

Basel, the Big Picture: Tackling Risk Aggregation and Reporting



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When the Basel Committee on Banking Supervision released its “Principles for Effective Risk Data Aggregation and Risk Reporting” in January 2013, the aim was clear: help avoid a repeat of the financial crisis of 2008 by ensuring that banks are making decisions based upon timely and accurate risk data. The crisis revealed that many banks had deficiencies in their ability to aggregate risk exposures, and their failure to make risk decisions in a timely fashion had consequences for both the institutions and the global financial market as a whole.

For large global banks, adherence to the Basel Committee’s principles offers clear benefits, but implementation can present major technology and governance challenges. Originally released for comment in June 2012, the 14 principles cover significant ground, addressing areas ranging from IT infrastructure and governance arrangements, to the way that risk management departments generate ad hoc reports in response to requests from decision-makers. Institutions that are considered global systemically important banks (G-SIBs) face an implementation deadline of early 2016.

At a glance the 27-page document (BCBS 239) might make compliance seem impossibly daunting, but in actuality there are five common traits that run through the principles, explains Donna Howe, former chief risk officer of Santander Holdings USA.

Completeness

One of those themes is completeness, a concept that presents unique difficulties. The Basel Committee states that banks should be able to capture and aggregate all of the material risk data across business lines, but also should be able to measure and monitor the comprehensiveness of that aggregated data. However, combining disparate risk factors and building out the necessary systems is a challenging endeavor.

“Market risk numbers for derivatives are very different than human resources incentive numbers,” says Howe, who currently teaches at Brandeis International Business School. There are also non-prudential risks, such as compliance adherence risk, where common practices have not yet been established.

In some cases, aggregation can reduce the effectiveness of risk data, in much the same way that the average age of a particular group in a statistical survey may not be as useful as a breakdown of the range of ages. When information is aggregated, nuance can be lost, which means that banks may need to restructure their reporting by taking a tiered approach in which a top-level view is tied into more granular levels.

Another concern that falls under the “comprehensiveness” banner is the focus on current exposure, rather than a view of multiple points in time. “Just as we have a yield curve or forward curves, we need to start thinking about current and forward-looking risk management curves,” says Howe. “What’s our exposure today, what’s our exposure in six months, what’s our exposure at the end of the year? Typically we don’t look at comprehensive and complete views of the forward state of our risk management.”

Timeliness

In the latter half of 2008, a series of financial institution failures, including the collapse of Bear Stearns and the bankruptcy of Lehman Brothers, plunged a teetering global economy into a full-blown financial meltdown. Banks were slow to react to the developing situation.

"You have to compare the high-speed phenomena that you had on the market then with banking groups' typical time to deliver the risk information relevant to elaborating strategy and reacting," says Renzo Traversini, Director of SAS's Risk Management Center of Excellence for EMEA/Asia-Pacific.

Turning the calendar back to early 2009, a particular European banking group needed 22 days from the end of the month to produce and manually adjust its monthly risk-weighted asset (RWA) estimates, according to Traversini; for quarterly RWA estimates, it took 37 days.

Regulators recognized that the delay in getting risk information into the hands of decision-makers was critical to managing future situations and avoiding another financial crisis, and the Basel Committee made timeliness a fundamental component of its 14 principles.

The ability to access more data more quickly is important, says Howe, and a key objective for many firms. But for some risk types, the delivery of real-time data may not enhance the decision-making process, particularly if that data isn't being converted into actionable information. The Basel Committee states that the timeliness with which a bank needs to be able to

generate up-to-date risk data depends upon the nature of the risk being measured, and its impact on the bank's overall risk profile.

Speed is most essential for market risk measures, given the speed with which a bank's market risk profile can change. "On the other hand, credit risk, especially if it's a retail environment, is unlikely to have its profile changed as quickly, unless you do a massive deal or have some sort of acquisition," says Howe, adding that operational risks are also relatively slow to change.

Making the process of data aggregation faster is a major technology initiative across the industry, with in-memory computing playing a large role in the ability to quickly produce vast quantities of data. As an example, Traversini points to banks that have recently implemented, or are in the process of implementing, credit valuation adjustment systems. "CVA adjustment based on internal models requires a very smart computation architecture," he says, "and the latest are based on in-memory analytics."

Accuracy

Automation of the risk data aggregation process is key to the Basel Committee, which wants banks to not only be able to produce risk data quickly, but also in a manner that minimizes the probability of errors.

In Deloitte's 2013 global risk management survey, 31% of banks asked to assess their risk data capabilities said that their data quality efforts were effective, while 29% said the same of their data sourcing strategy.

Only 20% expressed confidence in their data management and maintenance efforts.

"Years after the inception of the crisis, while the problem has been stated and discussed, the overall situation is quite critical," says Traversini. "And that's mainly related to the need for appropriate solutions—besides the pure regulatory push." Most of the big institutions, he notes, are working on their data quality systems.

Many of those large global banks are the product of a series of complex mergers, which brings its own technology challenges. The risk systems of each institution must be connected in a manner that allows for comprehensive and accurate aggregation and reporting.

Accuracy and precision, though, are not necessarily the same thing. Outside of the type of events that occurred in 2008, risk managers do not know for certain whether their numbers reflect the actual underlying risks, says Howe, adding that banks need to think about bounding their exposures and looking at loss mitigation issues so that they can understand the trigger events that change the convexity of risk.

"Focus on the accuracy and don't get sidetracked into precision," she advises. "As we build these processes, don't confuse the two."

Adaptability

In BCBS 239, the committee says that banks should be able to generate aggregated risk data to meet a wide range of ad hoc reporting demands.

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Generating ad hoc reports may sound like a basic concept, but it can be complex, depending on how different those reports are from the standard ones. Producing something that the risk management function can feel comfortable with can be difficult.

“If the ad hoc reports require the addition of new data fields or additional assumptions for intersecting risk, there may not be much value to the exercise and the resource requirements may be significant,” says Howe. She suggests that banks focus first on doing standard reports in an ad hoc time frame—Comprehensive Capital Analysis and Review (CCAR) calculations that are done in May or October rather than after the end-of-quarter numbers are available. The

next step is actually enhancing those particular reports.

At risk management technology providers such as SAS, there has been a focus on self-service visualization and reporting, allowing bank users to generate their own reports on the fly with a customizable level of granularity. Until recently, such technology was not available.

Part of adaptability is the ability to assess emerging risks, and new issues continue to arise, like reputational risk, an area where understandings and expectations are still being formed. As new risks come into the fold, “we need to have adaptable data to get us adaptable information so that we can make the best possible decisions for our firms,” notes Howe.

Conclusion

In the short term, financial institutions will need to comply with the principles that have been defined by the Basel Committee, which means ensuring that they have an IT architecture and framework in place that answers the demands laid out in BCBS 239.

But taking a longer view, the document serves as an excellent resource for banks as they modernize their systems, procedures and approaches to risk data. “It gives people a way to take principles and actually turn them into deliverables, which I think is very helpful. It sets a level playing field for the banks,” says Howe.

Creating a culture of risk awareness*

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