

Cost of borrowing and credit risk management

Technical advances and improved practices have altered the way banks measure and manage their credit portfolios. Matthew Bridgwater looks at the changes.

For many years, the methods used by banks to measure and manage credit risk on their lending portfolios barely changed. But this has now begun to change rapidly, as technical innovation and better practice is pushed through by the regulators. In the near future, corporate borrowing costs will be priced using these new methods. This article describes the main changes, the likely impact on borrowing costs, and how credit management innovations developed in the banking industry may be utilised by companies.

Internal rating models

A bank that is owed money by a counterparty, whether in the form of a loan, bond or derivative, is obliged to hold a certain amount of regulatory capital as a cushion against the risk of that counterparty defaulting on the debt. The amount of capital required is determined by a table of risk weights, that are supposed to correspond to the relative riskiness of that counterparty type.

For example, if a counterparty is lent £100, the capital requirement would be £8 if the counterparty were a corporate institution, or £1.60 if it were a bank. Additional capital is therefore required for the corporate relative to the bank. But, is this a fair reflection of the relative risks if, for example, the company is rated triple-A, whereas the bank is rated A? Clearly not.

Many such injustices exist, and these lead to some inequitable debt pricing by the banks. Capital costs money to hold and so in the previous example, a higher 'capital spread' is priced into the triple-A loan than would be priced into the single A loan. However, the cost of having to hold additional capital is effectively magnified. The reason is that banks have a limited capital base and rather than having it used up by relatively low-yielding, highly rated corporates, they may prefer to hold lower

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rated debt of other entities that give a higher yield for a lower capital usage.

The concept of the internal ratings model (IRM) was introduced by bank regulatory bodies to reduce the regulatory capital-induced distortions in the lending markets. This suggests that bank regulatory capital will be based on credit ratings deduced in-house by the lending banks, using their own models. The rules are likely to be implemented by the Financial Services Authority (FSA) within two years, but the main banks are already refining their existing models.

Banks currently take into account many quantitative and qualitative factors when pricing a corporate loan. Quantitative factors may include financial accounts ratio analysis, cashflow and balance sheet forecasts, whereas qualitative considerations include the quality of the corporate management, strategy and competitive environment. The degree to which this process is formalised and the element of credit officer judgement allowed in the decision, varies from bank to bank.

The IRM will lead to two main changes in this environment:

- credit policies are likely to be tightened and the levels of judgmental flexibility curtailed; and

- many of the quantitative considerations will be mathematically mapped to credit ratings using statistical models, hence further reducing judgmental flexibility.

The IRM approach will generally have a number of effects on corporate borrowers and bond issuers. Significantly, the cost of borrowing for some higher-rated entities may fall, whereas the cost for lowly-rated entities may rise. To determine this credit rating, corporates are likely to undergo more focused scrutiny by the banks. But at least the resulting cost of borrowing will be more specific, and hopefully equitable, to the particular business concerned.

Finally, methodologies used by banks to rate counterparties will rely to some extent on some key corporate performance statistics and accounting type ratios, as we will explain below. It is important that the company becomes aware of how factors such as an increased stock market volatility may cause a credit downgrade and therefore increased borrowing costs.

Credit portfolio models

Traditionally, the credit credentials of a potential counterparty were considered on a case-by-case basis. For example, the pricing of a loan to, say, Ford would be unrelated to the price of a loan to Bridgestone. However, many banks have developed models that measure the credit risk on their entire lending portfolio on a portfolio basis.

Such models explicitly price-in the degree of default correlation between companies. Continuing the example, if it was determined that if Ford went bankrupt that there was an increased likelihood of Bridgestone going bankrupt, then the price of a loan to the latter, once a loan had been made to the former, would be marginally higher.

In a few years' time it is likely that

such models will be used for calculating regulatory capital, but in the meantime, banks are already beginning to implement them for measuring economic capital. Consequently, the price impact of default correlation will be sooner rather than later.

The implication from portfolio models is two-fold:

- loans will become proportionately cheaper for companies uncorrelated to other industries in the lending banks portfolio; and
- because a bank's portfolio will be more diversified if made up of many small loans rather than a few large loans, smaller loans may become proportionately cheaper.

Pricing

It is clear therefore that lending will become 'scientifically' priced in the future, which should be fairer all round. The pricing will depend to a large extent on three key factors for each institution, namely the loss given default (LGD), the probability of default (PD) and the default correlation between that institution and other counterparties in the lending portfolio.

The LGD is defined as the proportion of a loan/bond that would not be recovered if the counterparty defaulted on the debt. For example, if on a £100 loan to a bank it was determined that if the bank defaulted, the lender would only recover £40, the LGD would be 60%. If the probability of default on the debt were assumed to be 2%, then the expected loss on the loan would be given by $£100 \times 60\% \times 2\% = £1.2$. The expected loss calculated in this way is typically what is used to assign an internal credit rating.

To determine a credit rating then, the PD and LGD for an institution need to be estimated. Although numerous methods exist, both of these numbers are extremely difficult to reliably determine. However, both are likely to be effected by factors such as key accounts

ratios (for example, quick ratio, gearing and so on), bond credit spreads in the market, volatility of the company's equity price, and the quality (marketability) of the company's assets.

A company should endeavour to research which key areas will most effect its rating and hence the cost of borrowing and be aware that factors such as stock volatility or a decision to buy intangible assets than buildings may well effect its rating.

Leaves from the banking book

Several developments and ideas from the banking sector could be used by businesses to improve their own approach to credit risk, in managing, for example, trade receivables. These include the following:

- ideally, companies should consider the credit rating of a potential client before advancing a credit line, and use that rating to define a exposure limit. The rating should be continually reviewed for signs of downgrade or a potential repayment problem. In practice, to purchase such ratings research or to perform the research internally may require resources beyond those available to the company. But this information is becoming increasingly available freely on the internet. Enron, for example, provide relevant and continual data for thousands of corporate names. Firms should make use of this information to keep a check on the credit quality of its main trade debtors;
- company credit officers can learn the basics of how banks rate counterparties and apply similar techniques to appraise the credit worthiness of potential credit customers. This may be particularly useful for smaller firms where publicly available ratings data is scarce. Furthermore, in understanding the drivers of a credit rating process, companies can make more informed strategic business decisions, estimating how those decisions may

- effect their own rating; and
- other innovations in credit risk management, particularly in the form of credit derivatives, have enabled banks to take a more proactive role in managing their balance sheets. Corporates could do the same. For example, a bank can free up a credit line by buying default option protection on that credit, using the premium raised in selling protection on an unneeded line. Alternatively, the bought protection could be in the form of insurance which may be cheaper.¹

Conclusion

The future cost of borrowing will be more scientifically determined based on key factors such as a corporate probability of default and the likely losses in the event of default. The role of relationship banking may be reduced as loan pricing is cut down to levels driven by risk-adjusted return on risk-based capital considerations.

Companies should therefore become more aware of the factors that will effect their credit rating, and the impact of strategic decisions on their cost of borrowing. ■

Matthew Bridgwater is a Director at Deloitte & Touche

matthew.bridgwater@deloitte.co.uk

Note

¹ It can be argued that default options are overpriced relative to insurance owing to the fact that the former price is implied from corporate bond spreads, assuming the spread relates to the corporate default probability. In reality, such spreads typically contain much more than pure default information, and may be widened due to structurally low demand for example. ■

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