BIG TODAY, BIGGER TOMORROW

VIKTOR HJORT OF MORGAN STANLEY ANALYSES THE GLOBAL CREDIT DERIVATIVES MARKET, THE FASTEST GROWING OF ALL CREDIT MARKETS, TO FIND OUT WHAT MAKES IT TICK AND WHERE THE AREAS OF GROWTH ARE.

The credit derivatives (CD) market is the fastest growing of all credit markets. Having expanded more than six-fold since 1998, the global CD market has grown faster than either the corporate bond or loan markets, and has the potential to become the largest corporate credit market. Yet it remains significantly smaller than the other two markets and also smaller than many recent surveys indicate. It is also a market in transformation, where new participants are entering and the needs of the existing users are changing. Here, we will explore its growth and the trends that will drive it forward in the next few years.

MARKET GROWTH, MANY CALLS. Few would disagree with the fact that the market is growing rapidly. How rapidly, however, is another matter. Any attempt to estimate the size of an OTC derivatives market, particularly a young one, will always be subject to the survey method chosen and the reporting accuracy of the participants. Nevertheless, a number of studies have attempted to estimate the size and growth of the CD market since 1997 and, as can be expected, have come up with widely diverging estimates (see *Figure 1*). The problems with many of the individual surveys include lack of adjustment for double counting of same trades (*Risk Magazine*), lack of 'hard figures' (BBA), and the exclusion of securities firms, insurance firms and other key participants (OCC).

We believe the most accurate surveys are those from the Bank of International Settlements (BIS) and International Swaps & Derivatives Association (ISDA). Both were carried out in June 2001 on a global basis and adjusted for the double counting that would occur when two participating dealers report the same trade – interestingly, both report the total size of the market to be $600bn-$700bn. Based on the results of these two surveys, we estimate a growth trend which, when extrapolated until mid-2002, points to a market size of just below $1trn (see *Figure 2*).

GROWTH AND THE CORPORATE DEBT MARKET. At $1,000bn, the CD market is about twice the size of the European corporate bond market but smaller than either the US corporate bond or loan market or European loan market (see *Figure 3*).

While the CD market has grown, the rest of the credit market has expanded as well. Between 1998 and 2002, the corporate loan market grew from $3.9trn to $5.2trn, and the corporate bond market from $2.3trn to $2.8trn. However, even the strong growth of the European corporate bond market does not come close to the phenomenal expansion of the derivatives market (see *Figure 4*). It can be argued that the CD market is now at a similar stage of development as the interest rate derivatives market was 10 years ago. Interest rate swaps have become a tool for issuers and investors to manage risk in the interest rate market without having to buy or sell the underlying government asset. In much the same way, credit exposure is gained or hedged today in the CD market by investment and corporate managers.

Interest rate derivatives have broader applications than CD, in that they are used to hedge interest rate risk not only on government debt but also on corporate debt. Therefore, the ratio of interest rate derivatives to total debt market is a relevant benchmark. This ratio is 2.9x[3].

'IT IS A MARKET IN TRANSFORMATION, WHERE NEW PARTICIPANTS ARE ENTERING AND THE NEEDS OF THE EXISTING USERS ARE CHANGING'

The potential growth of the CD market, on the other hand, is based on the total amount of corporate debt issued, which would imply that a similar growth pattern could bring the total size of the CD market up to $23trn, assuming no growth in corporate loans or bonds.

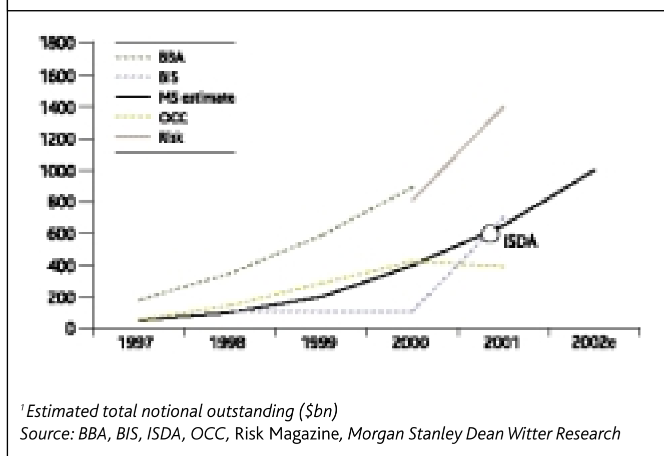
We see the main constraint to such growth coming from the lack of equal liquidity concentration. The interest rate swap market sees liquidity concentrated on a relatively small number of curves, allowing for greater market depth. Liquidity in the CD market will by nature be more dispersed and so less likely to generate similar multiple-expansions in relation to its benchmark.

TRANSFORMATION. The CD is growing but it is also a market in transformation. New participants are entering the market and the existing ones are finding that their use of the product is changing.

FIGURE 1
KEY SURVEYS OF THE CREDIT DERIVATIVES MARKET.

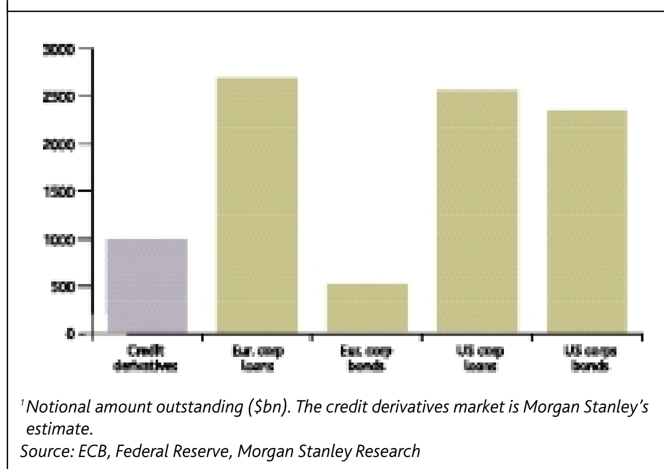
SURVEY	DATE	REPORTED SIZE	COMMENT
OCC Quarterly Report	January 2002	$395bn	Call Reports filed by US commercial banks and US branches of foreign banks
Risk Magazine Survey	November 2001	$1,398bn	Polling financial institutions. No adjustment for double counting
BIS Triennual Survey	June 2001	$693bn	Survey of dealers conducted by central banks. Adjusted for double counting
ISDA Survey	June 2001	$631bn	Survey of ISDA members. Adjusted for double counting
BBA Credit Derivatives Survey	June 2000	$890bn	Poll of members' London branches. Participants estimate total market size

FIGURE 2
DIFFERING MARKET SIZE ESTIMATES.



[1] *Estimated total notional outstanding ($bn)*
Source: BBA, BIS, ISDA, OCC, Risk Magazine, *Morgan Stanley Dean Witter Research*

FIGURE 3
CREDIT DERIVATIVES IS STILL A SMALL MARKET.



[1] *Notional amount outstanding ($bn). The credit derivatives market is Morgan Stanley's estimate.*
Source: ECB, Federal Reserve, Morgan Stanley Research

The future size and shape of the market will be a function of the various uses found by individual participants. The five major trends affecting the growth and make up of the market are as follows:

- banks increasingly using the market to enhance efficiency of economic capital in addition to regulatory capital;
- securities firms using CD increasingly in the same way as corporate bonds in providing liquidity to the market and managing their own risk in the process;
- insurance companies seeking asset diversification and yield;
- hedge funds implementing crossover strategies in credit and equity markets as well as pure credit strategies; and
- the entry of traditional pension and mutual funds into the market.

BANKS. Banks have historically been the most important user of CD, both as a seller and a buyer of protection (see *Figure* 5). Commercial banks have used CD over the last few years both to enhance the efficiency of regulatory capital, and to improve the efficiency of economic capital by adopting a portfolio approach to managing credit risk.

The 'equal weighting for all corporates' framework of present BIS rules, which requires equal capital charges for corporate exposure regardless of riskiness, has created incentives for banks to move high-quality, but low-yielding, assets off the balance sheet through large collateralised loan obligations (CLOs) or, alternatively, to buy protection against them. The expected changes to the BIS rules governing capital allocation against risky loans are expected to better reflect the true risk of the credit exposure, and to the extent that these proposals are enacted and banks are allowed to use derivatives as a tool for risk mitigation, they should have the effect of better aligning banks' management of economic capital with regulatory capital. This should reduce any bias banks might have towards transferring credit risk on higher-rated corporates[1].

To what extent will this reduce the use of derivatives for purely regulatory capital purposes? We see the use as broadly unaffected on an aggregate basis for three reasons: although the Basel II proposals reduce the incentives for regulatory capital-driven trades, they will not eliminate them completely – the weighting-system is simply too crude; the timing of its implementation has been moved out – our expectations are for the rules coming into effect in 2007 – forcing banks to operate several years still under the present structure, and the structural growth in derivatives use is still allowing new participants to reduce regulatory capital through these kind of trades.

But the most important trend is banks' increasing use of derivatives to manage their loan book as a pure investment portfolio. This implies a separation of the two roles of lender and investor, allowing loan officers to manage their client relationships without consideration of the broader implications for the portfolio in terms of risk concentration and return. In short, banks' capital management and use of derivatives would look more like any portfolio managers', in the sense that the over-riding ambition becomes to maximise return given risk. Given the obvious liquidity constraints of a large loan portfolio, CD will be the main tool for managing this risk, and offers significant potential for market growth.

SECURITIES FIRMS. Securities firms (and securities operations of banks) are providers of liquidity to the market but also use CD to hedge and manage credit risk in their trading operations. They have been using their expertise in assessing and quantifying market risk and provide liquidity by buying and selling defaults swaps, often managing various kinds of risks, such as basis, curve, documentation or credit risk, as well as the basis between senior and subordinate risk. Securities firms are also active in structuring and distributing portfolios of credit risk.

As market makers, securities firms are obvious benefactors from and promoters of increased 'commoditisation' of the market, due to the liquidity and depth it brings to the market and the potential rise in trade volumes. Two factors have assisted this process: standardisation of documentation, which reduces the 'legal basis risk' involved in trading with several counterparties and increases transparency; and a history of recent default events, such as Railtrack, Enron and Argentina, which has increased predictability in the outcome of credit events and market confidence.

These events help reduce the discrepancy between the cash and derivatives market, making the single-name vanilla default swap more comparable to a corporate bond. The implication is generally improved liquidity, which will give a boost to sectors and maturities presently not actively traded.

INSURANCE AND REINSURANCE COMPANIES. Insurance companies have increasingly tried to diversify their income base over the past few years and enhance their portfolio income. The trend has been driven by overcapitalisation and by a need to meet fixed liabilities. This has made insurance and reinsurance companies key participants in the CD market on both the asset and liability side. Insurance companies are naturally well-suited to assess the risk in CD transactions. Historical default statistics and expected-loss models allow them to apply their actuarial models to assess exposure.

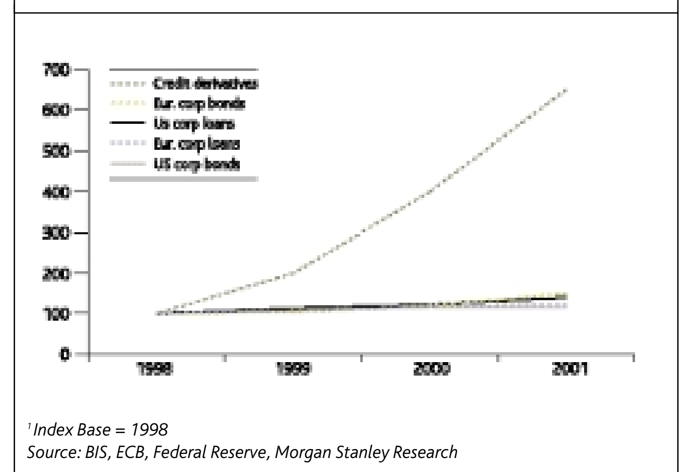
Insurance companies also buy protection to hedge various risks taken on in their day-to-day business of providing insurance. Project finance risk in a developing country, for instance, can be partly hedged by buying credit protection on the sovereign in which the project is taking place. The 11 September attacks and related losses should have had an impact on the overcapitalisation of insurance firms, particularly reinsurers. The broader trend of yield enhancement and income diversification, however, appears not to have abated activity in the sector, and, for now, the insurance sector seems set to continue playing a significant part in the growth of the market.

HEDGE FUNDS. Hedge funds are relatively new to the credit market. They have long been key participants in equity and interest rate markets, setting up macroeconomic trades and long-short strategies, and in convertible bond arbitrage, where the attraction is found in sourcing cheap equity volatility while delta hedging a short stock position versus the long equity option embedded in the convert. Particularly in the latter case, hedge funds have already used the credit market as a way of hedging out their credit exposure through the sale of callable asset swaps. However, as credit spread volatility has been rising, many funds have increasingly begun trading default protection taking outright directional views on the credit market.

The recent *Risk Magazine* survey assigns hedge funds a market share of 8%, up from only 5% last year, and given the potential of banks' shares to be inflated by double counting in this survey, we believe this figure is actually higher. Hedge funds have seen large inflows of capital and, as a result, have been under pressure to generate returns and therefore actively been looking for new markets to enter. An important aspect of hedge funds entering the credit market is that they are well placed to exploit price discrepancies across several markets – derivatives, cash and equity – and this could have a big impact in increasing the links between these markets.

MUTUAL AND PENSION FUNDS. Mutual and pension funds are not yet material participants in the CD market, but have perhaps the largest potential of all above mentioned players for influencing the future size and shape of the market. Lack of liquidity, documentation uncertainties and regulatory constraints have forced many funds to avoid the market while building sizeable corporate bond portfolios. However, increasing liquidity will present portfolio managers with tools to micro- and macro-manage their portfolio risk. In the US, several large funds have recently begun trading, while in Europe the process has been slower. Certain funds have indeed entered the market, but mainly through less liquid, more bond-like credit-linked notes (CLN).

FIGURE 4
...BUT GROWING FAST.



[1] *Index Base = 1998*
Source: BIS, ECB, Federal Reserve, Morgan Stanley Research

CORPORATES. Although most corporations do not hold large portfolios of other issuers debt, they may still be exposed to credit risk through balance sheet items such as long term fixed contracts, accounts receivable and/or vendor financing. This exposure may well be significant, both in terms of magnitude and concentration. And unlike investors in public securities who can easily dispose of their holdings in liquid markets, corporations can experience serious difficulties in finding a bid for their assets and may even when credit risk is rising be reluctant to dispose of them due to relationship considerations. The default swap market offers corporate treasurers the ability to separate the management of the credit exposure and the relationship in that the credit risk can effectively be laid off in the market through the purchase of credit protection.

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NOTES

[1] For a comprehensive overview of the BIS Proposal, please refer to *A Guide to the BIS Proposals II - What does it all mean?* Hotchin, Guillard, Ronaldson, 16 February , 2001 or 'BIS Proposals - Part II', Guillard, Ronaldson, 17 January, 2001.