THE VIRTUAL FRONTIER

Bitcoin derivatives are coming!

A DerivSource special report offering analysis on how a bitcoin derivatives market is evolving

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About this Report

The Bitcoin Derivatives Are Coming

Despite the volatility in the bitcoin space of late, the financial markets are keeping a watchful eye on the development of a bitcoin derivatives market.

Firms including exchanges are already launching services to support institutional investors and banks that want to leverage bitcoin for hedging and adding digital currencies to its suite of capabilities. Meanwhile regulation of this new virtual currency space is steadily evolving too. Regulation would not only provide structure for this unchartered territory but also lend credibility, which is essential as more professional market players get involved.

In this special DerivSource report we explore the current status of bitcoin derivatives and explain who the main players are so far and how regulation may evolve to support this new digital currency space. Independent reporting and analysis provided by leading industry experts (Ron Quaranta and David Long) help us shed light on the challenges the industry must overcome to pave the way for wider bitcoin derivatives adoption.

This report is a must read for derivatives professionals, bitcoin enthusiasts or financial professionals who are eager to keep abreast of this new frontier for the derivatives market. And stay tuned for continuous coverage via DerivSource.com.

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Bitcoin & the Derivatives Markets

A Brief Introduction

Ron Quaranta, CEO of Digital Currency Labs, introduces bitcoin, its characteristics and explains how it's only a matter of time before we see bitcoin derivatives.

The advent of digital currencies, most notably bitcoin, has given rise to an expanding ecosystem meant to support the growth of these marketplaces, and expand the number and variety of participants in this brave new world. Exchanges, news and analysis outlets, wallet providers and others have arisen to offer services and hopefully profit from the rise of bitcoin.

For the uninitiated, bitcoin is a crypto-currency, a digital alternative to traditional money relying on cryptographic processes for its creation and operation. The bitcoin protocol, a system of open source processes, governs the currency and is supported by a global, peer-to-peer network. This design also enables bitcoin to act as a payment network, one that exists outside the traditional payments system. In addition, unlike more traditional currencies, there is no single principal or governmental authority backing bitcoin. There are certain innate characteristics of bitcoin, some of which include:

Scarcity

As a scarce digital "good", bitcoin's creation is controlled at a defined pace and with finite supply. The Blockchain, the public ledger of all bitcoin transactions ever executed, maintains consensus on who owns which bitcoin, thus making counterfeiting or double spending virtually impossible.

Fungibilty

There are no serial numbers or other identifiers for any given bitcoin. Only inputs from one address can be linked to outputs from a previous address.

Durability

With a decentralized public ledger, the large number of nodes in the bitcoin network prevent changes to or elimination of the currency.

Secure cryptography

Public-key cryptography provides pseudonymous transactions.

This article will address the relevant aspects of bitcoin outside of the payment network characteristics. Given the novelty and growing usefulness of bitcoin as a tradable currency, it is likely no surprise to readers that there is number of small but growing marketplaces for bitcoin derivatives around the world. Firms like TeraExchange, BTC.sx, ICBIT.se and others are gathering venture capital funds and launching operations to address the more professional market players whom are looking to leverage bitcoin for institutional hedging and as part of a suite of capabilities in pursuit of alpha.

It's worth a moment to discuss what type of "derivatives" we are actually referring to when we discuss the bitcoin world. In truth, up to this point most bitcoin derivatives trades have been customized over the counter products unique to those venues and usually facilitated via margin trading. Only recently have true, "on exchange" derivatives transactions been available. In October of 2014, TeraExchange, a Commodity Futures and Trading Commission (CFTC) registered swap execution facility, executed the first on exchange US dollar/bitcoin swap trade. Other firms, promising sophisticated tools and central clearing (BitMex is one example), are in pre-launch mode and others are in the VC pipeline, so the trend is clear. Bitcoin and other digital currency derivatives are coming, in a big way.

There are some interesting hurdles that need to be overcome and questions that need to be answered for wider bitcoin derivatives adoption. For example, how will these derivatives exchanges operate? Will there be true 24/7 trading availability? How will margin rules be defined? How will the actual contract sizes and tenures be structured? So many of these seemingly basic questions, at least basic from the perspective of existing derivatives trading, need to be answered, and answered in a way that lets derivatives traders operate in the digital currency world much as they currently trade standard instruments.

In addition, as my colleague David Long notes elsewhere in this publication, the opaqueness of the regulatory landscape presents a major challenge to wider bitcoin derivatives trading. In the absence of well-defined governmental oversight, institutional participants are leery of leaping into the bitcoin derivatives arena. What governmental agency will oversee, and why? And how will trans-national issues be dealt with? How will tax and balance sheet recognition be dealt with?

While we can't be sure of how all of these questions will be settled, we can make some relatively educated presumptions. In the coming months, and especially after year-end, we will probably see growing on-exchange trading. This will be particularly true at TeraExchange which, given its status as an existing SEF, seems best poised to take advantage of the existing operational aspects of derivatives trading, and leverage them in the bitcoin realm. From the regulatory perspective, it seems relatively clear to participants in this space that the CFTC will most likely be the regulatory body at a federal level that overseas bitcoin, and by extension digital currency derivatives. There is a bit of consolation in this possibility, since it would mean that current requirements around aspects like contract size, contact months, margin requirements and even valuation, would logically match up with existing aspects set for currency futures. Because of this, my colleagues and I operating in the digital currency space believe that regulatory clarity, as well as the embracing of digital currencies by global institutions will occur quite rapidly once some of the vagueness is eliminated.

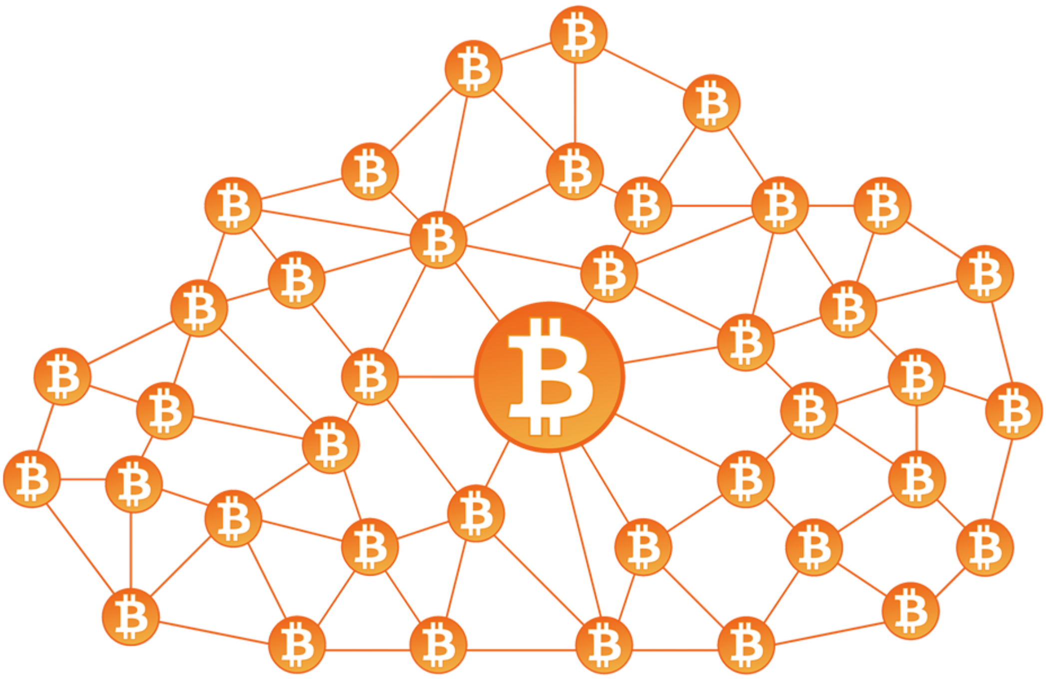
The recent volatility in bitcoin and other digital currencies, including the more than 40% drop in bitcoin price over the past 60 days, makes it clear that a viable derivatives marketplace is a requirement to allow the financial markets to embrace digital currencies. By defining bitcoin derivatives in ways that more closely align it with current derivatives marketplaces, we can anticipate rapidly growing volume and liquidity levels, and an overall smoothing of bitcoin volatility. Once these things happen, bitcoin derivatives will be seen as a powerful tool for currency risk management. We believe that 2015 will be the year that bitcoin and bitcoin derivatives will appear prominently as a tool for global financial services firms, and future articles will address this in more depth in the coming weeks.

Digital Currency Labs (www.DigitalCurrencyLabs.com) is a financial technology and strategic advisory firm whose mission is to bridge the gap between the world of virtual currencies and Wall Street. Its services include software design, development and integration, and counts as its clients major institutional investment firms, hedge funds and global broker dealers.

Disclaimer: The views expressed in this article are those of the author and do not necessarily represent the views of, and should not be attributed to, DerivSource.

Ron Quaranta

is a Senior Executive with a 25 year career in the financial service and technology industries. He is currently the Chief Executive Officer of Digital Currency Labs, a FinTech and Strategic Advisory company whose mission is to bridge the gap between the world of digital currencies and Wall Street. He was formerly CEO of DerivaTrust Technologies, a pioneering software and communications provider of secure transaction and information platforms for financial market participants. Prior to this, he worked at Thomson Reuters, where he held the role of Global Head of Trading Analytics. He has held previous roles across product, sales and business management at global broker dealers and financial technology firms. Ron is based in New York City.



Bitcoin Derivatives
A Regulatory Way Forward?

David Long, Principal, NCFPS-Digital Currency AML Consultants, explains how bitcoin is currently regulated and evaluates how bitcoin derivatives may be regulated in the future.

The first wave of bitcoin companies were largely focused in the area of exchanges, wallets, and bitcoin ATMs. In the United States, these products were largely consumer-facing and fed off of the acceptance of bitcoins by such major retailers as Overstock.com and Dish Network. Also, regulation of the nascent digital currency proceeded along with pronouncements and guidance being issued by the Financial Crimes Enforcement Network (FinCEN), in March 2013, that largely placed such services and products such as exchanges, ATMs, and to some extent, wallets, within the ambit of FinCEN registration.

In its March 2013 guidance, FinCEN determined that exchanges, many trading platforms and some wallet services are "money services businesses," specifically "money transmitters." As money transmitters, such companies must comply with the full requirements under the Bank Secrecy Act and its associated regulations. Most prominently, companies must put into place the full array of anti-money laundering (AML) and "Know Your Customer" (KYC) policy, procedures and controls. They must have on staff an AML compliance officer, and all personnel having duties touching on AML/KYC issues must receive periodic training specific to their position and duties within the company. Also, companies falling under this regulatory regime must submit themselves to periodic AML/KYC program examinations.

Furthermore, such companies also typically fall within the regulatory definition of the various *state* money transmission licensing schemes, thus, necessitating licensing at the state level for such companies. All states and the District of Columbia with the exceptions of South Carolina, Montana and New Mexico have money transmission licensing requirements which can, and often do, impose harsh financial barrier to entry requirements to such bitcoin start-ups. Though such requirements may impose insurmountable or almost insurmountable barrier to entry obstacles to many companies involved in these areas, at least there is some measure of direction in that particular ecosystem. Perhaps this is because of the desire to prevent the entry of, or to rid the ecosystem of, the criminal element. Thus, the regulatory interest shown towards the exchange, ATM, and wallet space is not that surprising when one considers the heightened possibility of money laundering in those environments. Whatever the reason for the regulatory focus, the same regulatory "clarity" has, for the most part, been lacking for most companies considering entry into the bitcoin derivatives space.

"Catch 22"

As we move forward in the development of the nascent digital currency industry, merchants and exchanges dealing in bitcoins might wish to hedge against the traditional volatility of the currency. Thus, we have the emergence of derivative products to fill that particular need.

Like exchanges and wallets, digital currency start-ups operating in the derivatives space have often felt as if caught in the proverbial "Catch-22" situation. For example, a sophisticated and well-meaning entrepreneur wishing to get out in front of the "regulatory curve," might approach a regulatory agency such as the Commodity Futures Trading Commission (CFTC) for guidance regarding how that agency might classify their product offering. For example, a derivative product classified as a "future" might very well require significant regulatory oversight and resources, while classification by the CFTC as a forward, obviously would not. Simple? Think again. Though the CFTC has announced that it is studying bitcoin, it has not yet, to date, issued any official guidance or proposals, regarding its regulatory treatment. Because our well-meaning entrepreneurs have not yet *released* their product, CFTC might inform them that any regulatory pronouncement on their product is premature because there is *not yet a market to regulate.* Hence, the "Catch-22." Wanting to achieve regulatory compliance from the inception, the start-up approaches the regulator, only to be told that because there is not yet a market, regulatory guidance is premature. This scenario has reportedly frequently been the case, but not always, as we shall see from the case of TeraExchange, discussed below.

Bitcoin 2.0 & the CFTC

Some observers have argued that we have now entered the bitcoin 2.0 phase. Whether that is an objective reality or not, is beside the point. In theory, a reason holding back many major retailers from entering the bitcoin space is the currency's volatility. Derivatives such as options, swaps, futures, and forwards would allow market participants with the means to lock in prices, thus hedging against currency volatility. Unfortunately, participants in the bitcoin derivatives space have not experienced what passes for "guidance" that those operating in the exchange, ATM, and wallet space have experienced. Bitcoin derivatives companies, if subject to regulation, typically look towards CFTC for guidance. So what's a bitcoin derivative start-up to do? What many start-ups are doing is scouring pre-existing regulatory findings as well as existing law to determine how a given regulator might treat their product. This is tricky business and the silence from the CFTC has been deafening, until now.

On September 24th, the CFTC announced that it will hold a public meeting on October 9th to examine CFTC's role, if any, in the creation of a Bitcoin derivatives market. The CFTC's Global Market Advisory Committee will run the meeting utilizing two panels.

According to the Global Market Advisory Committee's website:

The meeting will focus on issues related to clearing Non-Deliverable Forwards (NDFs) and the digital currency bitcoin. The meeting will consist of two panels. The first panel will discuss whether a clearing mandate is appropriate for NDFs, with a particular focus on how such a mandate would impact foreign exchange contracts. The second panel will discuss CFTC's jurisdiction with respect to derivatives contracts that reference the digital currency bitcoin.

The meeting is open to the public with seating on a first-come, first-served basis. Members of the public may also listen to the meeting via conference call using a domestic toll-free telephone or international toll or toll-free number to connect to a live, listen-only audio feed. A video recording of the meeting will be made available on the www.cftc.gov approximately 48-hours after the meeting.

It is unclear what snapped the CFTC into action. Perhaps we can speculate that its dealings with TeraExchange moved the decision-makers within the CFTC. Whatever the reason, TeraExchange serves as an interesting example of how sophisticated entrepreneurs can sometimes get things done even in the face of the bureaucratic morass that is Washington, DC. TeraExchange is marketing itself to those large institutions specifically seeking to reduce their exposure to bitcoin volatility. TeraExchange functions as a swap and allows parties holding it to hedge against swings in the value of bitcoins. However, all swaps are denominated in USD and no bitcoins are ever exchanged. A review of the TeraExchange website gives one a glimpse into the level of compliance required before CFTC issued the go-ahead.

So with TeraExchange now up and running with the CFTC's blessing, a larger question remains. That is, what should be the role of regulatory agencies in regulating the digital currency derivatives ecosystem? Should new regulatory constructs be developed and applied to the digital currency space? Conversely, should regulators forgo pushing for the promulgation of new regulations and instead, largely utilize existing regulatory constructs and mechanisms in analyzing appropriate regulatory responses to bitcoin derivative products?

"Top Down" vs. "Bottom Up" Approaches

There are a number of different schools of thought with regard to proper regulatory approaches. One school of thought advocates that digital currencies are essentially their own animal and, therefore, new constructs (usually heavy-handed ones) should be developed to minimize the ever-present risks of fraud and other under-handed behavior in order to protect the markets and ultimately the consumer. The scholars Adam Thierer and Jerry Brito have referred to this as the "top-down" approach. As they convincingly point out, the top down approach often has the effect of proscribing even legitimate behavior in such a way that stifles innovation while still failing to prevent the ills proactively sought to be prevented.

The "bottom up" approach generally advocates a more "hands-off" approach and theorizes that more creative, balanced approaches are preferable when considering regulatory approaches to technological innovations. The crux of the matter is that often little hard data is available regarding the supposed feared harms that new innovations often raise. Proscribing innovation based on fears of events that have not, and may not, occur is bad public policy. Such preemptive regulation stifles innovation and may foreclose innovations and lifestyle advancements not even imagined. For example, could the inventor of the wheel have foreseen its use as a landing device on a jumbo jet?

In theory, a reason holding back many major retailers from entering the bitcoin space is the currency's volatility. Derivatives such as options, swaps, futures, and forwards would allow market participants with the means to lock in prices, thus hedging against currency volatility.

Clearly, bitcoin and the underlying blockchain are momentous innovations with bitcoin derivatives comprising a dynamic facet of this greater innovation. Regulatory activity in the derivatives sphere, like the ecosystem as a whole, should proceed judiciously and cautiously. Let us hope that the CFTC and other regulators take heed.

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David Long

is an experienced digital currency consultant, attorney, professor of criminal justice, and former white-collar criminal investigator. He is Principal of NCFPS-Digital Currency AML Consultants, LLC, a San Francisco-based anti-money laundering and fraud prevention consultancy specializing in addressing the specific AML compliance and fraud prevention challenges facing companies operating in the virtual currency environment. During David's nearly decade of government service as a Special Agent with the federal Office of Labor Racketeering, he investigated cases pertaining to the influence of organized crime in labor unions. Many of his cases were complex financial investigations involving money laundering violations, the Racketeer Influenced and Corrupt Organizations (RICO) Act, public corruption, extortion and bribery. David is a frequent writer and speaker on digital currency regulatory issues.

Bitcoin Derivatives Market Opening up for Institutional Investors

The bitcoin derivatives market is slowly developing. Lynn Strongin Dodds explores the challenges and opportunities institutional investors may encounter as this space evolves.

Bitcoin may have generated a great deal of buzz recently but the bubble has been pricked with prices sliding 44% over September and October to around $300 from last year's $1,150 high, according to digital wallet provider coinbase.com. Threats of regulation among other reasons are spooking retail investors but ironically a tighter grip may entice the much sought after institutional crowd.

The digital currency made its debut in 2008 in the wake of the financial crisis as a new form of payment processing. It also gave rise to a plethora of stock exchanges although many are little more than a website and software programme registered in offshore tax havens such as the British Virgin Islands. However, there are also larger more established venues such as US-based firms coinbase and Kraken which combines forex trading and bitcoin exchanges under one umbrella, Slovenian Bitstamp and its Bulgarian rival BTC-E as well as BTCChina, which is the country's leading player.

Leonard Nuara

There is also **TeraExchange**, a regulated swap execution facility (SEF) which made the news in October with the first USD/bitcoin swap between digitalBTC, a publicly listed company on the Australian Stock Exchange and a hedging counterparty. **Leonard Nuara**, president and co-founder of the US based group, expects this to be only the tip of the crypto based derivative iceberg. "Bitcoin exchanges are volatile and it is difficult to manage risk when trading market. Thus, as bitcoin usage grows we see an increasing demand for a bitcoin derivative to manage that volatility. However, it will take time to determine the exact demand and how many transactions there will be in the near future."

Overall volumes are thin on the exchanges. Industry figures put the combined average daily turnover on the biggest bitcoin exchanges at around $60m at current prices. This is a proverbial drop in the bucket compared to the over $5 trn that changes hands daily in the world's traditional established currency markets. The lack of liquidity is not only contributing to the instability on the markets but also dampening its appeal as a payments vehicle even though retailers are increasingly making it available as an option.

Although a hotly debated and controversial subject, regulation may help bitcoin's cause. Virtual currencies had escaped the policymakers' scrutiny until earlier this year after Mt. Gox, once the world's largest bitcoin exchange, filed for bankruptcy in Japan after losing an estimated $480m. The incident, not surprisingly, pushed the subject higher on the legislative agenda with the New York's Department of Financial Services proposing legislation that would require firms dealing in virtual currencies to hold certain levels of capital, hire compliance officers and obtain special licenses.

The US-based Consumer Financial Protection Bureau (CFPB) also weighed in issuing a warning to consumers about the danger of digital currencies. It said currencies like bitcoin and Dogecoin can have volatile exchange rates, unclear costs, and are vulnerable to hacking and scams. These statements made some participants question whether the agency was ready to ink new rules. Across the pond, the UK has launched a review as to whether regulation of the sector is required while the European Banking Authority (EBA) has published a study advising banks to steer clear of virtual currencies until rules are in place. In addition, the European Commission said it was imperative to look at regulating the sector to address the potential for money laundering and terrorist financing.

Market participants are divided on the benefits of a more stringent environment. For example, some attendees at a recent International Monetary Fund (IMF) conference claimed it could choke off innovation while others believed it would make larger institutional investors less nervous about taking the plunge. "I do not think regulation is that necessary for bitcoin as a currency used by a large proportion of consumers," says **Pete Harris**, industry expert and founder of US-based **Crypto Markets & Technology**. "Many of these people do not have bank accounts and do not care as much about regulation as institutions and Wall Street firms. There are a lot of exchanges out there who will not pass muster and attract institutional trading without regulation."

Ron Quaranta, CEO of **Digital Currency Labs**, a financial technology and strategic advisory firm, adds, "I do not think regulation will stifle innovation but offer the protection and clarity that investors want. Once the safeguards and reporting are in place which I think it could be in New York by the end of the year, investors will become more comfortable and liquidity will build over time."

Nuara adds, “Bitcoin swaps are not your traditional institutional instrument but we see the desire for a regulated exchange for them. We worked closely with the Commodity Futures Trading Commission (CFTC) for over six months to ensure that the swap and the Tera Bitcoin Price Index satisfied the CFTC’s rules and regulations. The index was an important tool for us to develop because it takes into account global data points as well as underlying exchange input and is not susceptible to manipulations which is what the market needs. The other difference with our exchange is that we are geared towards institutional clients whereas most of the others target retail.”

Simon Hamblin

Simon Hamblin, CEO of **Netagio**, the first British bitcoin, gold and sterling exchange also believes regulation as well as internationally recognized standards will bolster the industry’s standing in the financial and retail communities. However, he is not sure that a completely new set of rules need to be written. “We work closely with the Isle of Man and Jersey regulators and their approach is to look at the existing structures and see what works and what doesn’t. Netagio is not regulated but we meet the European Payment Services Directive, with stringent anti-money laundering (AML) rules, ‘know your customer’ (KYC) checks and regular exchange and trade monitoring surveillance.”

It also became the first UK bitcoin company to comply with ISAE 3000, an. internationally recognized standard by the International Auditing and Assurance Standard Board (IAASB), which assesses quality of assurance work, report verification, internal compliance, corporate governance and other areas of corporate responsibility. The company also recently launched its Application Programming Interface (API) which enables institutional investors to plug in their execution management systems (EMS) and order management systems (OMS) and fully automate their trading on the exchange.

“We have had very active discussions with many institutional and professional investors since we launched in July this year,” says Hamblin. ”We wanted to offer this group of investors ease of integration via an API, which means they will be able to create their own trading strategies, using standards they recognize and that are compatible with their front end systems.”

Looking ahead, **Daniel Masters**, co-founder of **Global Advisors Jersey Ltd** which recently launched the first regulated bitcoin hedge fund - Global Advisors Bitcoin Investment Fund (GABI)**,** says, “I see the green shoots of a full blown financial marketplace. It reminds me of the oil industry in 1985 when I started as a trader where there was only one cargo of Brent crude oil and prices were very volatile. However, over the last 15 years oil prices rallied and the market has developed significantly. I believe the same will happen with bitcoin in that prices will stabilise as the currency and technology mature.”

About DerivSource

This special report is produced by DerivSource.com, the independent information source and online publication for derivatives professionals. DerivSource provides industry trend analysis, peer commentary and various educational resources via our articles, podcasts and interactive webinars and live events.

DerivSource.com launched in early 2008 in the backdrop of an impending financial crisis with the sole aim of providing independent and journalist-led information to derivatives professionals working in an opaque industry. The focus of DerivSource quickly shifted to cover the rapid transformation of the derivatives market as a result of the financial crisis and introduction of new regulation including Dodd-Frank and EMIR, in addition to day-to-day trends in derivatives processing, risk and technology.

Our Community Now & Growing

Today, as a leading online information source, the DerivSource community has thousands of members globally who rely on our independent trend analysis, peer commentary and variety of educational resources including interactive webinars and live events to stay informed in this fast paced market. Our members represent a wide geographical and professional demographic from buy-side and sell-side financial institutions, pension funds, regional banks, asset servicers, law firms, consultancy firms and software vendors. Moving ahead, DerivSource remains dedicated to its growing community of derivatives professionals and operates as a valuable resource and information portal for our readers. We will continue to facilitate open discussions and debates amongst our community members with the aim of educating one another and solving problems together.

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