APPRAISING FINANCIAL GUARANTEES

ACCOUNTING, FINANCE AND LAW CAN BE HARNESSED TO APPRAISE THE IMPACT OF FINANCIAL GUARANTEES ON CORPORATE RISK VALUE AND RISK. **ROGER LISTER**, **ROSE BAKER** AND **JUDITH ROSS** AT SALFORD UNIVERSITY EVALUATE THIS OPPORTUNITY.

The ability – even the intention – of published financial reports to present a true and fair view is under attack more than ever before. As a result, accountants, auditors and their regulators seek every opportunity to report transparently every source of value and risk. While exotic new credit derivatives enjoy the full glare of standard-setting, financial guarantees receive relatively cursory and even contradictory attention, despite their growing significance and close affinity to other credit derivatives, notably credit default swaps (CDS). Fortunately, a mass of multi-disciplinary thought is available which, duly co-ordinated and unified, will improve corporate value and stability and lead to truer and fairer corporate reporting.

CONTINGENT LIABILITIES. Financial guarantees are one of the more visible contingent claims. Contingent claims are, formally, possible obligations that arise from past events and whose existence will be confirmed only by the occurrence of one or more uncertain future events not wholly within a company's control. Financial guarantees may be free-standing, form part of an investment decision or fit into financing architecture as with asset-backed securitisation (ABS). In the case of ABS, risk-averse investors will favour reliable intra-group guarantees, as well as guarantees with banks, insurance companies and other intermediaries.

FINANCIAL REPORTING. Two sets of accounting standards can be distinguished. They address separately:

▪ provisions and contingent liabilities; and
▪ classification, presentation and disclosure of credit derivatives.

The UK's *Financial Reporting Standard 12 (FRS 12) on Provisions, Contingent Liabilities and Contingent Assets*, issued with revisions in 2001, was developed jointly with the International Accounting Standards Board's (IASB) IAS 37. The two do not differ in substance. FRS 12 provides that so long as events remain contingent, their potential detriment or benefit should not normally be included in the body of an income statement or balance sheet. However, a

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company must, at the least, explicitly disclose and describe each class of contingent liability. It must provide an estimate of its financial effect, timing, and probability of reimbursement with appropriate use of discount rates. The likelihood that the liability will crystallise needs to be appraised to decide whether to account for it as an actual provision against profits, as a note to the accounts, or not at all. A contingent asset is to be appraised in a similar way.

Consonant with its commitment to the EU regulation requiring listed companies to prepare their consolidated financial statements in accordance with adopted international accounting standards, the UK Accounting Standards Board (ASB) addressed credit derivatives in its *Financial Reporting Exposure Draft 30* (FRED 30). This was published in June 2002 to coincide with the publication of exposure drafts of revised versions of the IASB's *IAS 32 Financial Instruments Disclosure and Presentation* and *IAS 39 Financial Instruments: Recognition and Measurement*. FRED 30 is intended to apply to periods beginning on or after 1 January 2004. In 2001, The British Bankers Association (BBA) issued a revised version of its 1997 Statement of Recommended Practice (SORP), which became effective in December 2001. In October 2002, BBA extensively criticised the IASB's proposed amendments to the IASs.

The economic affinity of credit derivatives to financial guarantees is most marked in the case of the CDS. Like the financial guarantee,

TABLE 1

PARAMETERS OF VALUE OF A FINANCIAL GUARANTEE.

Parameter	Effect on value of guarantee	Reason
1 Increase in the bond issuer's assets available to the creditor.	Reduces	Creditor gains less by exchanging the actual bond for the promised payment.
2 Increase in the volatility of the bond issuer's assets.	Increases	There will be more circumstances in which the guarantee is worth exercising.
3 Increase in the amount due from the bond issuer.	Increases	Increases the amount due from the guarantor.
4 Increase in the time before the bond issuer must repay.	Increases or decreases	Increase: there is more opportunity for the bond issuer's assets to move – ie, more volatility. Decrease: present value of receipt from the guarantor is reduced.
5 Increase in the risk of the guarantor.	Decreases	Risk-adjusted value of the guarantee is reduced.
6 Increase in interest rates.	Decreases	Present value of the receipt from the guarantor is reduced.

a CDS is a bilateral financial contract that isolates the credit risk of a reference credit and transfers that risk from one party to another. The CDS similarly compensates on default but, unlike the traditional guarantee, can also cover other occurrences connected with credit, such as a rating downgrade. Like the financial guarantee, the CDS is an option in which the holder – the protection buyer – can swap the reference asset – the loan – for cash equal to the par value of the reference asset.

Given the similarities between credit derivatives and financial guarantees it is far from ideal that the values resulting from applying the 'provision and contingent liability' standards will only fortuitously coincide with the result of using the standards designed for credit derivatives. This means that items closely related economically and which impinge analogously on value and risk are not being reported together or consistently. At the least there is a case for valuing financial guarantees with the same rigour that is accorded to credit derivatives.

VALUING FINANCIAL GUARANTEES. Robert Merton and later developers of the Black-Scholes option pricing models articulate the fact that financial guarantees are *de facto* put options. Buying a risk-free bond is like buying a risky bond with a put option that will save the holder from any default on the bond. Buying a risky bond is like buying a risk-free bond and simultaneously guaranteeing the risky bond:

- risk-free bond = risky bond + guarantee
- risky bond = risk-free bond - guarantee

The guarantor has provided the risky bondholder with a valuable put option. Developments of the models deal with special cases including the risky guarantor and the single guarantee for a portfolio of loans with stochastic interest rates. The determinants of the value of a financial guarantee reflect its character as a put option (see *Table 1*).

Merton and his successors combine the above parameters for various sets of assumptions and circumstances using the idiom of

the Black-Scholes option pricing model (see appendix). It is a challenge that the Black-Scholes requirements are even harder to model for financial guarantees than for the more common stock market applications of the model. Assumptions such as continuous trading are unlikely to be met. Yet it is possible to incorporate real-world features including lack of continuous trading and time-varying volatilities and interest rates, the result being a meaningful estimate of the value of the financial guarantee.

At the heart of the appraisal is an estimate of the likelihood of default by both debtor and guarantor. This has been facilitated by a range of models within which the 'structural' and 'intensity' (sometimes called 'reduced-form') approaches can be distinguished. Both are rooted in option pricing theory. The basic difference between them is that, in the former case, the probability of default is primarily sought inside the corporation. In the latter case, the focus is on overall market behaviour.

The seminal structural model was by Merton, who modelled risky debt in option terms. He is the source of the KMV model developed in the 1980s by Kealhofer, McQuown and Vasicek, which is still widely used in the bond rating industry.

In short, financial guarantees have an appraisable market value. It would give a truer and fairer view if this were estimated with the same care that is accorded to economically cognate newer instruments such as credit default swaps, total return swaps and credit-linked notes. To treat the two differently is economically inconsistent.

THE LAW. The accounting discipline addresses financial reporting of guarantees. The theory of finance addresses parameters of value. Legal aspects of a guarantee impinge on both financial reporting and value, since the legal status of a guarantee is crucial to the value of the variables used in financial reporting and valuation. The following issues in law are particularly germane:

- the distinction between guarantee and indemnity;
- the relative rights and obligations of the parties; and
- the status of co-guarantors.

APPENDIX
The Black-Scholes formula for the price of a put option.

The Black-Scholes formula calculates the price of a call option to be:

$$C = S N(d1) - X e^{-rT} N(d2)$$

where:

C	=	price of the call option
S	=	price of the underlying stock
X	=	option exercise price
r	=	risk-free interest rate
T	=	current time until expiration
N()	=	area under the normal curve
d_1	=	$[\ln(S/X) + (r + s^2/2) T] / s T^{1/2}$
d_2	=	$d_1 - s T^{1/2}$

Put-call parity requires that:
$$P = C - S + Xe^{-rT}$$

Then the price of a put option is:
$$P = Xe^{-rT} N(-d_2) - S N(-d_1)$$

Assumptions:

- a lognormal model for stock price movement (random walk);
- no transaction costs;
- no dividends;
- no arbitrage opportunities;
- continuous trading;
- one risk-free interest rate to borrow and lend;
- constant interest rate; and
- constant volatility.

THE DISTINCTION BETWEEN GUARANTEE AND INDEMNITY.
The remoteness of the contingent claim comprised in a guarantee depends on this distinction. If the contract is legally a guarantee, the liability of the guarantor is secondary. If the contract is legally an indemnity, the liability of the indemnifier is primary. But the distinction affects more than the remoteness of the obligation. It also affects the amount payable. The liability of an indemnifier is legally independent of the amount of any liability that may arise between the principal debtor and the creditor. A contract of indemnity is a contract to keep the other party harmless against loss. The obligation is not conditional on default by the original debtor. The indemnifier is not necessarily discharged by reason of the performance by the principal debtor of his obligations or if that obligation becomes void or unenforceable. In contrast, a guarantor's exposure is more limited. The guarantor undertakes to be responsible, in addition to the principal debtor, for the due

performance of the principal debtor's obligations to the creditor, if the principal debtor fails to perform them.

The above distinction should not lead the appraiser of a guarantee to overestimate its remoteness. The popular concept of a guarantor who is vulnerable only after all remedies against the principal debtor have failed is an oversimplification that could lead to serious errors of valuation. However true, the popular concept may be for countries whose systems remain strongly influenced by Roman law. English law produces a rather more vulnerable guarantor along the lines of the definition in Halsbury's Laws of England: "On default of the principal debtor causing loss to the creditor the guarantor is, apart from special stipulation, immediately liable to the full extent of his obligation without being entitled to require either notice of default, or previous recourse against the principal or simultaneous recourse against co-guarantors."

THE RELATIVE RIGHTS AND OBLIGATIONS OF THE PARTIES:
- **Co-extensiveness.** Co-extensiveness addresses the relationship of guarantor to principal debtor. The amount, incidence and conditions of a guarantor's obligation are the same as for the principal debtor, although this general rule can be varied by restrictions agreed among the parties; and by the court. Rights include damages, even if not explicitly stated, since the guarantor is personally liable for the debt, default or miscarriage in respect of the contract to the same extent as the principal, being liable to pay the creditor a sum of money for the loss he thereby sustained.
- **Subrogation.** Subrogation addresses the relationship of guarantor to creditor. The right of subrogation entitles the guarantor to the same rights as the creditor against the principal debtor. To value and appraise the risk of a guarantee it is therefore necessary to evaluate any securities priorities and remedies that were available to the creditor before the principal obligation had been performed.
- **The status of co-guarantors**. Any exercise in evaluation must ask: how far will the risk of the liability or asset in question be shared with other parties? This issue arises most explicitly as the narrower question: how far is the value of the guarantee affected by the presence of co-guarantors? A guarantor can before payment compel his co-guarantors by action to contribute to the discharge of the common liability. The right of contribution from co-guarantors arises whenever (a) the surety and his co-surety have guaranteed a common liability; (b) the surety has paid more, or is about to pay more, than his rateable proportion of the total guaranteed debt; and (c) the right to contribution has not been contractually excluded or lost. A joint guarantor is liable to another if the other makes a voluntary payment.

Financial guarantees are an increasingly important component of financial architecture and corporate risk management. Economically, they have a close affinity to certain credit derivatives. Financial reporting should evolve to reflect this consistency, as should financial planning, control, risk management and valuation. The increasing body of knowledge and thought should be harnessed towards improved understanding of the impact of financial guarantees on corporate wealth and stability.

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