
CREDIT DERIVATIVE

- An Alternative Tool for Indian Commercial Banks to Transfer Credit Risk

*Mr. I.S.S.N. Raju**

Abstract

Profitability of a bank depends on efficient and effective credit risk management. The result of inefficient credit risk management of Indian banks (Public and private sector) is Non Performing Asset (NPA). The origin of the problem of NPAs of commercial banks in India lies in the quality of managing credit risk of the banks and it has been of foremost concern for the policy makers, as they sway the profitability of a bank. Further, performance of banking sector is affected, ultimately affecting the economy. Though many tools are used to minimize risk, they are traditional and ineffective. There is an increasing focus on credit derivatives in the global scenario, helping the banks to manage credit risk which can be applied to the Indian banking system for nullifying future NPAs. At this juncture, RBI's role is crucial in facilitating and promoting credit derivative as an instrument for risk management and investment. This paper focuses on causes & consequences of poor credit risk management, NPAs, credit derivatives, need for credit derivatives in Indian banking, viability of credit derivatives in Indian financial markets, role of RBI in promoting credit derivative market as an alternative solution for credit default risk and important factors contributing to the success of credit derivatives market in India.

Introduction

Indian banking has become global which made Indian banks more competitive. In order to maintain sustainable growth rate or survive, banks are comparatively liberal and lenient to attract both retail and corporate clients, paving the way for increased credit risk. This credit risk exposure requires efficient credit risk management system. Historically, the result of poor or inefficient credit risk management of Indian banks (Public and private sector) is Non Performing Asset (NPA). The origin of the problem of NPAs of commercial banks in India lies in the quality of managing credit risk of the banks and it has been of foremost concern for the policy makers, as they sway

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the profitability of a bank. Further, performance of banking sector is affected ultimately affecting the economy. It is important for a bank to have a good capital base to withstand unforeseen losses. It showcases or is indicative of the capability of a bank to sustain losses arising out of risky assets. Banks should continuously monitor loans to identify accounts that have potential to become non-performing. Adequate preventive measures like fixing pre-sanctioning appraisal responsibility and effective post-disbursement supervision are needed for effective risk management.

Burgeoning size of NPAs alarmed policy makers to take necessary actions to prevent NPAs in future. On the recommendations of the Narasimham committee, RBI has already introduced a minimum of 9% CAR (Basel II - 8%) for all commercial banks to serve as capital cushion as proportionate to NPAs.. Though there are many tools available to manage credit risk, they are not active, as they are time consuming and obsolete. At this juncture, 'credit derivative' is the immediate alternative or option for commercial banks in India. Credit derivative is an effective hedging tool to avoid, minimize or nullify future NPAs of a bank with low costs and efforts.

Credit Risk

Credit default is the major source of credit risk which works on the probability that the counter party would fail in meeting its obligations towards the bank. Companies succumb to default risk due to operational and market risk which could be intentional or unintentional. Operational risk (Internal) refers to losses arising due to complex systems and processes, whereas market risk (External) is the risk arising due to the fluctuations in value of a portfolio owing the volatility of market prices. It also results due to poor evaluation and assessment of the borrower by the bank.

Sources of credit risk can be categorized as

1) BANK SOURCES

- i. Poor evaluation and appraisal
- ii. Unreliable financial information
- iii. Underestimating critical data
- iv. Borrower friendly atmosphere
- v. Loan melas

- vi. Poor collection or receivables management

CREDIT RISK MANAGEMENT

Traditionally banks use different tools to minimize the losses due to credit default of the borrowers. Banks can minimize the credit risk by using modern tools of today's financial world in addition to the existing traditional tools. It is also important for the banks to anticipate the default rate of the borrower in pre and post sanction phases.

Knowing Default Rate : Accurate default rate can be known through

- 1) Rating agencies
- 2) Expected default frequency
- 3) Credit spread: Higher the spread, higher the default rate.
- 4) Experts reference

Credit Risk and NPAs: Cause and Consequence

RBI governor Dr Y V Reddy was concerned about the quality of credit in the expansion phase. In his third quarter review of the Monetary Policy on January 24, 2006, he urged the banks (Paper statement) to undertake a comprehensive review of credit quality, with special reference to those sectors where credit is expanding rapidly, at a faster pace. Quite often credit risk management (CRM) is confused with managing non-performing assets (NPAs). However there is an appreciable difference between the two. NPAs are the result of past action whose effects are realized in the present i.e they represent credit risk that has already materialized and default has already taken place. In simple words, Management of NPAs is post credit extension on the other hand managing credit risk is a pre lending process which is a much more forward-looking approach and is mainly concerned with managing the quality of credit portfolio before default takes place. In other words, an attempt is made to avoid possible default by properly managing credit risk. As a whole management of NPAs could be part of Credit management.

Considering lucrative business opportunities

(Macro) and unreliable information of the company's financial information (Micro) accepted by the banks due to competitive banking, there is a high degree of credit risk in banking and lending business challenging bankers. The banks have to strike the balance between these two (Macro and Micro) extreme factors to make a prudent decision on corporate loans. To create a defense against uncertainty, bankers are expected to develop an effective internal credit risk models for the purpose of credit risk management by using traditional and modern tools of credit risk management.

Tools of Credit Risk Management

Traditional Tools

- 1) Netting
- 2) Collateralization
- 3) Asset-Liability Management (ALM)
- 4) Down grade Triggers
- 5) Bond guarantee
- 6) Asset Swap
- 7) Repo Market
- 8) Structured Notes

Modern Tools

- 1) Credit Insurance: a) Commercial Credit Insurance b) Bond Insurance c) Catastrophic risk-transfer bond.
- 2) Collateralized debt Obligations : Bond and Loan
- 3) Credit linked notes
- 4) OTC deposits¹
- 5) Currency Convertible Swaps.
- 6) Organized market syndication
- 7) Asset Securitization : Special Purpose Vehicle (SPV)
- 8) Credit Derivatives
 - a. Credit Futures (CDF)

- b. Credit Options (CDO)
- c. Credit Swaps (CDS): Total Return, Basket Total Return and Default Swap

CREDIT DERIVATIVES

One of the products of financial engineering, Credit derivative can be used as a tool of effective credit risk management which protects the bank from borrower's default risk. Though it is successful in the global scenario still is not as familiar as stock, index and commodity derivatives because it is not treated as an investment or trading opportunity but as a pure risk management tool to lenders, importantly banks.

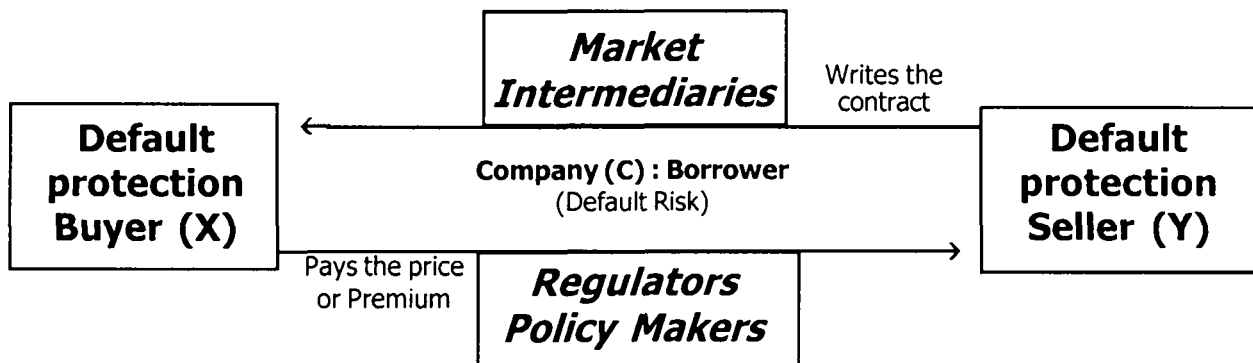
Process of Hedging with Credit Derivative

A bank's counterparty wishes to gain exposure to a particular asset without buying it. The counterparty undertakes a total return swap, whereby the bank pays it the total return (interest, dividends and any increases in value) and the counterparty pays the bank if any decrease in the value. The bank could find a perfect hedge for this by actually holding the reference asset. If this is feasible, then it is ideal. A variation would be to purchase an option to buy the asset, and include this in the price of the credit derivative. Any bank sticking to this kind of policy with credit derivatives will not only be always be fully hedged, but will be limited in the number and type of derivatives it can trade.

A simple model

X bank sanctioned a loan to company C. Bank Y was willing to lend to the same company, but couldn't do so due to time, location and policy constraints. If bank X wants to reduce its credit risk and Y bank is still inclined to company C, then X Bank and Y Bank will enter into an agreement which states that if company C defaults on its loan payments to X bank, then the default amount (not total amount) will be paid by Y bank to X Bank. If not, Y bank will not pay any money to X bank. If company C doesn't default then premium paid by X bank to Y bank becomes beneficial for Y bank. This simple model is the base to design different forms of credit derivatives. Figure 1 represents the flow in the in the process of hedging with credit derivatives.

Figure 1



Credit Derivatives Market

The market for credit derivatives is widespread in all developed markets and is fast spreading to most of the developing Asian markets including India. Credit derivative techniques are only tools and they are as good as the people and institutions using them. The market today is similar in its development to the interest rate and currency derivative markets of the early 1980s. Currently, in western countries, only a handful of banks have truly integrated credit derivatives within their overall financial management strategies, although many more have used them to address one-off exposures.

An explosive growth of credit derivatives began when it grew at the rate that exceeded all the expectations in 2002 after the collapse of Enron and World com². For the first half of 2002, the notional principal amount of reported outstanding credit derivatives was \$1.6 trillion, 50% greater than the reported amount for all of 2001. Credit derivatives market has proven itself to be sound, effective and vigorous through a very difficult credit period. Further, it is important to recognize that this market has developed and adapted without governmental regulation or supervision². The global credit derivatives market is estimated to have crossed US\$ 12 trillion by first half of 2005³

Growth Credit Derivatives Market

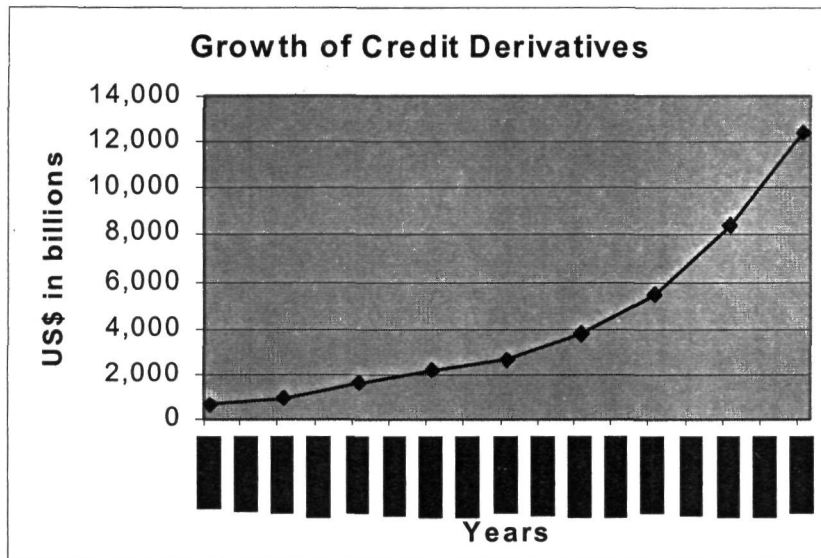
Credit derivatives market is growing from year to year and its growth rate has quickened in the new millennium. Following table1 and figure2 gives a clear picture of the growth of credit derivatives in the global

scenario.

Table 1	US\$ in billions
At the end of	Market Size
Jun-01	631.50
Dec-01	918.87
Jun-02	1,563.48
Dec-02	2,191.57
Jun-03	2,687.91
Dec-03	3,779.40
Jun-04	5,441.86
Dec-04	8,422.26
Jun-05	12,429.88

However, while it took nearly ten years to fully incorporate it into the final management process of most large, sophisticated financial institutions and corporations, the integration of credit derivatives will be much quicker. Such expedited use will be attributed to the widespread familiarity with derivative products in general as financial management tools, the compelling characteristics of the products themselves, and a potential downturn in the credit cycle that will make effective risk management more important than ever. Credit derivatives, which are recently listed in stock exchange⁴ in Europe, will pave the way for a more liquid and active market than OTC market.

Figure 2



Source : IBID

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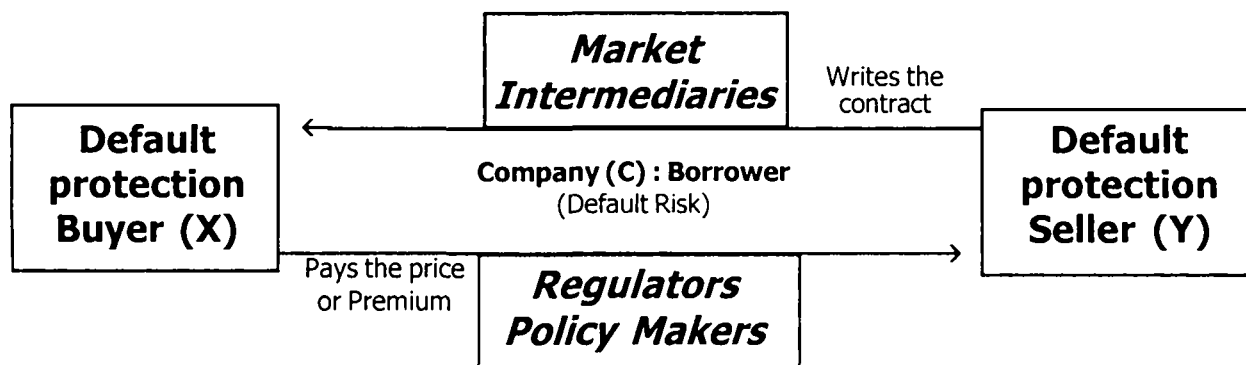
Credit derivatives represent one of the fastest growing businesses in banking today. Investing in and managing credit is a major aspect of capital markets and corporate finance. Capital markets, banking and investment professionals are increasingly taking a more rigorous and quantitative approach to credit. CD market gives dual benefit to the buyer as primary market gives hedging for the buyer of the swap and secondary market gives scope for capital appreciation. In the years ahead, as the use of these products become widespread in the marketplace, the development of

more index products, including regional and industry-related credit indices, to manage credit exposures more effectively on a portfolio basis will be seen.

Need for credit derivatives in India

Gross and net NPAs of Commercial banks in India have declined in the past years⁵. In spite of this decline Indian commercial banks are saddled as the NPA to total asset ratio is still 5-6%. The gigantic size of total NPAs remains an issue of grave concern to RBI. At the end of the financial year 2003-04, they stood at Rs 64,786 crores⁵, out of which 80% is of Public sector banks. NPAs resulted as the loss drivers to banks who are performing well and some banks are among the market leaders. The Basel Committee on Banking Supervision (BCBS) has also laid down certain minimum risk based capital standards that apply to all internationally active commercial banks. That is, bank's capital should at least be 8% of their risk-weighted assets. This, in fact, helps the bank to provide protection to its depositors. RBI through its prudential norms issued that the required capital adequacy ratio (CAR) to be 9% which is a sort of regulatory cost of keeping risky assets on the balance

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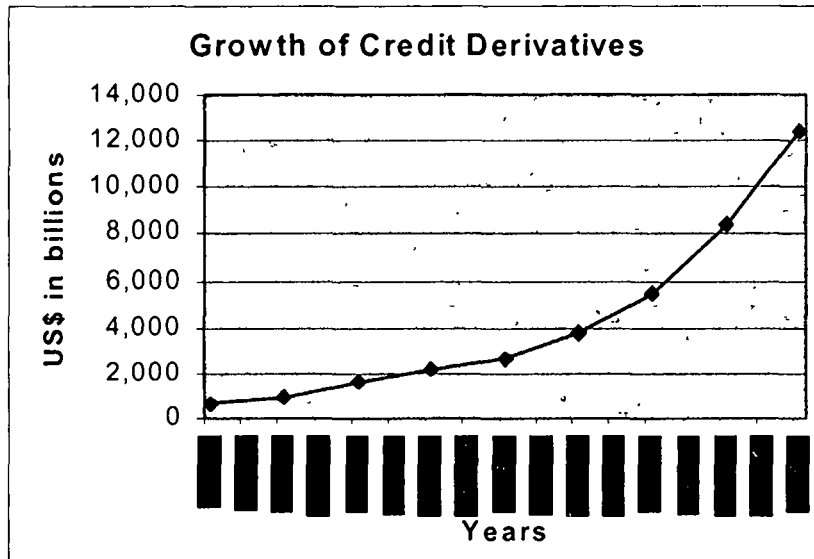
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sheet of banks. The quality of assets is reflected in the quantum of NPAs which means high quantum of

NPAs is the result of poor asset quality. Following tables give a clear picture of NPAs of Indian commercial banks.

Year wise Gross Non-performing assets of scheduled commercial banks

Table 1

Rs in Crores

Sector	Gross NPAs (Rs Crore)			% to gross advances			% to total assets		
	2001-02	2002-03	2003-04	2001-02	2002-03	2003-04	2001-02	2002-03	2003-04
Public	56,473	54,090	51,538	11.10	9.40	7.80	4.90	4.20	3.50
Private	11,662	11,782	10,355	9.60	8.10	5.80	4.40	4.00	2.80
Foreign	2,726	2,845	2,894	5.40	5.30	4.60	2.40	2.40	2.10
All	70,861	68,717	64,786	10.40	8.80	7.20	4.60	4.00	3.30

Source: Economic Survey⁵

Year wise Net Non-performing assets of scheduled commercial banks

Table 2

Rs in Crores

Sector	Gross NPAs (Rs Crore)			% to gross advances			% to total assets		
	2001-02	2002-03	2003-04	2001-02	2002-03	2003-04	2001-02	2002-03	2003-04
Public	27,958	24,867	18,860	5.80	4.50	3.00	2.40	1.90	1.30
Private	6,676	6,882	4,857	5.70	5.00	2.80	2.50	2.30	1.30
Foreign	920	921	900	1.90	1.80	1.50	0.80	0.80	0.70
All	35,554	32,670	24,617	5.50	4.40	2.90	2.30	1.90	1.20

Source: Economic Survey⁵

Before attempting to trace the reasons for the cause of NPAs, it is time to work on tools to nullify or minimize NPAs in the coming future using tools and methods like asset securitization and credit derivatives. Securitization is a method of repackaging of loans and other prospective revenue-generating assets into tradable securities which involve transfer of loan assets

from the bank (originator) through pooling and re-packaging by a Special Purpose Vehicle (SPV) into securities that can be sold to investors. Securitization benefits banks, importantly private public partnership projects, as it provides liquidity to loan portfolios and mitigates credit risk by removing assets off bank's books. On the other hand credit derivative as a risk

management or hedging tool for banks avoids risk and transfer that to the seller of credit default swap by paying some price in accordance with rating of the company which has borrowed from the bank and risk assessment of the same. Not limiting itself to domestic assets credit derivative can be extended to foreign lending which includes foreign exchange and country risk in addition to operational and market risk of the borrower. The possibility of using Credit derivatives extensively by banks would lead to a significant increase in the bank's profitability and it is worth examining the practical feasibility of this concept in the Indian banking sector. Here it is a noteworthy mention that credit risk management is more important for banks having more corporate clients rather than retailers as it is evident through risk weights for corporate and retail loans allocated by Basel II accord. According to Basel II norms risk weight to corporate loan ranges from 20% - 150% (based on credit rating) and it is only 75% for any kind of retail loans⁶. So credit derivatives are relevant and important to banks having more exposure to loans taken by low or unrated companies. Credit derivatives will fundamentally change the way banks price, manage, transact, originate, distribute and account for credit risk, as it perfectly hedges the position of a bank with a risky corporate client.

Credit derivatives: Indian Scenario

Credit derivatives were introduced to Indian markets by RBI in the year 2003 through its policy guidelines. It is too early to comment on the size of credit derivatives market in India, as it is still in rudimentary stages and virtually non-existent⁷, when compared to global markets importantly in USA and Europe which are already developed, active and growing from year to year³.

Credit derivatives deserve immediate consideration by policy makers and regulators in India to promote as it has the potential to pull the new market players and investors who are unwilling to participate. If the market is developed the largest users of credit derivatives in the coming years will be commercial banking sector, which will use such products primarily for credit risk management.

RBI's role

In order to accommodate an effective and

efficient credit risk management for banks, RBI has issued prudential norms and introduced Asset securitization and Credit derivatives. RBI issued draft guidelines on credit derivatives in 2003 to all commercial banks with an objective to build a sort of support system to take care of unexpected financial losses, thereby ensuring healthy financial markets and protecting depositors. According to RBI, Credit derivatives are over the counter financial contracts. They are usually defined as "off-balance sheet financial instruments that permit one party to transfer credit risk of a reference asset, which it owns, to another party without actually selling the asset". It, therefore, "unbundles" credit risk from the credit instrument and trades it separately. Credit Linked Notes (CLNs), another form of credit derivative product, also achieve the same purpose, though CLNs are on-balance sheet products. Another way of describing credit derivative is that it is a financial contract outlining potential exchange of payments in which at least one leg of the cash flow is linked to the "performance" of a specified underlying credit sensitive asset⁸.

In the recent (5th May, 2006) meet in Hyderabad RBI governor Dr Y V Reddy said "Indian banking will be compliant to BASEL II norms by March 2007". Though the banks and depositors are confident on the credibility of his statement, credit derivative still remain as a better alternative for credit risk management apart from BASEL II prescription, which is a process rather than an instrument. RBI should focus on developing the credit derivatives market which would be helpful to commercial banks in hedging their risky assets and transferring the risk to the 3rd party which not only protects the bank from default risk, but also safeguards the deposits of depositors to the bank. Even it is the intention of bankers as Mr R.J. Sridharan, General Secretary, All India Bank Officers Association (AIBOA) has urged the Union Government and the Reserve Bank of India to take immediate steps to safeguard the interest of bank depositors and the investing public.

Market Success Factors

- 1) **Awareness** of credit derivatives as a tool and its benefits should be acknowledged by policy makers to the banking community.
- 2) Apart from commercial banks, market has the

potential to pull **more players** like Cooperative banks, Investment banks, Retail investors, Insurance companies, Institutional investors and Hedge funds make the market flourish.

- 3) **Foreign banks** invited to India can serve as vehicles to promote the market in India, as they have rich exposure to credit derivative markets in the global scenario.
- 4) **Consolidation** in the banking sector can also ease credit swaps, creating a ready market for credit derivatives. This was evident in Europe as most of the corporate debt is controlled by few large banks. In India the top 10 banks control only 45% of the market⁷. It could prove successful, as it was directly or indirectly prompted by our finance minister Dr P Chidambaram who in his budget speech (Feb, 2005) said "There is an urgent need for Consolidation in Indian banking".
- 5) Banks / FIs, etc. using credit derivatives should have **adequate systems** in place to manage associated risks⁹

RBI has to play a multiple and flexible role as a Facilitator, Modulator, Promoter and Regulator.

Conclusions:

Empirical studies show that credit derivative is an alternative risk management tool for commercial banks in India, importantly for the banks whose corporate lending proportion is comparatively high. In spite of the fact that we are still naive to the credit derivatives market we can see wonders if it is planned and implemented in a systematic manner with supple guidelines. The instant requirement of the policy makers and regulators of capital market in India is to stimulate primary market for credit derivatives. If the primary market in credit derivatives is illiquid, the secondary market is almost fictional. In spite of triumphant stock, index and commodities markets, Credit derivatives market is virtually non-existent in India, resulting in a perception of illiquid and unattractive market to the needed players.

Credit derivatives market in India shouldn't be like the inactive currency and interest derivatives market. Identifying the loopholes or tribulations in the

prospective market when compared to global benchmarks is the immediate need for policy makers and regulators. These holes can be plugged by RBI with the support of SEBI, IBA, NSE and Reuters which have the history of success in introducing innovative market instruments and platform. RBI can appoint a committee to identify and inquire key success factors for the credit derivatives market and recommend the specific areas which will fuel the policy framework. It is the conscientiousness of RBI to put efforts in making active secondary market for credit derivatives which not only increases the confidence of banks but also pulls more players into the game and facilitate the market compete with global benchmarks.

Key words

- OTC market : Over The Counter
- SEBI : Securities Exchange Board of India
- IBA : Indian Banks Association
- CAR : Capital Adequacy Ratio

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