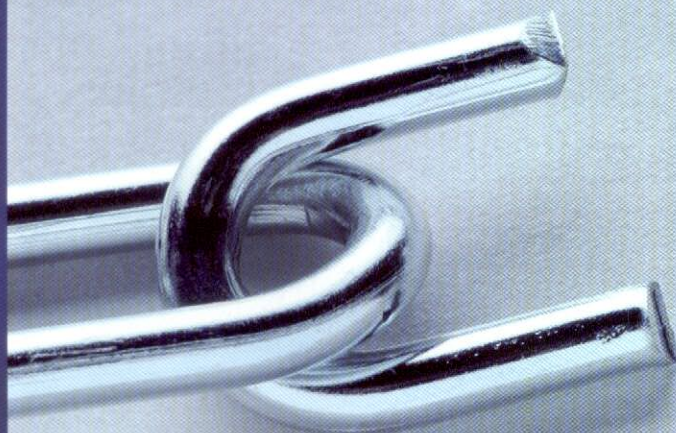


- ◆ Can suppliers and customers meet their obligations?
- ◆ Intelligent lending
- ◆ Make use of all information



In the early eighties, against the backdrop of volatile market prices, bankers, traders and commodity exchanges adopted value at risk (VaR) calculations as the foundation on which to manage exposures that would only crystallise in the future.

The widespread deregulation of markets for all sorts of commodities, as well as financial instruments, and the increasing use of future fixed-price purchase and sale contracts, has seen the associated performance risks spread far beyond the realms of inter-bank, trader and commodity exchange dealing.

The application of the bankers', traders' and exchanges' existing techniques – involving VaR calculations and margining – has likewise spread.

This article is purely my own view and not necessarily that of my company, and examines whether commercial credit managers should accept the use of the 'VaR and credit VaR, margining and the right to sue to recover damages' formula as the most effective way to manage performance risk and add value to their businesses.

#### Performance risk

In light of the volatility of input and energy prices many firms are or will be considering buying forward at fixed prices, and selling forward at fixed prices, on term contracts. Such contracts create performance risk.

Performance risk is not the same as

credit risk. The latter is the risk that a counterparty will not pay an invoice in full, on the due date. Performance risk is the risk that a counterparty will not deliver or will not accept delivery of a physical product or service, at the agreed price, on the agreed future date or series of dates.

A company that relies on a forward contract – a contract that is at inception intended to be settled by transfer of ownership of a physical good in exchange for cash – will either lose a profit opportunity, or incur an actual cash loss, if its counterpart to the contract fails to deliver or accept the goods in question at the price contracted on the agreed future date.

If the company that relies on such a forward contract is able to pass on to its customers the increased cost of purchasing substitute goods, it may simply have lost an opportunity to realise the higher profit margin it would have made if its supplier had not failed to deliver. However if the same company had itself contracted to deliver its final product at a fixed price, relying on the fixed input price agreed with its raw material, energy or transport supplier, it would suffer a cash loss when meeting its obligation to its customer.

This illustrates that performance risk has two main elements; firstly the question of whether or not the counterparty will meet its obligation to deliver the agreed product of agreed

quality in the agreed quantity at the agreed price on time, and secondly what the quantum of the loss would be if the counterparty were to fail to meet its obligations.

The focus of credit management practices so far, in respect of performance risk, has been on attempting to quantify the maximum likely amount of the loss that would be incurred by each party should the other fail. It is in dealing with this challenge that 'marked-to-market' (m2m) and VaR analysis tools have been adopted.

Once the possible potential future exposure (PFE) is quantified using these tools, credit managers have turned attention to assessing whether a counterparty that failed to deliver or purchase could and would pay damages, at that maximum likely level.

In this respect it is usual for the credit risk-related probability of default (PD) and loss given default (LGD) factors to be applied to the VaR calculation in order to complete the assessment. Since credit risk and performance risk are fundamentally different in nature, application of the PD and LGD factors is inappropriate.

In seeking to ensure a counterparty will pay in due course, creditors have employed margining techniques; together with the inclusion in forward contracts of the rights to require the provision of risk-mitigating collateral – guarantees or cash – in defined circumstances,

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# CAN YOU TRUST YOUR SUPPLY CHAIN?

As well as calculating the credit risk of your company's transactions, it may also be a good idea to consider the risk you may face if any of your suppliers or customers fail to keep their end of the bargain

By Ron Wells

and to sue for liquidated damages.

These techniques for calculating PFE and assessing potential risk seriously inhibit the propagation of additional profitable business for transactions that do not involve banks, major commodity trading houses and exchange traded instruments.

## Value at risk

VaR calculations are mostly useless for the purpose of estimating the possible future exposure in relation to commercial transactions. This is because they are always based on the assumptions that future prices can be predicted based on the trend and volatility of prices observed in the past, and that relevant price trend and volatility data are available.

In the first case it is clear that, no matter how elegant the formula used or how many tens of thousands of iterations are run through powerful computers, the future cannot be predicted with any certainty based on the extrapolation forward of past statistics.

In the second case, most commercial markets for physical goods are micro-markets dependent on the supply and demand for goods of a particular specification at the particular time they are required, at the particular place where delivery is desired.

Trying to fit commercial physical delivery of a particular type of good, made in certain quantities at a particular place, with associated transport costs, into a calculation based on a similar class of good traded on an exchange in another country or region inevitably produces misleading results.

## Margining and legal redress

Most commercial end users of products do not have the cash or the bank lines available to provide daily settlement of

the m2m amount that would, in theory, be due to the supplier should the buyer become bankrupt within 24 hours.

The m2m amount referred to is the difference between the agreed forward fixed price and the calculated or published potential future market price, hence the potential loss that the supplier would suffer if the future price is lower than the fixed forward price agreed. Most such buyers would also, in all probability, be judged not to be financially able to pay the calculated maximum potential future exposure.

## When credit management repeatedly declines potentially profitable business it fails in its primary objective

The upshot of an insistence on margining and legal redress based on VaR calculations (potential m2m variances) is therefore all too often the failure to secure otherwise profitable business transactions. When a credit management function repeatedly declines potentially profitable business it fails in its primary objective, which is to actively manage credit and performance risk, not to avoid or eliminate such risk.

As the demand for goods and services has spread across the planet, with the growth of construction, industrialisation and consumerism in emerging markets, the demand-supply balance for many products has destabilised leading to increased price volatility.

This leads businesses to turn towards forward fixed-price or linked-price purchase and sales contracts to better predict profitable operations. Thus credit professionals need to find ways to effectively manage performance risk.

There must be many solutions, so it is hoped that this article will stimulate

thought and discussion, leading to development of some alternatives to be included in the profession's body of knowledge in due course.

## Opportunity motive and means

One possibility when considering performance risk, as opposed to credit risk, may be to consider:

◆ Is the counterparty sufficiently hedged to tolerate any foreseeable potential future exposure? Does it have a strategy or an arrangement that will enable it to manage in the face of adverse price

change, perhaps by having in place an opposite position or an ability to adjust its retail prices to compensate?

◆ Is the counterparty motivated to meet its commitments?  
◆ Will the counterparty have the financial means to pay?

## Building a performance risk management process

Possible building blocks for a performance risk management process could be:

◆ Scenario planning as a basis to estimate the potential future exposure (opportunity).  
◆ A performance risk scorecard to produce a probability of performance default (motive).  
◆ A recovery rate model to estimate the loss given default (means). **CCR**

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