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Protecting global markets from the butterfly effect

By **Michael Bodson**

Chaos theory holds that a small and seemingly insignificant event has the potential to cause a chain reaction of systemic proportions days or weeks later.

While it's uncertain whether the kinetic movements of a butterfly in Brazil can impact weather patterns in Texas, the theory can be used in global markets to illustrate the unpredictable nature of risk and the importance of being vigilant in monitoring across all financial markets.

Throughout much of history the common thread that ties together many economic panics - from bank runs of the 19th century, the stock market crashes in 1929 and 1987 and the most recent global financial crisis - is that these events originated from what appeared to be small and unexpected sources and occurred with little notice. In each case, they resulted in widespread damage to global financial markets and the real economy.

Five years since the fall of Lehman Brothers, policy-makers around the world have taken steps to address many of the risks that were blamed for causing the crisis: excessive one-way positions in over-the-counter derivatives that went unrecognised until too late and a lack of transparency into the value of global exposures in this market.

While new rules and voluntary actions by the financial industry will help bring greater stability and transparency to these markets, financial institutions need to continue focusing on risk monitoring and mitigation if we are to protect against future systemic shocks and restore public confidence in markets.

This point was reinforced in a recent white paper published by The Depository Trust & Clearing Corporation on systemic risk, which argued that risks facing financial markets globally are more difficult to anticipate as new gaps surface and interlinkages between institutions grow.

Besides the unintended consequences of new regulations, counterparty risk and whether "too big to fail" has been sufficiently resolved, the white paper also touched on cyber-crimes and a possible future shortage of high-quality collateral.

On the final issue, there is growing concern over a collateral squeeze resulting from the imposition of new capital requirements on brokers and investors. For example, impact studies performed by the US Office of the Comptroller of the Currency and others estimated that $2tn in collateral would need to be collected in the first year of the implementation of margin rules under the US Dodd-Frank Act alone.

At the same time, the International Monetary Fund has said that sovereign downgrades could reduce the supply of collateral by up to $9tn by 2016. With new capital requirements likely forcing some investors to borrow by pledging less-liquid assets, such as equities or corporate debt, this could increase the potential risk of a regional collateral shortage and spur a global shortfall, which would be more systemic in scope and severity, especially if a clear understanding of risk concentrations is lacking.

Another risk that is growing in complexity and frequency is the rapidly evolving cyber threat against financial institutions. Due to the asymmetric nature of the cyber domain, it is relatively inexpensive and near risk-free for an attacker to launch repeated Distributed Denial of Service attacks or to infiltrate multiple systems persistently to steal confidential, proprietary data.

Companies are spending more and more of their limited resources detecting and defending against these attacks, but by most accounts cyber-crimes will continue to grow in sophistication and severity.

The financial industry will never eliminate all risks from the marketplace - nor should it attempt to. Risk and reward are fundamental to markets of any size or scope. However, in today's global marketplace, where trades are executed in milliseconds and cyber-attacks can crash entire networks with little warning, the industry must deal with the reality that risks can develop and spread at a much faster pace than ever before.

While the challenges of today's new regulatory and risk environments are spurring innovation and the transformation of global markets, as well as putting cost pressures on industry participants, financial institutions must manage this change while remaining focused on preparing for the next crisis.

Despite progress over the past five years, continuing to strengthen the robustness of the global financial system and addressing even seemingly minor risks can lead to safer markets and may better equip the industry to protect against future crises.

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