

## risk management

### COUNTERPARTY RISKS

Treasurers face a continual balancing act when allocating transactions among their banking group – how to give each bank sufficient business to reward them for participation in credit facilities and how to avoid overly concentrating counterparty risk in one place. There are no accolades for getting it right, but getting it wrong will be painful. It is therefore important to take a step back and consider what limits to set, allocate these to counterparties and products, put in place tools to measure actual

# At the sharp end

risk and have action plans in place should limits be breached. What the largest exposure a corporate should be able to carry against any single counterparty is a key but subjective question and needs to be tackled first. Rephrased, the question could be: "How much could the corporate lose before I lose my job?" There are many factors that impact the spread of risk (number of relationship banks, operational requirements and market value of transactions), but these should not in themselves dictate the degree of risk concentration. Losing money does not become any more palatable when a bank departs from, and consequently reduces the size of, the relationship group or when the value of investments increases.

Some objectivity can be introduced by considering the impact on borrowing covenants, though this would be a worse case scenario and does not take into account systematic risk of more than one counterparty defaulting at the same time. An alternative would be to look at the impact on published results and resources available to the company – what amount of earnings would be 'acceptable' to lose in the pursuit of higher yields and better bank relationships? How comfortable would your Chief Financial Officer (CFO) be in standing in front of shareholders explaining that concentrating risk could lead to an extra basis point or two at the risk of losing greater amounts of capital? In a value-added-driven treasury organisation, "you win some, you lose some" suddenly sounds pretty weak.

For corporates that have a listing in the US, Messrs Sarbanes and Oxley have introduced a framework that is useful. To comply with section 404 of the Sarbanes-Oxley Act (SOX), corporates are identifying threshold levels of financial loss above which amounts are regarded as significant in deciding if results are materially misstated. It is not a huge jump in logic to apply this limit to counterparty exposures.



HOW TO DEAL WITH THE EXPOSURE THAT A CORPORATE CARRIES AGAINST A SINGLE COUNTERPARTY IS AN INTERESTING DILEMMA. IAN LOCKE REPORTS.

### Box 1. Settlement risk

The most famous example of settlement risk is the failure of a small German bank called Bankhaus Herstatt. On 26 June 1974 Bankhaus Herstatt had its license withdrawn. Several of its counterparties however, had already irrevocably paid Deutschmarks to Herstatt. At about 10:30am New York time, Herstatt went into receivership and its New York correspondent suspended outgoing US dollar payments. Several of Herstatt's counterparties were left exposed for the full amount of the payments they had already made. The incident disrupted the financial markets for three days.

For articles on International Swaps and Derivatives Association see *The Treasurer* July/August 2005, page 44; December 2004 page 47; and October 2004 page 49.

For articles on Continuous Linked Settlement see *The Treasurer* March 2005, page 50.

**REVIEW THE DATA** Whatever method is used to establish a limit, this will apply to the least risky counterparties rated as AAA and allocating lower limits for lower rated counterparties will be necessary. Ratings agencies collect data on the incident of bank defaults by credit rating over time. A review of this data will enable the maximum exposure to be rebased for each notch on the rating scale. *Figure 1* shows the probability of default increasing exponentially as credit ratings fall with extrapolated exposure limits falling almost on a straight line basis.

Exposure limits are of little value unless applied continually and accurately. This means making it as easy as possible for dealers to apply the limits and understand the interaction between different rules. Systems play a key part in this and while traditionally the first a system knows about a deal is after the dealer puts the phone down, technology has advanced and now allows dealers to balance dynamic books on the basis of draft deals before dialling the bank. Knowing the economics of a trade, it is a short step for a system to provide a list of all banks with sufficient capacity to take on the trade without breaching the corporate's limits. There can consequently be no excuse for exceeding limits on inception of a deal.

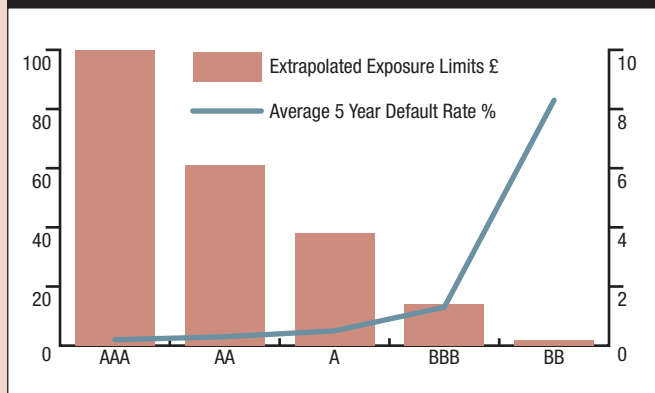
Management of exposures post-deal can become more efficient by structuring documentation to match treasury operations. Most non-deposit transactions will be covered by an International Swaps and

### Executive summary

- Treasurers need to carefully consider what limits to set to avoid concentrating counterparty risk in one place.
- Sarbanes-Oxley provides a framework on materiality of losses that can be extended to counterparty exposures.
- Management of exposures can be made more efficient by structuring documentation to match treasury operations.
- Treasurers need to think the impossible – what does happen in a doomsday scenario?

**WHAT IS CLEAR IS THAT THE MARKET HAS A TENDENCY TO OVERREACT AND BOUNCES BACK TO A CERTAIN EXTENT IN THE WEEKS AFTER A CRASH. CORPORATE SURVIVAL IN THESE CIRCUMSTANCES REQUIRES RISK DIVERSIFICATION TO BE SUFFICIENT TO AT LEAST COVER THIS PERIOD AND TO ENSURE IT IS NOT YOU THAT IS MAKING THE HEADLINES.**

Figure 1. Average 5-year default rates.



Derivatives Association (ISDA) or other master agreement and corporates can mitigate credit risks by looking closely at set-off rules. The 1992 ISDA does not permit a party to set off a close-out amount against sums due under other agreements, whereas the 2002 ISDA does permit such a set-off to take place at the election of the non-affected or non-defaulting party and the close-out calculation has also been simplified. It is therefore possible for corporates to bring in to the set-off calculation the value of any deposits not covered by the master agreement. This can be taken further by including set-off between different treasury companies where it is not possible to complete all transactions in a single entity.

Collateral can be used as a mitigation tool, but this will not remove all associated risk. Consideration will need to be given to the amount of over-collateralisation, time between asset reset dates and the implied volatility of assets taken, all of which can lead to some residual exposure being marked against limits.

Care needs to be taken where collateral is provided by more than one counterparty to ensure concentration is managed across all assets. Alternatively, investments could be placed in managed funds

**FOR CORPORATES THAT HAVE A LISTING IN THE US, MESSRS SARBANES AND OXLEY HAVE INTRODUCED A FRAMEWORK THAT IS USEFUL. TO COMPLY WITH SECTION 404 OF THE SARBANES-OXLEY ACT (SOX), CORPORATES ARE IDENTIFYING THRESHOLD LEVELS OF FINANCIAL LOSS ABOVE WHICH AMOUNTS ARE REGARDED AS SIGNIFICANT IN DECIDING IF RESULTS ARE MATERIALLY MISSTATED. IT IS NOT A HUGE JUMP IN LOGIC TO APPLY THIS LIMIT TO COUNTERPARTY EXPOSURES.**

where the corporate's risk is more diversified than could be achieved, even with a large banking group. Limits to the percentage of any particular fund held and the total amount held over all such funds may be pertinent. For example, concentration risk could be reduced by limiting investment to 10% of a fund or particular bond issue.

As a hedge, credit default swaps (CDSs) can be used to redistribute risk across a banking group; however accruing benefits are unlikely to match losses on a pound-for-pound basis. CDSs are triggered once a default has occurred in an entity and at this point a corporate has two choices: 1) hold its position until the underlying securities are delivered; or 2) sell the CDSs at a discount. Either way, it is not certain that the value received will match losses suffered and if the first choice is followed, there will be a delay in realisation of any cash.

**SETTLEMENT RISK** An aspect of exposure not covered so far is settlement risk. Thankfully, losses here are relatively infrequent and corporates would need to be pretty unlucky to lose out, but it does happen (see Box 7) and there is value in considering Continuous Linked Settlement (CLS). In reducing gross cashflows and routing them through CLS Bank International as payment-versus-payment transactions, corporates increase protection against counterparties falling over on a particular day, so long as cashflows are known the day before settlement.

A corporate can set limits based on an objective review of risk appetite and default history, it can monitor the risks undertaken and take educated steps to mitigate those risks, but what happens when it all starts to go wrong? Credit ratings move relatively slowly and there is no competition between the agencies to generate the highest or lowest rating for any particular entity. As ratings deteriorate, your banking group needs to understand the impact this has on the maximum value of transactions outstanding at any one time. Policy transparency works both ways – it makes that conversation with the bank to close out transactions less of a surprise and also encourages the banking group to find imaginative ways to increase deal size without the corporate taking on more risk.

And what happens in a doomsday scenario? Your lead bank has just folded, bringing down with it a number of other banks in the market, which has a domino effect on equity values and the bond markets generally (how much collateral did you think you had?). Is there a way of retrieving shareholder value and your career? The probability of a crash or of rating changes of more than two notches in a year is very low (less than 0.25% for the latter) and from the two large crashes in 1929 and 1987, what is clear is that the market has a tendency to overreact and bounces back to a certain extent in the weeks following a crash. Corporate survival in these circumstances requires risk diversification to be sufficient to at least cover this period and to ensure it is not you that is making the headlines. Boards however need to approve and understand policies in order to be prepared for the unexpected.

Of course, in the absence of a sufficiently large mattress, counterparty risks could be removed completely by not hedging exposures and by returning surplus cash to shareholders, thereby passing the issue to them to deal with. Aren't we employed as treasury experts to add to, or at least preserve, shareholder value though?

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