STATE STREET.

# VISIONFOCUS

AUGUST 2011

# Regulatory Reform and the Implications for Derivatives

Global regulatory reforms promise to have significant implications for investors in the derivatives market, ushering in important changes in clearing, trade execution, collateral management and investment operations, among other areas. While there are still many unknowns, investors will need to prepare themselves to adapt to an evolving and considerably altered investment landscape.

## This is State Street

With $22.8 trillion in assets under custody and administration, and $2.1 trillion in assets under management* as of June 30, 2011, State Street is a leading financial services provider serving some of the world's most sophisticated institutions.

We offer a flexible suite of services that spans the investment spectrum, including investment management, research and trading, and investment servicing.

With operations in 26 countries serving clients in more than 100 geographic markets, our global reach, expertise, and unique combination of consistency and innovation help clients manage uncertainty, act on growth opportunities and enhance the value of their services.

*This AUM includes the assets of the SPDR Gold Trust (approx. $58 billion as of June 30, 2011), for which State Street Global Markets, LLC, an affiliate of State Street Global Advisors, serves as the marketing agent.


**A VISION SERIES THOUGHT LEADERSHIP PUBLICATION**

State Street's Vision Series distills our unique research, perspective and opinions into publications for our clients around the world.

# Setting the Stage for Reform

The global derivatives market faces sweeping changes as a wave of new and proposed regulatory requirements begin to take hold, including the recently enacted Dodd-Frank Wall Street Reform and Consumer Protection Act in the United States and similar legislation currently under discussion in the European Union, the Asia-Pacific region and other G-20 countries. These reforms will have broad implications for investors and will drive strategic and operational shifts in trading and portfolio management, execution, clearing, collateral management, investment operations, and settlement. While the overall framework of the regulatory initiatives in the US appears clear, the rules that dictate their actual implementation are still being finalized. In most other parts of the world, the future direction is even less defined.

As the regulatory process continues, investors are left with a sense of uncertainty. The market structure taking shape will have a significant impact not only on their current processes and systems, but also on their strategic and operational decision-making. For the buy-side community, the pressing question about derivatives reform remains how to prepare for and gain the most from a future that is still unclear.

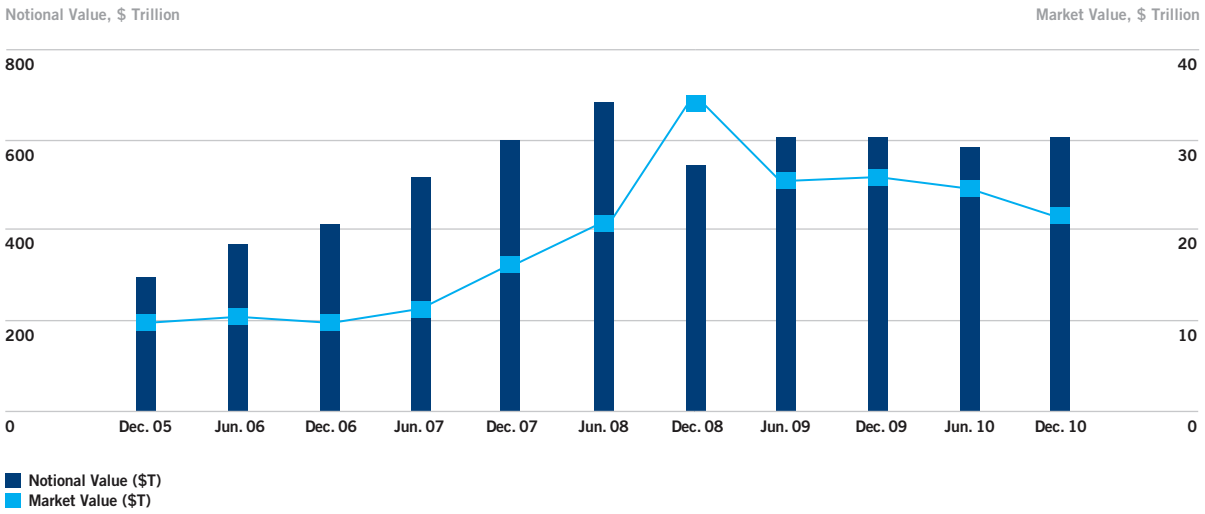
During this transitional period, there is much that investors can consider as they get ready for the anticipated changes. This Vision Focus paper outlines anticipated regulatory developments in the US and globally, the resulting implications for current and potential derivative investors, and the actions that prudent investors may consider to prepare for the emerging environment. The paper also stresses the need for investors to remain flexible as the regulatory and industry landscape evolves. In this new and still-fluid environment, being prepared and agile will help investors position themselves for success.

## Systemic Risk: The Derivatives Factor

In the aftermath of the financial crisis, policymakers, economists and financial experts have focused significant attention on understanding and addressing its fundamental causes. Among other factors, the trend toward globalization, financial interconnectivity, increasingly opaque transactions, notional values totaling 10 times global GDP and long "daisy chains" of counterparty relationships helped spin a web of systemic risks that quickly became unsustainable in terms of size and complexity.[1] For investors and regulators alike, this environment created a troubling lack of transparency in terms of counterparty exposure and market risk.

To understand the role that derivatives played, it is important to remember that historically they have proven themselves as effective instruments for both hedging and speculative purposes. In recent years, investors have particularly emphasized their utility in boosting portfolio performance. With OTC derivatives representing more than $600 trillion in notional value as of the end of 2010 as illustrated in Figure 1, it is clear just how useful they are to investors.

**Figure 1: The OTC Derivatives Market**




Source: Bank for International Settlements

[1] See State Street's Vision Focus paper, "Systemic Risk: Strategic Challenges for Policymakers and Practitioners," June 2011.

Given the importance that derivatives have assumed in the global financial market, it is no surprise that they have come under intense scrutiny in the wake of the crisis, although concerns were growing even before its onset. In our 2008 Vision report entitled "Derivatives Servicing: Managing the Complexity," we described the risk-based challenges OTC derivatives pose and why they have often invited controversy. Foremost among those challenges were an uneven and inefficient clearing and settlement infrastructure, strains on post-trade processing and servicing support, and inadequate market transparency and capital to cover potential losses.

While the precise role that derivatives played in the financial crisis remains disputed, they are generally thought to have exacerbated its severity as a result of several factors: sheer market scale, lack of transparency, insufficient capital and high concentration of exposure, as outlined in Figure 2. Policymakers and regulators are focused on correcting these perceived market weaknesses in their reform measures.

**Figure 2: Derivatives Market Risks**

| | |
|---|---|
| **Lack of Transparency** | • Asset pricing not visible at a market level<br>• Limited insight into exposures and credit quality of market players<br>• Potential counterparties to certain swap dealers refused to trade with them due to credit concerns |
| **Insufficient Capital to Cover Losses** | • Limited capital requirements for protection sellers (e.g., AIG's lack of capital to cover its insured losses led to the Fed's $170 billion bailout for AIG's commitments, including credit default swaps)<br>• Complex collateral chains that left investors unable to cover losses they thought were properly collateralized |
| **High Concentration of Exposure** | • Low number of swap dealers and central counterparties<br>• Cascading effects due to exposures concentrated among interconnected institutions |

# The Shape of Things to Come

In September 2009, the G-20 leaders agreed to embark upon a harmonized campaign to implement consistent global regulation of derivatives markets. In the United States, after a prolonged debate over a range of proposals, Dodd-Frank was enacted in July 2010 though it is not expected to take effect (as related to derivatives) before January 2012. Importantly, as of early July 2011, rulemaking delays by both the Commodity Futures Trading Commission and the Securities and Exchange Commission make the actual implementation date uncertain. While Dodd-Frank seeks to reform the US derivatives market, through a "first-mover" effect it will also influence derivatives markets around the world. To grasp the scope of the changes that Dodd-Frank proposes for derivatives, it is important to contrast them with the current environment, as illustrated in Figure 3 on the next page.

Regulators are currently hammering out the details of Dodd-Frank, including specific rules covering precise margin requirements; segregation and portability;

**Key Terms**

**SEF (Swap Execution Facility)**

A trade execution platform for various swaps and derivative instruments that enables multiple participants to submit bids and offers for like instruments, similar to a public exchange. Additionally, a SEF is a self-regulating entity required by the CFTC and SEC to police for trade practice violations and manipulation by market participants. SEFs play a critical role in bringing greater transparency to the swaps markets in accordance with the mandates of Dodd-Frank.

**CCP (Central Counterparty)**

A clearing house that facilitates settlement in the derivatives market by acting as the counterparty to both sides of a derivative trade. CCPs provide a vehicle to reduce systemic risk through multilateral netting of exposures and the enforcement of robust risk management standards with specific margining requirements as well as the mutualization of losses in the event of the failure of one of their clearing members. In the US, a CCP is also a self-regulating entity, which authorizes it to, among other things, establish and enforce rules.

**FCM (Futures Commission Merchant)**

A clearing broker, which, in the US, is a CFTC-registered entity that acts as an agent for client trading activity on derivatives exchanges or clearing houses. The clearing broker manages trading activity, reporting and collection of client margin for trading.

**SDR (Swap Data Repository)**

An entity that collates and maintains information or records with respect to transactions or positions in, or the terms or conditions of, swaps entered into by third parties for the purpose of providing a central recordkeeping facility for swaps.

**Figure 3: Derivatives, Before and After Dodd-Frank**

| In general, a substantial proportion of OTC trades today: | Dodd-Frank directly addresses these issues with provisions that: |
|---|---|
| • Represent customized products and transactions in which the parties negotiate their own terms | • Seek to standardize derivative products to facilitate liquidity and transparency<br>• Mandate the central clearing of all eligible derivative trades via CCPs |
| • Are traded bilaterally, i.e., directly between two counterparties, rather than through standardized exchange processes or by means of automated trading platforms<br>• Are executed through a dealer, often in a manual fashion | • Require clearable trades to be executed electronically through a Swap Execution Facility (SEF) or exchange where available |
| • Are concluded privately, without revealing pricing or other terms to the broader marketplace | • Mandate post-trade reporting to the regulators via Swap Data Repositories (SDRs) to significantly enhance transparency with respect to pricing and exposures |
| • Frequently require lengthy, manual processing, heightening the risk of error | • Enable greater automation (straight-through processing) as a result of increased standardization |
| • Rely on inconsistent collateral requirements that are based solely upon the agreements negotiated by the two parties to the trade<br>• Provide little recourse, other than liquidation of collateral (if held) in the event of a default | • Direct minimum margin requirements and the types of eligible securities to be applied to both bilateral and cleared trades<br>• Require collateral segregation and portability to allow investors to move their positions in the case of a clearing broker (FCM) default |

reporting; provisions for uncleared swaps; implementation timing; and the duration, if any, of a transition period between finalized rules and mandated compliance. In addition, the individual Central Counterparties (CCPs) are continuing to review their own requirements, including the criteria for clearing membership, which must comply with regulatory language requiring "fair and open access."

Dodd-Frank represents the most comprehensive effort at regulatory reform to have advanced this far toward implementation anywhere in the world. Although at an earlier stage of its reform efforts, the European Commission tabled its own Draft Legislative Proposal on OTC Derivatives, Central Counterparties and Trade Repositories in September 2010. The EU proposal aims at implementing the G-20 proposals and is largely consistent with the provisions of Dodd-Frank that pertain to derivatives clearing, with some noteworthy departures. Like Dodd-Frank, it mandates central clearing (including for counterparties outside the EU), requires segregated client accounts for margin and collateral, and applies

higher capital requirements to non-cleared trades to encourage the shift to clearing. A review now under way as part of the Markets in Financial Instruments Directive (MiFID) will also focus on derivatives trading.

At the same time, the EU is taking a more holistic approach to derivatives trades. For example, the proposed legislation's provisions on clearing apply to all instruments unless otherwise stated, although these provisions are disputed among key stakeholders. Also, different from the US, there is currently no foreseen exemption for FX forwards and swaps, though this might be introduced during the legislative and implementation processes. In addition, stricter membership criteria for CCPs are under review. In other provisions, a transition period may apply to pension schemes, allowing for more time to review the costs of compliance. Given the nature of the EU's legislative process, what emerges may well differ from the proposal in its current form, but is likely to conform to the general contours of the existing language.

The picture is less clear in the Asia-Pacific region given its multiple jurisdictions. Japan was first to enact a derivatives clearing bill in May 2010, although its provisions are less extensive than those in the US or Europe. Already the Tokyo Stock Exchange has been designated as a CCP, and Singapore has followed suit with its stock exchange. The exchange in Sydney is also likely to follow. Despite these efforts, Asia Pacific's markets are widely considered to be trailing the US and Europe in their legislative processes.

### Harmony...or Not?

The lack of a uniform approach among regulators raises obvious questions about the possibility of "regulatory arbitrage." Despite the G-20's explicit support for a set of globally harmonized regulatory reform objectives, the implications of differences across a body of highly complex rules is cause for concern, particularly given the fragmented markets in which investors operate. Important questions must be considered: To what extent will divergent rules create overall barriers to trading? More generally, how will potential unintended consequences affect the overall functioning of global markets and the allocation of capital? Answers to these questions remain elusive.

Investors should also monitor the potential effects of extraterritoriality, i.e., the ability of one jurisdiction's rules to affect transactions across borders. This issue could have a substantial impact on clearing and execution for trans-Atlantic trades. For example, it is unclear whether the provisions of Dodd-Frank will apply to transactions that include US subsidiaries based in Europe, or whether US banks acting abroad will be required to adhere to US rules. Lack of consistent treatment between banks based on national jurisdiction could lead to regulatory arbitrage and competitive disadvantage for some firms. Similar questions may affect the choice of CCP, or even the willingness of parties to enter into transactions that straddle jurisdictional boundaries.

Despite these uncertainties, the basic features of what lies ahead are clear, and they will force changes in the way market participants do business: there will be a clearing and execution and trade reporting and data collection mandate. The time to begin preparing for these dramatic changes is now.

### Seeing Past the Complexity: Back to the Futures

How well investors understand the rules — or work with partners who do — will be a significant predictor of their success in handling this market transition. Importantly, while it would be easy to conclude that the new world order for derivatives will be alarmingly complex, that may just be a matter of perspective.

In devising the framework for derivatives trades, US policymakers have consulted a familiar roadmap: the existing futures market. Dodd-Frank largely mirrors the workings of the futures industry insofar as it seeks to centralize clearing and mutualize risk, while rendering transparent the lion's share of the derivatives space to mitigate risk. Although the complexity of the derivatives market may appear daunting to those unfamiliar with futures and options trading, those with experience in these areas know that they have a precedent to follow.

# Looking at the Future: Implications for Investors

Given the enormous size and potential of the derivatives market, the challenge facing policymakers and regulators has been to devise a transparent and standardized infrastructure to trade and execute derivatives that significantly reduces counterparty risk without jeopardizing their overall utility to investors and end-users.

Perhaps this is easier said than done, but even though this emerging landscape presents an intricacy confusing to many, investors can take steps to prepare now to simplify the transition later.

The following sections detail some of the areas that are most important for investors to understand in this regard: potential impacts on costs, differences in cleared versus uncleared (bilateral) trading, the effect of greater transparency on risk management and information flows, collateral and margining implications, new pre- and post-trade analytic capabilities, and segregation and portability. While some areas will be more critical to certain investors than others, collectively they offer a platform for moving ahead.

### The Cost of Doing Business

Amid so much change, the cost of trading cleared derivatives remains a persistent unknown.

Although the new derivatives space will, in general, become simpler, its infrastructure will expand to accommodate a more complex cast of players. Certainly as new players, such as CCPs, SEFs, Futures Commission Merchants (FCMs) and Swap Data Repositories (SDRs), engage in their designated roles, new types of costs will be introduced. Fee structures for these services will vary, but the costs underlying them will be subject, like much of the new derivatives world, to evolving conditions.

Investors will also need to account for a different category of costs: margin and more standardized collateral. Whereas standard practice for bilateral trades today allows the counterparties to negotiate with one another directly on all terms of a trade, including whether collateral must be posted, Dodd-Frank substantially alters the rules of the game as outlined in greater detail at the top of page 8. While it is difficult to foresee how new rules for margin and collateral will affect trading patterns, they may substantially influence investment decisions as to whether, and how, to use derivative transactions.

In addition to costs from new sources, investors should look for potential offsets. In the new world, some costs will become more transparent as these instruments move to SEFs and central clearing. Transparency of pricing due to multiple quotes and a narrowing in OTC spreads may reduce the cost of the actual transactions traded.

Looking ahead, although there will be a variety of new costs built in to trading derivatives, how these factors will balance out remains to be seen. Importantly, the overall picture of the cost of trading derivatives post Dodd-Frank appears more positive than is often portrayed.

## Margin as Currently Understood Under Dodd-Frank

**In the future, initial margin will be determined according to formulas based upon risk criteria. Like futures, margin will be calculated in terms of value-at-risk, or VAR. Since clearing is intended to help neutralize risk, margins for cleared trades will be set at a lower threshold than for non-cleared trades. Thus, margin requirements for standard cleared swaps are proposed to be set initially at 1-day or 5-day VAR depending on the execution venue (this threshold may drop over time as the market takes hold), while for non-cleared trades they will be set considerably higher at 10-day VAR. Unlike initial margin, variation margin will be calculated on the basis of an instrument's underlying value. As each position is marked-to-market, the variation margin will rise or fall depending on the position at day's end. On top of the margin requirements of the CCPs, FCMs may choose to require excess margin for counterparties with lower-quality risk profiles. In terms of the instruments that are eligible for use as margin, the proposed regulations mandate that only cash or government-grade securities will qualify. This requirement will impact many market participants' funding plans to support their trading activities, and is likely to spawn a significant "collateral enhancement" market for investors who have insufficient cash or eligible securities to meet margin requirements.**

### A Cleared World, Almost

Opinions vary as to the proportion of total derivatives trades likely to qualify for clearing, but most estimates fall between 60 and 75 percent depending on the instruments deemed eligible. Indeed, Dodd-Frank reflects a strong preference for clearing. From the perspective of investors, it is easy to see why. The benefits of clearing include transferring credit risk to designated CCPs, effectively limiting the impact in the event of default by a specific counterparty. Clearing also fosters consistency across the market by centralizing important trading data, including valuations, margin calculations and critical life-cycle events. In addition, clearing should enhance liquidity by freeing up credit lines.

Clearing, and the increased standardization it brings, will usher in significant risk mitigation through proper margining requirements. It will also promote operational efficiency, through the standardization of the instruments, by enabling high-speed electronic processes previously difficult to use because of the bespoke aspects of OTC derivatives, and it will further allow for straight-through processing across functions, including trade matching and affirmation.

CCPs will play a crucial role in the new market structure. Not only will they intermediate between the parties to every cleared trade, they will also act as agents to determine whether a trade can be cleared or not. Their role will extend to monitoring the creditworthiness of their clearing members — the FCMs — in an effort to address a critical derivatives-related vulnerability that helped drive the financial crisis.

Since estimates of cleared volume fall well below 100 percent, a sizable slice of the OTC market will continue to trade bilaterally because some instruments cannot be standardized or because investors want to customize them to match the risk they are hedging. Yet even with these non-cleared trades — which will experience some of the same issues of counterparty exposure as before — the market can expect significant changes.

First, for dealers and financial end-users, Dodd-Frank's margin provisions apply to all trades regardless of whether they are cleared. Thus, investors can expect margin requirements for this category of transactions to be substantially higher. Second, even non-cleared trades will be reported to swap data repositories and will be subject to a greater degree of transparency. Third, bilateral trades may occur directly, in keeping with current practice, or, as possible, through a SEF.

The shift to cleared trades may, by design, put pressure on the non-cleared environment to change further, as the combined bite of new capital and collateral requirements takes hold. This shift will also be affected by the range of instruments granted eligibility for clearing. Initially approved instruments will likely include so-called vanilla interest rate and credit default swaps, with the range expected to widen as the market gets up to speed and tests the viability of the new rules. As this occurs, a major question will be how rules favoring cleared over non-cleared trades will affect investor decisions, a key factor in the future direction for non-cleared markets.

### The Impact of Transparency

The lack of trade-specific transparency in the OTC space attracted widespread concern prior to the crisis and almost certainly played a role in the crisis itself. Regulatory reform goes far to address transparency, as a transparent market will provide essential data about the instruments within this asset class: holdings, terms of trades and, above all, exposures. This transparency could help drive new means of risk management. A more detailed picture of holdings, for example, could possibly enable regulators to take steps to unwind positions where necessary, should future rules allow for it (as is already the case in the futures market).

On the execution side, investors can also expect to benefit from transparency in order execution through generally tighter spreads between bid and offer, resulting in fairer prices overall and a more efficient flow of capital, as discussed above. As transparency increases and trading and clearing processes become simpler, markets are likely to gain liquidity, speed and accessibility, not to mention the overall reassurance to participants resulting from the reduction in counterparty risk. In addition to providing investors with new informational sources, trade reporting will help shape investment decisions as well as investor expectations about the efficiencies of a cleared market. Tapping into these new data sources could be a powerful new way to enhance trading performance, as further discussed on page 10.

### Collateral and Margining Implications

In the new environment, collateral and margin requirements are likely to increase. Today, industry estimates suggest that only about half of derivative trades are collateralized since that decision has been solely at the discretion of the parties involved. In the future, for dealers and financial end-users, margin will be required in all cases, increasing the cost and complexity of derivatives trades, regardless of whether cleared or not. Previously, pricing calculations were conducted anywhere from daily to quarterly, with collateral adjustments occurring at a similar frequency. In a cleared environment, pricing will be more transparent, resets will be conducted daily, if not intraday, and margin adjustments will be made much more frequently. Even in the uncleared world, the industry's push to better manage risks will drive investors and their service providers to calculate prices and exposures more frequently and adjust their collateral accordingly.

In the future, only cash or government-grade securities will be accepted as margin for cleared trades, posing a further challenge for investors, particularly those who do not hold sufficient cash and securities to provide margin commensurate with their derivatives trading. These investors will be required to enhance or upgrade their collateral, with the help of an agency- or principal-based securities lender. A simple example is an agency lender providing US Treasuries as initial margin on behalf of a derivatives investor (borrower). The borrower might provide some slightly higher valued amount of lower-quality collateral (e.g., corporate bonds) in return and pay a basis point-based fee to the agent (and lender). FCMs could offer this collateral enhancement service as an add-on component to their overall clearing offering, giving their clients an additional way to meet margin

requirements while providing an additional source of revenue to the FCMs.

A final collateral-related factor will be the rules around netting. Netting allowances have been fairly liberal to date and have been a de facto part of dealers' prime brokerage-type offerings to derivatives investors. These allowances have enabled investors to reduce the collateral requirements, and costs, of their derivatives trading. The new regulations, however, put more strict rules in place regarding net settlement, the process by which a single payment can be made rather than receiving and paying individually across trades, CCPs, or products such as exchange traded derivatives and cleared swaps. Netting for initial margin purposes, sometimes referred to as cross margining, is also an area of interest that is being addressed by regulators and CCPs.

Overall, collateral and margining requirements will play a key role in shaping the future of derivatives trading. They could affect investors' ability to trade, FCMs' service offerings and revenues, and custodians' securities lending models. Many of the details are yet to be finalized, and the stakes could be significant for investors.

### Analytics: Pre- and Post-Trade

As swaps transition to clearing, the importance and use of analytics will grow. Initially, several clearing houses will offer the same or similar contracts that will operate under different margining regimes. As such, there will be collateral and margining differences based on where managers elect to clear their swaps. In addition, managers will be faced with decisions around whether to enter into a bespoke/non-cleared swap or to create a synthetic of this bespoke swap using a combination of cleared swaps and/or futures. As previously noted, a key part of the "cost" decision in both cases discussed above will be how much initial margin will be required? The use of pre-trade analytical models will provide these answers and help the manager optimize their decisions.

As clearing helps to drive standardization and transparency, it is also expected to increase swap trading volumes for existing users and spur the initiation of swap trading by new users. In addition, the increased liquidity of swaps will likely spur the growth of new trading strategies and trading combinations of swaps, futures, and cash instruments for hedging purposes as well as for the creation of synthetic positions. Managers will be able to perfect such strategies through the pre-trade use of analytical models made available to them over the Web, and once implemented, track them through similar analytical models delivered daily and/or on demand also over the Web. As clearing matures, investors should consider the analytic possibilities available to them and monitor vendor offerings to assist them in establishing these new or enhanced capabilities

### Segregated Accounts to Reduce Risk

Similar to the model that was already in place for futures, FCMs clearing swaps under the new rules will be required to hold clients' money in accounts separate from their own funds, limiting what they can do with client cash and other securities. In the event an FCM fails, it will seek to transfer a client's account in its entirety to another broker. This feature, known as portability, substantially reduces the risks incurred by, for example, pension funds with significant exposure to a single FCM. It was this model that allowed futures positions held with Lehman to be transferred with no loss of principal following Lehman's collapse.

A related source of risk concern has been the common practice of rehypothecating collateral amounts in clients' margin accounts, often resulting in potentially long and complex "daisy chains" that, as the crisis showed, can prove difficult to follow and unravel. Since the details of the OTC model have yet to be established, it is unclear how regulators will limit this practice to help shield client assets from exposure to unknown downstream risks. Whatever constraints are put in place, investors will wish to consider their possible impact on trading terms, and thus, overall investment return.

# Investor Considerations: Developing an Action Plan

Although the regulatory framework for derivatives is far from complete, it would be a mistake for investors to wait for policymakers and regulators to finish their work before starting to prepare. In practice, this means becoming familiar with the implications of what is already known or foreseeable, and beginning to define post-regulation investment strategies and related operational changes based on the information currently available.

In the new environment, investors will be faced with the need to:

- Identify electronic trading platforms (SEFs or exchanges) for the execution of swaps and other affected derivatives
- Choose a clearing broker or brokers (FCMs)
- Evaluate infrastructure needs to ensure operational capabilities are updated to accommodate new rules, particularly those governing collateral and margining
- Identify servicing needs, including collateral and margin management, pricing / valuation, cash management, and reporting and analytics
- Maintain flexibility as the regulatory landscape evolves

### Working with the FCM and SEF

Investors will want to become familiar with the working roles of the essential players in their derivatives network: the SEF, the CCP, the SDR and the FCM. In their respective roles, each will operate under a strict separation of duties. Investors will especially want to focus on their choice of FCM. Until the emerging derivatives landscape becomes clearer with time and experience, investors might find it advantageous to avoid any deep concentration of risk by appointing more than one FCM. Some investors are considering the possibility of using more than one FCM as a means to mitigate risk, particularly in light of the evolving landscape and industry uncertainty. Still, there are advantages to choosing one FCM, in that doing so allows investors to maintain all records in one place and better meet their fiduciary responsibilities.

Although cost will rank as an important consideration for investors as they define their FCM selection process, so should other criteria, such as the financial stability of the firms they are considering. FCMs' business models will also be important: Do they trade on their own accounts, increasing the risk of information leakage? What end-to-end capabilities can they bring to bear to make the shift to clearing more seamless and more efficient for the investor and to lower risk? What infrastructure will they be using, how well-suited is it to clearing and how up to date is it? What related experience does the firm bring to bear in the derivatives arena? How willing are they to develop a solution tailored to the investor's needs? On what instruments will they specialize? With what CCPs do they currently or will they have memberships? All of these questions will require careful attention as investors select their FCMs.

Investors will also need to consider selecting a SEF (or SEFs) for execution, bearing several factors in mind. First, investors should ensure that the SEF will be able to offer sufficient liquidity for the relevant derivative instruments. Additionally, they should assess potential service providers' technology platforms and their ability to handle sufficient volumes and provide market-leading transaction speed and low operational risk. The SEF should be an unconflicted partner to buy-side clients, offering multiple execution styles (RFQ, central limit order book, auctions, tear-ups) based on their clients' trading styles. SEFs should also bring a proven track record in building and operating electronic trading platforms. Lastly, they should have strong self-regulatory capabilities to ensure compliance and protect their clients' and systemic interests. Overall, while FCM selection currently seems to be gathering more industry attention, SEF selection will also be an important choice.

### Flexible Infrastructure to Support Emerging Needs

The Achilles' heel of many investors' businesses will be the legacy infrastructure that supports their derivatives trading across the investment life cycle — both in terms of technology and human expertise. Infrastructure can account for a large portion of the cost of entry, as well as a significant portion of recurring expenses. With their unique characteristics, OTC derivatives have often required bespoke processing capabilities. In the new environment, automation will supersede much of the manual processing (such as for reconciliation and matching). As new rules take effect, investors can expect their current infrastructure to, at a minimum, call for evaluation and potentially for significant investment. Many portions of middle- and back-office work flows will change.

One particular example is collateral and margin management, where daily calculation of variation margin will be required to support the cash settlement process. Overall, the increased complexity, shift from manual to automated processes and resulting investment required may lead investors to determine that it is no longer cost-effective to go it alone. This in turn is likely to lead to further outsourcing opportunities for third-party providers, as discussed in the next section.

One critical aspect of a robust derivatives infrastructure will be its ability to adapt to new and changing rules, including cross-border regulations that may differ to some degree. Systems will also need to keep up with evolving tax and accounting perspectives — the tax treatment of variation margin, for example, is not yet clear — as well as the migration of new products to clearing. Moreover, while new reporting requirements generally apply to information delivered to regulators in the course of the clearing process, investment operations groups acting on behalf of their own clients will need to respond to demands by the more risk-aware for new and greater levels of investment information.

### The Role of Third-party Servicing

One reason the evolving derivatives framework is described as complex is because of the collateral and margin management processes it will require. To meet this challenge, many investors will turn to a third-party provider for help.

Since leading custody banks have acquired deep experience in tracking and managing collateral, they are well positioned to continue providing these services in the evolving derivatives environment. Indeed, collateralization has been an important driver behind the move to partner with external providers for collateral services. Not only do these providers have the necessary technology platforms to accommodate the task, they also have the regulatory expertise — both regionally and globally — to help clients navigate through an array of compliance challenges.

Collateral-related services are only part of the picture. Leading providers in the emerging environment will have the capabilities to offer end-to-end servicing for derivatives, including clearing, middle- and back-office processing, custody, collateral management, valuation, and data and analytics. Such an end-to-end offering

will increase straight-through processing; reduce fails, breaks, disputes and other risks; and streamline information flow. In addition to satisfying critical criteria regarding resources, expertise and experience, investors should also seek out partners they can trust. Increasingly, provider independence is becoming a significant consideration because it is a way to gauge if the provider will act exclusively and explicitly in the client's interest, without the potential conflict of proprietary activities.

As investors evaluate providers, they should press potential partners for specifics about their own preparations for the post Dodd-Frank world. It will be useful for them to learn about how a provider's infrastructure will interface with an investor's system (as well as with FCMs, CCPs, execution / affirmation platforms and custodians); how flexible it is for adapting to market changes; and how robust it is in terms of volume, speed and capacity. Perhaps above all, they should determine the provider's stage of readiness with respect to the new clearing requirements driven by Dodd-Frank and, eventually, by similar regulatory changes in Europe and the Asia-Pacific region.

### Meeting Change Head On

Despite the breadth of expected changes in the global derivatives markets, the current degree of uncertainty and apparent complexity in the landscape may deter immediate action. Even regulations in the US, where the rule-making process is furthest along, are not yet fully clear. Still, there is much investors can rely on with reasonable comfort, including the basic contours of the derivatives landscape that will be largely governed by mandates prescribing electronic trade execution, central clearing, daily pricing and increased reporting.

As the market evolves, investors will need to closely evaluate the implications of the changes in terms of cost. The ultimate outcome will depend on a host of interacting variables, including the net effect of tighter spreads against increased margining, processing and reporting requirements. As investors ponder this net effect, they should recognize that the positive impact of transparency on market pricing may carry the day in terms of the impact on overall costs.

Prudent investors will begin their action planning now, if they haven't already. They will evaluate potential trade execution partners (SEFs or otherwise), clearing brokers (FCMs) and CCPs. They will also need to look at their own infrastructure and decide what is needed to make it ready to handle the increased processing and reporting requirements associated with clearing. They may decide to look at external (outsourcing) options if the required internal changes appear too daunting. And, they will want to ensure agility in any case, given the likely continued evolution of the derivatives landscape.

As the world readies itself for derivatives reform, speculation is mounting as to the growth prospects of the OTC derivatives market after clearing commences. Will it expand as a pool of new investors enters, encouraged by the benefits they observe of the overall clearing process and the transparency that accompanies it? Or will investors hesitate in order to await the verdict of early market participants and the flattening of the learning curve? While it may be too soon to say as the rule-making continues, it is none too soon for investors to do their homework.

While timing is uncertain, change is inevitable. Investors must not wait. Thoughtful and informed preparation will establish a robust platform for action. Despite the unknowns about exactly how the derivatives market will change post-implementation, it is clear that instruments will have to be cleared, additional margin will be required, and transactions will gain significant transparency. Early adapters who learn how to operate in the new environment may well find themselves best positioned to gain as the changes unfold.

## Contact Information

If you have questions regarding State Street's services and capabilities for derivatives, please contact:


**Charley Cooper**
+1 212 259 3172
ccooper2@statestreet.com

**Neil Wright**
+1 917 790 4681
nawright@statestreet.com

**Martin Higgs**
+44 20 3395 3539
mhiggs@statestreet.com

**Steve Winter**
+1 212 259 3118
sawinter@statestreet.com

**J.R. Lowry**
+1 617 664 4630
jrlowry@statestreet.com


For questions or comments about our Vision series, e-mail us at **vision@statestreet.com**.

STATE STREET.


State Street Corporation
State Street Financial Center
One Lincoln Street
Boston, Massachusetts 02111–2900
+1 617 786 3000
www.statestreet.com
NYSE ticker symbol: STT






Content, design and production by State Street Global Marketin g



11-0187-4550-0611