WITH BUSINESS MANAGERS AND INVESTORS FOCUSING MORE ATTENTION ON THE RISKS OF DEALING WITH THIRD PARTIES – INCLUDING A LESS DIVERSE CUSTOMER BASE – CREDIT RISK MANAGEMENT IS MOVING UP THE CORPORATE AGENDA. ARE CREDIT DERIVATIVES THE ANSWER? **RUSSELL SCHOFIELD BEZER** AND **DOMINIC SMALLWOOD** REPORT.

A credit to your business

Industry consolidation has left many companies much more dependent on large, core customers. In order to service their needs and remain competitive, many companies have ended up warehousing large quantities of unwarranted credit risk.

The threat posed by credit risk is accentuated by the fact that it can arise in several aspects of an organisation's business processes when dealing with customers and other third parties.

Credit risk can take many forms, including:

- Operational risk on the settlement of large contracts (due to systems/bank payment failures, for example).
- Customer-related risks on trade receivables.
- Vendor financing risk.
- Risk generated from a corporation's own trading/derivatives operations.

Executive summary

- **Many companies have warehoused large amounts of unwarranted credit risk.**
- **There are many forms of credit risk and it is essential for companies to set up systems that measure and quantify each operation's inherent credit risk.**
- **A centralised risk management system will aggregate risks across different business lines for each counterparty.**
- **Credit derivatives are becoming more popular and provide users with more transparent, tradable, liquid and standardised contracts. They can also pay out and settle without the buyer having to prove financial loss.**
- **Credit default swaps – the underlying contracts in most credit derivatives – pay out if the reference entity suffers a 'credit event' such as bankruptcy.**
- **Companies with a good understanding of the credit risks that affect their businesses, and who manage them with credit derivatives, can make considerable long-term cash savings.**

- Risk in funding operations – exposure to the corporate or underlying credit market when refinancing debt.
- Pension fund risk – some funds incorporate clauses which require full funding of the pension scheme under certain circumstances.
- Project investments – risks that arise if a company makes investments for supply chain purposes, or makes investments in emerging markets.
- Risk management activities – letters of credit, performance guarantees and revolving credit facilities all have their own credit risks.

SETTING UP CREDIT RISK SYSTEMS. Given that credit risk can manifest itself in many different forms, it is vital that companies both manage and monitor it. As exposures may cancel out or add up across a company's various business lines, such risk management must be centralised.

A credit risk management system should involve:

- Measuring and quantifying the credit risk of each revenue-generating operation.
- Aggregating this credit risk across business lines into one centralised system for each counterparty.
- Establishing credit limits for all counterparties, industries, countries etc.
- Determining a cost for the additional risk generated by new transactions (based on their impact on the portfolio).
- Risk managing exposures within the set credit limits and determining appropriate action if risk limits are breached.

While these steps may seem obvious, they raise fundamental questions such as what is the precise meaning of 'exposure'? Measures and interpretations of exposure include:

- Maximum possible loss in the event of default.
- Loss of value arising from a change in the credit quality of the counterparty.
- Expected loss in the event of default.
- Replacement cost of a contract in the event of a default/change in credit quality.

Similarly, while it is important to understand the true economic value that new business generates after removing the cost of hedging it, what is less clear is how companies should allocate this cost. Establishing a framework for quantifying and measuring a company's inherent credit risk is essential in order to take an informed decision on these topics, even if the potential scenarios are unlikely.

DIVERSIFYING CREDIT RISKS. The traditional approach many managers have taken to minimising credit risk is passive diversification. This entails originating business from a sufficiently wide and diverse range of customers which are unrelated to each other (e.g. selling to different industries and/or into different countries). However, passive diversification is limited to the spectrum of available customers. Automotive part manufacturers, for example, cannot diversify outside their industry and are likely to be restricted to selling to automotive manufacturers.

Consequently, a wide range of solutions have been developed to manage and transfer credit risk. These include:

- Taking cash collateral or pledges on the assets of a counterparty.
- Selling down exposure through the securitisation of receivables and factoring programmes.
- Active hedging/diversification using insurance contracts or credit derivatives.

A wide range of tested alternatives are now available to companies that are looking to transfer credit risk, with credit derivatives and insurance contracts growing in favour.

Whilst credit derivatives may be more limited than insurance contracts when it comes to protecting trade creditors against financial losses, they provide their users with more transparent, tradable, liquid and standardised contracts. These instruments can also pay out and settle without the protection buyer having to prove financial loss – a key requirement of less transparent and less liquid insurance contracts.

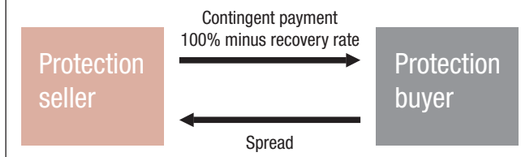
WHAT DO CREDIT DEFAULT SWAPS ENTAIL? Credit default swaps (CDS) are the basic underlying contracts in most credit derivatives. Companies buying such protection pay a running, fixed fee. In return for this they are assured a payment equivalent to any loss experienced in the event of default by the party covered in the agreement. The payment will equate to 100% of the loss minus the recovery rate – i.e. any repayments the underlying entity makes on its reference bond (see *Figure 1*).

The CDS kicks in if there is a 'credit event', for example, if the counterparty defaults on borrowings, goes bankrupt or sees a restructuring of its debt obligations.

However, some fundamental aspects of credit derivatives create a potential basis risk for corporations hedging their credit risk. Credit derivatives have been primarily developed to protect finance creditors from default by their counterparties. Therefore, if trade creditors hedge their trade credit risks with a contract referencing a financial claim, this is likely to be an 'over-hedge'.

There are, however, differences between the claims that may arise. For example, an entity may default on its debt obligations

Figure 1. How a credit default swap works



The importance of managing credit risk

Initially, credit risk was managed simply on reputation, integrity or just plain economics. In other words, higher costs would be levied against less reputable counterparties. Managers of corporations chose to focus on generating value for their investors by focusing on the products they produced and increasing net revenues from them.

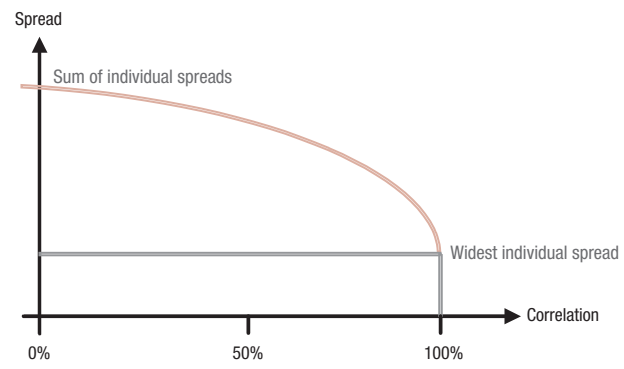
However, as industries have consolidated to create large multinationals, and the landscape has changed with the opening of new markets to investors, the means by which managers generate growth and value for shareholders has changed. Investors, likewise, have started to reward managers who best understand the risks within their businesses.

Over the last few years, credit risk has moved up the list of priorities for managers in non-financial organisations, as well as investors eager to understand the overall volatility of their investment portfolios. Accountants have also become more focused on where the risks and rewards lie in a company's balance sheets. They have started dividing the risks that are typically embedded in trade contracts between two parties and these risks are then marked-to-market. The end result is greater transparency of the 'real' risks for investors associated with, for example, increases in revenues and changes in the company's strategy. Whilst companies' credit risks are understood by the majority of their investors on a qualitative basis, marking-to-market the embedded credit risks will allow them to benchmark companies against the market on a quantitative basis.

There is no doubt that regulators and accountants are moving towards more transparent balance sheets which will ultimately reflect the embedded risks associated with a company's daily trading activities. This trend has galvanised several large listed corporations, causing them to implement centralised systems for monitoring and measuring their credit risks to counterparties across all their business lines. It has also caused them to start actively managing/hedging this risk within pre-determined, board-approved limits in a similar fashion to the way in which banks manage the credit risks of their portfolios.

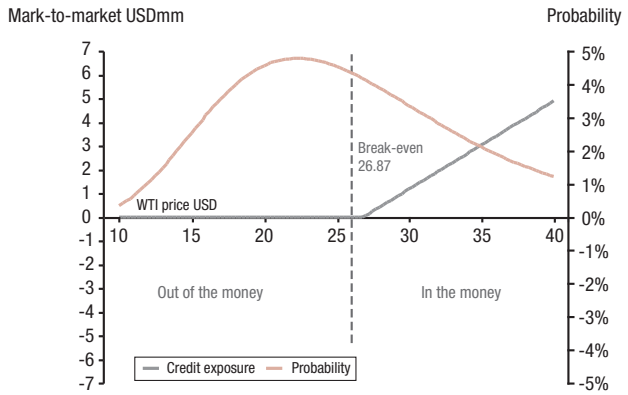
Smaller companies that have a good understanding of the credit risks across their businesses and manage them opportunistically with credit derivatives can also, in the long run, achieve real cash savings.

Figure 2. Cost of total industry hedging and first-to-default contract



Source: JPMorgan

Figure 3. Cost-efficiency of a credit contingent swap



Source: JPMorgan

but continue to meet trade obligations. Alternatively, albeit less likely, a company may default on its trade obligations and not its debt obligations. In this instance, payment under the CDS may not be triggered. However, the purchaser of the credit protection may be able to offset any loss experienced by trading the swap on since the CDS will probably have increased in market value.

Other potential areas of difference include the recovery rate on trade and financial claims. There may also be differences in the structural subordination and seniority of claims.

HEDGING APPLICATIONS OF CREDIT DERIVATIVES. CDS allow companies to hedge their credit risks to specific entities. For example, a corporate looking to hedge its credit risk to the automotive industry could enter into a CDS for each of the automotive companies which represent a credit risk. Alternatively, a more efficient means of hedging this risk may be to enter into a CDS which protects it solely against the first company to default in a pre-defined list of automotive names. A first-to-default contract will always be cheaper as a result of this (see *Figure 2*) but the contract, once activated, will then terminate, leaving the protection buyer unhedged to the remaining automotive names.

A corporate entering this agreement may be comfortable bearing this risk as, should one automotive player go bankrupt, it is likely that the remaining players will see an increase in sales and a consequent improvement in their credit qualities.

The concept of a first-to-default basket can be extended. Corporates can purchase protection on a fixed percentage (tranche) of losses on a credit portfolio. A company may be prepared to withstand 20% of losses on a portfolio but require protection for the remaining 80% of losses.

Credit protection can also be purchased on a contingent exposure basis, meaning that the company only gets protection if the exposure actually materialises. A commodity purchaser, for example, may choose to purchase protection on its oil-swap portfolio to an oil trading counterparty by entering into a credit contingent oil-swap. This is more cost-efficient due to the likelihood that the derivative will end up out-of-the-money, in which case the protection purchaser will not need the protection (see *Figure 3*).

Credit derivatives – how investors benefit

Credit derivatives were initially developed by banks in order to reduce/hedge the credit risk on their balance sheets. They have now been embraced by the credit investor community because they offer:

- **Standardised documentation – contracts are documented under the International Swaps and Derivatives Association (ISDA).**
- **Transparency – there are a wide range of market counterparties. The development of a liquid index – iTRAXX – has established a market benchmark for derivatives.**
- **No need for funding – the instruments are typically swaps where one party pays a fee and the other party pays losses subject to a pre-defined formula. Principal is not invested up-front.**
- **Low transaction costs – credit derivatives allow the buyer to achieve the same credit position as a company short-selling a bond at minimal dealing costs.**
- **A mature market – the market provides buyers with a proven and tested framework to work in which has survived various credit cycles.**
- **Correlation – credit derivatives can be structured to allow investors to add or remove credit portfolio correlation risk.**

Russell Schofield Bezer, Managing Director, Corporate Financial Engineering Group, JPMorgan.
russell.schofieldbezer@jpmorgan.com

Dominic Smallwood, Associate, Corporate Financial Engineering Group, JPMorgan.
dominic.smallwood@jpmorgan.com

www.jpmorgan.com