their bank’s exposures rather than implementing the latest piece of regulation? Will the active management of CVA lessen the need for traditional counterparty risk management, or will it be seen as a zero sum gain heralding a return to a traditional approach?



# Overcoming the margin challenge





**C**ollateral has always been vital in ensuring the smooth functioning of funding and capital markets and in turn it has been essential for economic growth.

However, regulation is creating fundamental challenges to existing operating models of market participants that trade over-the-counter (OTC) derivatives.

A particular challenge for firms globally is the introduction of central clearing and new rules around initial and variation margin for non-cleared derivatives. Regulatory changes could prompt a ten-fold increase in margin call volumes which has the potential to overwhelm operational processes and system infrastructures.

Under G20-led reforms, mandated central clearing for derivatives is now underway in the US, while in the EU central clearing will be phased in early 2015.

As regards non-centrally cleared OTC derivatives, regulatory proposals in both the US and Europe require the implementation of new risk management processes, including operational processes and increased margin requirements for many. According to IOSCO, there will be a measurable impact from margining non-centrally cleared derivatives on market liquidity, as the assets that are provided for collateral purposes cannot be readily deployed for other uses over the life of the non-centrally cleared derivatives contract.

In practice, global regulations will impose initial margin requirements as well as reduce thresholds for variation margin, dramatically increasing the demand for high-quality collateral. Initial margin requirements, in particular, are not currently applied to a large number of OTC derivatives transactions. Firms need to be ready to restructure their operations as the requirements represent a significant operational change that will need to be managed.

The extent of the challenge of implementing the new rules will vary from firm to firm, depending on the existing levels of sophistication of a firm's middle office processes. Two areas of potential concern are firstly, firms that



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have not traditionally collateralized their OTC derivatives which will need to set up operations, hire people and deploy technology as well as execute collateral agreements with counterparties. Secondly, many firms that may already have existing sophisticated collateral operations will have to start calculating and processing two-way initial margin, which will add further pressure when firms are facing an exponential increase in margin call volumes.

The increase in collateral requirements and the subsequent rise in underlying margin activity are expected to have an impact on costs and risk in a number of areas, including funding costs, operational capabilities and settlement exceptions management, and reporting and recordkeeping.

Funding costs will rise because the increase in volumes will require firms to fund larger cash balances to meet expected margin calls; while firms will need to further increase their liquidity buffer to ensure all margin calls can be met to reflect the expected increase in calls and the risk associated with not meeting a call. The lack of certainty around intraday obligations and settlements will magnify intraday exposures and funding squeezes during times of extreme market stress.

Furthermore, firms will need to invest in both technology and the reengineering of the settlement process, exceptions management and dispute resolution. Also, the increase in margin call volumes will necessitate more comprehensive record keeping across a broad category of services.



■ Mark Jennis

Among the most critical factors for successful management of complex collateral processes is leveraging standard messaging platforms for collateral processing and collateral settlements. Standard messaging to communicate margin calls and settlement activity is particularly critical given the growth of interconnected players and segments in the collateral markets.

In order to meet the challenges around collateral supply, new solutions and oppor-

tunities in collateral management are being implemented by the industry. Some offerings focus on specific problems while others represent elements of larger strategic initiatives. Essentially, however, firms require end to end straight-through processing (STP) to support trading infrastructure and compliance needs, and to help them navigate the new regulatory landscape of increased margin calls.

Large and small asset managers, fund administrators and custodians, have indicated that they would prefer strategic, industry-led solutions to address the challenges related to collateral to avoid costly fragmentation.

Recognizing that the industry requires a solution to address both the scale and the efficiency of the collateral management challenge, DTCC has been working on a key initiative with Euroclear to develop new open architecture services, which aim to reduce systemic risk in collateral processing on a global scale and to help market participants improve efficiency, reduce risk and enhance collateral mobility.

The joint venture will bring to market the Margin Transit Utility (MTU) and Collateral Management Utility (CMU). The MTU will provide STP of margin obligation settlement, leveraging current DTCC infrastructure, as well as additional infrastructure currently in development in coordination with the industry. Industry testing of the MTU is scheduled to begin in mid-2015. The CMU will address the global challenge of sub-optimal collateral allocation and mobility, through utilizing Euroclear's Collateral Highway technology, and will follow the launch of the MTU.

Margin Transit will be open to all collateral processing providers such as custodians, international central securities depositories (ICSD), and collateral management vendors. Establishing links to all participants will facilitate the establishment of the first industry-owned, comprehensive, STP solution for streamlining the management, settlement and reporting of collateral.

Collateral will continue to play a critical role in underpinning the efficiency and stability of the financial markets; however, new regulations will create greater collateral demands on market participants. As a result streamlining margin settlement processes and enhancing access to collateral, will become a pre-requisite to the smooth functioning of the global financial markets and a means of improving their.

# DTCC

*By Mark Jennis, Managing Director, Strategy and Business Development at DTCC, and Executive Chairman, DTCC-Euroclear Global Collateral Ltd.*



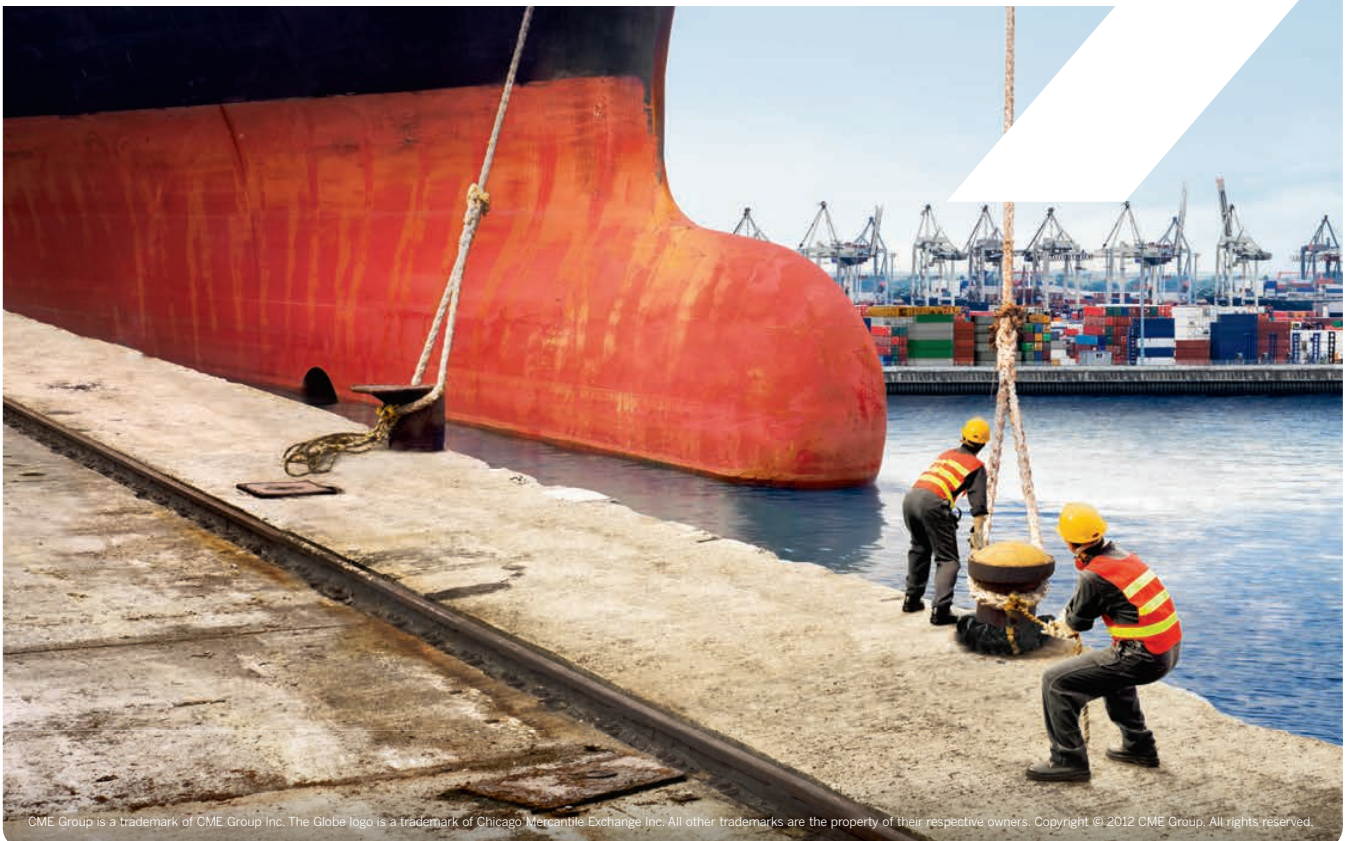
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**ESMA proposes a phased-in approach but there remains uncertainty as to how non-EU firms will be treated when facing an EU dealer.** By John Young, associate, Ropes & Gray

# EMIR OTC Derivatives Clearing: the long haul

**W**hile European Market Infrastructure Regulation (EMIR) requires counterparties to clear over-the-counter (OTC) derivative transactions, ESMA has proposed a long phase-in period for mandatory clearing.

Once the rules are approved by the European Commission and Parliament, which is expected

at some point in the first half of 2015, financial companies will have up to 18 months to comply.

For instance, firms that are clearing members (applying to clearing member to clearing member trades only) will have six months. Meanwhile, non-clearing financial firms and large investment funds, in each case whose

aggregate month-end average notional amount of OTC derivatives is above €8 billion, will have 12 months. Nonetheless, some buy side firms will have an even longer grace period – at 18 months for those financial firms and investment funds below the threshold. Lastly, certain non-financial firms who come under the obligation will have three years to comply.



## OTC CLEARING

On the assumption that the rules will not be finalized before the first half of 2015, clearing will not apply to most EU-established or managed investment funds, including UCITS and alternative investment funds, before mid-2016. However, it is not entirely clear at this time how entities established outside the EU will be treated for this purpose when facing an EU dealer.

### Global reach

EU established financial counterparties (FCs) and non-financial counterparties that exceed the clearing threshold (NFC+s) are subject to the clearing obligation. However, US and other non-EU managers frequently execute OTC transactions with EU dealers on behalf of their funds and clients. By virtue of facing an EU dealer, EMIR's intent appears to be to make such transactions subject to the clearing obligation, although it is presently unclear whether it achieves that objective. Depending on interpretation, on which industry views differ, clearing also applies to counterparties established outside the EU. That is to say, those that would be subject to the clearing obligation if they were established in the EU, such as a US mutual funds or US managed Cayman hedge funds, should they face an EU FC (such as an EU dealer) or an NFC+. As ESMA has

confirmed that, in practice, the obligation to clear a trade with a non-EU counterparty lies with the EU counterparty (typically an EU dealer), the approach taken by EU dealers will inform the position in due course.

### Product types

The European Securities and Markets Authority (ESMA) has released three consultations on the EMIR clearing obligation and proposed a list of product types as subject to clearing.

This includes some standardised interest rate swaps, certain standardised credit default index swaps as well as selective non-deliverable FX forwards in currencies frequently executed as non-deliverable contracts. These include US dollar to Brazilian real, Chilean peso, Chinese yuan, Columbian peso, Indonesian rupiah, Indian rupee, Korean won, Malaysian ringgit, Philippine peso, Russian ruble and Taiwan dollar, in each case with maturity between 3 days and 2 years.

The types of standardised interest rate swaps and credit default index swaps are substantially, but not identical to the products subject to clearing in the US under Dodd-Frank. However, the mandatory clearing of non-deliverable FX forwards has not yet been proposed under Dodd-Frank.

### Frontloading

Frontloading is the application of the clearing obligation to OTC derivative trades that have already been entered into before the date the rules apply. ESMA has noted concerns raised on frontloading - firstly, the impact on pricing of a contract which is executed OTC but then subject to clearing at the end of the phase-in period; and secondly, the concern that clearing members will only accept business during the transitional period if clearing arrangements are

### Firms will also need to consider the complexities of moving already executed trades from an uncleared to a cleared environment during or at the end of the phase-in period

in place for the contract to be cleared. ESMA considers that this is a good thing in some respects because it will encourage parties to clear ahead of the end of the transitional period. However, it has also noted the downside of this in other respects, particularly as it may be difficult for smaller players to trade those deriv-



atives without clearing arrangements in place.

Firms should be aware that dealers may require entities which execute OTC contracts during the phase-in period to have clearing arrangements in place as a condition to executing such contracts, and clear those trades on execution, rather than at the end of the phase-in period. In addition, firms will also need to consider the complexities of moving already executed trades from an uncleared to a cleared environment during or at the end of the phase-in period.

### Clearing arrangements

Fund managers will need to arrange for their funds and other accounts that trade OTC derivatives to put in place clearing arrangements with dealers or other financial institutions that will act as their clearing member. However, many funds will already have clearing arrangements with US clearing members.

If the product that is subject to EMIR clearing is also subject to clearing under Dodd-Frank, the fund should be able to satisfy the EMIR obligation to clear the product by clearing the trade with a US dealer under a US OTC clearing agreement. Final rules to allow this have not yet been published, but ESMA has performed initial work which indicates that the US clearing obligations are equivalent to their European counterparts. The European Commission has not yet adopted ESMA's technical advice in making formal decisions on "equivalence" – the delay may lie in the unwillingness of the US CFTC to give full reciprocal recognition to non-US clearing houses.

EMIR "equivalence" allows both counterparties to fulfill the EMIR clearing obligation by clearing under the rules of a "third country" – where one of the counterparties is established in that third country. However, it is not currently clear how equivalence will apply to funds that are not established in the US but are otherwise subject to Dodd-Frank by virtue of being "US persons". This includes, for example, a Cayman Islands fund that is majority-owned by US persons or has a US investment manager.

If the product is a European product that is not covered by Dodd-Frank clearing, fund managers will need to agree clearing terms that reflect EMIR's requirements and that arrange for clearing with an EU clearing house. In addition, fund managers will also need to open clearing accounts with EU dealers and consider the level of collateral segregation they require. It may be possible to execute clearing terms with a US dealer, which in turn will pass the trade to its EU clearing member affiliate for clearing – known as "indirect clearing" under EMIR.







# Buy-side pressures

**Firms subject to mandatory clearing requirements are being impacted by increased costs with an adverse effect on profitability.**

By Dr. Tony Webb, director of analytics, Fincad

**W**e have seen significant change in the OTC derivatives markets in recent years due to regulatory reforms focused on minimising systemic risk to the financial system. Much of this change has resulted from mandates, such as Dodd-Frank and EMIR, which have had broad and sweeping impacts for almost all financial institutions

with business tied to derivatives markets. Some key areas of impact include market liquidity, trading execution costs, dealer funding costs, technology expenditures as well as the financial instrument types utilized for investment and hedging decisions.

Rising costs

Firms subject to mandatory clearing require-

ments are being impacted by increased costs and are subsequently seeing a significant effect on profitability. These changes are affecting all market participant types, including buy-side and sell-side firms with a knock-on effect that extends throughout the marketplace. A relevant study by Sapient Global Markets looks at the impact on a typical fixed income focused

buy-side firm, comparing their business in a pre and post financial crisis environment to evaluate the economic impact on their business and fund strategy's performance. This example buy-side firm previously hedged their interest rate duration risk by trading OTC IR swaps bilaterally using CSAs with minimal initial margin (IM) costs in a pre-2008 crisis mindset. A hypothetical cost comparison was then performed using different financial instrument alternatives\*, including swap-futures products, along with more traditional cleared IR swaps.

This Sapient Global Markets research compares how new central clearing mandates impact alpha for buy-side firms. By quantifying the cost of clearing, a comparison was conducted and factored into overall portfolio performance. This comparison was represented in terms of drag on portfolio returns, considering the costs related to collateralisation and clearing of rates hedging instruments in various margining and regulatory environments and under four different hedging scenarios.

It was evident from this research that the costs of hedging duration in a post-Dodd-Frank environment will increase. The result is a drag on portfolio alpha ranging from between ~20bps to ~62bps for cleared trades, depending on the product, and up to ~91bps for traditional uncleared bilateral OTC trades. The research results illustrate that cumulative portfolio returns are highest when hedging is performed using uncleared swaps in a pre-2008 environment, and lowest when hedging is performed using uncleared swaps in a BCBS/IOSCO-recommended environment.

### Lower portfolio returns

This difference in cost helps to illustrate the significance of Dodd-Frank/BCBS legislation on clearing costs. Due to IM, the use of uncleared swaps has jumped from being the cheapest way to hedge to being the most expensive way to hedge. These costs were lowest in the pre-2008 environment, and highest under the 2015 BCBS/IOSCO post-Dodd-Frank guidelines. When IM costs are higher, there are fewer performing assets in the portfolio, and this manifests into lower portfolio returns. Although, the impact of increased cost may vary depending on the specific institution type, business model, and trading strategies employed, it is clear that, at multiple levels, firms are looking at ways they can potentially absorb these new operating costs. One such example would be where firms are utilizing financial analytics and technology innovation as a way to reduce technology and systems costs, make more effective decisions, utilise balance sheets, maintain liquidity, and deploy capital more effectively.

While operating in an increasingly cost-constrained environment many financial firms



■ Dr. Tony Webb, director of analytics, Fincad

are putting a critical eye on hedging activities and investment decisions to include centrally cleared instruments (both Eris Standard swap-futures and LCH-cleared swaps) which, according to the Sapient Global Markets research, will be cheaper than uncleared OTC instruments. Although the most significant factor driving the differences in clearing costs is IM, one must also consider additional factors when selecting hedging products, including basis between swaps and standard swap-futures caused by the non-flexible fixed coupons and maturity dates of swap-futures.

### An example may be when firms need to re-evaluate hedging strategies to the point where they may consider it more viable to remain unhedged instead of incurring prohibitive hedging costs

By some measures, the total increased cost for financial institutions amounts to billions globally. Meanwhile firms are searching for best viable options to absorb these ongoing costs of business. An example may be when firms need to re-evaluate hedging strategies to the point where they may consider it more viable to remain unhedged instead of incurring prohibitive hedging costs.

It is important, however, to emphasize that

one must consider various factors when selecting hedging products, with cost savings being just one factor driving overall clearing costs. Another important component to consider is the basis between swaps and swap-futures, due to the non-flexible fixed coupons and maturity dates of the Eris Standard contracts.

### Multiple approaches

While swaps trading is moving to be centrally cleared, certain financial instrument types not yet falling under central clearing requirements are being utilised as hedging and investment tools – especially complex OTC derivatives. That being said, in addition to compulsory central clearing of standard vanilla trades, regulators and clearing houses have adopted multiple approaches to increase the volume of trades voluntarily cleared through CCPs. One such approach includes assigning punitive capital charges to derivatives that remain bilateral in order to cover the counterparty credit risk inherent in these bilateral transactions.

Some of the pain is being felt most acutely in the inter-dealer banking market where, historically, this trading and market making activity comprised a significant portion of business as well as a significant portion of market liquidity. Cost increases and a drop off in OTC derivatives trading volume at these markets has reduced market liquidity and increased costs for all market participants.

### Evolving landscape

We have seen a significant cost increase across the board for all firms as a result of this new market environment. There are a lot of new players in this evolving financial landscape and many buy-side and sell-side firms are still looking for emerging best practices. Going forward, it will be interesting to see in which ways firms are adapting their business models to accommodate OTC, centrally cleared and exchange traded derivative instruments into their workflow and operations. Already, leading buy-side institutions are deploying hybrid models that can effectively trade varied product types on diverse platforms and also adapt their risk framework to better capture the risk profiles of these numerable instrument types. Implementing financial best practices in advance of prescribed regulatory requirements is the best way to ensure ongoing success and investor confidence.

\* Sapient Global Markets: The four alternatives include (1) Uncleared swaps subject to pre-2008 margin requirements. (2) Eris Standard swap-futures (cleared via CME), (3) Swaps cleared through LCH.Clearnet SwapClear, (4) Uncleared swaps subject to the BCBS/IOSCO IM guidelines (effective after 2015).

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Mastering data and technology challenges will be critical in determining whether firms survive and thrive.

By Martin Seagroatt, marketing director, 4sight Financial Software

# Managing the new collateral ecosystem



Collateral management has always been evolving, but the pace of change is now increasing rapidly. The sheer breadth and depth of new regulations and differences across jurisdictions are creating immense challenges for both the buy side and sell side. At the same time, technological and market driven solutions are offering new and more efficient ways to execute derivatives.

Simply digesting the scope and impacts of new rules is a mammoth task. Defining target operating models and realigning business processes adds further pressure. Choosing best of breed technology solutions and service providers also requires due diligence and detailed selection processes.

The main drivers of this market evolution are the mandatory clearing of standardized derivatives,

IOSCO rules specifying exchange of two-way initial margin for non-cleared derivatives and Basel III, with the resulting increased demand for high quality liquid assets (HQLA) with term funding.

Not surprisingly, the challenges differ for buy side and sell side firms. In addition, market infrastructure providers such as Central Securities Depositories (CSDs) are modifying the services they offer and launching new solutions in order to upgrade the plumbing the system desperately requires to meet the new collateral flows.

New rules are also creating greater inter-



■ Martin Seagroatt, marketing director, 4sight Financial Software



Buy side challenges	Details
Managing more complex margining processes	<ul style="list-style-type: none"> <li>• Exchange of initial margin and variation margin</li> <li>• More frequent margin calls</li> <li>• Increased collateral movements</li> <li>• Automation of manual processes for margin calls</li> </ul>
Sourcing eligible collateral for CCP margining	<ul style="list-style-type: none"> <li>• Modelling CCP eligibility and concentration schedules</li> <li>• Matching maturity of funding with collateral needs</li> <li>• Collateral upgrade/transformation trades</li> <li>• Collateral optimization</li> <li>• Managing non-cash collateral</li> </ul>
Forecasting future collateral needs	<ul style="list-style-type: none"> <li>• Modelling, verifying and forecasting CCP initial margin calculations</li> </ul>
Implementing technology systems	<ul style="list-style-type: none"> <li>• Buy, build or outsource decisions</li> <li>• Due diligence in selecting providers</li> <li>• Bringing expertise in house</li> </ul>

dependencies between the buy side, sell side, and market infrastructure providers. This sees the integration of the various members of the collateral ecosystem become more vital to survival for all market participants, as conditions become tougher and collateral demand increases. It is all about unlocking pools of high quality liquid assets and mobilising them to the right place at the right time, at low cost and with minimal friction.

## Buy side challenges

In addition to selecting clearing brokers and CCPs, the buy side now have to deal with more complex margining processes. The CCP margining model requires more frequent margin calls (often intraday) and an estimated 500% to 1000% increase in collateral movements (Source: DTCC Whitepaper Jan 2014: Trends, Risks and Opportunities in Collateral Management). Bilateral trades will also see more stringent margin requirements.

Previously, margining derivatives was relatively simple for the buy side, often with no exchange of initial margin. Variation margin calls were infrequent and often on a weekly or even monthly basis. Many firms used spreadsheets for collateral management, with little need for automation.

On top of the greater number of collateral calls, there is also a lack of standardization of margin processes used by each CCP/clearing broker. Most firms on the buy side are trading with multiple brokers and various CCPs. This creates a need to model margining workflow for each one in turn. Trade reporting to repositories adds further complexity, with some brokers offering delegated reporting, and others preferring the end client to manage this.

All of this added complexity means that for any firm collateralising more than a handful of agreements, using spreadsheets to support collateral operations is no longer a viable option.

## Sourcing eligible collateral

Many firms on the buy side do not typically hold large quantities of the types of collateral required by CCPs. Holding excess cash for CCP margining is not a good strategy for many buy side firms due to low yields. These firms must now look at ways to source CCP eligible assets, while minimising the drag on fund performance. There are a number of solutions to this, including collateral transformation and collateral optimization.

Collateral transformation/upgrade trades allow the buy side firm to pledge less liquid, CCP ineligible assets to the provider of the upgrade (often a sell-side intermediary). The provider then exchanges these assets for CCP eligible collateral in the securities lending and repo markets.

While collateral transformation trades appear to offer a solution, they come at a cost for the buy side. Sell-side firms must factor in their increasing costs due to balance sheet and liquidity requirements. It is usually far cheaper for the buy side firm to optimize its internal inventory first in order to free up CCP eligible collateral. Only then does the firm need to look at paying for upgrade trades to make up any shortfall.

Technology solutions to identify and optimize internal inventory can therefore provide major benefits to the buy side.

In addition, there are questions around the durability of funding for the buy side. Collateralising a long-dated swap with a CCP (indirectly) through the shorter-term repo and securities lending markets results in a large maturity mismatch. The buy side could find collateral upgrade trades unwound during times of market disruption leading to serious problems.

This requires the buy side to think carefully about rollover risk and how they can find stable



sources of collateral for their CCP margin needs.

### Anticipating collateral needs

Analytics solutions to replicate CCP initial margin calculations provide a useful tool for the buy side. This allows the firm to verify the CCP's margin calls, but also to forecast future collateral requirements. Being able to anticipate collateral needs reduces the likelihood of sudden unexpected margin calls, resulting in higher costs sourcing the requisite collateral. Many vendors and CCPs themselves are now offering these calculation tools.

A move to non-cash collateral also creates added complexity in lifecycle processing (for example managing corporate actions), compared with the simplicity of posting cash collateral. IT systems that can automate these manually intensive processes can reduce some of the operational risks and burdens.

### Reverse Collateral Upgrades

For those on the buy side holding large quantities of high quality liquid assets (HQLA), the new environment provides an opportunity to open up new revenue streams. This requires identifying the firm's own collateral needs for hedging. From there the firm can allocate any excess collateral for lending in the securities lending and repo markets, or into reverse collateral upgrade trades, accepting in different collateral and earning a fee.

These 'reverse collateral upgrade' trades can provide a useful source of yield enhancement, helping the firm to generate alpha. For lenders who are also able to lend for longer terms (31 days plus), more attractive returns are on offer, as borrowers look to lock in supply of HQLA to meet Basel III Liquidity Coverage Ratios (LCR) and other regulations.

Noticeable benchmarks in the duration of trades are 31 days, 90 days and even multi-year, depending on the regulatory requirement faced by the counterpart. Although longer dated trades can offer significant pickup in the fees that can be earned, they require both buy-side and sell-side firms to be able to substitute collateral. This requires systems capable of effectively tracking these movements and handling inventory considerations, whilst keeping the operational burden to a minimum.

The ability to clearly see available inventory across all funds and identify unencumbered LCR eligible collateral that can be freed up for lending opportunities also requires an investment in technology systems.

### Buy, Build or Outsource

The added complexity of collateral management for both cleared and bilateral trades is leading to difficult decisions for the buy side.



This includes working out which parts of the process to manage internally and what to outsource. It makes sense to outsource some components of the collateral process, although this comes at a cost.

For firms that are prepared to invest in staff, expertise and technology, managing in-house can provide greater control and scalability. Collateral management can become a core competency, moving beyond covering margin calls to provide expertise in total costs to hedge and additional benefits from carrying certain types of assets. This enables the firm to differentiate itself and improve fund performance through a more tailored approach to the way the firm carries out its margining activities.

### Sell side challenges

If the buy side are facing huge upheaval, the incoming regulatory regimes are creating enormous new cost pressures for the sell side. Sell side firms are now carrying out a wholesale re-evaluation of business models, trading strategies and technology solutions as a result.

The table below details some of the key challenges facing the sell side around the collateral management process (in no particular order of priority):

One of the most difficult challenges for the sell side involves centralising the collateral function across geographical locations and business

lines (e.g. securities lending, repo, derivatives). This provides numerous benefits, particularly as it allows the firm to view its entire collateral inventory and exposures in one system.

It is easier to meet margin calls, as the firm has a clear view of its global inventory in one place. Risk Managers can more clearly identify sources of exposures with all counterparties, across products and any additional credit risk taken in the margin or collateral transformation processes. This can help when complying

### For firms that are prepared to invest in staff, expertise and technology, managing in-house can provide greater control and scalability

with large exposure limits under Dodd Frank and the Basel III rules. It also enables the firm to monitor the composition and concentration risks of its collateral portfolio more effectively.

However, for the sell side, consolidating the collateral function and creating a central collateral desk is a significant undertaking. This is particularly the case for larger firms with many counterparties, extensive collateral portfolios and multiple funds and sub-funds to consider. It



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Sell side challenges	Details
Centralising the collateral function	<ul style="list-style-type: none"> <li>• Structure</li> <li>• Data mapping</li> <li>• Technology</li> <li>• Process change</li> </ul>
Collateral Optimization	<ul style="list-style-type: none"> <li>• Collateral Pricing</li> <li>• Opportunity Costs</li> <li>• Algorithm development</li> </ul>
Obtaining Basel III Liquidity Coverage Ratio eligible assets at term	<ul style="list-style-type: none"> <li>• Eligibility Mapping</li> <li>• Optimising liquidity coverage with cheapest to deliver assets</li> </ul>
Collateral Transformation Services	<ul style="list-style-type: none"> <li>• Measuring balance sheet consumption and other costs</li> <li>• Accurate pricing of services</li> </ul>
Client Clearing Services	<ul style="list-style-type: none"> <li>• Proliferation of CCP account segregation options</li> <li>• Delegated Reporting</li> </ul>
Reduced collateral velocity	<ul style="list-style-type: none"> <li>• Limits on rehypothecation and greater tracking of collateral</li> <li>• CCP segregation of assets</li> <li>• New regulations around rehypothecation</li> </ul>
Transaction Cost Analysis	<ul style="list-style-type: none"> <li>• Collateral Costs and FVA</li> <li>• Capital charges and CVA</li> <li>• Balance sheet consumption</li> </ul>

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involves an investment in technology, although there are now vendors with experience of large-scale global inventory management and collateral centralization projects who can offer assistance.

Centralization also requires changes to business structure, processes and the roles of individual staff. There are difficult decisions

### There are also incentives for beneficial owners holding high quality liquid assets to lend them out in exchange for less liquid assets in reverse collateral upgrade trades

around where the collateral function resides in the bank, whether with treasury, trading or as an independent function.

While it is a major task, once the firm has centralized its collateral usage it is ready to begin optimising collateral.

### Collateral Optimization

Basic collateral optimization allows the firm to give out the 'cheapest to deliver' assets to collateralize a given margin call. More advanced techniques can optimize the entire collateral portfolio across all counterparties in a non-linear fashion.

More advanced algorithms can help to

squeeze additional basis point savings from collateral usage. However, they also require bespoke algorithms and significant processing power, due to the large numbers of possible outcomes. They are therefore not suitable for all firms.

Another major challenge lies in defining the true cost of collateral assets. It is possible to assign costs based on the prevailing repo rate for a given asset (adjusted by haircuts). However, accurately defining the opportunity cost of using an asset for one purpose rather than another is more complex. It involves a mature internal funds transfer pricing model and decisions around the constraints the firm is facing,

such as funding, capital, balance sheet usage and Basel III liquidity coverage ratios.

### Meeting the Liquidity Coverage Ratio

The Basel III Liquidity Coverage Ratio (LCR) is creating a need for covered sell side firms to bring in high quality liquid assets (HQLA) for terms of 31 days and longer. This is starting to drive demand for HQLA in the securities lending and repo markets from beneficial owners who are prepared to lend at longer terms.

To meet the LCR, many sell side firms are beginning to modify their eligibility and concentration schedules for received collateral to include only those assets that are LCR eligible. This ensures the firm brings in the right type of assets through natural trade flows. Technology systems that can automatically identify LCR eligible assets and assign them to the correct LCR pools are also necessary to comply with the LCR.

The Basel rules specify that firms must meet a minimum of 60% of the LCR with Level 1 Assets (the most liquid). The remaining 40% can be met with less liquid Level 2 assets (and in some cases Level 2b).

It therefore makes sense for firms to reduce the cost of meeting their LCR needs by allocating the cheapest to deliver assets possible to LCR coverage, while minimising unnecessary posting of Level 1 assets above the thresholds. This means LCR compliance becomes, in some respects, a collateral optimization problem.

### Collateral Transformation

Collateral transformation is a service that sell side firms can provide to clients and offers a way to generate additional revenues. However, there is a balance sheet impact for the sell side firm providing the collateral upgrade in the securities finance markets.

Analytics tools that can identify balance





sheet consumption of the securities lending and repo legs of the upgrade can therefore help the sell side to price collateral swaps for clients. Measuring the balance sheet usage of an upgrade service allows the sell side to work out if the service is profitable. It can then determine which clients to offer upgrade services to, based on the overall P&L generated by that client or the fee the client is willing to pay.

### Client Clearing Services

Client clearing offers a new revenue stream for the sell side; however, there are high costs involved. Running a client clearing business requires a significant investment in technology to cope with the more stringent demands. This includes greater frequencies of collateral movements, use of non-cash collateral and the proliferation of CCP account segregation options.

Delegated reporting of trades and collat-

eral is another service that clearing brokers/FCM's can provide, although not all will offer this service. Recently a number of sell side firms have exited the client clearing business and this is no doubt due to the high cost base.

### Reduced Rehypotheication

In the past, many sell side firms benefited from the ability to rehypothecate collateral received from clients and this provided a valuable source of low cost funding.

In the new environment, collateral is often locked up in segregated accounts at CCPs. Furthermore, regulators are also looking at new rules around how many times assets can be rehypothecated, along with client approvals for re-use and reporting on rehypothecation and collateral chains.

This will result in a reduced velocity of collateral and a need for technology solutions that can track individual securities and flag whether

rehypotheication is permitted.

### Transaction Cost Analysis

The firms on the sell side that can work out and minimize their true costs, and therefore price their services more aggressively, will be able to gain market share. This involves more detailed view on where costs are generated and by which services. From a collateral point of view, this means measuring an accurate collateral opportunity cost – for both pledging and receiving, as well as understanding the trade affect, balance-sheet or capital requirements impacts, and whether collateral assets re-usable.

### High Velocity Collateral Flows

Market infrastructure providers such as CSDs, custodians and tri-party agents are currently in the process of rapidly upgrading the plumbing of the collateral ecosystem to support greater collateral flows. Interoperability between CSDs,

custodians and triparties will allow easier movement of collateral between entities.

Initiatives such as Target2 Securities (T2S) to improve European cross border settlement will also unlock collateral pools and allow greater opportunities for optimization.

In the securities lending markets, agent lenders and custodians need to help beneficial owners to filter down availability of surplus HQLA and then have a means of broadcasting these availability files to borrowers who require them to meet liquidity buffers.

This will help to match supply of HQLA with demand. Of course, lenders must be prepared to lend at terms greater than 31 days in order for the funding source to meet the LCR requirements.

### Risks

While the move towards greater collateralization of trading exposures reduces counterparty

credit risk, it also creates new risks in the form of market and liquidity risk on the collateral exchanged and operational risk from increased collateral movements. If collateral transformation/upgrade trades become widespread then there is an argument that counterparty risk in the derivatives markets simply shifts to the repo markets.

There are also incentives for beneficial owners holding high quality liquid assets to lend them out in exchange for less liquid assets in reverse collateral upgrade trades. For those firms willing to undertake these types of trades, particularly for longer terms, there is a potential for higher fees (securities lending) or lower cash interest rates (repo). Once again, this could create new pockets of risk.

Finally, the widespread use of collateral optimization algorithms promotes giving out the lowest quality collateral counterparties will accept, on a systemic level. Firms therefore need

to closely monitor collateral received and the concentration of assets in the portfolio.

All of this requires individual firms to be more aware of these risks and have appropriate technology systems in place to manage them.

### Leaner and faster

As the operating environment becomes tougher for market participants, new rules should drive an industry wide shift toward a leaner, more efficient financial system with faster collateral flows, lower friction and greater automation.

The firms that will survive and even thrive in this new environment will be those that can use technology solutions to manage the increased operational burden and accurately quantify the costs and opportunities associated with collateral and margining considerations. The use of this data to drive business strategy, search for yield and price client services more aggressively will become a major distinguishing factor between firms.





# Global Divergence

**Those who advocated early, aggressive monetary easing measures appear to have been vindicated.** By James Hester

**T**he global macroeconomic landscape in 2014 has appeared to vindicate those who had called for aggressive quantitative easing measures. In short, those countries that adopted the most generous QE programmes have tended to be the ones that have delivered the best growth. While the likes of the US and UK led the recovery as their respective economies gathered momentum, the Eurozone with

its much more conservative monetary policy, appeared to stagnate.

## Mixed picture

A negative GDP report from Germany and Italy in the second quarter came in sharp contrast to the 4.6% annualised growth rate in the US. Weakening Eurozone inflation, meanwhile, has raised the worrying prospect that Europe could

be falling into a deflationary trap. At the same time, Japan having itself only just managed to rid itself of deflation, contributed to the mixed global picture as its GDP shrank by 7.1% in the second quarter and the recent increase in Japan's sales tax put Abenomics to the test.

Growth across emerging markets has generally been slow by historic standards with India as the only BRIC country on course to register a pick-up in its economy for 2014. In particular, China's economy has appeared to decelerate in recent months as a downturn





in the domestic property market takes its toll. Elsewhere, Brazil's recovery remains lacklustre while Russia's economy is under pressure from economic sanctions.

### Mind the gap

Notwithstanding the signs of accelerating divergence across core areas of the global economy in recent months, the overall picture for the world as a whole is one of slow, but steady growth. Even in the US and UK with their much better performance versus many of

their developed peers, inflation and unemployment growth remain muted. This is evidence of a continuing output gap, even in these economies, as aggregated GDP still remains somewhat below what it would have been had the 2009 financial crisis not occurred.

Monetary policy in some of the world's largest economies looks on course to increasingly diverge given their differing respective levels of growth. In fact, this trend is already underway as the Federal Reserve continues to wind down its QE just as the European

Central Bank (ECB) announces new monetary easing measures. Perhaps it is just be a matter of time before the ECB itself resorts to full-scale government bond purchases as it attempts to revive the flagging Eurozone economy.

With many of the world's largest economies having sizeable output gaps that have yet to be closed, along with low rates of employment growth and inflation, it is likely to be some years before global interest rates normalise to pre-crisis levels.



# M&A renaissance

While it remains to be seen how the end of the Federal Reserve's QE program will impact global equities over the rest of 2014, the year will certainly be remembered for a resurgence in M&A activity.

M&A activity has been an increasingly important driver of equity returns this year, with the value of deals having already eclipsed those done over the past five years.

Over the first nine months of the year, the value of mergers and acquisitions hit \$2.66tn, a 60% increase on the same period in 2013, as the number of transactions worth

\$5bn or more reached a new high.

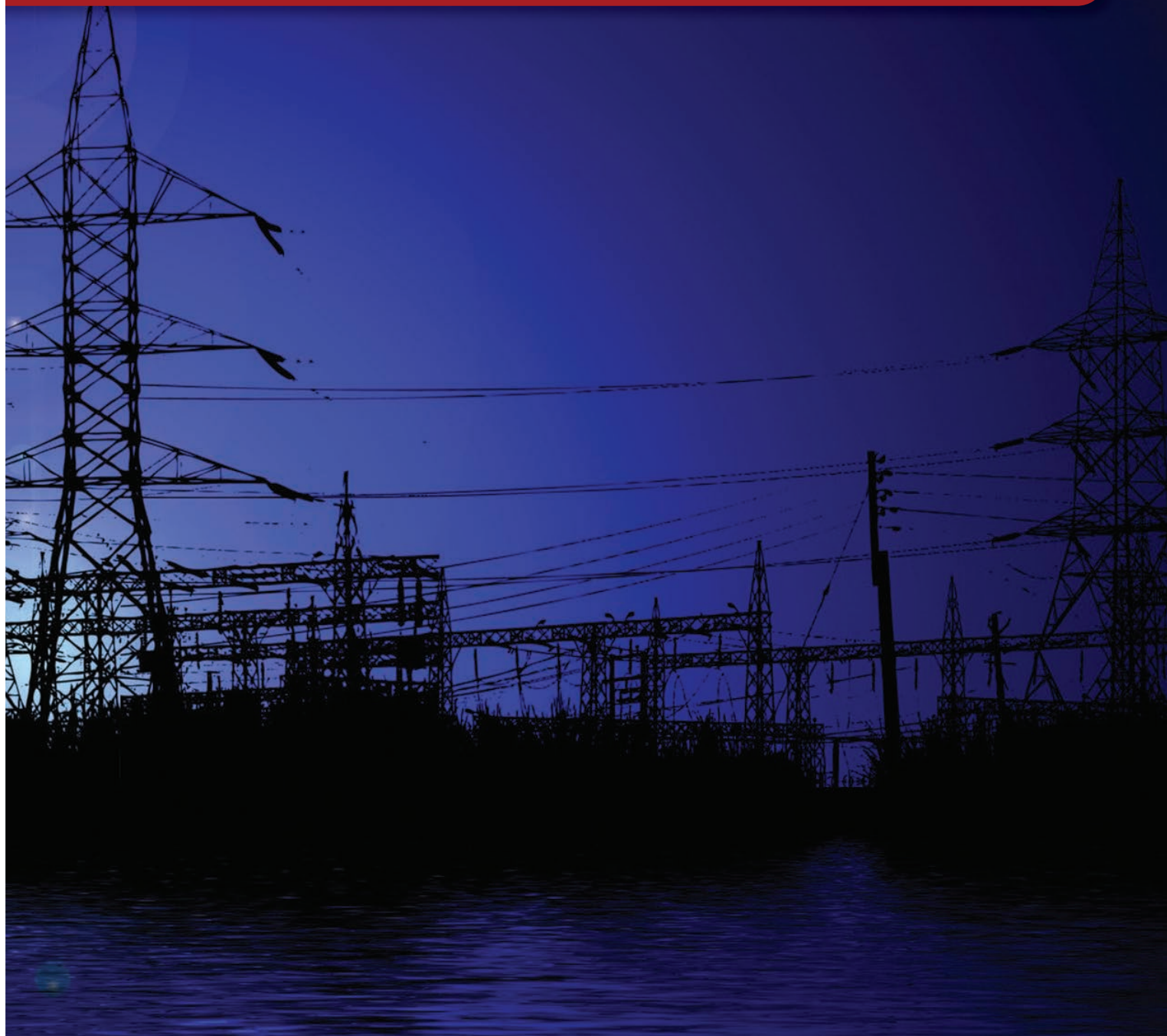
Energy and power companies have led the way in terms of M&A value this year, with some \$376.2bn of deals in the sector in the past nine months – a 56% increase on the same period in 2013. Healthcare, meanwhile, enjoyed its strongest nine months of deal making value since records began in 1980, with some \$368.6bn of deals announced in the sector so far this year.

## Biotech boost

US equities led returns across the world's

major developed markets over the first nine months of the year as the market hit new record highs and largely shook-off the increased geopolitical uncertainty from Ukraine and the Middle East. Of the major developed markets the FTSE 100 lagged as the resource-heavy index was impacted by weaker commodity prices.

Among S&P 500 sectors, healthcare stood out for its strong performance, with certain biotechnology stocks performing particularly well. As well as benefiting from M&A, this segment was boosted by positive results from



clinical trials and regulatory approvals. For example, global biotechnology group Amgen was one of the best performers as it was powered by growing investor enthusiasm over its drugs pipeline and better-than-expected financial results.

Other top performing stocks over the first nine months of the year included the wireless solutions technology company Avago Technologies as it made further progress in the smartphone market and in the rollout of 4G wireless in China.

It was, however, a more mixed picture for

the ecommerce sector, with Amazon reporting disappointing second-quarter financial results as investment in new business lines hit profits.

### **EM resilience**

Perhaps one of the biggest surprises has come from the resilience of emerging market equities in face of the winding down of the Fed's QE programme and the continuing worries over economic growth across leading EM economies.

Indian equities rose 27% over the first

nine months of the year as the market benefited from the outcome of national elections and growing optimism over India's growth outlook in the years ahead. Chinese equities, meanwhile, still managed to rise 12% over the period, despite the ongoing concerns over the strength of its domestic economy.

With the Fed's QE programme coming to an end this month, many investors will be watching market sentiment closely for clues over the coming weeks as to how this will impact overall risk appetite going forward.





# Commodities see broad sell-off

For commodities, the year 2014 has so far been characterised by a broad based sell-off, which gathered pace in the mid-summer. Energy, agricultural and industrial commodities have all experienced weakness this year, and while gold was virtually flat for the first three quarters, the recent rise in the US dollar has also put downward pressure on the yellow metal within the past few months.

## Slow growth weighs

Crude oil prices were under pressure as global demand for oil turned out to be slower than expected, owing to weaker growth in China and Europe as well as abundant supply. The main source of supply growth continued to be the US as a result of the shale oil boom, enabling it to rival the likes of Russia and Saudi Arabia in oil output. The fall in oil prices is also having a dampening impact on global inflation with US gasoline prices approaching their lowest levels for some years.

Slow Chinese growth has also pushed down industrial metal prices such as copper, against concerns over flagging demand. With China accounting for some 40% of the world's copper demand, the base metal has been particularly sensitive to disappointing Chinese data. In addition, the strengthening dollar has also weighed on copper prices over recent months, and base metals in general.

In addition, the dollar's rise has been weighing on gold, as it too has become more expensive for foreign buyers with its safe-haven status failing to boost the price despite the recent escalation in geopolitical concerns.

## Oversupply

Agricultural commodities have experienced particular weakness with key prices touching four-year lows.

The chief reason for the weakness in agri-

cultural commodities is simply that markets are facing oversupply this year. Corn is a case in point, with favourable growing conditions putting the US on course to register a record harvest this year.

And weak prices across such staple agricultural commodities could provide another important dampening impact on global inflation in the months ahead, depending on how much of the price falls get passed on to consumers.





## Corporates & Markets

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# Safe-haven support

Increasing geopolitical risks and the slow pace of global growth have provided support for the major, safe-haven government bond markets this year.

Conflict in Ukraine and the Middle East, along with concerns over economic growth in Europe and China put a lid on US government bond yields even as US economic growth picked up.

Fortunately for the Eurozone's peripheral sovereign bond markets peripheral yields have also continued to fall as the European Central Bank's (ECB) earlier pledge to provide a backstop for peripheral banks has steadily restored confidence in Europe's financial system.

## Credit mix

The picture, however, has been more mixed across corporate credit sectors with investment grade corporate bonds generally performing reasonably well while the high-yield bucket began to sell-off against heavy issuance and more subdued demand.

Elsewhere, the ongoing recovery in the US housing market continued to support Mortgage Backed Securities (MBS), against rising homebuilder sentiment and expectations of

increasing household formation over the next few years.

## Ultra low yields

There are reasons closer to home that are keeping US Treasury yields low such as continuing weakness in the domestic Consumer Price Index. In addition, owing to the declining budget deficit, the net issuance of Treasuries is also projected to be down by around 50% from 2013.

But economic weakness in Europe is a much more important factor for the global bond market, as German Bund yields fall ever lower. With these latter yields now well below 1% as the Eurozone attempts to head off deflation, the spread between German Bund yields and US Treasuries has also been moving towards its all-time high.

It remains to be seen whether the divergence in economic performance between the US and Europe will translate into some meaningful deviation in returns between German Bunds and US Treasuries over the coming months.

While Federal Reserve Chair Janet Yellen has adopted a relatively balanced tone in recent weeks, the Fed's recent rate projections

indicate that the first US rate hike will come in June 2015. In contrast, the recent deterioration in the Eurozone is likely to provide support for those calling for increasingly aggressive easing measures from the ECB.



■ Mortgage Backed Securities get boost from rising confidence in housing.

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# Survival of the fittest

**Peter Best, chief operating officer of ICAP's SEF, talks about some of the biggest issues in the OTC Swaps market.**

**Q: Will electronic trading eventually become more popular for OTC swaps or will voice methods continue to dominate for larger trades?**

**PB:** Yes, it will become even more popular, but we don't think it will ever replace voice methods completely. In fact we suspect that in time a few benchmark periods will become heavily electronic, i.e. in a comparable sense to futures, with voice continuing to play a role for larger trades. However, given the variety and customisation of swaps, we think that voice will always be required to play a significant role in both price and liquidity search across many of the less liquid instruments and periods.

**Q: Is the phenomenon of recent geographical fragmentation across the global OTC swaps market likely to be just temporary?**

**PB:** We believe that the fragmentation is temporary. Liquidity is viral, that is to say it benefits from a network effect. Therefore, it is in everyone's interest to be able to seek out liquidity from a global pool. This is why ICAP launched its European based SEF, ICAP Global Derivatives Limited; in order to reconcile the cross-border differences, seek permissions to operate one liquidity pool across geographies and help stitch liquidity back together.

**Q: Do you think there is a difference in**

**approach between US and European regulators or is it just a case of moving at different speeds?**

**PB:** Clearly the law-making approach is different, and there is a slight difference in emphasis – MiFID II is wider in scope and has a significant focus on pre-trade transparency – but in essence both sets of regulators are guided by the objectives of the 2009 G20 Pittsburgh summit, therefore we believe that ultimately the rule-sets will reconcile.

**Q: How do you see the SEF market evolving over the coming years?**

**PB:** More instruments will be subject to transaction-level requirements and cross-border clarity will emerge. But first we suspect that the full registration process, which is taking place for many SEFs at the moment, will settle a lot of questions surrounding rule interpretation. This may even become a trigger for consolidation or a reduction in the number of SEF offerings.

**Q: In terms of consolidation in the SEF market, what general trend should we expect to see?**

**PB:** We suspect that there will be some consolidation, but also that there will be withdrawals from the race. There are 22 registered SEFs and a further two seeking temporary registration. I don't think anyone expects there to be anything like this number

in the long run. For a start, signing up to SEFs and adhering to the different rulebooks will prove a long-term strain on already stretched compliance departments. But above all, I can tell you as a SEF operator that they are expensive to run. Without scale, significant market share and most likely diverse instrument coverage, it's very hard to see how so many SEFs can remain financially viable. The received wisdom is that the field will narrow to four or five dominant SEFs – personally I think that the eventual outcome may even be two or three.

**Q: Would the market benefit from an aggregation of services such as those seen in the futures and equity markets, in which the prices on multiple SEF venues could be accessed all in one place, through one connection?**

**PB:** To some extent yes and to some extent no. I suspect the agency access model will be a viable one for managing end users seeking full-service access across a variety of SEFs – by that I mean covering all modes of execution such as order book and RFQ, electronic and voice, as well as the PB relationship and clearing services. However, I think the pure-play technology aggregation services may struggle initially, until more instruments or currencies are MAT'ed and there is more of an evolution from quote driven to order driven markets.



## REGULATIONS



# US divergence could pose hurdles

**Without global harmonisation new rules on uncleared swaps margin could create stifling operational complexity as well as arbitrage opportunities.** By Dan Ryan, Chris Scarpati and Gerard Duffy of PwC

In early September, the prudential regulators (including the Federal Reserve, FDIC, and OCC) re-proposed the second major element of derivatives reform – mandatory margin on uncleared swaps. The re-proposed rule is designed to end years of debate that began with the release of the proposed rule in April 2011 and reflects the international guidelines for uncleared margin finalised by the Basel Committee of Banking Supervision and the International Organization of Securities Commissions (BCBS/IOSCO) in September 2013.

The US re-proposal is largely consistent with the BCBS/IOSCO guidelines; however, certain provisions of the re-proposal differ and will pose hurdles for market participants. These provisions involve significant change to the bilateral OTC swaps market and further limit a key source of liquidity (by prohibiting collateral reuse and requiring collateral segregation with a third party custodian) that will increase costs. This cost increase is perhaps somewhat desirable to regulators, as the re-proposal is

intended to incentivise market participants to trade derivatives through central counterparties in order to reduce the systemic risk of bilateral trading.

## Key US divergences from BCBS/IOSCO

While the final guidelines issued by BCBS/IOSCO limit the reuse of collateral pledged to satisfy initial margin requirements to one time only, the re-proposal goes even further by fully prohibiting such reuse. This prohibition will strain bank wholesale funding markets by restricting the use of pledged collateral for repo transactions.

BCBS/IOSCO requires segregation of initial margin like the re-proposal does, but the re-proposal also requires the segregated initial margin to be held at a third party custodian. Market participants will incur additional costs to segregate and safe-keep this collateral and will need to determine whether to absorb these fees or pass them on to their customers/



# WALL STREET



20/10/2014 21:39





## Q&amp;A



# A trading revolution

**Gary Stone, chief strategy officer at Bloomberg Tradebook, talks about innovations in trading.**

**Q: How has the trading landscape evolved over recent years?**

**GS:** Overall, markets have become increasingly global and electronic. Since the financial crisis, and against the backdrop of a low yield environment, portfolio managers have been under tremendous pressure to not only beat their relative benchmarks but also to deliver higher absolute returns in order to attract assets under management.

As investment managers have entered new geographic markets and traded across a broader range of asset classes in search of higher returns, trade execution has evolved from single-asset class trading to multi-asset class trading. In combination with this, and as a natural extension of the latter, cross-asset trading has also now come to the fore.

**Q: Can you provide some background on the evolution in algorithmic trading?**

**GS:** Single-asset class trading developed as a result of the exchanges moving to electronic matching engines. Direct market access trading and tactical trading algorithms technology that enabled traders to deal directly in the marketplace required a great deal of trader control.

Algorithmic trading strategies subsequently emerged in the equity markets to assist buy-side traders in managing large orders by automating the execution to seek a defined benchmark or result. These algorithms enabled equity traders to become more efficient, seek better execution as well as reducing the implicit costs of execution.

**Q: How does multi-asset trading differ from single-asset class trading?**

**GS:** Given the much broader investment aspirations of fund managers, both portfolio managers and traders now want to be able to execute with a similar degree of consistency, predictability and familiarity of trade execution and result, regardless of the market in which they are executing.

Multi-asset class trading involves trading individual asset classes across different geographies from a single access point in a similar manner. In recent years, we've witnessed traditional equity traders start to broaden their horizons. Some have wanted their equity-style algorithms to function in the non-equity markets, so we've begun to see clients increasingly embrace algorithmic trading strategies across

asset classes.

**Q: How is cross-asset trading adding value?**

**GS:** In many ways, cross-asset trading is a logical extension of multi-asset class trading. Cross-asset trading encompasses hedging, relative-value, complex structured and arbitrage strategies as well as automated single-asset class transitions. In one click, traders can instruct an algorithm to manage the execution of multiple instruments. Cross-asset trading harnesses the possibilities of electronic markets, making complex investment strategies more quantifiable, easier to measure/define and execute. It enables traders to find new sources of alpha and maximise investment potential while keeping risk and complexity within defined limits.

For instance, "N-legged" cross-asset relative-value strategies enable long-only equity portfolio managers to efficiently manage the slippage of a swap or reduce FX exposure of cross-border trades. Many fund managers have already found that strategies with multiple legs that hedge general market movements may deliver more alpha per unit of risk.



# Don't Judge ETF Liquidity Relying Solely on the On-Screen Volume

**Mike Baradas, Senior Execution Consultant**  
**Gary Stone, Chief Strategy Officer**  
**Bloomberg Tradebook**

**S**econdary market or on-exchange liquidity is not an indication of the true liquidity of an ETF. *Trader's Magazine* may be declaring it a "Fund Fight!" in its May 2013 cover story—that "Nasdaq, NYSE and BATS are slugging it out with incentives, new order types and a new exchange to resuscitate trading in ETFs,"—but the real story for many ETFs is that the available liquidity is much higher. Although the exchange-based liquidity may make the ETF look illiquid, the ETF is very liquid when you take into account the liquidity

you can get by trading the underlying basket. Traders need to operate in both liquidity pools. They should use an algorithm to trade the exchange-based liquidity and, at appropriate price levels, use Bloomberg Tradebook's Execution Consultants to get an anonymous quote for block liquidity from a liquidity provider that can tap the liquidity in either a correlated instrument, related derivative or an authorized participant that can trade the underlying basket and submit the ETF "Basket" to the ETF fund administrator to create an ETF.

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## ETFs: A Growing Appetite All Around

The sheer numbers of Exchange Traded Products (ETP) and assets under management (AUM) have grown dramatically over the past four years (Figure 1). Since the beginning of 2010 to the end of 2012, the number of ETPs has grown 63%—to 3,169 different funds. ETP growth is truly an indication of the tremendous amount of change occurring in the asset management industry. Rosenblatt Securities analyst Justin Schack observes that while outflows from mutual funds have reached \$261bn since May 2010 (the flash crash), \$314bn flowed into U.S. equity ETPs during the same post-flash crash period. (Figure 1, left hand scale)

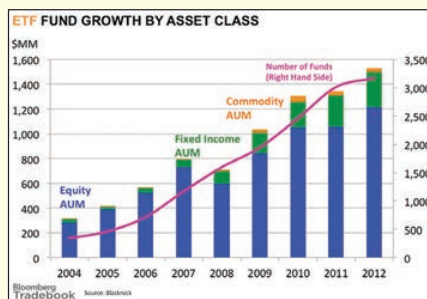


Figure 1

## Available ETF Liquidity—More Than You Can See

However, amid the explosive AUM growth in ETPs, on-exchange average daily volumes have stagnated (Figure 2, right-hand scale)



Figure 2

With so many ETPs out there, a significant difference often occurs between the “available” or “underlying” liquidity and “exchange” liquidity. ETPs have the unique advantage of interacting in the both the primary (creation/redemption) and secondary (on-exchange) markets. What you see on-screen is not the only liquidity that you can get. “Authorized participants” can deal directly with ETP constituents (members) and work with the ETP fund

manager to create or redeem the ETP shares virtually on demand (Figure 3).

In a creation, an authorized participant would purchase the ETP basket of constituents and deliver them to the ETP manager. The ETP manager would then take the basket and issue (or create) the ETP shares. Conversely, in a redemption, an authorized participant would purchase the ETP and deliver it to the ETP manager. The ETP manager would then take the ETP shares and return (or redeem) the basket of ETP constituents.

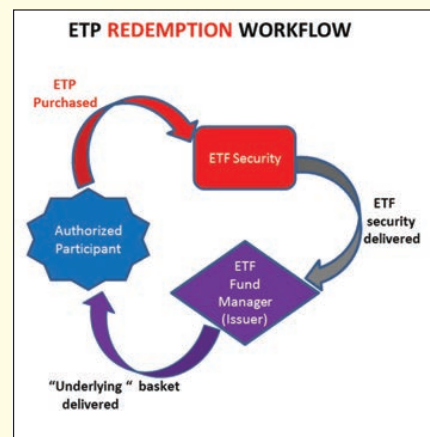
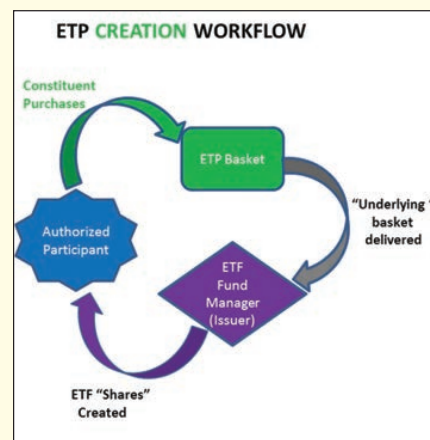


Figure 3

The members of an ETP are easily identifiable on the Bloomberg Terminal. <ETF ticker> MHD <GO> displays the total number of shares of each constituent that the ETP issuer holds (Figure 4). Clicking on the “View Creation Unit” option in the red toolbar or typing 97 <GO> in the Bloomberg Terminal’s command line displays the minimum creation unit and the number of shares of each constituent that needs to be delivered to the ETF issuer for an ETF share to be created (Figure 5). Conversely, the Creation unit screen shows

how many constituent shares are delivered if an ETF security is redeemed by the ETF issuer (Figure 5, MHD<GO>).

**ETFs UNDERLYING BASKET (MHD<GO>)**

ETF US Equity	MARKET VECTORS RETAIL ETF	Creation Unit Size	Equity	Creation/Redemption Fee	500 USD
1. Wal-Mart Stores Inc.	WMT	US	3000	272,000,000	10.53%
2. Home Depot Inc./The	HD	US	3129	248,667,368	9.47%
3. Amazon.com Inc.	AMZN	US	778	207,001,730	7.97%
4. CVS Caremark Corp.	CVS	US	2642	152,019,142	5.84%
5. Walgreen Co.	WAG	US	2642	171,444,815	5.03%
6. Lowe's Cos. Inc.	LOW	US	3067	130,038,230	4.96%
7. Costco Wholesale Corp.	COST	US	1141	127,007,477	4.92%
8. Target Corp.	TGT	US	1881	125,745,819	4.79%
9. J.M. Cos. Inc.	JTX	US	2385	119,368,248	4.55%
10. McKesson Corp.	MCK	US	990	113,799,607	4.32%
11. Sysco Corp.	SYV	US	2694	91,865,396	3.50%
12. Whole Foods Market Inc.	WMF	US	1087	89,697,787	3.43%
13. Macy's Inc.	M	US	1782	83,654,576	3.34%
14. Kroger Co./The	KR	US	2216	76,008,739	2.96%
15. Cardinal Health Inc.	CAH	US	1567	74,008,887	2.86%
16. Dollar General Corp.	DG	US	1300	69,770,996	2.69%
17. Bed Bath & Beyond Inc.	BBBY	US	1008	69,662,881	2.65%
18. AutoZone Inc.	AZT	US	181	67,008,140	2.50%

Figure 4

**ETFs CREATION UNIT**

ETF US Equity	MARKET VECTORS RETAIL ETF	Creation Unit Size	Equity	Creation/Redemption Fee	500 USD
1. Wal-Mart Stores Inc.	WMT	US	3000	272,000,000	10.53%
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Figure 5

The basket is not the only source of liquidity. Statistical arbitrage liquidity providers may also create ETF markets though the relative value of correlated trading vehicles, and related derivatives (swaps, options, futures). David Abner, in his new book *A Visual Guide to ETFs*, illustrates the total ETF liquidity hierarchy as (Figure 6):



Figure 6



## SPONSORED FEATURE

### U.S. ETP Liquidity Profile

30-day Exchange Traded ADV	Total ETPs in Sample	Total Member Liquidity Is Greater Than Exchange ETP Liquidity	Percent Member Liquidity is Greater than Exchange Liquidity	Percent Added Liquidity that Creation/Redemption Could Represent
20MM–36MM	8	0	0%	18%
10MM–20MM	17	4	24%	29%
5MM–10MM	18	7	39%	45%
1MM–5MM	77	35	45%	49%
0.5MM–1MM	64	22	34%	31%

SOURCE: BLOOMBERG

Figure 7

### Execution Strategies: Efficiently Sourcing Liquidity

ETP liquidity can be found by (1) trading the actual ETP on the exchange or (2) working with an authorized participant and creating liquidity by buying (selling) the constituents and delivering them to the ETP fund manager to create (redeem) an ETP. Leveraging the creation process provides traders with significant additional liquidity (Figure 7).

Strategy Analyzer (STAZ <GO>) seeks to help drive performance by giving traders actionable statistical guidance on execution strategies. The analyzer (Figure 8) provides traders with a quick snapshot of the ETF liquidity conditions. Under the Indicator “Tab,” traders can quickly see the ETP’s exchange “ADV” liquidity and the “implied” liquidity that an authorized participant can tap by trading the fund constituents and creating (redeeming) shares with the fund manager.



Figure 8 STAZ<GO>

A large pool of implied ETF liquidity provides a powerful set of execution strategy options.

Many traders will use a TWAP, VWAP or Go-Along strategy in an illiquid ETF to avoid adverse impact, especially if the pool of liquidity at the exchange is relatively illiquid. Traders can

leverage Bloomberg Tradebook’s Execution Consultants to get anonymous quotes on blocks from our network of liquidity aggregators, market-makers and authorized participants. The AP will initiate the creation/redemption with the Bloomberg Tradebook so we can deliver to you the ETF. Being able to tap this additional source of liquidity, especially where the secondary or on-exchange market is less liquid, may have a material impact on an execution’s averages price and the size that can get done (including getting the order done today vs. over multiple days).

Depending on the ETF, market conditions, and the size, objective and benchmark of the execution, Bloomberg Tradebook can leverage this network of APs to implement an execution strategy that may include:

1. Starting off by buying a block of ETFs anonymously from an ETF liquidity provider and throwing the residual into a participation (Go-Along) algorithm; or
2. Starting in a participation (Go-Along) or Scheduled (VWAP) algorithm and, using the strategy analyzer’s momentum models, pick spots and anonymously buy blocks of ETFs from an ETF liquidity provider.

For more additional ETF execution implementation strategies, talk to your Bloomberg Tradebook Execution Consultant. An excellent read on implementation strategies, including “Executing Daily Rebalances in Low-Volume ETFs”, we highly recommend David Abner’s new book, Visual Guide to ETFs.

### Customized ETF Algo Behavior

Although ETPs are traded like common stocks, they are a derivative product—a special breed. Tradebook’s execution consultants and quantitative research group noted as far back as Q3 2010 that, “While ETFs may be marketed as a basket of securities that are as tradable as their individual constituents, their actual trading

behavior is very different.” Our quantitative research noted that National Best Bid Offer (NBBO) spreads were narrower for ETPs than stocks with comparable average daily volumes (ADVs). Additionally, the liquidity at the NBBO was deeper and market impact was less than stocks with comparable ADVs. Our algorithmic trading group created special ETF algorithms and adjustments to algorithms because the research showed that if we continued to apply unmodified stock execution techniques to ETPs, it would result in significant and unnecessary opportunity costs. ETFs and stocks are clearly very different “beasts” that require very different order handling techniques.

The analyzer will also suggest the appropriate algorithm and aggression for exchange-traded liquidity. This combination of primary and secondary market liquidity creates an interesting dynamic in trade execution.

## Bloomberg Tradebook



## ABOUT THE AUTHORS



### **Mike Baradas, Senior Execution Consultant, Bloomberg Tradebook**

Michael Baradas started on the International Equities Program Trading Desk at Societe Generale in 1994. He then traded several proprietary trading books in the Equity Derivatives department: Single-Stock Options Volatility, Convertible Arbitrage, High-Yield, and Risk Arbitrage. In 2006, Michael joined Bloomberg Tradebook. He helped build the Cross-Asset Trading Platform for Equities, Options, and Futures. Currently, he leads the ETF Solutions business for Bloomberg Tradebook.



### **Gary Stone, Chief Strategy Officer, Bloomberg Tradebook**

Gary Stone has been with Bloomberg since 2001. As Chief Strategy Officer, he is responsible for the development of innovative and unique products and for forming strategic relationships for Tradebook. Prior to joining Bloomberg Tradebook, Gary was vice president of business development and the acting CFO for Multicast Media Network, Inc. Earlier in his career, he was a vice president and senior trader on a variety of trading desks at (BNP) Paribas Corporation, including the proprietary trading desk.

Gary earned his Master's in Business Administration in Finance and International Business from the Stern School of Business at New York University and a Bachelor of Arts degree in Computer Sciences, Mathematics and Economics from the University of Rochester. He is a member of the Market Technicians Association and a Chartered Market Technician.

## QUESTIONS/COMMENTS

If you have questions or comments regarding this topic or to speak with an Execution Consultant, please email us at [tbrs@bloomberg.net](mailto:tbrs@bloomberg.net).

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# Structured cost

**Increased US regulation is pushing up compliance costs for structured products firms.**

By Pablo Conde-Herman, managing editor,  
StructuredRetailProducts.com

**F**our years after the introduction of the Dodd-Frank Wall Street Reform and Consumer Protection Act, the market is still assessing the future impact of the rules to their business.

Structured notes and certificates of deposit (CDs) appeared to have been left unscathed as proposed restrictions on Title VII regarding the swaps hedging those notes were not to apply to the actual instruments/products. Nevertheless, with a huge number of rule changes coming in such a short space of time, not just from Dodd Frank but also the Volcker Rule, the HIRE Act and increased demands from the Securities and Exchange Commission (SEC) and the Financial Regulatory Authority (Finra), general costs of compliance appear to have risen dramatically.

## Rising costs

Keith Styrula, president of the US Structured Products Association (SPA), says increased compliance costs have compressed margins for the issuing firms. Meanwhile, the practice of external counsel specialising in structured investments is now devoted to creating compliance manuals, interpreting new regulations and responding to regulatory inquiries – rather than structuring “innovative” new trades that “benefit investors”.

“The one aspect I didn’t get right is that these increased costs are not being passed on to investors. Instead, they are coming in the form of reduced headcount at the top twenty structured investments issuers,” says Styrula.

Christopher Schell, a partner at Davis Polk law firm, believes market participants’ ability to do certain types of deals has been affected.

“For example, certain structures such as warrants require more analysis and consideration,” he says. “Warrant transactions on commodities are squarely within Dodd Frank, and are effectively not possible to do on a retail basis. So there have been some areas of immediate and deeper impact.”

## Proprietary trading

The Volcker rule which came out in December 2013 as part of Dodd Frank prohibits proprietary trading by financial institutions with a number of exceptions.

One senior structured products banker at a non-US investment bank says that although the traditional structured products market was one of the few businesses that was left untouched by the new rules because of its client-driven approach, the Volker rule has had an impact in the way the delta one business was organised within the investment banks, and pointed to the SEC embargo on new launches of synthetic (derivatives-based) mutual funds and exchange-traded funds (ETFs).

“Under the new rules these strategies were seen mostly as a trading business operated by the bank which puts it under the proprietary trading spotlight,” he says. “The way delta one desks operated was adjusted and traders had to open up their platform and share with clients (insurance companies, pension funds...) their





trades. The only way to make this business non-proprietary and comply with the Volcker rule's client-driven and market making provisions was to open the trading platform to external clients."

However, he says, the flow business is still being adjusted and this could also have an impact on the number of banks active in this space in the US market.

### Hedging

The proposed restrictions on Title VII regarding the instruments used to hedge structured notes is one of the relevant aspects of the new rules. Issuers have been engaged for a while in clarifying some aspects of the rules around the use of swaps and security-based swaps used to hedge products.

"The hedging transactions need to go through a separate analysis," says Schell. "Issuers and structurers are still considering how best to structure their internal affairs in order to comply with Dodd Frank with those types of hedging transactions. And the types of hedging

transactions are numerous: it can be done with options but it can also be done with swaps. It might be done in the cash market or with affiliates. There are many issues to analyse."

Swaps are subject to regulation by the Commodity Futures Trading Commission (CFTC), while security-based swaps are subject to regulation by the SEC. The CFTC is ahead of the SEC and has finalised more of its Title VII regulations including provisions around swaps which at least for now are subject to far greater tangible rules than security-based swaps.

Under the current rules, swaps include interest rate swaps, non-vanilla FX products, credit default swaps referencing a broad-based security index, total return swaps referencing a broad-based security index, total return swaps referencing more than one loan, commodity swaps, and other swaps referencing broad-based securities indices. Meanwhile, security-based swaps include total return swaps referencing a single security or loan, total return swaps referencing a narrow-based index of securities, single-name credit default swaps and credit default swaps on a narrow-based index of securities. Mixed swaps combining elements of both swaps and security-based swaps, are subject to joint regulation by the CFTC and SEC.

### Investor choice

Despite the issues surrounding structured notes at a product development level, the Dodd Frank Act doesn't address suitability or mis-selling, says Ana Pinedo, partner at Morrison &

Foerster law firm in New York.

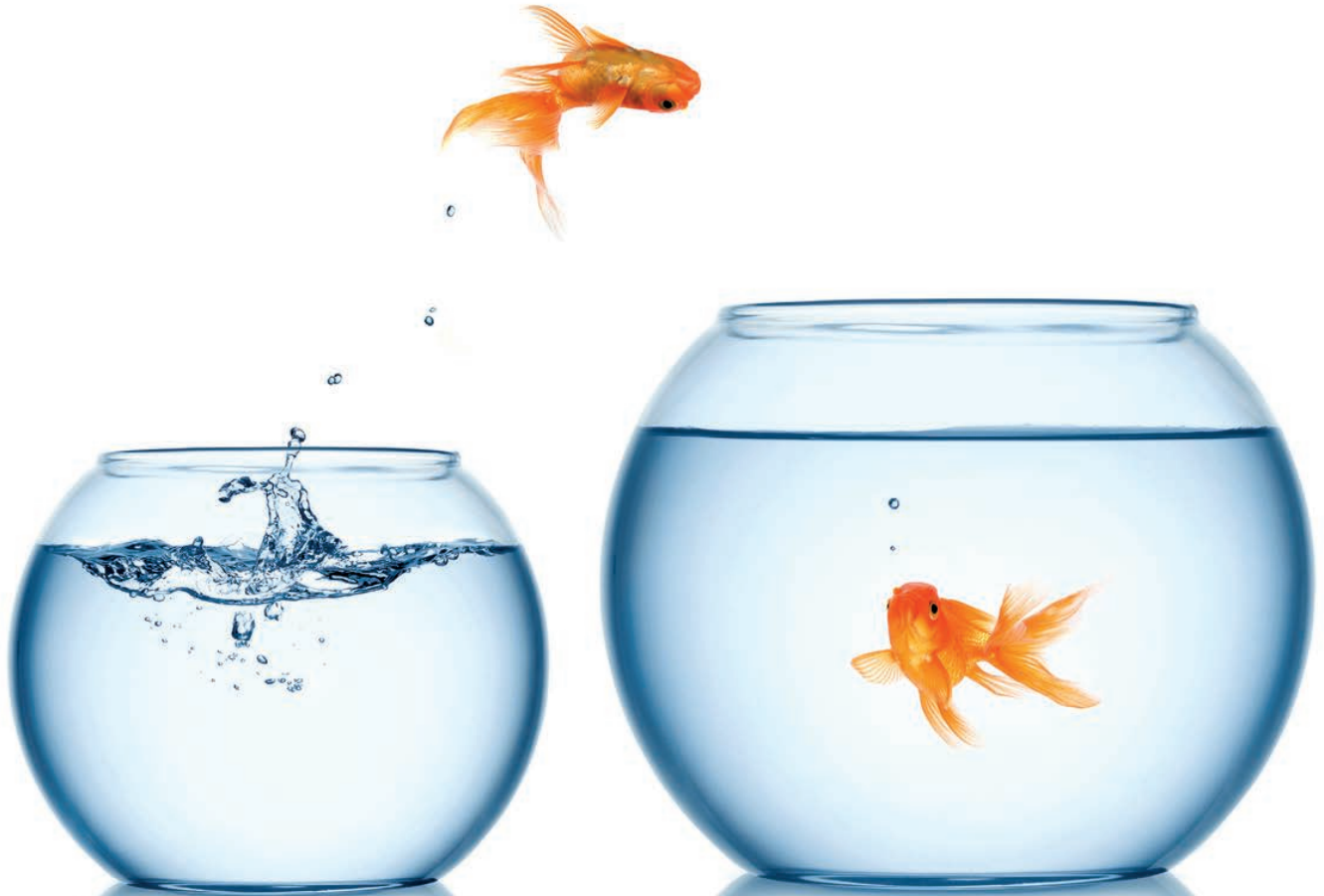
"These are issues that fall under Finra's rules," she says. "Over the last few years most issuers in the US have moved towards simpler products and this approach reduces the possibility for mis-selling but at the same time limits investor choice."

According to Schell, the framework of Finra's sales practice rules have been in place for a long time, especially its rules governing suitability but there has been a lot more from the regulator in the last year and a half including the conflict of interest report, the communication rule changes under 2210 and related regulatory updates on sales practices/communication with investors.

"Market participants have been very focused on the best practices that Finra has identified in terms of conflicts, and individual firms are benchmarking themselves against these best practices to see if they need improvements to make sure that Finra will be satisfied in how the firm handles conflicts," says. "In addition, there has also been a tremendous amount of attention paid on third party distribution where an issuer or dealer uses a third party to distribute structured notes."

Structured products providers in the US market are putting a significant effort into due diligence to make sure distribution channels are getting the proper legal documentation around suitability and sales practices. However, the principles-based nature of the Finra rules and SEC legal bulletins continue to leave a lot of room for interpretation, which in turn creates uncertainty.

**Over the last few years most issuers in the US have moved towards simpler products and this approach reduces the possibility for mis-selling but at the same time limits investor choice**



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