

POLICY AND MARKETS

Credit derivatives: international developments and lessons for India

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Credit derivatives have been popular instruments for hedging of credit risks by banks and financial institutions. The notional value outstanding of credit default swap contracts, a type of credit derivative most in use, increased from US\$6.4 trillion in December 2004 to US\$57.89 trillion in December, 2007. However, this instrument, which was once ‘apple of the eye’ of market players, lost its sheen in the wake of the sub-prime crisis when it was perceived to have played a major role in igniting the crisis and spreading it across the global financial system. This article presents how this came about and the after thought of the regulators of developed countries in regulating these instruments. It then looks at what lessons India can draw from the experience of the Western nations before considering introduction of credit derivatives in the Indian markets.

Keywords: credit derivatives; credit default swaps; collateralized debt obligations

JEL classification: G15; G18

Financial markets have been witness to waves of innovations by market participants to manage risks inherent in these markets and the manner in which these innovations have turned risks into opportunities for further growth and vibrant markets. The origination of credit derivatives is a case in point. Credit derivatives were invented in response to demand by financial institutions, mainly banks, for a means of hedging and diversifying credit risks. They proved a boon to the banking system, helping them to reduce exposure concentrations in their books and allowing them to meet the needs of their high net worth customers. They subsequently graduated into instruments used as low cost means of taking on credit exposure. As a result credit has gradually changed from an illiquid risk, which was not considered suitable for trading, to a risk that can be traded much the same as others.

To be able to appreciate this better, let us first understand what credit derivatives are. To put it simply, as defined by the International Swaps and Derivatives Association (ISDA), a credit derivative is a privately negotiated agreement that explicitly shifts credit risk from one party to the other. Now, credit risk can be said to be a judgment on the likelihood of default on lending made by a bank or a financial institution to an individual or a company. A bank or financial institution is required to constantly monitor its credit risk as banking regulations in most countries require banks to keep an amount of capital reserve based on the credit risk

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of their lending portfolio. Also, market conditions or internal guidelines generally require them to adjust the level of their credit risk. An institution can reduce or increase its credit risk exposure by using credit derivatives.

The most popular form of credit derivatives is credit default swap (CDS). CDS is a credit derivative contract in which one party (protection buyer) pays a periodic fee to another party (protection seller) in return for compensation for default (or similar credit event) by a reference entity. The reference entity is not a party to the CDS contract. It is not necessary for the protection buyer to suffer an actual loss to be eligible for compensation if a credit event occurs. CDS became stupendously popular as credit risks exploded during the recent years in the United States and elsewhere. Banks and financial institutions found this as an effective instrument to spread risk outside of the banking system.

Other, more complex, credit derivative instruments are collateralized debt obligations (CDOs), credit linked notes (CLNs), total return swaps, credit spread products, total return swaps, loan syndications, etc.

The key benefits that credit risk transfer, through credit derivative instruments, brings for the banks and financial institutions include: releasing lender's capital for new credit intermediation and thus improving the efficiency of credit markets; providing diversification to lenders by lowering systemic risk; distributing risk to investors that are less critical to the provision of liquidity to the financial system and providing an improved menu and supply of assets and hedging opportunities to asset managers.

The then Chairman of Federal Reserve Bank, Alan Greenspan, said about credit derivatives¹

More generally, such instruments appear to have effectively spread losses from defaults by Enron, Global Crossing, Railtrack, WorldCom, Swissair, and sovereign Argentinian credits over the past year to a wider set of banks than might previously have been the case in the past, and from banks, which have largely short-term leverage, to insurance firms, pension funds, or others with diffuse long-term liabilities or no liabilities at all.

He reiterated his point during the last period of his tenure remarking that

As is generally acknowledged, the development of credit derivatives has contributed to the stability of the banking system by allowing banks, especially the largest, systemically important banks, to measure and manage their credit risks more effectively.²

However, these benefits brought with them attendant issues of moral hazards of inefficient control by the lender of borrowers' default risks; practices of marketing sophisticated products to participants with little understanding of the downside risks involved and fear of the sheer size and the complexity of the market trading over-the-counter (OTC) creating the danger that failure of one party could produce market disruption. How these fears were materialized we see subsequently in the paper.

The plan of this article is to present the global trends in growth of credit derivatives, the regulatory regime that they are operating in and their role in the recent sub-prime crisis. With this in the background, the paper then presents the proposed policy responses of regulators of developed countries (specifically the US and UK) to the much debated excesses of the banks and financial institutions in relying on this instrument to manage their credit risk. We then turn to look at what shape the debate is taking in India on the issue of permitting trading in credit

derivatives and what lessons we can draw from the adventures of the Western nations before we embark upon introducing this product in Indian markets.

Global market trends

The first credit derivatives transactions are recorded to have occurred in the early 1990s. However, a liquid market emerged only after the ISDA produced standardized documentation of these transactions in 1999. According to the Bank for International Settlements (BIS), the notional value of credit derivatives outstanding increased over six times between 2001 and 2004, from only US\$695 billion in June 2001 to US\$ 4.5 trillion in June 2004. The BIS started collecting and disseminating data on CDS contracts since 2005. The growth in notional amount outstanding³ and gross market value⁴ of CDS contracts over 2004 to 2008 is presented in figure 1. As is evident, the notional value outstanding of CDS contracts has increased from US\$6.4 trillion in December 2004 to US\$57.89 trillion in December 2007. Thereafter it has witnessed a fall to US\$41.87 trillion in December 2008. This contraction was against the background of severely strained credit markets and increased multilateral netting of offsetting positions by market participants.

Credit derivatives and the global financial crisis

The market for credit derivatives is entirely OTC, i.e. trades happen outside the regulated structure of stock exchange. Thus, it is entirely unregulated, with only minimal reporting requirements in some jurisdictions. In the US, the regulators allowed OTC derivatives, including credit derivatives, to develop entirely without supervision. In the year 2000, the Commodity Futures Modernization Act (CFMA)

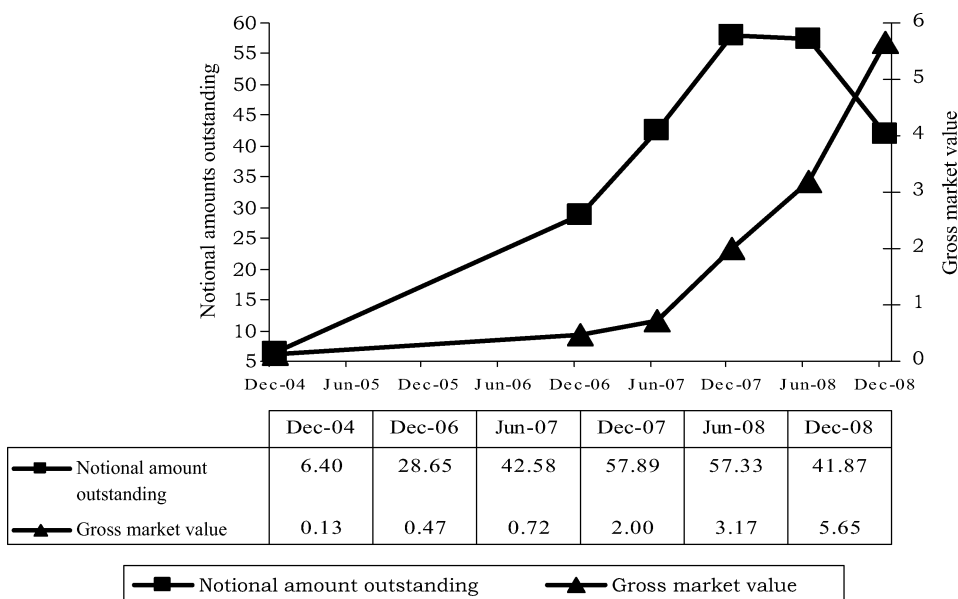


Figure 1. Credit default swaps-trends (in USD Trillion).

Source: Bank of International Settlements (2006; 2008; 2009).

explicitly exempted OTC derivatives, to a large extent, from regulation by the Commodity Futures Trading Commission. In addition, the law limited the authority of the Securities Exchange Commission (SEC) to regulate certain types of OTC derivatives.

Similarly, the philosophy of UK's Financial Services Authority (FSA), shared with market and bank regulators across most of the developed world, has been to assume that wholesale market customers are by definition sophisticated and do not need protection, and that financial markets innovation delivers benefits to customers and to the economy. In this light, OTC derivatives have been allowed to trade unregulated.

When the markets were healthy and easy credit was flowing, credit derivatives were lauded for all their benefits as detailed earlier. The year 2002 saw the loan originators packaging mortgages as securitizations and marketing them as CDOs on the secondary mortgage market. However, things were beginning to change and the hitherto hidden dangers of systemic risks underlying this instrument began to come to light. These credit vehicles encouraged banks and other financial firms to take on riskier loans than they should have; helped increase leverage in the global financial system; and exposed a much wider array of financial firms to the risk of default. This was the trigger for what followed to be a chain of events leading up to the global financial crisis.

By October 2002 the home prices in the US had begun to rise on the back of low borrowing costs and more risky loans. By the July 2006 quarter, risky loans had peaked. Encouraged by low rates and securitization, banks and mortgage companies were seen to be taking bigger risks in home lending by allowing easy access to loans without sufficient collaterals or proof of financial conditions of customers. Moreover, in previous decades, most mortgages were backed by the Federal Housing Administration (FHA) and government-authorized companies Fannie Mae and Freddie Mac, which bought mortgages and bundled them into high-grade securities that were then sold to investors in the form of bonds. The situation changed from the later part of the 1990s when most sub-prime loans were no longer guaranteed by the FHA as lending standard were relaxed. Now a growing portion of mortgages were issued by firms not backed by Fannie Mae, Freddie Mac and the FHA and hence not bound by the same legal requirements to deal only in investment-grade loans and securities.

By January 2007 the US economy witnessed a rare simultaneous alignment of three conditions: interest rates rose, home prices fell due to over-supply and Americans' incomes stayed flat. On 2 April 2007, New Century Financial, one of US's biggest sub-prime mortgage lenders filed for bankruptcy protection. 2007 saw defaults on home loans rising as the homeowners were unable to refinance their loans or sell their depreciating homes. On 14 September 2007, Northern Rock, a big British mortgage lender sought an emergency loan from the Bank of England because it was unable to raise financing in the tight credit markets. This was the first indication of the US sub-prime crisis spreading to other countries. The two largest mortgage companies of the US, Fannie Mae and Freddie Mac, saw their shares falling in July 2008 as some changes in accounting standards required them to raise more capital, which was not easily forthcoming. On 7 September 2008, the US government seized control of these two mortgage houses to limit its spillover effect on the economy. The fallout of credit crisis gripped large firms like Lehman Brothers and Merrill Lynch. On 15 September 2008, Merrill Lynch agreed to sell itself to the

Bank of America for about US\$50 billion to avert a financial crisis. However, Lehman Brothers was not able to find a buyer and filed for bankruptcy protection. On 16 September 2008, the Federal Reserve Bank agreed to bailout the insurance giant American International Group (AIG), which was in trouble largely because of its exposure to credit default swaps.

Of course, credit derivatives are not solely to blame for the global financial crisis that we are witnessing today. But they did make the financial world more complex and more opaque. They, in effect, exacerbated the market panic, as financial firms and regulators belatedly realized.

Policy responses for OTC derivatives, including credit derivatives

G-20 commitments

The leaders of Group of 20 nations met in Washington in November 2008, amid serious challenges to the world economy and financial markets following the events listed above. In its declaration the Group called upon its member countries to strengthen the resilience and transparency of credit derivatives and other OTC derivatives markets. In the action plan drawn up following this Washington declaration, supervisors and regulators of the G-20 countries were urged to speed efforts to reduce the systemic risks of CDS and OTC derivatives transactions; insist that market participants support exchange traded or electronic trading platforms for CDS contracts; expand OTC derivatives market transparency; and ensure that the infrastructure for OTC derivatives can support growing volumes.

The Turner Review

Following the banking crisis, Lord Turner, in his capacity as Chairman of FSA, was asked to review and make recommendations for reforming UK and international approaches to the way banks are regulated. The document so prepared is called 'The Turner Review' and has a supporting FSA discussion paper, which was put in public domain in March 2009. These take an in-depth look at the causes of the financial crisis and recommend steps that the international community need to take to enhance regulatory standards, supervisory approaches and international cooperation and coordination.

On the role of OTC derivatives and CDS contracts, in particular, the review notes that while the last 10 to 15 years have seen a huge growth in the value of OTC derivative contracts traded, the most dramatic recent growth rate has been seen in CDS. However, the review observes that the effective economic exposures (and therefore the risks) in the CDS market are much less than what the gross nominal figure of US\$60 trillion (in 2007) suggests. Net exposures currently outstanding (i.e. the total loss that either counter-party could face if the position was closed today) after the netting off of bilateral positions are estimated to amount in aggregate to US\$3.7 trillion in 2008. But, the review, goes on to say that the sheer size and the complexity of the market, and the fact that it is traded in an almost entirely OTC fashion, creates the danger that failure of one party could produce market disruption. For example, the threatened downgrades of AIG's credit rating in September 2008 would have required it to post significant collateral to cover its exposure as a counter-party in CDS contracts, resulting in severe cash flow strains within AIG.

Thus, the review says that the FSA strongly supports the objective of achieving robust and resilient central clearing house arrangements for CDS clearing and has been working with other regulatory authorities (in particular those in the US and Europe) and potential market infrastructure providers to expedite this progress. The review further debates the arguments for and against unrestricted operation of the CDS markets. Pointing out that it is premature to recommend specific action for the regulation of CDS markets it has sought views of the public on whether financial regulators should impose restrictions on the design or use of wholesale market products (e.g. CDS).

Financial regulatory reform: a new foundation

In the US, the Department of Treasury has proposed certain financial sector reforms in the light of the global financial crisis in its document 'Financial Regulatory Reform – A New Foundation – Rebuilding Financial Supervision and Regulation', made public in June 2009.

The document holds that the downside of the lax regulatory regime for OTC derivatives – and, in particular, for CDS contracts – became clear during the recent financial crisis. In the years prior to the crisis, many institutions and investors had substantial positions in CDS contracts (particularly contracts that were tied to asset backed securities) and complex instruments whose risk characteristics proved to be poorly understood, even by the most sophisticated of market participants. During the crisis the sheer volume of these contracts overwhelmed some firms that had promised to provide payment on the CDS and left institutions with losses that they believed they had been protected against. Lacking authority to regulate the OTC derivatives market, regulators were unable to identify or mitigate the enormous systemic threat that had developed.

Thus, the document recommends that government regulation of the OTC derivatives markets should be designed to achieve four broad objectives:

- (1) preventing activities in these markets from posing risk to the financial system;
- (2) promoting the efficiency and transparency of these markets;
- (3) preventing market manipulation, fraud, and other market abuses; and
- (4) ensuring that OTC derivatives are not marketed inappropriately to unsophisticated parties.

The document has further urged national authorities to promote standardization and improved oversight of credit derivative and other OTC derivative markets, in particular through the use of central counter-parties, along the lines of the G-20 commitment, and to advance these goals through international coordination and cooperation. It reports that market participants within the US have already created standardized contracts for use in North America that meet the G-20 commitment and that several central counter-parties have also been established globally to clear credit derivatives.

Indian context

The discussion among the regulators on the introduction of credit derivative products in India dates back to 2003 when an internal 'Working Group on

Introduction of Credit Derivatives in India' of the Reserve Bank of India (RBI) came out with its recommendations on the road map for the launch of these products. The Group recognized the importance of credit derivatives for the banking sector in particular, as a means to diversify credit risk, improve earning and lower its risk profile. It deliberated on various issues relating to the introduction of credit derivatives in India, viz., the benefits, need and scope for the introduction of credit derivatives, the regulatory issues involved and risk management issues. It recommended that, to begin with, banks, financial institutions, non-bank financial companies, mutual funds, insurance companies and corporations may be allowed to introduce credit derivatives subject to compliance with certain risk management parameters, exposure norms, capital adequacy requirements, etc. This was envisaged to be allowed for the purpose of managing credit risk and not to take positions with a trading intent. Further, banks were to be permitted to use only simple credit derivative structures like CDS and CLN involving single reference entities. It was proposed that non-resident entities cannot be parties to credit derivative transactions in the domestic market for the present.

However, the recommendations of the report were not carried forward and after a long lull the RBI, in May 2007 issued draft guidelines for the introduction of CDS. The draft regulation proposed the introduction of single entity CDS instruments allowing protection selling and buying to residential financial entities. In spite of the widely accepted belief that credit derivatives are beneficial to the financial system the RBI took a very cautious approach to the whole issue, particularly in the light of the sub-prime crisis. It was generally concerned that the opaqueness of the market and the fact that credit risk was often found to have been concentrated in the hands of a few counter-parties made the market risky and vulnerable.

The RBI's Committee on Financial Sector Assessment (CFSA), noted as follows on the issue of introducing credit derivatives in India:

The unbridled proliferation of complex credit derivatives and excessive risk transfer by adoption of the originate-to-distribute model is recognized as one of the root causes of the current financial crisis. The recent credit turmoil has also underscored the importance of liquidity risk arising from off-balance sheet commitments, implicit or explicit, of the credit intermediaries. The Reserve Bank had put in place regulatory guidelines that were aligned with global best practices while tailoring them to meet country-specific requirements. While the development of markets for credit derivatives and asset securitization products could play a critical role in furthering economic growth, this requires to be pursued in a gradual manner by sequencing reforms and putting in place appropriate safeguards before introduction of such products.

Thus, for the present, introduction of this product in India has been kept on hold.

Way forward for India

It is widely held that the present US sub-prime crisis in the housing mortgage market has been aggravated partly because the mortgages had been repackaged and sold as CDOs and other exotic derivative products to financial institutions, pension funds and individuals. Thus, agents not directly involved in the sub-prime market have also been impacted as their asset quality has deteriorated. Notwithstanding this, the basic

logic and arguments in favour of derivatives of this kind, mainly that of efficiently managing credit risk, continues to hold strong. We need to recognize that the main problems which arose out of the credit derivatives markets were primarily because of its OTC nature, which implied no or minimal regulatory oversight. India can benefit from the lapses of the developed world in effectively controlling this market and give a different direction to it in the country, a direction towards exchange traded markets rather than OTC. This has also been suggested by many experts with the debate over the unbridled use of OTC credit derivatives leading to a further debate on standardizing these OTC products which can be traded on a well regulated framework of the stock exchanges. Exchanges have appropriate risk management frameworks for derivatives, including, mark-to-market margins, position limits and central clearing counter-party. Many will argue that it is perhaps difficult to standardize swap products and that their contract sizes are larger than typical sizes of contracts traded on exchange platforms. However, a beginning can be made and since India has not had any credit derivatives markets at all, there is a unique opportunity in commencing with an exchange traded market *ab initio*. This will be adding another product in the array of derivative products available to market participants while also ensuring market discipline.

Conclusions

The global economy is still grappling with the financial crisis it has found itself in mainly due to, as President Obama⁵ put it, a ‘...cascade of mistakes and missed opportunities which took place over the course of a decade’.

Financial innovation with inappropriate regulatory oversight can, in a sense, be regarded as the root cause of the crisis. However, the solution for the regulators is not to stop innovation all together but to give it a direction and a helping hand while ensuring market stability and keeping in mind the larger interests of consumers.

What shape the regulatory framework for OTC products, such as credit derivatives, would take in the developed countries following certain proposals mooted by the regulators, remains to be seen. We, at home, can at best try to learn from their mistakes and balance innovation with effective regulation for development of efficient financial markets in the country.

Acknowledgements

The views expressed in this article are the author’s own and do not necessarily reflect the views of the organization where the author is presently employed.

Notes

1. Remarks by Chairman Alan Greenspan before the Council on Foreign Relations, Washington, DC, November 19, 2002.
2. Remarks by Chairman Alan Greenspan on ‘Risk Transfer and Financial Stability’ to the Federal Reserve Bank of Chicago’s Forty-first Annual Conference on Bank Structure, Chicago, Illinois, May 5, 2005.
3. The gross nominal value of all deals concluded and not yet settled on the reporting date.
4. The sums of all the absolute values of all open contracts, with either positive or negative replacement values, evaluated at market prices prevailing on the reporting date.
5. Remarks by The President on 21st Century Financial Regulatory Reform, June 17, 2009, Washington. http://www.whitehouse.gov/the_press_office/President-Obama-to-Announce-Comprehensive-Plan-for-Regulatory-Reform/.

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