Credit swaps play vital role too

By OLIVER CHEAN

Credit financial crisis now gripping the world began last year with an increase in the number of defaults of sub-prime mortgages in the United States. But in the most recent iteration of the crisis, the focus has shifted to something called credit default swaps, or CDSs. They were one of the major causes for the near-collapse of the insurance giant AIG. CDSs have been described as unregulated instruments, arcane and toxic. Yet, like many financial instruments that seem exotic to the layman, they have their uses in the modern financial architecture. Because they will continue to have an important role in finance, CDSs need to be better understood by the public.

Simply put, a CDS is an insurance against the default of a bond. And like all insurance, there are two parties: the insurance buyer and the insurance seller. CDSs play a useful role in allowing investors to reduce the risks of the bonds they hold.

To understand how CDSs work, think of car insurance. With car insurance, the owner of the car makes regular payments to the insurer. In return, the insurer agrees to pay for damages to the car if an accident occurs.

With a CDS, the insurance buyer makes regular payments of a fixed size — the insurance premium — to the insurer. In return, the insurer agrees to pay for “damage” to the bond in the event of default by the bond issuer. The bond issuer in a CDS contract is called the “reference entity.” Default is typically referred to as a “credit event,” which is analogous to a car accident.

To understand how this works, we need to have some understanding of how bonds function. Take, for example, a 10-year bond, issued by a hypothetical Reliable Corporation, with a face value of $100 bearing annual coupons — or interest — of 7 per cent. The bondholder receives $7 annually for 10 years, at the end of which the bond matures and Reliable pays back the face value to the bondholder. But if Reliable defaults at some time before the 10 years are up, coupon payments stop. Debt resolution may take months or even years to wrap up, but the market will quickly price the bonds at a fraction of their face value. This is known as the recovery rate.

Suppose that an insurance buyer, Wong, and an insurer, Ali, enter into a five-year CDS contract using Reliable as the reference entity. Suppose also that Wong pays Ali $2 every year for every $100 face value of Reliable bonds that he holds. This is the insurance premium and is called the CDS spread. The CDS spread is usually expressed in terms of basis points, which are hundredths of a percent. In this example, the spread is 50 basis points. In the event of Reliable defaulting, Ali will pay Wong an amount equivalent to 100 per cent minus the recovery rate of the bond.

Before we turn to the recovery rate, we need to understand the economics of this CDS arrangement. If Wong owns the Reliable bond, he can use the CDS to insure against any loss in the event that Reliable defaults. During the period the CDS is in effect, Wong ends up receiving 8 per cent interest instead of 7 per cent on the Reliable bond. This is the net result from holding an 10 per cent coupon minus the 200 basis points paid for insurance, or the CDS, to Ali. Though Wong gets less than the full amount on the bond’s coupon, his principal is protected, so long as Ali is able to provide the insurance.

In the event of a default, the damage could be settled in two ways: by physical delivery and by cash settlement. In the case of the former, Wong simply transfers the impaired Reliable bond to Ali in exchange for its full face value. In the case of cash settlement, there is a well-established “credit event auction” mechanism.

Take this example: On Sept 15, Lehman Brothers filed for bankruptcy protection, a credit event. Subsequently, a credit event auction was held on Oct 10 to settle the CDSs that referenced Lehman Brothers. That auction set a recovery rate of 8.625 per cent, meaning that holders of the relevant CDSs could receive $91.375 from their insurer for every $100 face value of protection that they purchased. This is in essence the insurance payout. Accordingly, someone who held $100 of Lehman bond and also the CDS would get $100 - $8.625, the value of the defaulted bond plus $91.375 from the seller of the CDS for the damage to the bond. By contrast, someone who held $100 of Lehman bond without the CDS would get just $8.625, the value of the defaulted bond.

What determines the CDS spread? For car insurance, the better the safety records the driver has, the smaller the insurance premium will be paid. For CDSs, the less likely the reference entity is to default, the smaller the premium.

However, the analogy between car insurance and CDS can only go so far. The biggest difference is that you can buy insurance only for your own car; in the case of CDSs, you can buy insurance on bonds that you do not even own.

Let’s return to Wong, who buys insurance through a CDS. Let’s say Wong does not own any Reliable bonds. Thus, Wong is essentially betting that Reliable will default in the next five years. He pays Ali $2 per $100 face value each year. If Reliable defaults with a recovery rate of 40 per cent, Wong will get $60 from Ali. However, if Reliable does not default, he gets nothing.

Regardless of whether Wong owns the bonds or not, if Reliable defaults and Ali cannot pay $60 to Wong, then Ali will need to declare bankruptcy. Selling insurance on Reliable has significantly increased Ali’s risk. This was the situation AIG found itself in when a large number of reference entities it insured CDSs on either went into default or became a high risk to default.

While CDSs, as well as those involved with them, have been much maligned in the media, they do perform a vital function in risk management and should be viewed as a positive financial innovation.