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The Dodd-Frank Act: Impact on Derivatives Technology Infrastructure

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Author:

Rumman M Iqbal
Domain Consultant, Securities & Capital Markets

Rohit Sadhu
Domain Consultant, Securities & Capital Markets

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Introduction

The US President Barack Obama signed into law the 'Dodd-Frank Wall Street Reform and Consumer Protection Act', (from here-on referred to as 'the Act') on July 21st, 2010. The Act is essentially a 2,300–page introduction to a new financial regulatory environment that supposedly outlines the most sweeping changes since the great depression, and to the way business is conducted. However, it provides an incomplete road map for the regulatory financial future of the United States since it leaves a lot of details to be defined during the rule-making process. Notwithstanding its incomplete character, the Act will have a significant and immediate impact on all businesses. Currently, the rule writing for the act is being performed by SEC and CFTC, with the help of studies, consultation and industry discussion.

Though the overall impact of the Act is wide ranged, for this article, we have limited the scope to deal with the impact it would have on the OTC derivatives market. OTC derivatives have been widely criticized for the role it played to accentuate the financial crisis caused by poor regulatory oversight, lack of transparency in the market, excessive leverage and failure to manage the risk. The Act puts a lot of emphasis on improving regulation of the OTC derivatives market; central clearing; electronic swaps execution facilities; higher margin requirements etc. Though the actual details and impact will be clear only after the completion of the rule making by July 2011, the focus for market participants now should be on how to pro-actively assess the impact to their business and technology infrastructure, investigate the potential and new opportunities' thrown open by the regulation.

Major Tenets of the Act

The text of the regulation speaks about rules to be created in certain key areas impacting a broad range of market participants (Ref Table 1).

Major Tenets of the Dodd-Frank Act	
Regulatory Framework	• Creation of Financial Stability Oversight Council (FSOC) and macroprudential oversight of financial markets • Eliminate potential government bail-outs with Orderly Liquidation Authority • Strengthen SEC, CFTC in their role as regulators • Record-keeping related to use of Leverage; Trading and Investment positions, Counter-party risk exposure; Asset types held
Prudential Regulation	• "Volcker Rule" that restricts proprietary trading and investments in private funds • Higher capital, liquidity and leverage standards if classified as 'Systemically Important' in line with Basel III requirements
Investor Protection	• Retention of 5% of the vertical slice during Securitization • Suitability Vs Fiduciary duty & Credit Rating agency controls • Registration requirements for Hedge Funds and Private Equity firms
Consumer Protection	• New agencies setup in Consumer Financial Protection Bureau to safeguard and protect end consumers and regulate Anti-predatory Lending practices • Review of 'Suitability vs. Fiduciary' duties of brokers • Corporate Governance & Executive Compensation
Derivatives Business	• Changes to the derivatives clearing process with introduction of central clearing for eligible assets, introduction of exchange trading and move towards standardization of derivative contracts. • Set-up of Swaps execution facilities and Fed imposed restrictions on leverage

Table 1 – Major tenets of the Dodd-Frank regulation

Impact of Regulation to Financial Services Markets

The regulations would have significant impact on almost all the market participants in the financial services market (Ref. Table 2). This would include business, operational and technology impact that need to be investigated and planned for.

From what we have seen until now, it is clear that derivatives business and the related technology has the most sweeping impact due to the scope of changes required to comply with the new regulations, hence affecting Investment banks, Asset Management firms, Custodians and service providers like Exchanges, Clearing houses and other Market Utilities.

Financial Service Firms	Overview of Impact
Investment Banks	• Need to maintain higher capital, liquidity and leverage standards • Mandatory compliance to swap trading and clearing regulations • Prepare and maintain 'living wills' or resolution plans for winding them down in case of failure • Companies that pool loans into mortgage investments must keep at least 5% of the investments on its books • Restriction in investments in hedge funds and private equity funds to 3% of Tier I capital • Volcker rule forces elimination of proprietary trading and spin-off of some of the swaps trading into separately capitalized affiliates
Consumer Banks	• The Bureau of Consumer Financial Protection (BCFP) setup to enforce existing rules and create new ones across consumer products. • The agency will write rules and ban products it deems unsafe
Brokerage Firms	• SEC may impose changes in fiduciary responsibility on broker-dealers and investment advisors providing investment advice to retail customers • SEC granted the power to develop and enforce a uniform standard across the board for all brokerage firms irrespective of their size and ownership.
Hedge Funds, Private equity and other Investment advisors	• Private Equity and Hedge funds managers with more than $150 million in AUM must register with SEC, with potential record-keeping, filing requirements • Any firm classified as an MSP (systemically important) will be subjected to higher capital, liquidity and leverage standards • Mandated to design and monitor a compliance program, and be subject to periodic SEC examinations and inspections
Asset Management firms	• Derivatives trading changes would force the AMCs to connect to SEFs for trading and multiple DCMs for clearing of OTC derivatives • Reconciliation with counter-parties and collateral management process would be done proactively and daily rather than based on disputes
Custodians	• Changes to existing workflow to handle flow and non-flow derivative trades, one involving bilateral clearing and another central clearing. • Prepare increase in derivatives processing volumes since more buy-side clients would subscribe to post trade processing • Custodian banks offering DCM services would need to set up clearing services for derivatives and prepare for intra-day collateral management and cross margining services
Service Providers	• Requires rating agencies to have more transparency on the methodology and assumptions behind ratings • Product and platform vendors in the derivatives space would need to build connectivity to SEFs, SDRs • Market utilities considered 'systemically important' could become subject to standards in operation, as prescribed by regulatory agencies.
Regulatory agencies	• SEC and CFTC would need to propose and finalize more than 200 rules within July 15, 2011 in order to comply with the deadline mentioned in the Act. • The SEC/CFTC would have the right to approve new product introduction depending on the underlying asset and can regulate and ban abusive derivatives.

Table 2 - Overview of Impact of regulation on market participants

According to a Wipro in-house research and discussions with client organizations, the Act would have medium to high business impact for Investment Banks, Brokerages, Custodians and Asset Managers, based on the areas of impact identified in derivatives trading.

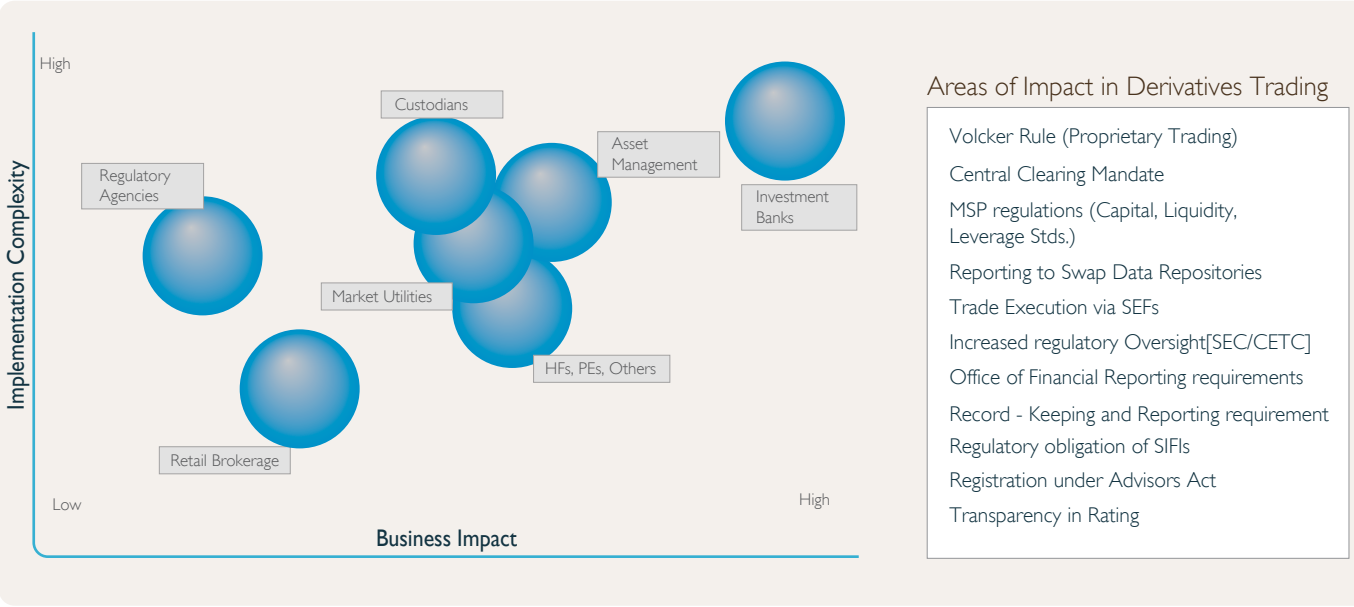

Figure 1- Impact of the Act on market participants

Impact on Derivatives Industry

The theme driving major changes to derivatives technology is pre-trade and post-trade Transparency. The major changes outlined in derivatives are:

- Central Clearing – All trades in 'standard' derivative instruments must be cleared through a central clearing counter-party. Parties need to clear their trades via a Derivatives Clearing Member (DCM) who would in turn maintain a segregated and portable account for the party at the Clearing House.

- Electronic Trading – All central clearing eligible trades must be executed over a registered exchange or a Swap Execution Facility (SEF). The dealers on the execution venues would have the obligation to provide pre-trade price transparency.

- Post Trade Transparency – Trades that are not centrally cleared must be reported to a Trade Repository within a day of trade execution

- Swap Push-out – Restrictions in transactions of certain product types, subject to exceptions

- Regulatory Oversight – Broker Dealers and MSPs would be subject to business conduct rules and processing standards; subject to increased capital requirement for trades not eligible for central clearing

While organizations focus on the impact of the Act, before planning for implementation, they might be better served to analyze other regulatory initiatives that are currently being implemented or planned for in the future. Some of them that need a closer look are Basel III, Solvency II, MiFID II and the regulatory initiatives by EU being implemented by ESMA. Other events that have the potential to make an impact on the technology infrastructure are - In US, the March 1, 2010 commitments to FRBNY by the FED 15 banks; Efforts by organizations IASB and FASB in developing a common accounting and disclosure standards for derivatives.

Technology Challenges in Implementation

We expect the Act to have wide ranging impact not only on the many market participants, but also on the functional areas, and could see an increased share of IT investments that are ramifications of regulation (Ref. Table 3). During our discussions with Axel Pierron of Celent on the topic of Technology challenges, Mr. Pierron said, "With the increasing cost of doing business, many market participants, especially the buy-side, would be wary of making upfront investments without being convinced of the cost-benefit of changes to be made, unless mandated by regulation".

Area	Challenges
Workflow changes	• The list of 'standard' products to be cleared is unclear and assumed to be a continuously evolving list; hence the workflow to process these must be designed to be scalable to increase in scope. • Workflow(s) must cater to both existing OTC trades that are exempt from central clearing and the future trades that would fall under the purview of the clearing mandate. • For a DCM, the business processes must be inclusive of the existing market practices evolved over years and considered industry practice while taking into account the operational difference of multiple CCPs including differences in margin calculation • Clearing houses and DCM work-flows would need to include components of Default Management with provisions for close-out netting, auctions, special entitlements for external participants in CCP systems and migration of accounts
Connectivity	• Increased need for connectivity to CCPs, SEFs, Exchanges, DCMs and other service providers providing supporting market infrastructure like matching and confirmation systems, independent pricing vendors, Swap Data Repositories (SDRs) • Challenges in interoperability due to slow adoption of messaging standards like FpML, non standard asset definitions and reference data • The systems should be built on open architecture since CCPs, DCMs, exchange/SEFs need to interface with one another and with market participants
Risk Management	• The lack of clarity in liquidity and depth of the market during times of crisis, would mean that CCPs would need to adopt enhanced risk management measures without over-burdening clearing members with higher margin requirements • Real-time tracking and reporting of exposures to clients/CCPs by CCPs/DCMs and the impact on the capital requirement. The CCPs, DCMs must put in place systems to monitor risk and take immediate mitigation action, considering the systemically important role they would play in the market • The non-homogeneous nature of clearing members in terms of their jurisdictional, operational and cross-border nature adds additional level of legal and operational risk • Ensuring that exception transactions, when performed for Central Clearing, Volcker rule, Push-out rule etc., could be reported with supporting evidence • Business analytic tools would be required by firms and regulatory organizations to process data and identify risk; especially FSOC to analyze data from the industry in order to identify and monitor systemically important firms and parameters that indicate systemic risk
Data Management and Reporting	• Monitoring of real-time data from across all businesses in the organization to identify client and counter-party information aggregated to legal entity level. • Compliance to data requirements from OFR, that require organizations need to build to strong and flexible data management capability to ensure data integrity and data representation formats • Real time exposure and other ad hoc reports to OFR (Office of Financial Research), Transaction and volume reporting to SDRs by BDs and MSPs; reporting of price, volume and trade data by execution venues • Identify and capture trade data, audit trail, swap trade data for transparency and fiduciary duty compliance • Building an information architecture and datawarehouse. To meet the requirements of the Dodd-Frank act for risk exposure data, financial services institutions need an information architecture that provides full transparency and reporting for the Board and the Risk Committee
Operational Infrastructure	• Enhancing Front office systems to improve flexibility (and hence support innovation) while retaining the required checks and controls in the back office that ensure STP • Pre-trade analytics constructed (with real-time data) to assess the impact of trade on the capital requirements and risk taken • Integrate the commitments to FRBNY in improvements in trade confirmation timelines of OTC derivative trades with the Act • Changes to legacy applications due to expected increase in throughput due to increase in trade volume of OTC derivatives due to central clearing • Increase in frequency of operational tasks like reconciliation, collateral management etc., and interactions between market participants in ensuring data quality

Table 3-Technology Challenges in Derivatives

Speaking to Wipro, the management of the workflow around various asset classes was a key concern for the Investment Technology Manager at a leading US asset manager. Derivatives processing workflow could experience many changes due to the division of assets into three groups – clearing eligible, clearing in-eligible, clearing eligible-but grandfathered assets, all of which need to be separated and handled differently (Ref. Fig 2). Axel Pierron said "Investment Banks may not be ready to integrate the cleared OTC instruments with the non-flow derivatives workflow or the listed derivatives workflow and hence would be looking at building something new that is scalable for the future."

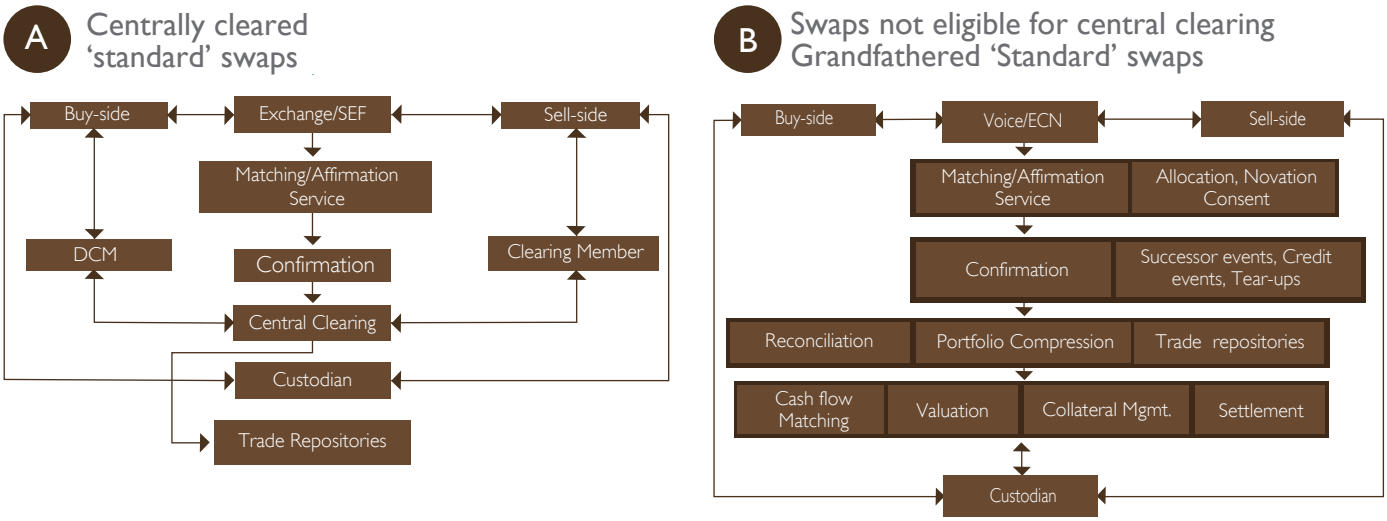

Figure 2-Indicative processing for the various swap groups

The industry has assigned part of the blame for the crisis on a reactive regulatory framework where the responsibilities of specific regulatory bodies are not well defined. The clarification and strengthening of the role of SEC/CFTC and formation of FSOC would change the requirements for compliance for market participants in terms of whom to report what and how. The data requirements from OFR to look for systemic risk could be unprecedented and difficult to comply due to its pan-organization or ad hoc nature for banks where business operates in silos. According to Axel Pierron "The reporting and risk management might have an overlap since in both cases, we are looking for early warning signals"

The improvements in operational infrastructure that was hitherto focused mostly on reducing the confirmation backlogs would now enter a new phase where the focus would shift to front-office and back-office systems. Development of flexible front-office applications that can capture terms of complex bespoke assets thereby improving STP would be a focus area. The external STP would be improved with the shift towards open standards in system architecture and messaging protocols. However, according to Axel Pierron, "In the short-term, there seems to be no widespread adoption of standards in terms of messaging protocols, asset definitions which could lead to increased interoperability and STP"

Way Ahead for Market Participants

Traditionally the asset managers have not been looking closely at investing in OTC derivatives infrastructure. However, the Act requires that they setup robust infrastructure and operational processes to support new requirements thrown up by the regulation.

Cost of Trading – The requirement to switch trading of OTC contracts from a bilateral to centrally cleared process is widely expected to lead to increased cost for the cost-sensitive buy-side firms. Unlike hedge funds, traditional long-only asset managers rarely had to put up initial margins and hence will find the transition towards central clearing painful even without the technology and operational changes expected. In our discussions with a global asset manager, this was mentioned as one of the major driver in the search for solutions.

Pre-Trade Analytics – With the coming of SEFs, buy-side firms need to evaluate the best way to execute trades considering price, liquidity, cost of clearing, impact on capital etc.

Workflow Automation – Central clearing would require automating any existing manual workflows and adhering industry best practices in post-trade processing. Communication with market participants using electronic message formats like FpML would become a necessity.

Risk Management – Increased importance of counterparty risk management would require daily or even intra-day reconciliation and collateral calculations which would require real-time data availability and robust interfaces for data exchange. Aggregation of data from across silos would be important to provide a single view of risk at an entity, asset class level exposure.

Risk Management	Post-Trade Processing	Operational Infrastructure
• Access to market data and analytics to determine the impact on capital and collateral requirements • Ability to sweep trading venues for best available price • Daily reconciliation and collateral manangement to post eligible collateral effectively • Position aggregation across counterparties to provide legal entity level exposure	• OTC derivatives data repository to hold the available data attributes crossreferenced with various identifiers and static data • Control post trade activity from trade capture to post-trade processing to event processing • Add new assest classes without considerable development effort • Independent Valuation of assets using standard models and independent valuation providers • Reduction in capital requirements through ability to clear across assets and CCPs • Reconciliation of holdings, security and collateral movements with broker-dealers • End-of-day and real-time reporting and exposure across assest classes and CCPs	• Low latency connectivity to execution venues and subsequently to affirmation/ confirmation platforms • Data capture closer to trade execution using communication protocols like FpML, data transformation and normalization. • Increased adoption of open architecture and messaging/communication protocols to improve interface • Control over organization data residing in structured and unstructured form to ensure audit trail and scope of distribution. • Flexible regulatory framework to handle changes detailed by regulatory rule making processes.

Figure 3-Imperatives for buy side firms

Custodians who are serving the buy-side firms can look at their outsourcing offering to offer services which can help the buy-side in post-trade processing as well as maximizing the use of their margins posted as collateral.

The sell-side has been progressively making investments in the OTC derivatives space due to their need to a) ensure that the back-office does not have a restrictive impact on the business on their ability to innovate and increase volume b) stave-off any restrictive regulation with its commitment to FRBNY for improving the operational infrastructure, including reduction of the confirmation backlogs of OTC transactions. However, with the Act, investments in risk management and reporting, central clearing and workflow management, connectivity to new market participants, data management and business analytics are imperatives in order to stay competitive in the new world and be compliant with the new regulations.

Risk Management	Post-Trade Processing	Operational Infrastructure
• Registration requirements with SEC and/ or CFTC as swap dealer and increased prudential standards there-on • Setting up new margin requirements, institutionalizing counterparty default management procedures with CP cleared and other trades • Robust measures and controls to manage exemptions in rules of exchange trading, push-outs, Volcker rule • Automated triggers and ability to aggregate risk at multiple levels across organization	• Workflow to handle CCP eligible, grandfathered and non-flow derivatives • Intra-day and ad hoc reporting requirements from OFT, SEC and/ or CFTC • Solutions that could maximize the usage of capital thought cross margining • Intra-day reconciliation and Collateral management covering dealer banks, buy-side and CCPs	• Connectivity with new particpants like SEFs, Clearing houses and Trade Repositories • Strong business analytics solution to process data and support decision making • Data management, reporting requirements madate intergrity of data with scalable and flexible systems

Figure 4-Imperatives for Sell-side firm

Approach to Regulation

Due to the scale and complexity of the regulatory changes awaiting organizations in the coming years, it might be efficient to follow a structured approach to regulation, beginning with –

- Identifying the regulations to be considered including the Dodd-Frank Act, European Commission, Basel III, and IASB/FASB etc.
- Establish a common taxonomy and library for policies, processes, risks, controls, regulatory requirements and other key data elements so that the organization speaks the same language
- Understanding the impact it would have on the organization and its echo system through its 243 pieces of rule making with around 60 Studies and 170 Reports
- Assessment of the current environment to identify opportunities to leverage existing processes to be reused and retooled to reduce costs
- Cost-Benefit-Analysis of the cost of risk management vis-à-vis cost of additional capital allocation
- Considering the timeline of the rule making process on new regulations that could well take over two to five years with varying effective dates
- Planning for the changes required with a holistic view of all new, on-going (Commitment to FRBNY, consolidation of accounting rules by IASB/FASB) and parallel (Basel III, ECB/ESMA) regulatory changes, but prioritized and grouped by criticality and cost-effectiveness
- Articulating and quantifying the client value proposition and business opportunities arising from the shift of OTC derivatives to clearing through CCPs
- Defining the new Target Operating Model and the changes to people, process and technology that would enable this
- Defining a transformation roadmap of projects needed to execute the business strategy

Conclusion

The Act has been heralded as the most significant in terms of scope and scale of change since the Glass-Steagall act of 1932. Looking at the market participants impacted and the scope of change required for compliance, it does not look like an understatement. The implementation of these changes would require a great deal of co-ordination within the organization across businesses and functions, operations and IT.

While the IT organizations of the financial services industry has a huge task in front of them, it is important not to jump into it right away, but to take a step back and look at the regulation in the context of international and other regulatory changes that are happening in parallel. They must spend time in understanding the direct and indirect impact it could have on the technology landscape and the gaps thereon, which could help them chart the course of the next few years and help get maximum mileage for the money spent in compliance.

Glossary

MSP – Major Swap Participant
SEF – Swap Execution Facility
CCP – Central Clearing Counterparty
IASB – International Accounting Standards Board
FASB – Financial Accounting Standards Board
FSOC – Financial Stability Oversight Council
OFR – Office of Financial Research
SEC – Securities Exchange Commission
CFTC – Commodities and Futures Trading Commission
ESMA – European Securities and Markets Authority
FRBNY – Federal Reserve Bank of New York
DCM – Derivatives Clearing Member
FpML – Financial products Markup Language
SDRs – Swap Data Repository
SIFI – Systemically Important Financial Institution

About the Author

Rumman Iqbal is a Domain Consultant with the 'Securities & Capital Market' practice of Wipro Technologies. He has worked in business & technology consulting and requirements analysis in the areas of Trade and Order Management, Custody, Asset Management and Clearing & Settlement. Rumman also leads the Industry Practice Group on Derivatives that focuses on conceptualization of solutions, building competency, providing delivery guidance and lends support to the sales/pre-sales process in the area of listed and OTC derivatives. For any questions, the author can be contacted at 'rumman.iqbal@wipro.com'

Rohit Sadhu is a Domain Consultant with the 'Securities & Capital Market' practice of Wipro Technologies. He has worked in business & technology consulting and requirements analysis in the areas of Custody, Hedge Funds and Clearing & Settlement. Rohit is part of the Industry Practice Group on Derivatives that focuses on conceptualization of solutions, building competency, providing delivery guidance and lends support to the sales/pre-sales process in the area of listed and OTC derivatives. For any questions, the author can be contacted at 'rohit.sadhu@wipro.com'

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Wipro Technologies, Doddakannelli, Sarjapur Road, Bangalore - 560 035, India. Email: info@wipro.com, Tel: +91 (80) 2844 0011, Fax: +91 (80) 2844 0256

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