

A LOAN TOGETHER

Derivatives are now being used to manage the most important dimension of financial risk – credit risk. In the second of two articles, **Ming Wong** and **Shang Song** show how credit derivatives are increasing liquidity and efficiency in the financial markets

AS WE DISCUSSED LAST ISSUE, banks can use credit derivatives to reduce their exposures to particular credits while maintaining their lending relationships. This means they can dynamically manage the exposures of their balance sheets and improve returns on capital.

We saw how the credit paradox forces many commercial bank loan portfolios to concentrate credit risk geographically and by industry. This situation causes many pricing inefficiencies in the credit markets. From a portfolio theory standpoint, banks should clearly diversify their loan portfolios and are, therefore, not necessarily the best holders of the loans they originate. On the other hand, institutional investors such as insurance companies, hedge funds and money managers often see these loans as sources of better yield and diversification. Until the advent of credit derivatives, however, they had little access to them. The result is that credit risk is sub-optimally held across financial institutions and investors.

The greatest potential of credit derivatives is their ability to link these diverse market segments, promote the efficiency of origination and holding of credit exposures, and, ultimately, increase the liquidity and efficiency of the overall financial market.

We will now look at several examples of how credit derivatives allow investors to access the bank loans

market. The advantages to investors include the ability to obtain credit exposure to a new class of assets within the capital structure of the same company and to companies that have not issued any fixed-income securities. The latter case is more common in emerging markets (including Asia) where the bank loans market is much more developed than the capital markets. Finally, we will see how a hedge fund is able to use credit swaps to leverage their exposures to obtain a higher return on capital.

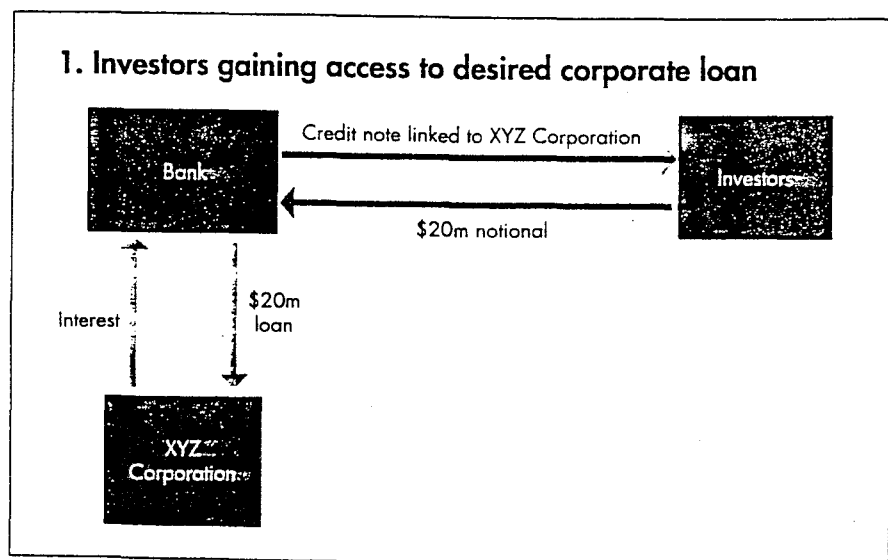
Credit-linked notes

It is well known that loans and bonds, although offering similar credit exposures, are frequently priced differently. This difference reflects the needs and demands of different investors who "buy" the credit and the fact that, until now, there has been no easy way to bridge the gap between them.

Loan exposure has, until recently, been limited to banks because of their access to detailed customer financial information and ability to offer revolving lines of credit. Every bank has a group of "core" clients to whom it has superior access, and it tends to build depth and expertise in the particular industries of these clients. As a result, the same bank is often chosen as the originator of loans for these clients.

Investors, such as insurance companies and fund managers, often see bank loans as an attractive way either to pick up incremental yield or to diversify their portfolios. But there are many reasons that prevent them from investing in loans. Firstly, these non-traditional investors have little direct access to the loans market. None of them are set up to handle the many administrative details in loans, and few of these investors have the strong balance sheets necessary to weather the inevitable ups and downs common with many corporations. For this last reason, few corporations would want to deal with these investors directly, preferring instead to deal with a select group of the top-tiered banks that they believe will be with them through thick and thin.

Yet these non-traditional investors can be the most efficient holders of loans. They can operate without the relationship bias of banks, which can lead to irrational pricing and portfolio concentrations. These investors are also more likely to adopt a disciplined approach to pricing the credit risk of each loan, leading to a continuous pricing structure as opposed to the



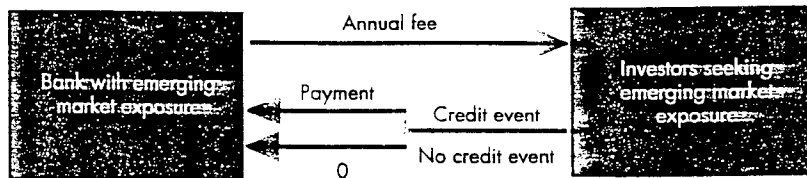
CREDIT LINKED NOTE: SAMPLE TERM SHEET

Issuer	Bank
Issue amount	US\$10 million
Maturity date	Three years
Reference party	XYZ Corporation
Principal redemption	100%, subject to credit event provisions below
Issue price	100%
Interest	Subject to credit event provisions below, interest shall be payable in US dollars on the maturity date (calculated on an actual/360 basis) at a rate determined in accordance with the following: three-month US dollar Libor plus x%
Financial obligations	Any financial obligation (whether contingent or not and including without limitation financial obligations under swaps, options or other derivatives transactions) incurred by the reference party in any capacity (whether principal, guarantor or otherwise) provided that such financial obligation has a face or principal amount (or in the case of an obligation under a derivative transaction, a notional principal amount) of at least US\$1 million (or its equivalent in any other currency)
Credit event	(i) Reference party defaults or fails to make any payments (irrespective of any notice or grace period) under any financial obligations; and/or (ii) Reference party (1) is dissolved; (2) becomes insolvent or is unable to pay its debts or fails or admits in writing its inability generally to pay its debts as they become due; (3) makes a general assignment, arrangement or composition with or for the benefit of its creditors; (4) institutes or has instituted against it a proceeding seeking a judgment of insolvency or bankruptcy or any other relief under any bankruptcy or insolvency law or other similar law affecting creditors' rights, or a petition is presented for its winding-up or liquidation; (5) has a resolution passed for its winding-up, official management or liquidation (other than pursuant to a consolidation, amalgamation or merger); (6) seeks or becomes subject to the appointment of an administrator, provisional liquidator, conservator, receiver, trustee, custodian or other similar official for it or for all or substantially all its assets; (7) has a secured party take possession of all or substantially all of its assets or has a distress, execution, attachment, sequestration or other legal process levied, enforced or sued on or against all or substantially all its assets; (8) causes or is subject to any event with respect to it which, under the applicable laws of any jurisdiction, has an analogous effect to any of the events specified in clauses (1) to (7) (inclusive); or (9) takes any action in furtherance of, or indicating its consent to, approval of or acquiescence in, any of the foregoing acts; and/or (iii) A waiver, deferral, rescheduling or other adjustment occurs in respect of any financial obligation of reference party and the effect of such waiver, deferral, rescheduling or other adjustment is that the terms of such financial obligation are, overall, less favourable to the relevant creditor or counterparty as determined by the calculation agent (iv) Any moratorium or suspension of payment or any act which has a similar effect is declared by or imposed on the reference party
Credit event provisions	On the occurrence of any credit event in respect of the reference party, as determined by the calculation agent, the issuer may, at its option, deliver, transfer or assign any reference obligation of the reference party to whom the credit event relates to the order of the purchaser in lieu of its obligations to make any principal redemption or interest payments. Once the delivery, transfer or assignment of the relevant reference obligation is made pursuant to the above, the issuer shall not be obliged to make any further payments of any kind. "Reference obligation" means any direct or indirect (including, without limitation, any indirect rights that any trustee on behalf of a class of creditors has by way of security or otherwise) obligations of or rights against the reference party (and whether or not including obligations of or rights against third parties) as determined by the calculation agent, which shall rank <i>pari passu</i> with all present and future unsecured and unsubordinated obligations of the reference party
Form	Private placement – registered note
Governing law	English

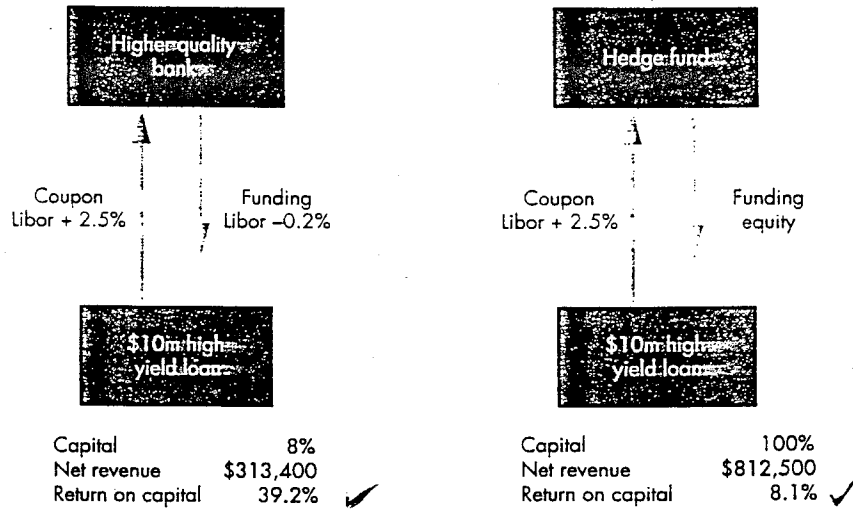
more rigid binary pricing seen in the traditional bank loan market. Credit derivatives have made it possible for institutional investors to gain exposure to corporate loans. These new investors will improve the liquidity of the loans market and ultimately allow corporations to fund more cheaply and efficiently.

As shown in figure 1, after funding the US\$20 million loan to XYZ Corporation, the bank can sell a credit note linked to XYZ to investors. (See box for a sample term sheet of a credit-linked note.) The investors take on all the benefit and credit risk associated with the XYZ loan without actually putting the underlying in-

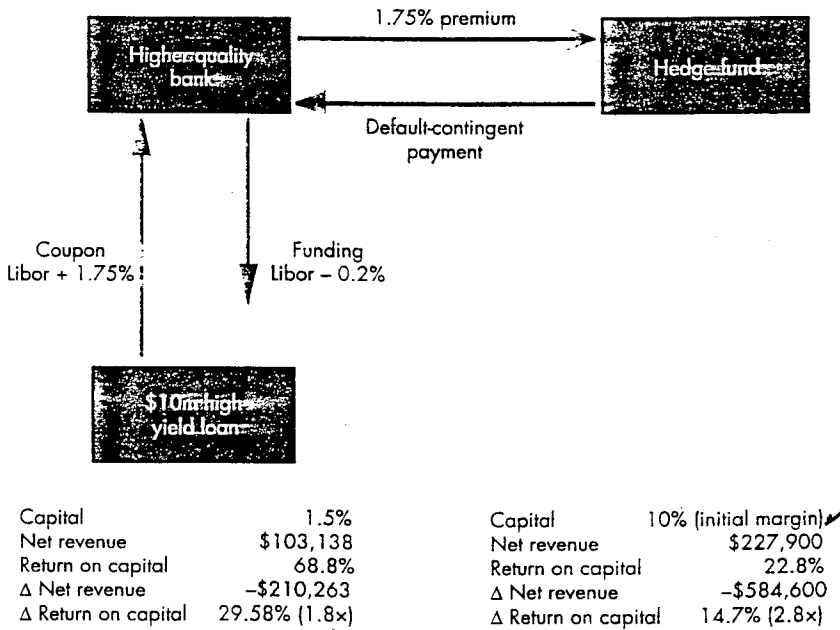
2. Investors gaining access to emerging market credit



3. Returns on capital for bank and hedge fund without credit derivatives



4. Returns on capital for bank and hedge fund using credit derivatives



strument on their balance sheet and incurring additional expenses.

With the credit-linked note, a variety of investors including insurance companies, hedge funds and mnc managers, can now get exposure to bank loans in a security form. Thus, investors who like the economics of loans can participate without the administrative burden or infrastructure expenses.

Emerging market risk

Emerging market credit derivatives account for the largest share of the total outstanding volume of credit derivatives. The reason for this is that credit derivatives provide investors with an easy tool to obtain credit exposure in the emerging markets.

For investors, credit derivatives can be used to synthesise assets that are difficult or impossible to purchase directly. Investors can have an investment tailor-made to their choice of credit structure, maturity and currency. For banks, derivatives can be used to hedge specific elements of a foreign loan, such as the sovereign risk of default and currency convertibility.

The following example looks at how a bank that is concerned about sovereign risk and currency convertibility is able to continue lending to a foreign client by buying a default put to hedge against the risk of the foreign government defaulting or imposing exchange controls on its currency (see figure 2). The bank pays its counterparty (which can be an investor looking for exposure in that foreign country) an upfront fee. In exchange, the investor will make a payment of a predetermined amount to the bank if a credit event occurs at any time during the life of the transaction. Examples of relevant credit events in this case include imposition of exchange controls or a default in the country's foreign currency debt.

For investors, selling default puts can provide access to exposure that may not otherwise be available. Frequently, these synthetic structures provide a better net spread than the cash alternative since no upfront funding is required.

Increasing leverage

The advent of credit derivatives now allows institutional investors such as hedge funds to participate in bank loans under more favourable conditions than before. In the following example, we illustrate how a hedge fund can increase its leverage and improve returns on capital by engaging in a credit swap with a bank. The beauty of this transaction is that the bank involved also improves its own return of capital, resulting in a "win-win" situation.

Figure 3 shows the bank and hedge fund going their separate ways, each funding a US\$10 million high-yield loan bearing an interest margin of Libor plus 2.5%. The bank has to put up US\$800,000 of its equity, which is 8% of the loan amount, while the hedge fund has to fund 100% of the loan with its own equity. Assuming Libor is at 5.625%, the returns on capital are 39.2% and 8.1% for the bank and hedge fund that fund at Libor minus 0.2% and Libor plus 1.5%, respectively.

Instead of each funding a loan separately, however, the two institutions can co-operate in funding a and engage in a credit swap, as shown in figure 4. The bank funds a US\$10 million high-yield loan and swaps the credit risk out to the hedge fund via a default put. Since the bank is now exposed to the much-reduced

risk of simultaneous default (of both the loan and the hedge fund), the bank needs only to put up US\$150,000 of its own money as capital. As a result, the bank's use of capital becomes more efficient and its return on capital increases to 68.8%.

For an annual premium of US\$175,000, the hedge fund takes on US\$10 million default risk of the high-yield loan and has to put up US\$1 million as margin. Investing this margin in treasury bills and assuming that it yields 5.29%, the hedge fund has a total revenue of US\$227,900 and improves its return on capital to 22.8%.

Implications

Credit derivatives will enhance the efficiency of the credit market in much the same way as mortgage derivatives promoted more efficient origination and holding of mortgages. The development of mortgage-backed securities (MBS) rationalised mortgage pricing. Savings and loans had previously originated, serviced and held the credit risk of mortgages; MBS permitted the risks of mortgages to be transferred to the most efficient holders. Savings and loans became originators and servicers of these mortgages, but not their investors. The same thing is happening to bank loans as non-traditional investors gain access to the loan market via loan swaps and other credit derivative structures.

In Asia, where the bank loan market dominates and where banks are typically flushed with cash and eager to lend, corporations inevitably receive more

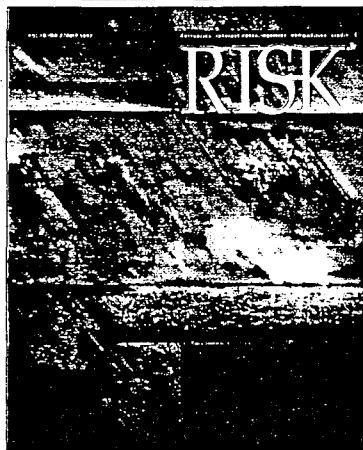
favourable borrowing rates relative to using a capital market instrument such as a floating-rate note. This difference is due to the fact that the two markets are distinct, with different investor demands. This situation has often led to widely different borrowing spreads for the same corporate credit. Credit swaps now allow this gap to be bridged.

Banks are able to diversify credit risk exposures in a loan portfolio globally, across economies with differing cycles and characteristics. By quantifying and pricing each risk component – interest rate, duration, currency and credit – the whole can be unbundled. The risks can then be parcelled out to the holders able to handle them most efficiently. By giving investors access to bank loan portfolios, credit risk will be more widely and efficiently traded among an expanding number of players. Massive diversification of credit risk in loan portfolios will lead ultimately toward greater liquidity in the credit markets. The more efficiently credit risk can be diversified, hedged and traded, the more rationalised its pricing will become. The ultimate benefit to the financial markets is increased liquidity and efficiency for borrowers, originators and investors alike. ■

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