RESEARCH UPDATE

Operational Risk Overtakes Its Better Known Market, Credit Risk Siblings

BY NICHOLAS DUNBAR

In May 2009, the U.S. Treasury conducted a stress test, called the Supervisory Capital Assessment Program (SCAP), on the 19 biggest American bank holding companies. An adverse scenario was applied in which U.S. real GDP declined by 3.3 percent in 2009, followed by a 0.5 increase in 2010, while the Case-Shiller house price index would fall by 30 percent over a two year period. Applied to the balance sheet of Bank of America, the adverse scenario of the stress test implied total losses of $136.6 billion over 2009 and 2010, according to the Treasury’s calculations. As a result of this test, Bank of America was forced to raise $33.9 billion in additional capital.

Two years after this stress test, the adverse scenario outlined by the Treasury did not come to pass. U.S. GDP declined by 2.6 percent in 2009, followed by a rebound of 2.9 percent in 2010, while house prices were only mildly negative compared to the Treasury’s bleak adverse outlook. Was Bank of America justified in protesting as it did in May 2009 that the stress test was unfair? Not if one looks at Bank of America’s results from 2009 up until the middle of 2011. Over this time, the bank has reported losses totalling about $123 billion, a figure not too shy of the Treasury’s calculations. As a result of this test, Bank of America was forced to raise $33.9 billion in additional capital.

The reason for this high loss level is not the performance of Bank of America’s loan portfolio or trading business. Loan losses have been high, but not as bad as the stress test prediction, while trading losses have only been a third of what the Treasury anticipated in its scenario. The damage has occurred because Bank of America has had to pay over $30 billion in legal settlements relating to mortgage securitization, a category that the Treasury described as ‘miscellaneous commitments and obligations’. In the lexicon of risk management, such legal costs fall under the category of operational risk.

This risk category itself can be subdivided. In a July 2009 study, the Bank for International Settlements drew together operational loss data compiled by bank regulators around the world during the decade up to the beginning of 2008. In terms of frequency of loss events reported, most occurred because of external fraud in retail banking – the issues with identity theft, hacking and forgery that might be expected to be the biggest problem for consumer-oriented banks – and what the BIS calls ‘execution, delivery & process management’ including data entry errors or loss of client assets.

However, the type of operational loss event with the highest annual loss was a category of ‘clients, products & business practices’. In the BIS study, the category stood out because it skewed the results in 2002 as a result of accounting fraud at bank corporate finance clients such as Enron or WorldCom. If the survey were repeated today, it would undoubtedly include the securitization representation and warranty problems that led to Bank of America’s $30 billion in settlements and similar payouts by other banks.

High frequency losses like external fraud or data errors are amenable to statistical analysis by banks. The Basel Committee for Banking Supervision introduced an operational risk capital requirement for banks in its 2006 Basel II rules giving large banks considerable scope to model their own operational risks under what was called the Advanced Management Approach. Unfortunately, when it comes to getting blown up by their own flawed business practices, large banks have a unique blind spot that the statistics miss. In a report published in July 2011, the BIS said that AMA-approved banks underestimated the number of large loss scenarios by a factor of 20.

Academic research has interesting things to say here as well. In their paper The Determinants of Operational Risk in U.S. Financial Institutions, based upon 20 years of publicly reported operational loss data, Anna Chernobai, Philip Jorion and Fan Yu conclude that firms are more likely to suffer from operational losses when they are younger, more complex, have high credit risk, have more antitakeover positions and CEOs with higher stock option holdings and bonuses relative to salary. The paper shows that strong external corporate governance plays an important role in mitigating the risks.

The U.S. Treasury was praised for the rigor of its stress tests in 2009, which were credited for restoring confidence in large banks immediately after the crisis. The Treasury deserves less credit for missing the operational risk associated with the banks’ business practices, which led to loss levels approaching the predictions of its most pessimistic economic scenario. Like its siblings, market and credit risk, operational risk may seem amenable to measurement. However, experience shows that the pressure of innovation leads to business flaws that evade regulatory measuring sticks. The sheer pessimism of the Treasury kept banks safe in 2009, and the message holds true today.

RESEARCH ON THE WEB

Executive Compensation and Risk-Taking

Executive compensation is mostly viewed through the lens of shareholder value maximization. For leveraged firms, especially banks, CEO compensation ought to reflect the value of the whole firm, including risky debt. In a working paper, Patrick Bolton, Hamid Mehran and Joel Shapiro suggest reducing excessive risk-taking by tying executive compensation to the CDS spread over the performance evaluation period.


Pension Funds Can Beat the Market

Research has shown that mutual fund outperform the market by no more than the fees they charge investors on average. There is less research on pension funds. In a working paper, Aleksandar Andonov, Rob Bauer and Martijn Cremers analyze a database of 774 U.S. and Canadian pension funds between 1990 and 2008, and find that asset allocation, security selection and market timing by these funds delivered market outperformance over time.