AMERICAN BANKER.
THE FINANCIAL SERVICES DAILY

RiskIntegrated

Viewpoint: Making Risk Capital More Stable

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Banks that strove for Basel II advance compliance using scorecard risk models were looking for reductions in their minimum required capital. However, in the current economic climate they have found that their risk estimates have shot up and so have their capital requirements. These increases are partially due to flaws in Basel II, but they are also due to the nature of the models that were implemented.

Risk models can be put into one of three categories: through the cycle, point in time or mean reverting.

Through the cycle models take average losses across the economic cycle and fix the parameters within the model so that there is no adjustment for the state of the economy. The problem with these models is that when the economy changes, the financial ratios going into the models suffer.

Point in time models specifically take into account the state of the economy, however they normally look at the existing state rather than the future state, i.e., when the economy is strong they say "times are good" and tend to predict low losses. This makes them even more sensitive to the state of the economy.

On the other hand, mean reverting models adjust for the state of the economy by indicating that when the economy is strong, "things will get worse." This tends to counteract the fluctuation in the financial ratios and provides more stable risk results.

Such mean reversion can be put into scorecard models with a little difficulty, or it can be more naturally captured using simulation models.

Beyond the way the models treat the state of the economy, the next issue is the short time horizon of most models. The risk profession, including the Basel II regulations, has tended to adopt a one-year horizon for looking at risk.

This short-term view means that the assessment of risk is highly dependent upon the current state of the market. As people search for the refinements to create Basel III, one of the most sensible suggestions is to standardize to a longer horizon such as five years. This means that in good times the models will take into account a likely fall in the next five years and in bad times they will include the likelihood of recovery.

How can mean reverting multiyear risk models be built?

In some structured asset classes, such as commercial real estate and project finance, cash-flow models can naturally be used based on historical market data. For less-structured assets, such as credit cards and corporate loans, new data needs to be collected so that models can be built in the future. Such data would include how sales and operating costs change as the economy changes and how company performance in one year is linked to performance over multiple years. This requires following customers over multiple years.

One of the big challenges with this is that customers may not be with the bank for multiple years. In some cases they may take a loan with the bank for a few years, then get funding from another bank and then return to the original bank, or finally default. This means that data-capture systems need to fill in the dots. This data needs to come either from public records, asking the customer for historical data when they return or by pooling, whereby banks swap data to keep track of customers.

Banks that have the capacity to collect the right data now will have an invaluable data set for predicting customer behavior and default risk over the next cycle.

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