Archegos Collapse Raises Red Flags About Risk Management Systems

Underscores Need for Investment in Technology

By the Numerix Risk Team

Numerix writes a lot about technology and how it is used as a differentiator in risk management within the capital markets. Now and then, market events reveal hidden risks in the trading relationships between prime brokers and their counterparties. One of these events came in March 2021, when a market debacle again emphasized the importance of financial institutions prioritizing investment in modern and comprehensive technology-empowered risk functions.

The reference is to the meltdown of Archegos Capital Management, which was considered an international financial disaster. Archegos was a U.S. hedge fund that reportedly ran a concentrated, levered stock portfolio of U.S. media and Chinese technology firms and it incurred substantial trading losses on margin calls from its largest prime brokers. The prime brokers included two large U.S. firms and two large non-U.S. firms. The two U.S. firms suffered minimal impacts, but the two non-U.S. firms suffered billions in trading losses.

Cause and Effect of Archegos

Archegos Capital Management collapsed under the outsized weight of bets it had placed on media and technology stocks using total return swaps. The firm used excessive leverage to invest in its portfolio of underlying securities, and as collateral for the banks that funded the bets, Archegos pledged the shares it bought with the swaps. When the prices of those shares started to fall, the prime brokers started selling the collateral--and kept selling it—and Archegos went down. The massive selling of the collateral caused the share prices to plunge and this is what inflicted the billions of dollars in losses on the lending banks.

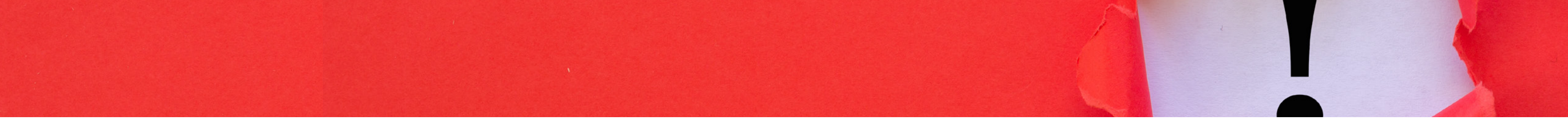
While the event was widely considered a major failure of counterparty risk management and a lack of oversight by the prime brokers, we want to highlight how it exposed the consequences of not having the right technology in place and further emphasized the need for robust risk management infrastructures overall.

Failing to Invest in Risk Technology

An independent, external investigation by the law firm of Paul, Weiss, Rifkind, Wharton & Garrison LLP into one of the banks that incurred significant losses from the Archegos default bared several deficiencies in the bank's risk culture and revealed a prime brokerage business with a lax attitude towards risk discipline and where business and risk personnel did not take decisive and urgent action to address the magnitude and urgency of the Archegos risks.

In summary, the investigation uncovered the following risk failures at the bank:

- The business did not prioritize investment in technology that would have assisted in more effectively managing risk. For example, the business was slow to adopt automated technology that would enable it to dynamically margin swaps. Dynamic margining would have prevented margin erosion.
- The firm did not engage its XVA capabilities to holistically assess and remediate the risks related to Archegos.
- The bank's risk teams only had access to data that was four to six weeks old and therefore they were not aware of in real time the magnitude and pace of the exponential growth in Archegos's positions and the attendant risks



to the bank. In addition to concerns about potentially inaccurate data, the risk teams also struggled to obtain up-to-date information on scenario exposures.

Overall, the bank struggled with fragmented, ineffective technology and data quality issues, which impeded its ability to timely assess counterparty and portfolio credit risk.

All financial institutions face the dual challenge of pursuing opportunities while simultaneously protecting themselves against risk and the damage that can result from bad decisions. This damage can affect hard-earned reputations and financial positions and even harder-earned client, partner and employee relationships. Clearly, risk management strategies and the technologies that drive them need to keep pace with a rapidly evolving capital markets world. Let's take a moment to discuss this last statement.

The Role of a Technology-Empowered Risk Management Framework

Managing the array of risks—e.g., counterparty risk, interest rate risk, currency risk, pricing risk, options risk, market and non-market risks—that can impact a business poses significant challenges. That's why some firms spend a considerable amount of investment on risk management systems that effectively identify and measure, monitor, mitigate and report risk. It also boils down to getting the risk numbers you trust faster.

With this in mind, we ask how effective is your institution's current approach and framework for risk management? Do you have the technology in place for dynamic hedging, margining and exposures?

Somewhat surprisingly, as the Archegos collapse demonstrated, some institutions still take a lackadaisical approach to risk management. Alternatively, some institutions may house a legacy system that is old or outdated. Despite the numerous reasons a firm may have to maintain a legacy system, there are also diverse potential risks and issues to consider, such as those regarding performance, productivity and competitiveness.

So, what do derivatives market participants really need from a risk management system in today's market environment? The following should be considered required capabilities:

- Ability to understand, assess and properly manage their counterparty risk as well as their own credit risk.
- Have insight and transparency into their market risk exposures and potential future exposure.
- Functionality for dynamic hedging and margining.
- Real-time, pre- and post-trade market risk analytics, including all flavors of VaR analysis.
- Scenario analysis, limits monitoring, stress testing capabilities, and real-time risk reporting.
- Have a comprehensive XVA function.
- The use of cloud delivery models and applications to enhance performance, scale and efficiency of risk numbers.

A Proven Solution: Numerix Oneview

To manage risk appropriately, firms are placing an increasing importance on advanced risk measurements. This is crucial as today's derivatives market participants are exposed to a broad range of risks from financial market uncertainty to pressures brought on by the high degree of scrutiny from regulators and other authorities, changing market conditions, economic and political events, natural disasters, and errors or poor judgment within the financial services system itself.

With a customizable infrastructure at its core, Numerix Oneview helps banks and capital markets firms understand their counterparty risk exposures, enabling them to price risk into trades in real-time, monitor and manage exposures as markets move, and comply with demands from regulators and auditors.

We live in a highly complex financial world marked by a rapidly shifting risk landscape. Nonetheless, not all risk infrastructures have evolved at the same pace. Perhaps now is the time to renew the risk conversation and explore the leading edge, next generation technologies the market offers and that can help sustain your organization through any trials ahead. ■

To speak with an expert about Numerix Oneview, please contact us at: sales@numerix.com