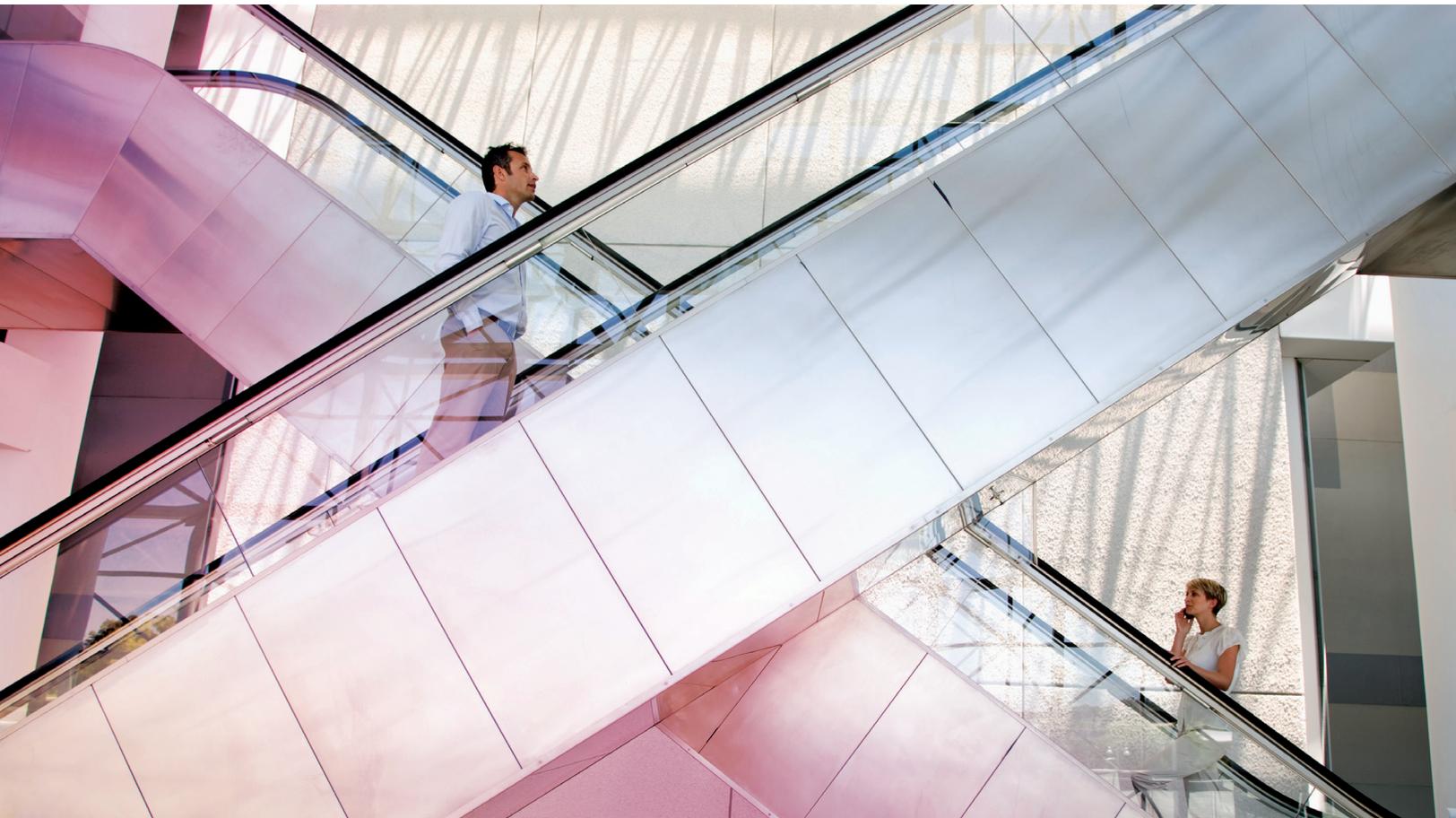




OTC Derivatives Reform

linking market participants in the trade lifecycle

White paper



Executive summary

Introduction

History is full of examples of crises triggered by unregulated derivatives trading.

During the Dutch Tulip Mania of 1637, a huge bubble took place where derivative futures in tulip bulbs were swapped at exceptionally high prices until a spectacular collapse left many investors in poverty. In 2008, the demise of Lehman Brothers as well as the inability of AIG to meet its obligations to pay investors to whom it had sold credit default swap insurance unleashed a tsunami that shook the foundations of the global financial system and underscored the systemic

importance of OTC derivatives. The global financial crisis drew widespread attention to serious inadequacies in the OTC derivatives market and the risks these contracts present to the broader economy.

This paper examines the vital role of derivatives in the capital markets, reviews the regulatory initiatives in global financial capitals that will address weaknesses in the OTC derivatives market by changing how they are traded and cleared, which will drive new connectivity requirements for the market's key players.

The pivotal role of

Derivatives in the Capital Markets

Derivatives offer significant benefits to the global capital markets such as aiding price discovery, managing risk, adding to liquidity, improving market efficiency for the underlying asset and reducing market transaction costs.

The three primary users of derivatives are hedgers, speculators and arbitrageurs. Hedgers seek to protect themselves from losing money from a given price movement in an asset. Speculators believe they know the future price movement of an asset and back that opinion with money. Speculators provide liquidity to the markets and help fund the positions of hedgers. Arbitrageurs take advantage of price inefficiencies in the market and capture risk-free profits. Like speculators, arbitrageurs also play an important role in the capital markets as their efforts in exploiting price inefficiencies and anomalies keep prices more precise than they would be otherwise.

The global OTC derivatives market is considerably larger than the exchange-traded derivatives market.

According to a report published by the Bank for International Settlements (BIS) in November 2011, the total notional amounts outstanding of over-the-counter derivatives had reached \$708 trillion by the end of June 2011. Today, the most heavily traded OTC derivative instruments are interest rate and foreign exchange swaps followed by credit default swaps.

Global policy makers and the leaders of the G20, a group of nineteen major developed and emerging countries plus the European Union, are working to address structural deficiencies in the OTC derivatives market while preserving the benefits they offer. The G20 proposals aim to reduce counterparty risk, increase transparency and protect against abuse in this market. The OTC derivatives market operates on a cross-border basis, with the same products being traded in multiple jurisdictions by multinational institutions. International cooperation and coordination to fulfill enforcement and supervision responsibilities are crucial to minimizing the potential for regulatory arbitrage.

“The G20 proposals aim to reduce counterparty risk, increase transparency and protect against abuse in the OTC derivatives market.”

Regulatory initiatives in

Major World Markets

At the Pittsburgh Summit in 2009, G20 leaders announced that “All standardized OTC derivative contracts should be traded on exchanges or electronic trading platforms, where appropriate, and cleared through central counterparties by end-2012 at the latest. OTC derivative contracts should be reported to trade repositories. Non-centrally cleared contracts should be subject to higher capital requirements.”

These objectives were reiterated at subsequent meetings in Toronto, Seoul and Cannes in June 2010, November 2010 and November 2011 respectively. The global regulatory framework promotes risk mitigation, transparent, deep and liquid markets and reduction of operational inefficiencies.

The G20 has proposed four key initiatives to overhaul the global OTC derivatives market:

- 1) Increase standardization of products
- 2) Move to central clearing
- 3) Promote trading on electronic platforms
- 4) Reporting to trade repositories

Standardization of products results in greater liquidity, improved market transparency, more reliable pricing data and better risk management.

Central clearing, a key tenet, mitigates counterparty credit and operational risks by managing a transaction after order matching and before settlement. A central counterparty (CCP) is responsible for clearing trades, collecting and maintaining margin, overseeing delivery and trade settlement and reporting trade data. A CCP manages the risk that could arise if one counterparty is not able to make the required payment when it is due.

Trading on electronic platforms aims to improve pre-trade transparency (publication of quotes and orders) and post-trade transparency (reporting to regulators and the public) as well as better access for all market participants through a many-to-many trading model (as opposed to a bilateral framework).

Better supervision, superior risk management processes and enhanced market surveillance are some of the benefits of reporting to trade repositories. Regulatory initiatives in major global financial centers reflect those of the G20 while taking local market factors into consideration.

UNITED STATES

The Dodd-Frank Act, a response to the recent recession, is the most sweeping change to financial regulation in the United States since the Great Depression and represents a paradigm shift in the American financial regulatory environment. Highlights of Dodd-Frank’s Title VII which affect the derivatives market are:

- Mandatory clearing for swaps accepted by a clearing entity and designated by the Commodity Futures Trading Commission (CFTC) and Securities and Exchange Commission (SEC) as clearable
- Mandatory execution of cleared swaps on a regulated exchange or swap execution facility (SEF)
- Mandatory reporting of all swaps, cleared and uncleared, to a trade repository, CFTC or SEC
- Capital and margin requirements to be imposed on uncleared swaps

Major swap participants (MSPs) and swap dealers are required to maintain daily trading records of all swaps. These records include recorded communications (such as email, instant messages and recordings of telephone calls), daily trading records for each customer or counterparty and a complete audit trail for conducting comprehensive and accurate trade reconstructions.

In addition, the CFTC has proposed other rules that are likely to have a significant impact on the markets:

- A ‘15-second’ rule which allows two parties to prearrange an order over the phone, but requires the order to be displayed on the open market for 15 seconds before it can be closed by the parties. Block trades are exempt from this rule.
- A ‘5 RFQ’ rule that requires all requests for quotes be sent to at least five different liquidity providers.

Regulatory initiatives in

Major World Markets

- SEFs to provide a market view through either a Central Limit Order Book (CLOB) or a Request for Quote (RFQ) model. A CLOB is a system that matches customer orders. The highest bid order and the lowest offer order constitutes the best market in a given swap contract. The CLOB is fully transparent, real-time, anonymous and low cost in execution. RFQ is a trade execution model where a customer queries a finite set of participant market makers who quote a bid/offer to the customer. The customer may only sell to the highest bidder or buy from the cheapest seller. Contrary to the CLOB model, customers can only trade with dealers. Initially, the RFQ model is likely to be more dominant in the OTC derivatives market.

EUROPE

The proposals of European regulators largely mirror the G20 recommendations and the lawmakers in the United States which include increased standardization of derivative contracts, a move to central clearing, reporting to trade repositories and higher capital requirements for non-centrally cleared contracts. The European Markets Infrastructure Regulation (EMIR) will be providing the framework for implementing the G20 proposals. The Markets in Financial Instruments Directive (MiFID) creates an organized trading facility (OTF) – the European counterpart to the Dodd-Frank Act's SEF. OTFs are broader in their scope than SEFs and also offer discretion and flexibility in arranging liquidity across a variety of execution models. This leaves room for voice broking or hybrid broking of deals that can subsequently be cleared centrally.

SINGAPORE AND HONG KONG

Like Europe, the proposals of regulators in Singapore and Hong Kong largely emulate the G20 recommendations.

The one significant difference between the G20 proposals and those of Singapore and Hong Kong regulators is that the two Asian financial capitals are not mandating that centrally cleared derivative trades be executed on electronic trading venues. This is appropriate given the small size of their OTC markets and the bespoke nature of the contracts being traded in the two cities.

There will be a number of unique opportunities for Singapore and Hong Kong. Singapore – the largest hub for trading Asian non-deliverable forwards (NDFs), with a very active, large and growing OTC market – will be affected by the proposals of the Monetary Authority of Singapore (MAS). The Singapore Exchange (SGX) recently started offering clearing services for NDFs of the Chinese Yuan, Indonesian Rupiah, Indian Rupee, Korean Won, Malaysian Ringgit, Philippine Peso and Taiwanese Dollar. This follows SGX's launch of a clearing service for Singapore dollar interest rate swaps in 2010. Also, the rapid expansion and increasing international influence of the offshore renminbi (CNH) in Hong Kong is altering the landscape of global currency options and swaps markets.

“As more contracts become standardized and electronic trading venues proliferate, market participants will experience the need for reliable and secure data connectivity services.”

Regulatory initiatives in

Major World Markets

IMPLICATIONS FOR TECHNOLOGY PROVIDERS

Technology providers are expected to play a prominent role in this market as a result of the regulatory initiatives. Clearing houses will have to upgrade their systems since the requirements of OTC derivatives are quite different from those of exchange-traded instruments. Trade repositories also need to have functionality and underlying technology capabilities for storing data and reporting to regulators. Expect a surge in demand for voice communications and data connectivity services as the different entities that play a role in the OTC derivative trade lifecycle will need to connect to one another. Also expect to see new products taking advantage of the latest technologies and trading firms making new infrastructure investments to implement them.

The '15-second' and '5 RFQ' rules are likely to improve pre-trade and post-trade transparency, accelerate

market fragmentation and lead to explosive growth in market data. As more contracts become standardized and electronic trading venues proliferate, market participants will experience the need for reliable and secure data connectivity services. Voice communications will continue to play an important role. Throughout the world, thinly traded bespoke contracts that are not qualified for central clearing would be subject to higher capital requirements and be voice brokered.

Outside the United States, even contracts that are eligible for central clearing may be voice brokered or hybrid brokered since there is no mandate to trade OTC derivatives in a fully electronic marketplace. We may also see a rise in innovative, customized voice-brokered OTC products being developed to cater to clients with very specific hedging needs. The United States requirement for dealers to maintain daily trading records of all swaps will boost demand for voice recording and data archiving technologies.

Connectivity for players in the

New World of OTC Derivatives

The key players in OTC derivatives – buy-side firms, swap dealers, derivative execution venues, central counterparties, swap data repositories and trade repositories – will need to connect to one another. The connectivity landscape, particularly in the United States, can become quite complex with both SEFs and dealers aggregating one another to provide a single view of the market for the buy-side. Aggregation will become a key driver of connectivity given that this market is initially likely to see more than 200 dealers and 40 SEFs. SEFs are unlikely to be regulated in the same manner as traditional exchanges because OTC derivatives involve sophisticated institutional investors with no retail component. As a result, SEFs will not need to connect to one another since the onus would be on the buy-side firms to achieve best execution for themselves.

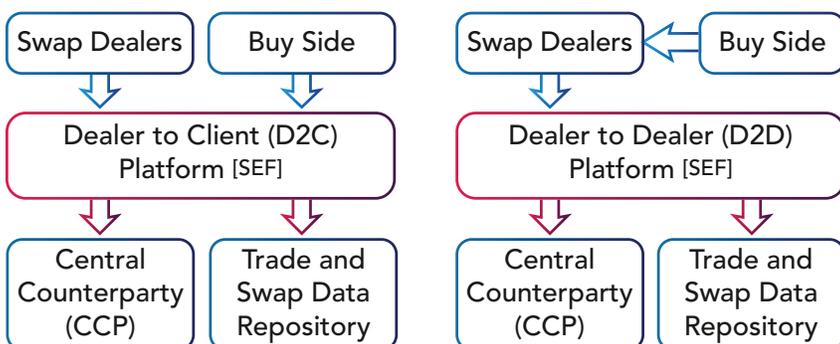
Another interesting ramification is that when executing trades on dealer-to-client platforms (D2C), buy-side firms would have the opportunity to connect directly to SEFs as well as go through their broker's direct market access (DMA) system. Hedge funds and proprietary trading firms are more likely than corporate treasuries to connect directly to a D2C platform since they are engaged in speculation and arbitrage in addition to hedging.

Commercial end users such as corporate treasuries and anyone else not classified as major swap participants are not required to trade on SEFs and can do a deal over the counter. These commercial end-users are also not subject to central clearing requirements as long as they

Connectivity for players in the New World of OTC Derivatives

are hedging business risk, are a public company and receive board approval. As a result, it is anticipated that entities that are not classified as major swap participants will be the last group to connect electronically to their brokers.

Buy-side firms executing trades on dealer-to-dealer (D2D) platforms will connect to SEFs through their broker-dealer. Irrespective of the type of trading platform operated by a SEF, it is expected that dealers would want to become a one-stop shop for all services and provide incentives such as their unique technology and expertise to encourage the buy-side to connect to them for trade execution. The figure below compares the connectivity models for D2C and D2D platforms.



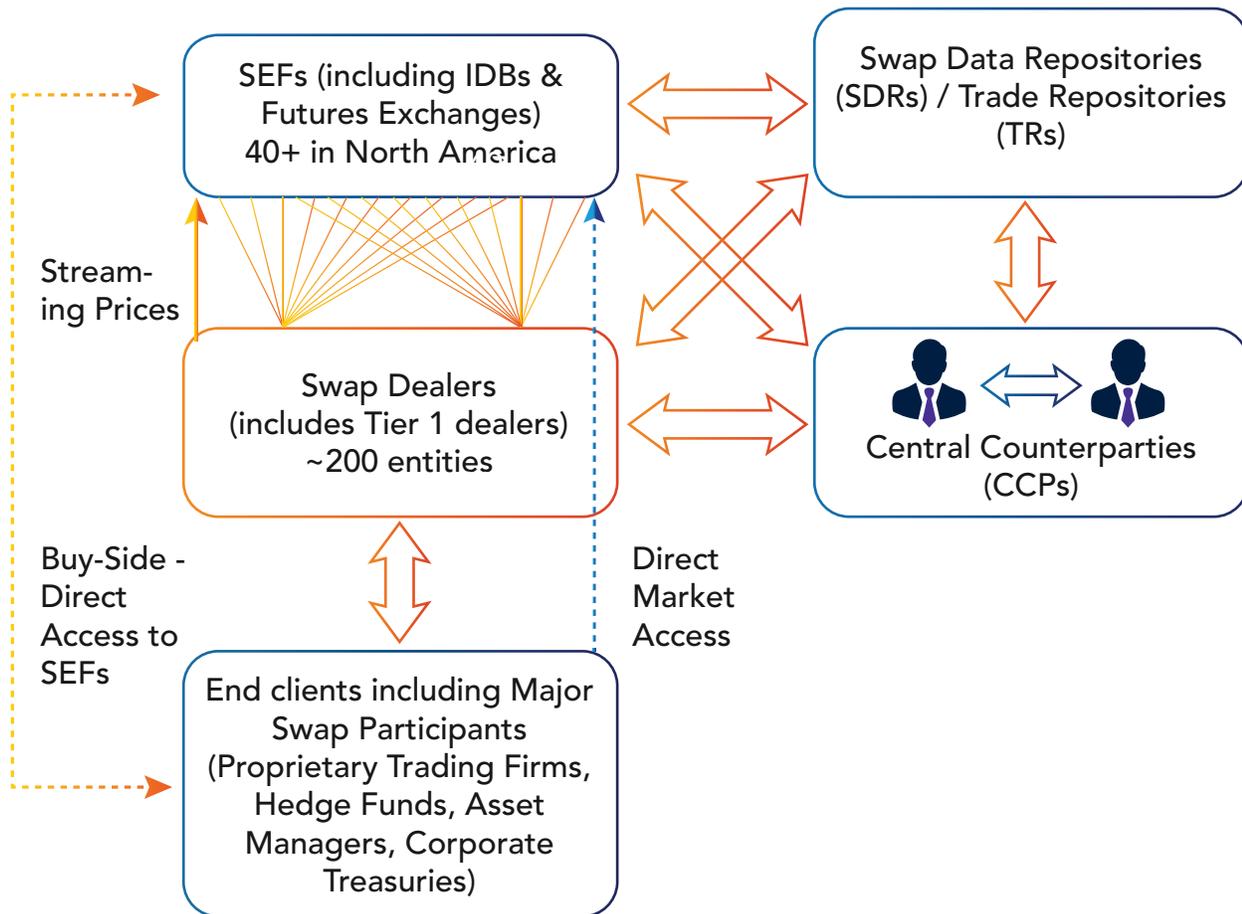
Although there will be a larger number of SEFs with D2C platforms, the trading volumes on both D2C and D2D platforms will be similar. Inter-dealer brokers (IDBs) will have D2D platforms and are the best positioned for success as they are deeply entrenched in this space and have strong relationships with all the major swap dealers. It will be interesting to see if the IDBs start developing relationships with the buy-side as a result of changes in this marketplace.

The sheer number of players, the vast size of the market, the number of derivative asset classes being traded (interest rates, currencies, credit, commodities, equities and energy) and variations in trading models (RFQ and CLOB) result in a byzantine connectivity landscape. The figure below illustrates the nature of connectivity that is envisioned in the United States for the OTC derivative trade lifecycle. Much of this action in the United States will occur in New York, Chicago and Houston.

The Major Players in OTC Derivatives Include:

- **Buy-Side Firms** – such as hedge funds, prop trading firms, pension funds and corporate treasuries.
- **Major Swap Participants (MSPs)** – entities that maintain significant positions in swaps, hold outstanding swaps that create substantial counterparty exposure that could have serious adverse effects on financial stability in the United States or are highly leveraged financial organizations.
- **Swap Dealers** – entities that deal or make a market in swaps or regularly enter into swaps with counterparties in the ordinary course of business for their own accounts.
- **Derivative Execution Venues** – such as SEFs in the United States and OTFs in Europe – these entities are central marketplaces with established rules where counterparties meet to trade derivative contracts.
- **Central Counterparties (CCPs)** – entities that manage the risk that could arise if a counterparty is not able to make the required payment when it is due.
- **Swap Data Repositories (SDRs) / Trade Repositories (TRs)** – entities that centrally collect and maintain the records of OTC derivatives. These authoritative registries of key information regarding open OTC derivative trades play an important role in increasing transparency and mitigating risk in the market.

Connectivity for players in the New World of OTC Derivatives



Providers of voice, electronic and hybrid communication services are likely to see increased demand for offerings that connect entities touching any part of the OTC derivative trade lifecycle be it order creation, order placement, trade execution, clearing, settlement, reporting or market data delivery.

Conclusion

Derivatives play a very important role in providing efficiency to the capital markets. Regulatory proposals for the OTC derivatives market aim to correct the weaknesses in this market while preserving the benefits. The market is entering uncharted waters but a few things are clear:

- The market will be increasingly regulated to mitigate systemic risk and promote transparency. Four key initiatives of the G20 to overhaul the global OTC derivatives market include increased standardization of products, a move to central clearing, promoting trading on electronic platforms and reporting to trade repositories.
- Regulatory arbitrage is not likely. Key markets in the Asia-Pacific region, such as Singapore and Hong Kong, have allayed fears of American and European policy makers of accumulation of systemic risk through regulatory arbitrage by announcing their own proposals to regulate the OTC derivatives market.
- There will be a considerable increase in demand for electronic connectivity in all major financial centers. The bulk of initial demand will come from players in the United States where all clearable swaps are required to be electronically executed. Electronic connectivity spend by market participants will be sizable since standardized interest rate swaps, which account for the majority of the OTC derivatives market, lend themselves easily to electronic trading and central clearing.

Voice communications plays a significant role, especially for:

- Trading of bespoke products that are not centrally clearable.
- Execution of trades outside the United States where fully electronic liquidity venues are not mandated.
- Communications between any entity not classified as a major swap participant and their brokers.

Expect higher demand for voice recording and data archiving technologies – a consequence of the need to maintain daily trading records of all swaps.

Global reforms will bring profit opportunities to be capitalized on by any participant that can adapt itself to a transformed marketplace. The different entities that play a role in the OTC derivative trade lifecycle – buy-side firms, broker-dealers, derivative execution venues, central counterparties and trade repositories – will be investing significantly in technology to compete successfully in this fast changing market. This will also include substantial investments in networking and communications technologies to connect to various entities in the OTC derivative trade lifecycle.

The vast, global and interconnected OTC derivatives market that was formerly opaque and created substantial risk management issues is rapidly becoming a less risky, transparent market. Global cooperation among policy makers and market participants is likely to enhance the benefits offered by OTC derivatives and create a stable, robust and safe environment to trade them.

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