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MISSION:

SOLVING THE DERIVATIVES MYSTERY

YOUR MISSION, should you choose to accept it, involves the unveiling of the shrouded world of derivatives.
Good luck! **BY BRUNO CARON**

Derivatives in general have been very mysterious to the public at large. Even some individuals with deep knowledge of the financial markets have been in the dark regarding some derivative contracts. Major changes need to happen in order to avoid another 2008 scenario, but what should those changes be? Multiple derivatives contracts are structured just like an insurance contract. Can the derivatives markets learn a few things from the insurance industry?

THE PROBLEM

Some derivative contracts are structured in such a way that the issuer receives premiums up front (in a lump sum or periodically) in return for the promise of paying a benefit under contingent circumstances. A credit default swap is an example of this type of derivative. If we look at the cash flows, a credit default swap

erally relies on good faith, reputation and the regulatory environment to make sure their goods and financial security are well protected and the insurance company will fulfill its obligations. The insurance industry is heavily regulated, and issuers of insurance contracts are required by law to hold reserves—i.e., a conservative amount set aside in order to pay for future contingent benefits. Profits from insurance contracts usually arise through the release of those reserves. This is a fundamental concept that actuaries are very familiar with, but not all financial professionals use this concept in their daily routine.

In contrast, transactions between derivative writers and derivative buyers are less regulated, in part because regulators assume that the two parties involved in the derivative transac-

hold reserves and the issuers of the policies treat premiums as instant profit. Let's further assume that individual compensations are a percentage of profits each year. Under that scenario, an insurance company would be considered profitable for a while, but when claims arise in excess of current premiums, the insurance company would have to declare bankruptcy. Obviously, that would be very detrimental for insured individuals and that is why regulators impose restrictions to protect the public from such outcome. But no regulation constrained credit default swap issuers to use the reserving mechanism to ensure that they would be able to meet their obligations, and so they didn't.

So who did pay for those obligations? In some cases, shareholders of the issuing companies, who were primarily investing in the other core activities of the issuing company and not anticipating huge losses from those obligations. In cases of bankruptcy, bondholders took a hit as well. In some other cases, taxpayers ultimately paid for those losses through the government bailout. It is therefore fair to say that this category of derivatives affects not only a small group of traders, but literally the entire population. It would only make sense for issuers of derivatives to always be in a position where they can honor their obligations.

THE SOLUTION

Issuers of credit default swaps or similar types of contracts should hold reserves for the liabilities associated with the derivative contracts. Currently, those reserves are assumed to be embedded in the capital requirements, with no particular focus on the nature of the obligation. The proposed solution calls for performing a conservative assessment of the liability and requiring the writer to hold

MAJOR CHANGES NEED TO HAPPEN IN ORDER TO AVOID ANOTHER 2008 SCENARIO.

is nothing more than a simple insurance contract. The issuer acts as the insurance company, collecting premiums in return for the promise of delivering a benefit in the event of a possible loss, in this case, the default of a security. The natural question to ask is: If a credit default swap contract is essentially the same as an insurance contract, why did credit default swaps create so much damage to our economy? The answer is: reserving! More specifically, the lack thereof.

A typical insurance customer is not usually familiar with insurance solvency issues and gen-

tion are experts at what they do and therefore don't need external protections. This assumption may be generally correct, but does the ultimate investor in the entity who takes on the obligation always know what position has been taken?

Regulators impose broad capital requirements on derivative writers based on the full specifications of liabilities assumed by the issuer, rather than on a per contract basis. Liabilities are usually valued on a mark-to-market basis, which fails to capture possible worst case scenarios. Imagine a world where insurers do not

at least that amount as collateral. The writer should also be required to hold additional capital as a cushion, just as insurance companies are required to hold a minimum amount of capital in excess of carefully calculated insurance liabilities.

To remove the risk of bias, the reserving study should be prepared by a team of professionals independent of the issuing entity. Also, the final report should be signed off by a professional who has a special designation that could be jeopardized if the advice given is not proven to be consistent with professional standards. Derivative reserves, just like insurance reserves, should be calculated using both predetermined guidelines and professional judgment. A degree of conservatism is also desirable.

Proposed new regulation will require banks to hold more capital and disclose more information. No one can argue that this is not a step in the right direction, but how much capital is enough? The answer to that question lies within the assessment of the liability.

COSTS AND BENEFITS



Of course, the proposed solution implies extra costs, starting with the cost of holding the reserve. Having a professional sign-off on liabilities adds another layer of cost. The extent of this cost is correlated to the level of complexity of the derivative. This raises the question: Are the benefits from implementing reserves worth paying those expenses? To answer this question, let's look at the benefits.

1. Increase transparency

Firms issuing derivatives that promise future benefits usually have other activities in addition to their derivative operations. From an investor or analyst perspective, requiring a writer to hold reserves for each derivative contract would result in another level of transparency. This group of stakeholders may be interested in non-derivative operations and might not even be aware of the derivative activities. By holding and reporting reserves on those obligations, the issuer acknowledges its activities and puts a dollar figure on the obligation.

"As insurance products increasingly contain embedded financial derivatives and the financial derivative industry increasingly creates structures that behave as insurance contracts, it is natural that the valuation and risk management techniques of the two come closer together, thus creating a new opportunity for actuarial reserving techniques to be applied."



Mark Scanlon, FSA, CERA, MAAA, FIA, Towers Watson.

BENEFITS FOR IMPLEMENTING RESERVES

HOLDING RESERVES DELIVERS MULTIPLE BENEFITS FOR ALL STAKEHOLDERS:

1. Increase transparency.
2. Reduce agency cost problem and allow for a natural and fair compensation mechanism.
3. Select and prioritize which derivative to issue or enter in.
4. Decrease the possibility of not meeting obligations.
5. Reduce risk of a major crisis.
6. Improve or keep good reputation and attract long-term customers.





"When an insurance company makes a contractual promise, policyholders expect that promise to be backed up with sufficient reserves to pay their claims. This short article points

out why derivatives such as credit default swaps may benefit by following a few basic insurance principles. This is good food for thought, not just for insurers but for every firm that transacts in these instruments."

Prakash Shimpi, FSA, CERA, MAAA, ING Insurance US.



Furthermore, an investor could go through the financial statements of a company and make an assessment of every type of derivative contract held and determine whether he/she is willing to take the risk of such exposure. However, this approach entails a few issues. First, the potential investor may not have all the information required to make the best decision. Even if all the necessary information is available and the investor has the skills to perform such an analysis, it would take a significant amount of time to analyze the derivative contracts, validate the assumptions and make a judgment call on whether or not to proceed with the investment. However, if a professional independent expert (or team of experts) would assess this liability, a substantial part of this task would already be done and most of the current opaqueness would be reduced, enabling potentially better assessments for valuing financial institutions.

Also, derivative contracts and securities usually get packaged and repackaged multiple times before being sold to investors. This again creates opaqueness. Multiple repackaging of contracts would decrease if the writer was required to hold reserves on its liabilities, because a professional assessor would need to perform a longer and more detailed analysis of reserves, increasing the cost of issuing such a product.

2. Reduce agency cost problem and allow for a natural and fair compensation mechanism

The individuals and groups trading derivatives have one goal: to make money. But is the goal to make money for the firm, or to make money personally? In the long run or in the short run? Compensation schemes for such products have been based on short-term measures. Situations have been identified where the compensation mechanism in place at the writer focuses only on short-term cash inflows and does not take

into account the liability that the writer undertakes. Such schemes create an incentive for employees to write more derivatives, cashing in on premiums paid up front without concern for the substantial liability building up to the writer, possibly against its interest. This is known as the agency cost problem. What evidence is there that the writer is not treating premiums as profit and is taking necessary measures to meet its liabilities? Is the liability exposure adequately assessed? If yes, is there enough collateral to meet obligations in an extreme situation? Requiring the writer to hold reserves would likely lead to a compensation mechanism for derivative contracts that is more aligned with the underlying risk through the life of the product. With reserve requirements, profits (if any) will emerge over time, providing a more realistic performance measure that would reward individuals in a more prudent and fair way.

3. Select and prioritize which derivative to issue or enter in

Because capital is a limited resource, holding reserves would force issuers to prioritize their choices of which contracts they want to issue. Writers would not be able to issue as many contracts as they used to, so holding reserves would reduce leverage.

Proposed new regulation suggests limiting the amounts at stake and the scope of the institutions in their trading activities. But regulating speculation usually does not work well in a capitalist world. More often than not, it patches one hole and creates a leak somewhere else. In contrast, reserving requirements would naturally limit trading activities without the need to impose further restrictions.

4. Decrease the possibility of not meeting obligations

This point is self-explanatory: If the obligation

is assessed and funds are reserved to repay the promised liability, the issuer is in a better position to meet its obligation than if no funds are set aside.

5. Reduce risk of a major crisis

This point summarizes the benefits outlined above. The recent crisis erupted because issuers were writing as many contracts as the market would allow, without setting appropriate provisions. As long as no or few claims came in, the inflow of premiums made the contracts appear very profitable. Claims happened suddenly and rapidly, because all the underlying

the financial strength of a writer in the eyes of regulators, which again would help to build a loyal customer base. The writer would also be able to offer better rates and, all else being equal, be more profitable in the long run.

CASE CLOSED



Warren Buffett calls derivatives “financial weapons of mass destruction.” It is fair to assume that the derivatives described in this article fall into this category. On the other hand, the “Oracle of Omaha” has been investing in insurance companies for decades with conviction and suc-

HOLDING RESERVES WOULD ALSO TEND TO AMPLIFY THE FINANCIAL STRENGTH OF A WRITER IN THE EYES OF REGULATORS. ...

risks were dependent on each other. This is known as systematic risk. Sophisticated reserving methods are available to assess those liabilities. Reserving for derivatives would ultimately prevent big, out-of-control bubbles.

6. Improve or keep good reputation and attract long-term customers

Reputation is a vital attribute for any financial firm. Monumental mistakes are seldom forgiven, names are remembered, and rebranding can be very costly. The old saying “there is no such thing as bad publicity,” may not apply to government bailouts or bankruptcy. A firm that holds adequate reserves is better prepared to meet its obligations. Holding reserves could enhance a derivative writer’s reputation, attracting long-term, loyal customers and even creating a marketing advantage over other writers.

Holding reserves would also tend to amplify

cess. So why such diametrically opposed views on two types of contracts when, in essence, they are of the same nature? If reserving was done for derivatives, would Mr. Buffett still have this same pessimistic view? Hopefully, this article has addressed this question. The author believes that reserving for credit default swaps and other types of derivatives would significantly reduce most of the major problems associated with the trading of these instruments, without the need for imposing other types of regulation. ■

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