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American Bankers Association

"Tail Risks, March 2022"

ABA Risk 2022

Good afternoon. I am here today to talk about low probability, high impact risk events – that is, "tail risks."

This year is the second year that the ABA has combined the Risk Management Conference and the Risk Quantification Forum to provide a comprehensive look at managing risk across the enterprise. As many of you know, managing tail risks effectively requires integrating the best of both of these worlds.

Combining these two events is felicitous and important. Recent developments have elevated both the likelihood and the correlation of tail risk events. Risk management functions that are dynamic, have the right tools, and have stature and independence internally will be able to help their institutions navigate these waters successfully. Those institutions without dynamic and robust risk management functions will be at elevated risk of being surprised.

Business-as-usual tail risks

Tail risks, by their nature, are not well-informed by statistics and data. In technical terms, they are non-parametric, meaning they cannot and should not be calibrated using statistical methods. In layman's terms, identifying and managing tail risks requires judgment and imagination more than math and computing power.

Over the past several years, a number of high level tail risks have become embedded in the business-as-usual risk management toolkit: geopolitical risk, cyber risk, inflation and rate risk, asset price risk, and recession risk, to name a few.

Each of these is familiar to experienced risk managers and bank supervisors. For instance, the birth of modern day financial risk management at banks can arguably be traced back to the inflation and rate shocks in the late 1970s, which wreaked havoc on the U.S. economy and banking system. Inflation and rate risks are now top of mind for everyday Americans. In the 1980s and 1990s, geopolitical risks from the Latin America debt crisis and emerging market sovereign defaults were front and center. Just prior to the pandemic, recession risk featured heavily in many banks' risk reports. And in recent years, cyber risk has become the most cited risk that keeps leaders up at night.

These tail risks are typically thought of as largely orthogonal and thus are evaluated independently of each other. Risk reports, for instance, usually list each risk separately, with distinct descriptions and estimates of exposures and potential losses.

Today is different

Russia's invasion of Ukraine has affected tail risks, as well as geopolitics. Not only have the likelihoods for each tail risk increased, but it does not take much imagination to see how different tail risk events may be linked and could materialize simultaneously.

The most direct impact of the invasion is the heightened geopolitical risk of broader conflict in Europe. A broadening of the conflict could have significant effects on regional economies and financial markets.

The invasion has also directly heightened both cyber risk and inflation risk. Russia's cyber warfare capabilities are well-known. Just last week the White House issued a warning to U.S. companies to bolster their cyber defenses against "evolving" cyber threats.

With regards to inflation, Americans are already feeling the impacts of higher fuel prices. The expansion of sanctions to oil and gas would put additional upward pressure on fuel prices, with attendant knock-on effects. Ukraine's role as a producer of wheat, neon, platinum, and palladium is also beginning to affect global prices in certain markets.

Heightened inflation expectations would increase the likelihood of rate hikes. A combination of any or all of the above could increase the chances of a broad market sell off, which could trigger a recession.

As one can see, it doesn't take a lot of mental gymnastics to envision scenarios where multiple tail risks materialize simultaneously or in rapid sequence. Joint events are now plausible.

Of course, just because the probabilities of tail risk events materializing have increased does not mean that they will. They are still tail risks. And the stress testing requirements established by the Dodd-Frank Act provide assurance that large banks should be well-positioned from a capital perspective to withstand a range of shocks.

Nonetheless, greater caution and risk management vigilance is warranted today, perhaps more than at any time in recent memory. Risk managers should update their scenario analyses and internal stress tests, including evaluating the impacts of joint tail risks materializing simultaneously. Bank leaders and business line heads should pay special heed to such analyses and ensure that the data and information feeding scenario analyses and stress tests are complete and up to date. Bank boards of directors should ask about and probe the scope and extent of their bank's exposures to joint tail risk events.

The banking industry has successfully weathered a variety of stresses over the past decade. While this demonstrates significant improvements in banks' risk management capabilities and their financial buffers, it can also lead to over-confidence and complacency. The elevated tail risk environment today warrants heightened attention and analysis. Risk managers should be encouraged and empowered to use their judgment and discretion in estimating the impacts of joint tail risk events. Bank executives and boards should pay careful attention and act accordingly.

Crypto derivatives and tail risk

I would be remiss if I did not take this chance to also discuss the tail risks associated with the trading of crypto-related derivatives.

Currently, the Basel Committee on Banking Supervision is evaluating the capital treatment for crypto-related exposures, including crypto derivatives. Agreement at the Basel Committee on how to proceed will help ensure a level playing field globally. The OCC is highly supportive of this.

Of course, the market is not waiting for Basel. Several large banks are exploring making markets for clients in bitcoin futures, with an eye towards trading forwards and other derivatives. Just last week, for instance, Goldman Sachs reportedly traded a bitcoin-linked non-deliverable option with Galaxy Digital.

Before banks move too much farther down this path, they should carefully consider the tail risks of trading crypto derivatives. Several quickly come to mind.

First, crypto-assets have limited or unreliable price histories. Most risk models rely on robust price histories to inform risk metrics, such as VaR, which in turn are used as inputs to calculate capital requirements. Correlations between different crypto-assets and between crypto-assets and traditional assets are unstable. Underappreciation of the limits of today's price histories for crypto-assets can lead to underestimation of the actual and tail risks of crypto-related positions, which could translate into undercapitalization of exposures.

Second, I am worried about certain crypto positions being netted in the risk aggregation process for risk reporting, regulatory capital, and risk management purposes. While the management of basis risk is a bread-and-butter skill for derivatives traders, history is littered with examples of supposedly hedged positions blowing up: Long-Term Capital Management, Amaranth Advisors, statistical arbitrage funds in August 2007, and the London Whale, to name a few. In each case, the net risk positions prior to the blow-ups were reported as hedged and thus manageable, which dulled risk signals and allowed portfolios to grow to dangerous sizes.

Third, the potential for wrong-way risk may be heightened with crypto derivatives. For counterparties that are structurally long crypto and use such trades to double-down to get further leverage, the amount owed by that counterparty to the dealer bank would increase at the same time that the counterparty would be experiencing financial stress. Classic wrong-way risk. Collateralizing such exposure may help mitigate some of that risk, unless banks choose to accept crypto-assets as collateral, in which case the value of that collateral would fall at exactly the time that it would be needed most.

These are the most obvious tail risks to consider with crypto derivatives. They and other risks are highlighted in the UK Prudential Regulatory Authority's (PRA) recently issued letter to the

CEOs of a range of firms.[1] While the OCC has different authorities than the UK PRA, we have engaged both the UK PRA and our U.S. interagency colleagues on how to maintain a consistent, careful, and cautious approach to bank involvement in crypto. I expect future collaboration to deepen as the market grows.

Conclusion

In conclusion, I believe this is an especially important and exciting time to be a risk manager and in the business of quantifying risk. Russia's invasion of Ukraine is changing the landscape for tail risks; so is the rise of crypto trading. Strong, independent risk management can help the banking system successfully navigate these risks and avoid surprises. The OCC looks forward to working with you and your colleagues as we tackle these and other risk management challenges.

[1] Letter from Sam Woods 'Existing or planned exposure to cryptoassets' | Bank of England (24 March 2022).