June 2008

Economic Capital Shortcomings

Many of the largest multinational insurers have calculated a number called economic capital to quantify their unique risk profile. They have provided this information to stakeholders as the appropriate level of capital they should hold. What value does it have? How is it being used? Could it be used better?

Concerns

Oftentimes management requests that an economic capital methodology be developed without understanding its limitations. Economic capital, as practiced today, is likely to be a lower number than a rating agency or regulator has previously calculated. Management wants to see the lower number used to determine the company's rating. I believe this argument is being made at most of the large company rating agency presentations in 2008, if not earlier.

For companies making this assertion, there is a perception that appropriate correlation impacts between risks are being used. These correlation matrices result in capital requirements that are much lower than current regulatory factors. They rely on limited historical data, distributions that under represent the tails (not fat enough) and ignore emerging risks. In my opinion, this is a contrarian warning sign that these companies are living on the edge and will underperform over time as they take on more risk than is appropriate.

Another concern surrounding economic capital determination is modelers working in isolation, without the benefits of peer review. Seldom are we skeptical enough of our own work. Modelers often see results consistent with their models and fail to recognize discontinuities that reflect a new paradigm. Others in a company are hesitant to challenge the work, as many modelers delight in showing skeptics why it is their understanding of the issue that is at fault. Remember that those who challenged LTCM turned out to be right!

Stochastic models tend to work well when the environment stays in the middle of the distribution. When there is a tail event, as recently happened when liquidity dried up in the financial markets, they do not work well and will give misleading answers. Sometimes even the models themselves need to be refigured. This is the case with mortgage backed securities, as the default rate historically has been driven by the unemployment rate. Recent results have shown that this was inadequate. I'm sure these models are currently being adjusted, but what will be the next leading indicator not yet considered in the historical data?

Book Review – While America Aged

I recently completed Roger Lowenstein's newest book. It tells the story of defined benefit pensions in America through 3 stories; the auto workers in Detroit, the subway workers in NYC, and public employees in San Diego. Having grown up in Detroit it was

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fascinating to read about the people I had only heard of because roads were named after them.

Lowenstein told the financial story for the layman, and his story telling ability remains outstanding. He placed blame on nearsighted politicians and labor negotiators alike. While this is appropriate, he left out much of what I was interested in and expecting to see. I was very surprised that actuarial methodology was not challenged more. I have been saying for several years that the defined benefit plan is not going out of style because of its design, but because it was not valued economically. With assumptions set to defer the cost into the future, a private plan runs the risk of deferral past the working life of the firm and sending the liability to the Pension Benefit Guaranty Corporation. General Motors provides a great example. Benefits were increased regularly since WWII, but the cost did not come due for many years. Then GM got lazy and lost the battle against the Japanese car companies. Now the due date for pension and health benefits is coming due. It is a vicious cycle, and has created a death spiral for GM. Now they are lobbying for national health care so they move the liability to the taxpayer.

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