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## Credit Derivatives to Overcome the Antagonistic Effects of Loan Rescheduling and Loan Restructuring

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## Foreword

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**A**s a part of the ongoing dissemination of BIBM research outputs, the present research contains the results and findings of the round-table discussion series titled “Credit Derivatives to Overcome the Antagonistic Effects of Loan Rescheduling and Loan Restructuring”.

Loan rescheduling is an articulated mechanism to unearth the real problem hindering normal course of repayment and to advise remedial measures to borrowers so as to create enabling situation for them to make debt servicing. One of the core loan rescheduling principles is the voluntary act principle underpinning that individuals have the right to enter into contract within the purview of relevant laws. None of the parties might prevail upon the other party to accept its condition. Borrower should not take rescheduling as an obligation. It is a favor extended by the lenders. Initiative for restructuring may be taken when the lender believes that a stable repayment schedule may be framed on the convincing ground and the concerned borrower will be able to pay off the restructured loan in accordance with the revised terms and conditions.

Credit Derivatives sell protection to counterparties that are major players in the credit derivative market, usually large global banks. They operate within credit limits determined by the counterparties’ credit officers. They interact, on a daily basis, with the credit derivatives trading desks and the correlation trading desks of these counterparties. They help these clients achieve better management of credit risk and related risks such as correlation risk.

A precondition for diversification after the origination of the loans is their transferability. But, as it is well known, transferring credit risk of loans is difficult due to severe adverse selection and moral hazard problems. That is why the use of existing tools like loan sales has not been very successful in transferring the credit risk of middle market commercial loans. However, in recent years, the development of markets for credit securitization and credit derivatives has provided new tools for managing credit risk. Like other financial innovations, these products were first used in Anglo-American

countries. In Germany, both credit securitization and credit derivatives are intensively discussed, but there has been little market activity so far. The bank oriented German tradition in industrial financing produces specific obstacles in transferring credit risk to the capital market. Concerning the middle market portfolio, there are additional problems arising from special features of the lending business like the already mentioned adverse selection and moral hazard problems. In the following chapters, we will discuss the latter problems. We thereby focus on the question of whether and how German banks can set to work these financial instruments to better manage the systematic credit risk of their middle market commercial loan portfolio. Consequently, banks are viewed as end-users of credit securitization and credit derivatives. The banks' potential transaction functions and profits as a dealer in credit securitization and credit derivatives are ignored.

It gives me immense pleasure to publish and distribute this research output to the practitioners of the banks as well as to the academics and common readers. I hope this study will be useful to understand the significant impact of credit derivatives in overcoming the challenges faced by the banks and financial institutions related to loan rescheduling and loan restructuring.

**Md. Akhtaruzzaman, *Ph.D.***  
Director General, BIBM

## Acknowledgement

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**A**s rightly mentioned by Alan Tower Waterman, “It may also be pertinent to ask whether a great effort in the less expensive basic stages of research may not lead to reductions of efforts in the far costlier stages of development and prototype construction.” Keeping this philosophy in mind, the research team has undertaken inventiveness to comportment a study on “Credit Derivatives to Overcome the Antagonistic Effects of Loan Rescheduling and Loan Restructuring”.

We are thankful to the senior executives of several commercial banks who participated virtually in the focus group discussion and offered their insightful ideas, especially to design the structure and edifice of this study.

Our sincere thanks go to the honorable Director General of BIBM Dr. Md. Akhtaruzzaman for his incessant guidance and vibrant headship that inspired us to undertake this initiative.

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**Mohammed Sohail Mustafa *CFA***  
**Rahat Banu**  
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## List of Acronyms

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ADB	Asian Development Bank
AMC	Asset Management Company
BB	Bangladesh Bank
BL	Bad and Loss
BRPD	Banking Regulation and Policy Department
CAR	Capital Adequacy Ratio
CBO	Collateralized Bond Obligations
CD	Credit Derivative
CDO	Collateralized Debt Obligations
CDPC	Credit Derivative Product Company
CDS	Credit Default Swap
CLN	Credit Linked Note
DF	Doubtful
FCB	Foreign Commercial Bank
FGD	Focus Group Discussion
IMF	International Monetary Fund
NPL	Non-Performing Loan
OTC	Over-the-Counter Market
PCB	Private Commercial Bank
PEP	Politically Exposed Person
SB	Specialized Bank
SCB	State-Owned Commercial Bank
SPV	Special Purpose Vehicle
SS	Sub-Standard

## Executive Summary

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As of June 2020, classified loans in Bangladesh's banking sector were around Tk. 961.15 billion accounting for 9.20 percent of the total outstanding loan. During the quarter (April-June), default loans in private banks reached Tk. 465.92 billion while it was Tk. 429.39 billion in state-owned banks. Defaulted loans during the period slid by Tk. 163.02 billion to Tk. 961.16 billion; this sizable down swing was mostly the result of restructuring and rescheduling of a number of previously classified loans. Rescheduling is done by down payments and in some cases way below the requirement, though with special permission from Bangladesh Bank. From the past experience, it is conceivable that banks and financial Institutions are required to give the repeated treatment of rescheduling or restructuring, which is not indeed an ideal situation. It rather indicates the inefficiency in handling such cases and the problems of the borrowers are not identified and addressed in the right earnest.

Available statistics show that in 2019, the amount of rescheduled loans edged up to a whopping Tk. 504.34 billion, an increase by 117.29 percent over the rescheduled amount of Tk. 233.20 billion in 2018. State owned banks rescheduled Tk.152.86 billion while private commercial banks rescheduled Tk. 307.95 billion in the last year. The rescheduled amounts of specialized and foreign commercial banks were Tk. 43.14 billion and Tk. 0.37 billion, respectively.

What is important is that the lending institutions should be convinced enough that the concerned borrowers seeking loan rescheduling are not in the category of willful defaulters in order to avert financial or business debacles. All borrowers, irrespective of their exposure, identity and

company formation, are under the contractual obligation to pay off the debt in time or as per the prescribed repayment schedule. Restructuring is, however, a sort of facility extended by the lending institutions to the borrowers to settle financial obligations within the time period without facing too much financial hardship and in line with their actual or projected cash flow stream. In Bangladesh, the borrowers generally go to the banks at the far end of the loan tenor and in most cases even after having defaulted. The borrower should go to the lending institutions in time rather than waiting until the default situation crops up. Early detection of the problem on the part of the borrowers and bringing it to the notice to the lending institutions also bear the testimony that the borrowers do not have any ulterior motive and want to pay off their debt obligations. The borrowers may even seek the waiver of interest or part of the principal amount. The lending institutions, however, will determine the extent of waiver on the basis of judicious appraisal as well as their respective policy direction.

Loan rescheduling is an articulated mechanism to unearth the real problem hindering normal course of repayment and to advise remedial measures to borrowers so as to create enabling situation for them to make debt servicing. One of the core loan rescheduling principles is the voluntary act principle underpinning that individuals have the right to enter into contract within the purview of relevant laws. None of the parties might prevail upon the other party to accept its condition. Borrower should not take rescheduling as an obligation. It is a favor extended by the lenders. Initiative for restructuring may be taken when the lender believes that a stable repayment schedule may be framed on the convincing ground and the concerned borrower will be able to pay off the restructured loan in accordance with the revised terms and conditions.

Credit Derivatives sell protection to counterparties that are major players in the credit derivative market, usually large global banks. They operate within credit limits determined by the counterparties' credit officers. They interact, on a daily basis, with the credit derivatives trading desks and the correlation trading desks of these counterparties. They help these clients achieve better management of credit risk and related risks such as correlation risk.

Most basically, CDPCs support effective risk transfer. By trading with triple CDPCs, counterparties can achieve capital relief relative to their internal economic capital models and to the regulators. In addition, credit derivative traders are exposed to Gaap mark-to-market volatility arising from their credit derivative positions. In a large, complex, opaque financial institution, a sudden negative mark-to market can translate into a big impact on the stock price. As buy-and-hold, narrow-focus, privately held entities, CDPCs are in a better position to explain the mark-to-market volatility to their investors.

The one CDPC that is public, Primus, has been relatively successful in educating its investors that Gaap mark-to-market volatility does not affect long-term solvency or economic results. Though unpleasant, it is acceptable in view of the business model. Overall, CDPCs act as buy-and-hold accumulators or, in effect, reinsurers of credit risk. During the current credit crisis, which has seen the demise of some monolines, SIVs and other accumulators of credit risk, CDPCs have proven themselves as one of the most reliable types of trading partners for banks. Their reliability results from their robust continuation structure, modes of operation with circuit breakers to reduce new risk taking if ratings are jeopardized, and regular transparent reporting to stakeholders.

# **Credit Derivatives to Overcome the Antagonistic Effects of Loan Rescheduling and Loan Restructuring**

## **1. Introduction**

In layman's terms, credit derivatives can be viewed as the contract of insurance both for the investors and the borrower, and for the bank that helps to reduce the effect of credit risk to occur in practice. It is the bilateral agreement between two parties, debtor and creditor that take place privately. This is a useful tool by which the creditor might transfer the potential risk of defaulting of the debtor to the third party. The underlying risk of one or more assets derived from price can be mitigated by this financial tool.

In the broader sense, the derivatives can be classified into two broad categories, namely Call and Put. Put is the right of selling assets at the strike price, while call is the right to buy an underlying asset at a price set before. Both are the right and cannot be identified as the obligation to the issue that concerns. It is generally used by the investors as the tool for hedging or providing the risk coverage against the risk of the price of the asset to move in a diverse direction. Basically, the products of derivatives, especially the credit derivatives, are the financial insurance tools. The speculator also uses derivatives as a medium for the safety of their speculations as they rely mostly on guesstimate, and there are very few calculations on their speculations. While providing security, credit derivatives cannot be classified as a physical asset and they are financial insurance products. This agreement allows one party to transfer or share the portion of the risk of an entity to the other party rather than transferring the entity itself. If a bank is concerned about a borrower that has a bad credit record, the bank's concern regarding the borrower not being able to repay the loan amount can be secured by transferring the risk of the credit to the third party which will help the bank in reducing credit risk while having the loan on its book.

Financial organizations that lend money might find great use of credit derivatives to mitigate the default risk of a loan portfolio in exchange for a certain amount of fee that can be identified as the premium for the risk or the premium for the safety. These tools were primarily introduced as tools

for financial hedging of credit risk, and insurance by reducing the risk exposure with the coverage that provides safety. These were also used as insurance against the losses from the credit. At the inception of the market in 1993, the commercial banks had been using them as the insurance of having the default in their corporate loans and there is a principle concern in the behind of the credit risk that is to make the tools useful for both buyers and the sellers while protecting the interest of both. For better understanding, a loan applicant who has a poor previous record can, then, take the loan synthetically. The derivatives are not any physical assets; rather they are an agreement of transferring risk and its trading happens in the Over-the-Counter (OTC) market. The primary users of credit derivatives are the banks and the market were developed when the banks felt the need for insurance against the loan they grant to the corporates or the syndicates even for a price. Derivatives were developed for the security of illiquid assets such as corporate loans. The reason that the banks are willing to buy the protection using the credit derivatives while keeping the loan on their book is to maintain quality relationship with its customers. The loans are shown in the balance sheet, while being protected by the derivative instruments. These tools are contributing to the national economy as they are increasing the investment which leads to greater production.

Banks mainly absorb the unsystematic part of credit risk in the middle market segment, because they tend to give loans to many independent borrowers while avoiding lending large sums to a single borrower. However, particularly troublesome for banks is systematic credit risk. Due to their business policy, banks frequently show credit concentrations on a regional or industrial basis in the middle market commercial loan portfolio (Babble, 1989). A sudden change in industry- or region-specific economic fundamentals may cause a confluence of defaults on loans. Concentrations of credit risk in the middle market loan portfolio can consequently result in a threat of sizable losses without necessarily any corresponding increase in prospective returns (BIS, 1991). Hence, it is important for banks to systematically identify and measure their credit concentrations and reduce the detected concentrations through diversification.

A precondition for diversification after the origination of the loans is their transferability. But, as it is well known, transferring credit risk of loans is difficult due to severe adverse selection and moral hazard problems. That is why the use of existing tools like loan sales has not been very successful in transferring the credit risk of middle market commercial loans. However, in recent years, the development of markets for credit securitization and credit derivatives has provided new tools for managing credit risk. Like other financial innovations, these products were first used in Anglo-American countries. In Germany, both credit securitization and credit derivatives are intensively discussed, but there has been little market activity so far. The bank oriented German tradition in industrial financing produces specific obstacles in transferring credit risk to the capital market. Concerning the middle market portfolio, there are additional problems arising from special features of the lending business like the already mentioned adverse selection and moral hazard problems. In the following chapters, we will discuss the latter problems. We thereby focus on the question of whether and how German banks can set to work these financial instruments to better manage the systematic credit risk of their middle market commercial loan portfolio. Consequently, banks are viewed as end-users of credit securitization and credit derivatives. The banks' potential transaction functions and profits as a dealer in credit securitization and credit derivatives are ignored.

## **2. Objectives of the Study**

As a hedging instrument, although credit derivative products are widely used by the banks in the global market place, these products are quite unfamiliar in the banking sector of Bangladesh. Since the outcomes of loan rescheduling and restructuring had already proven as unsatisfactory in the Bangladesh context in spite of relaxing the requirements several times by BB, the credit derivative products might be considered as an alternative mechanism to overcome the perils of loan rescheduling and restructuring. Keeping this view in mind, the objectives of the current study are to:

- a) highlight the concepts and mechanism of credit derivative and derivative products,

- b) examine the current status of loan rescheduling and loan restructuring of the banking sector of Bangladesh,
- c) identify the prerequisites of introducing credit derivative products in Bangladesh, and
- d) establish a linkage between credit derivative products and drawbacks of loan rescheduling and restructuring.

### **3. Research Methodology**

Undoubtedly, it was a great challenge for the research team to conduct such a study since there is no application of credit derivatives in Bangladesh. As a result, the study is based on comprehensive literature review, best practices of the banks in developed countries as well as South-Asian region, circulars of BB related with loan rescheduling and restructuring, working papers of ADB, IMF, and World Bank, and focus group discussion. Being an unfamiliar concept, only twenty-eight senior executives from fifteen commercial banks participated in the FGD and majority of them represented FCBs.

### **4. Literature Review and Conceptual Framework**

Credit derivative is a financial instrument that helps in minimizing credit risk through hedging. Alnassara and Chinb (2016) showed the relationship between the use of credit derivatives as a hedging instrument by several banks and the impact on risk mitigation. According to Broll, Pausch and Welzel (2002), there is essentially a direct and positive relationship between these two, i.e., credit derivatives can be used directly as a hedging instrument for the risk mitigation purpose of banks. But, some factors affect the strength of this relationship, such as- risk level, costs associated with the financial distress of a particular bank, size of that particular bank, etc. These factors help to strengthen the relationship, i.e., the more these factors are in numbers, the stronger will be the relationship between credit derivatives and risk mitigation of the bank. Xing and Yuqin (2007) tried to find out the extent to which credit derivatives can be used optimally to hedge the associated and relevant risks of banks in the presence of a risky loan portfolio. According to Du ee and Zhou (1997), derivatives can be used

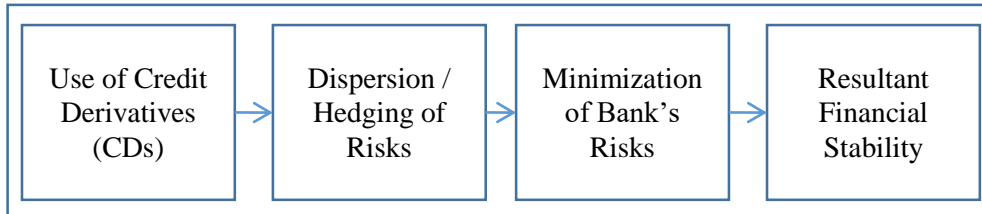


optimally for hedging the risks of the banks, and that too in a full manner only when the risky elements of the loan portfolio are absent. The scenario changes when there is the presence of risky elements in the loan portfolio, i.e., when there are various kinds of risks that banks need to face when working with risky portfolios of loans, credit derivatives cannot be used optimally to hedge the risks of banks stated by Gibson (2007).

Minton, Stulz and Williamson (2006) tried to find out the nature and extent of the relationship between the issuance of European credit derivatives by banks and the resultant impact on the stability of the financial market. They showed that until a certain limit, i.e., unless the coincidence situation occurs, the issuance of these European credit derivatives can bring financial stability in the market through the minimization and transferability of risks. According to Du ee and Zhou (1997), the effectiveness of banks in introducing a separate market only for credit derivatives and is to specializing in swaps because it is believed that, then the banks can effectively minimize their risks that are associated with various kinds of credits. His results were contradictory with the common belief, i.e., the introduction of a separate market cannot effectively minimize the risks of all the banks because it will then breakdown the other existing markets of risk-sharing which in turn can lead to insolvency of the banks.

Xing and Yuqin (2007) showed the impacts that credit derivatives can have on the financial stability of the markets through the use of credit dispersion in their study. The results obtained from their study were positive. According to Du ee and Zhou (1997), credit derivatives can be of great use in bringing financial stability, i.e., the credit derivatives can help the banks in transferring their risk elements to a large set of investors, and thus, can help the banks in minimizing their credit shocks. Through the conceptual framework, it becomes clear how using the derivatives the banks or individuals can hedge the risks and lower the level of loan risk which finally brings about the financial stability. All of these studies can be summarized with the diagram shown below:

**Figure 1: Conceptual Framework**



Source: Authors' Own Conceptualization

In the research titled “Why banks use derivatives?”, Walaa Ismael Alnassar and Othman Bin Chin (2015) found that the use of Credit Derivatives (CD) is positively and consistently associated with the size of the bank in hedging the credit risk. However, it is negatively associated with the capital position of the bank. However, regarding influential factors like the liquidity of the assets, findings and the impact of CDs are to some extent or completely contradictory. The study also suggests that the attempt of forecasting the likelihood for the use of CDs for hedging is accepted by the bank for protection against the credit risks. There are also some influential factors like distress costs, dealing with other derivative products, capital positioning, and level of credit risk.

In another study by Udo Broll, Thilo Pausch and Peter Welzel (2002) regarding the topic of credit risk and credit derivatives in banking, several factors also came into the light. The major factor is; in the case of the basic risk, we find a weak notion of separation. In the perfect correlation between credit risk and derivatives, the separation property of similarity was confirmed for the firm operating the banking activities. A complete hedge was found optimal in the condition that the market of derivatives is completely unbiased. The separation that can be seen in the normal conditions did not hold in the presence of basic risks. Loans optimal and the volume of the deposit depend on the preference of the risks, expectations, etc. Furthermore, the beta-hedging rule that is derived for the study case is optimal in not respectively of the deposit and the loan volumes that are chosen. According to this, the separation of production decisions and risk management is still there.

Again, another review that had been conducted by Yang Xing and Zhong Yuqin (2012) on the impact of credit derivatives insurance on financial institutions in the perspective majorly in the European credit derivatives, many factors have been raised. They found that Collateralized Debt Obligation (CDOs) insurances are positively connected to the negative co-exceedances that suggeststhat the greater amount of CDOs insurance, the greater the impact on financial stability. Again, CDOs insurance is not connected to the positive co-exceedances, indicating that the management of the risk of the commercial banks by CDOs is limited. Also, the risk-free interest rate affects the stability of the financial market.

Another study on credit derivatives in banking, a useful tool for loan risk management conducted by Gregory and Chunsheng (1997), found that the introduction of the credit derivative market is not always desirable at it can be the reason for the breakdown in the other markets of risk-sharing; and if that happens, the existence of the credit derivatives market will run a great risk of bank insolvency. Thus, the introduction of the market for credit derivatives does not necessarily ensure the benefit of the bank.

While in the other research by Michael S. Gibson (2007) on the credit derivatives and risk management, several factors are coming to the concern. Credit derivatives pose risk management challenges of their own. In the case of settlement of the credit, derivatives have the contract of following a default can have the complications generated by themselves with the creating the risk of the settlement. The market participants must meet these risk management challenges to continue the rapid growth in the credit derivative market.

Anil Kumar (2007) the researcher of “Development of Credit Derivative Markets: Implications on Monetary Policy and Financial Stability of Developing Economies like India” concluded that the market of credit derivatives will help in improving the financial stability, facilitating the depreciation of credit risks. He also claimed that the effect of risk transfer on the concern of monetary transmission mechanism can be said as sufficient that was evident from the market of United States.

## 5. Underlying Reasons behind the Credit Derivative Use by Banks

Banks have always sought for the strategies to transfer the credit (default) loss risk of their credit portfolios. The two major reasons behind this pursuit are to:

- (i) take out the risk of anticipated loss from their balance sheet due to an expected increase in credit default; and
- (ii) let free capital, which would then be used to help further asset improvement (increased lending).

One of the methods for lessening credit risk is selling loans, but this fundamentally kills the asset from the balance sheet and terminates the transaction. Alternatively, the following procedures can be followed instead of selling the loan off:

- Spreading the risk via syndicated loans
- Securitizing the loan, thus taking out the asset of the balance sheet, which, in turn, will transfer the credit risk associated with the loan
- Covering the default risk with a Credit Default Swaps (CDS) or an index credit swap
- Shifting the risk of the loan to a specialty finance company.

By transferring the credit risks, bank can manage its capital more efficiently. It also helps the banks to diversify their risk exposures; which means the banks can reduce the overall credit risk exposure.

CDS allows the banks to transfer the credit risk while at the same time maintain the loan in their book, thus keeping the client relationship in good shape as well, resulting in a benefit from a capital cost reduction. One of the major advantages of the CDS instrument is that it can be executed with an identical maturity to the loan. Banks can enjoy the same benefits even by transferring the entire books of risks via a basket credit derivative, which can be either a cash Collateralized Debt Obligation (CDO) or a synthetic CDO.

## **6. Credit Derivative Products**

Credit derivatives are the financial contracts which transfer the credit risk from the underlying security. It distinct the management from the ownership of the credit risk from the underlying security. For this purpose, letters of credit, guarantees and credit loans have been used for years by different institutions. The specialty of the credit derivative is that it separates the feature of traditional credit instruments as it is able to fully transfer the credit risk of the underlying asset.

### **6.1 Types of Credit Derivative**

The credit derivatives are classified as following:

- I. Credit Event Instruments
- II. Credit Spread Instruments
- III. Total Rate of Return Instrument.

The payoffs are decided, based on the type of reference asset characterized by single or multiple names. The settlement can be of two types- cash settlement and physical delivery. In cash settlement, the protection seller pays the difference between par value and market value. In physical delivery, the protection seller receives the reference asset for par value.

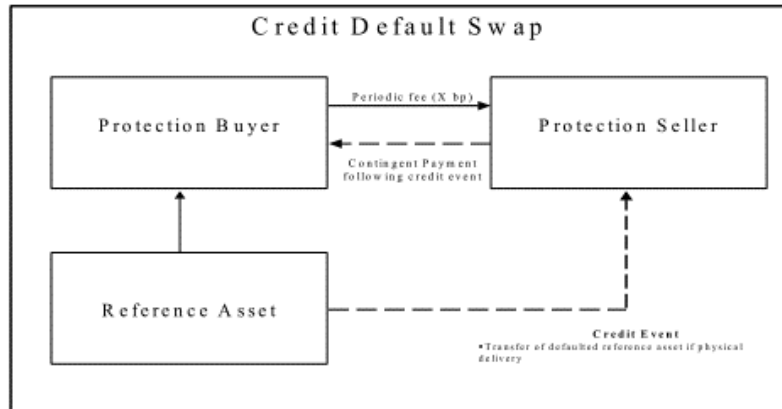
#### **6.1.1 Credit Event Instruments**

Credit Event Instruments are the financial assets where the settlement is made based on the credit event. The single name credit default swap is one of the popular examples of this instrument. In the following section, some of the widely used credit event instruments will be discussed:

##### **a) Credit Default Swaps (CDS)**

The credit default swap is an arrangement where parties separate and transfer the credit risk of the reference asset. It involves a protection buyer paying the periodic payments to the protection seller. The protection buyer pays the protection seller periodic payments with the exchange for a contingent payment for the occurrence of a credit event.

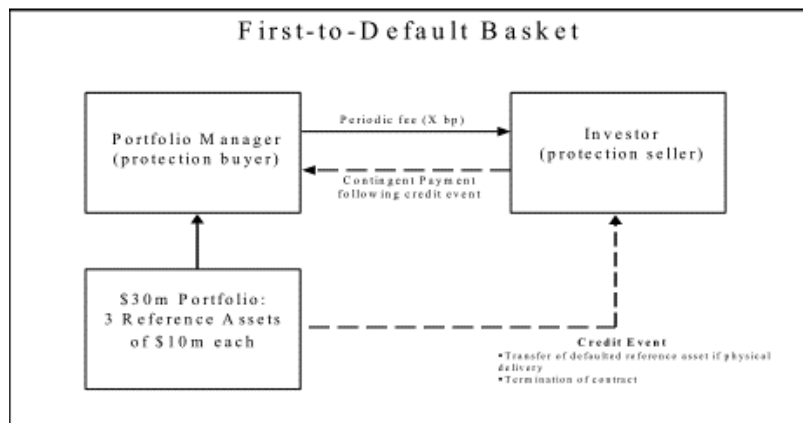
**Figure 2: Credit Default Swap**



**b) Basket Default Swaps**

It is more like the single asset default swap where the underlying is the basket of assets. First-to-default basket swap is the most popular type of basket default swap where for the occurrence of a credit event for the first time, any issuer in the basket can default.

**Figure 3: First-to-Default Basket**

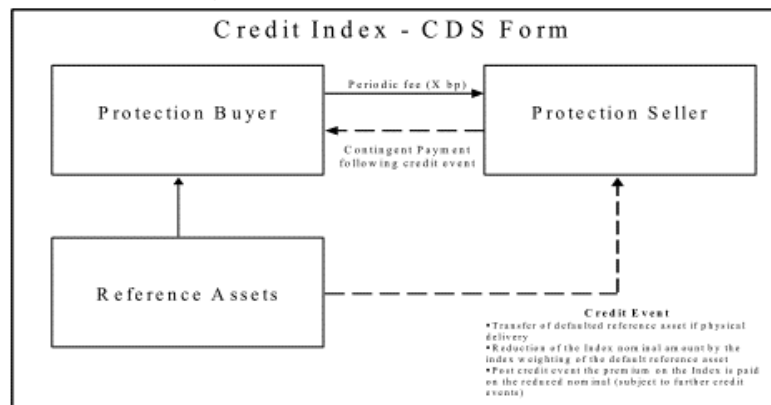


Here, the idea of correlation has been used. The investment grade reference assets having low correlation are the best suited examples. Higher correlation between the reference assets of the basket increases the probability of default of the remaining assets.

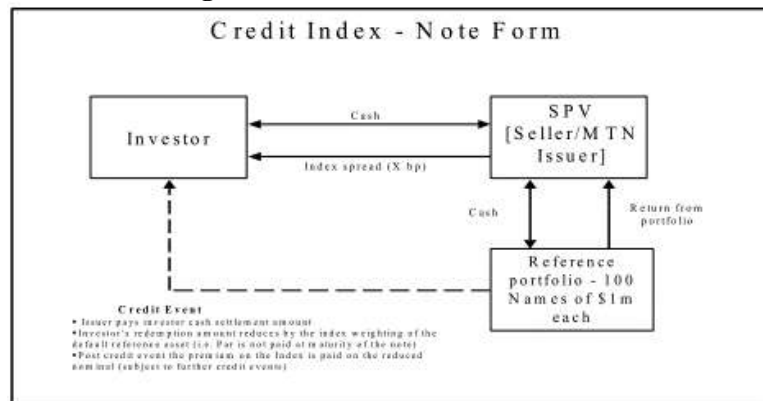
**c) Credit Indices**

Credit indices are referred to as CDS of either notes of single or notes of multiple, which provide exposure to a large Credit rating marketplace. Credit derivatives indices provide both liquidity and versatility, allowing traders to take pure sectorial views. Indices have made a dramatic front to the credit derivatives marketplace.

**Figure 4: Credit Index- CDS Form**



**Figure 5: Credit Index- Note Form**

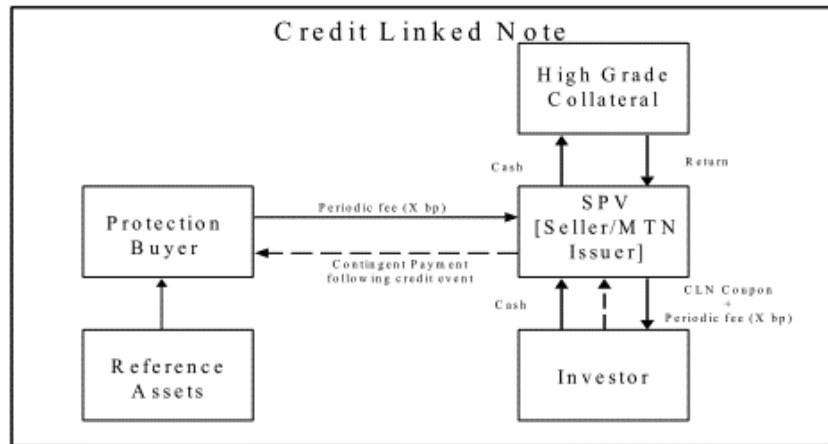


**d) Credit Linked Notes**

A credit-linked be aware (CLN) is a word issuance with an embedded credit default change. Underneath a CLN Structure, coupon note is relatable to the reference asset performance. CLN is designed using a Special Purpose Vehicle (SPV) structure that is collateralized with excessive-rated securities and is at “palms-

period” from the deal arranger. The SPV enters right into a default change with the deal arranger and the investor is exposed to both the be aware issuer (SPV) and to the reference asset.

**Figure 6: Credit Linked Note**



**e) Collateralized Debt Obligations**

Collateralized Debt Obligation (CDO) is the overall signature of instruments with variety which includes- Collateralized Bond Obligations (CBO) and Collateralized Loan Obligations (CLO). CDO can be, moreover, perceived by whether they are:

- i. Cash vs. Synthetic
- ii. Balance Sheet vs. Arbitrage
- iii. Cash flow or Market Value
- iv. Static or Managed.

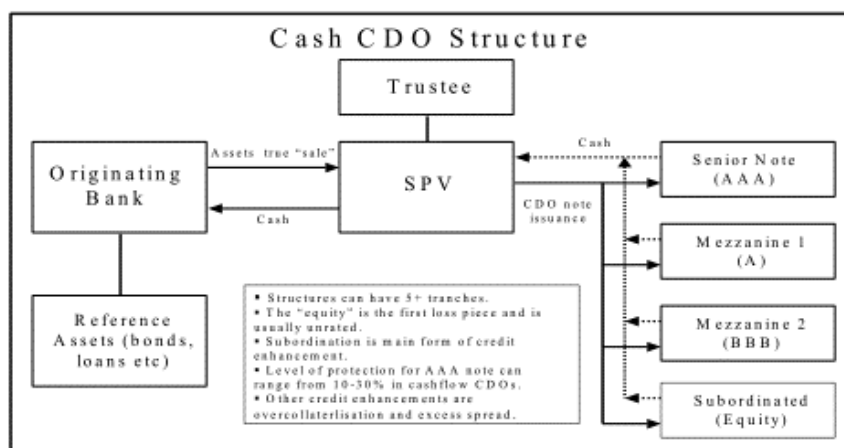
CDO is developed with the goal being to move the risk of credit related to this arrangement of commitments. The tranches levels of position are ordered by their level of risk of credit as:

- i. Mezzanine
- ii. Senior
- iii. Equity/Subordinated.



In case of having a collateralized bond obligation, there are some collateral like mortgages, credit card derivatives, and loan agreements. A CDO has a supporting association, which builds up the SPV to hold the insurance and issue protections. Supporters can incorporate banks, other monetary organizations, and managers of investment in order to keep a significant interest in the administration of the relationship with the obligors.

**Figure 7: Cash CDO Structure**



### 6.1.2 Credit Spread Instruments

The credit spread instruments' payoff depends upon the improvement in credit spreads. Credit spread derivatives of credit engage the withdrawal of:

- Relative credit regard changes, liberated from advance expenses.
- Trading forward credit spread suppositions.
- Trading the term development of credit spreads.
- Instruments inside this class include:
- Credit spread forwards (or credit spread exchanges).
- Credit spread options.

As of now, the market for such instruments isn't yet particularly liquid, while credit event instruments have significantly obtained and liquidity growing.

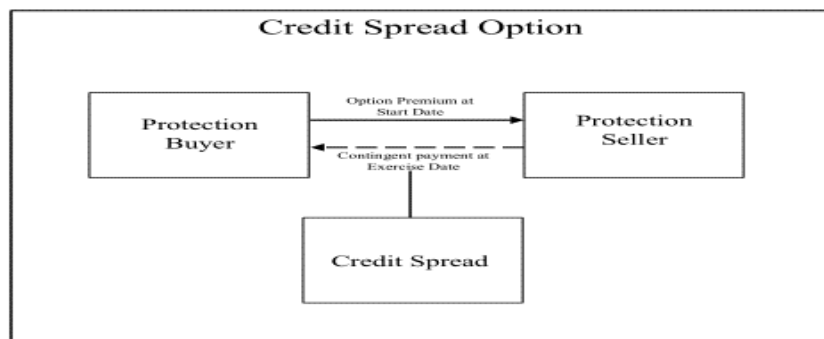
**a) Credit Spread Forwards**

The credit spread structure forward is a contract of forward to the credit spread between two reference assets. Counterparties to a credit spread forward arrangement are resolved to make or get portions on pre-agreed spread levels around the start of the forward understanding; and subsequently the two players can lose or get money on the arrangement, subject to the change in credit spreads at expiry.

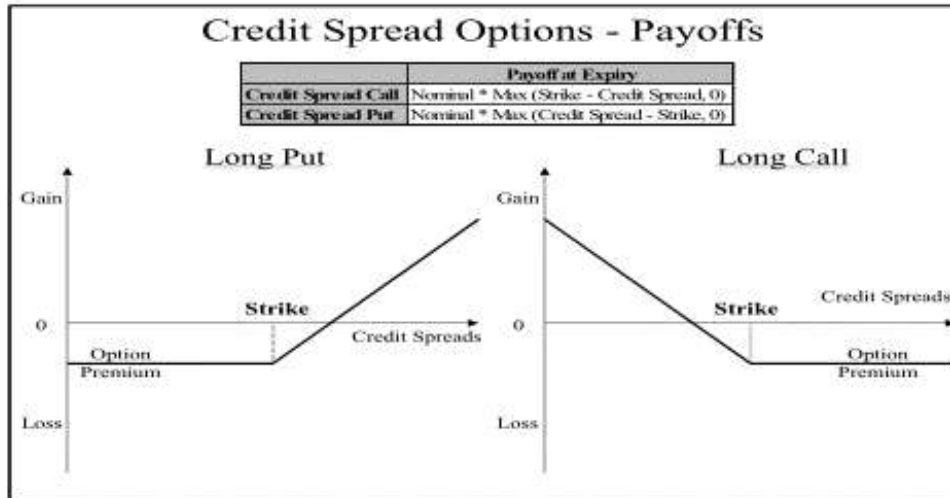
**b) Credit Spread Options**

Credit spread options resemble the credit spread forward payoffs which depends on the future credit spreads level. Credit spread is designed in such a way that it becomes worthless in case any default occurs so that the change in credit spread can be segregated from the default risk. Credit spread put options provides the buyer with the choice to sell the credit spread, and preferred position from a growing (expanding) credit spread. Credit spread call options offer the buyer the alternative to buy the credit spread, and bit of flexibility from a reducing (fixing) credit spread.

**Figure 8: Credit Spread Option**



**Figure 9: Credit Spread Option- Payoffs**



### 6.1.3 Total Return Instruments

These are instruments where the outcome depends on the spread's behavior as well as on default events. Key features of a flat return instrument are:

- The investor (total return receiver) assumes all risks and cash flows of the reference asset.
- The total return payer passes through all payments derived from the reference asset.
- The total return receiver, in return, effectively makes a payment to the payer equivalent to that of a funding cost plus a margin.

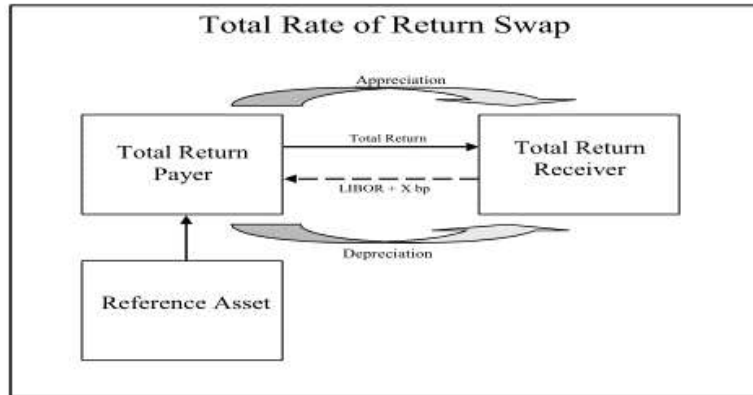
By definition, total return instruments are financial derivatives having some credit elements which are not credit derivative in action. One of the most notable types of instruments in this category is asset swap.

#### ***Total Return Swap: (Total Rate of Return Swap)***

A total return is considered as contract that permits investors to get the cash flow benefits from an asset without holding the real asset on their balance sheet. The total return payer affirms the reference asset and pays the inside and return of absolute, including any capital appreciation or depreciation.

With this sort of instrument, the total return payer suitably credits its balance sheet to the receiver of total return.

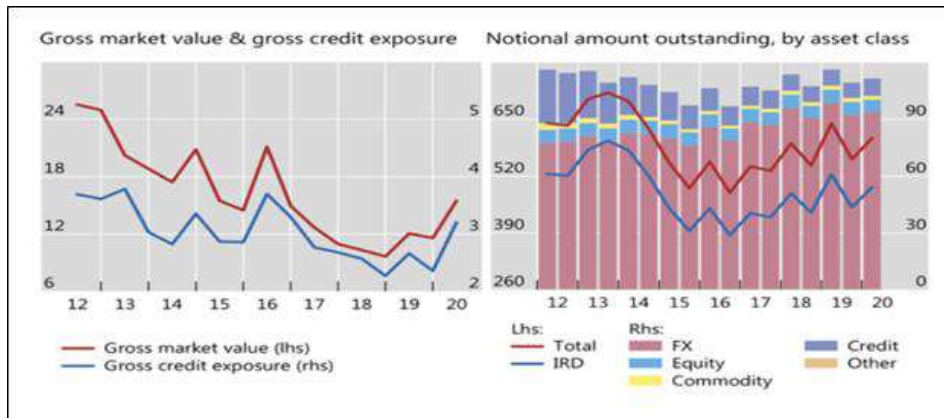
**Figure 10: Total Return Swap**



## 7. Global Statistics of Credit Derivative Usage

Over the years, credit derivatives have become one of the major influential insurances and risk-sharing tools in the global market. The market for credit derivatives has become very common around the world. In this chapter, the current status of credit derivatives for countries all around the world will be reviewed. The global gross market value of OTC derivatives rose from \$11.6 trillion to \$15.5 trillion within the 6 months of 2020 where the interest rate of derivatives had been increased. Again, the credit exposure increased from \$2.4 trillion to \$3.2 trillion at the end of June 2020. The clearing rate of the central CDs rose from 56 percent to 60 percent within the six months.

**Figure 11: Gross Market Value of OTC Derivatives Surges in H1 2020**



Source: BIS Derivatives Statistics of OTC

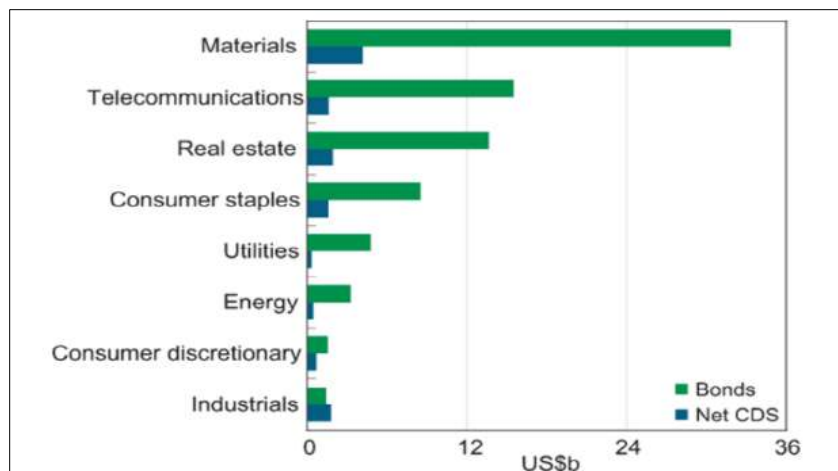
## 7.1 Credit Derivative Status in the United States of America

The United States government allowed the credit derivative to be traded only in the Over-the-Counter (OTC) market, where the transactions will be held through individual negotiation in the market. They also decided that the market for credit derivatives will be very small and the price will be confidential. The banks in the investment sector requested for the trading to be done in the OTC market, rather than in exchanges as well since the margin might be imposed with the chance of covering potential losses.

## 7.2 Credit Derivative Status in Australia

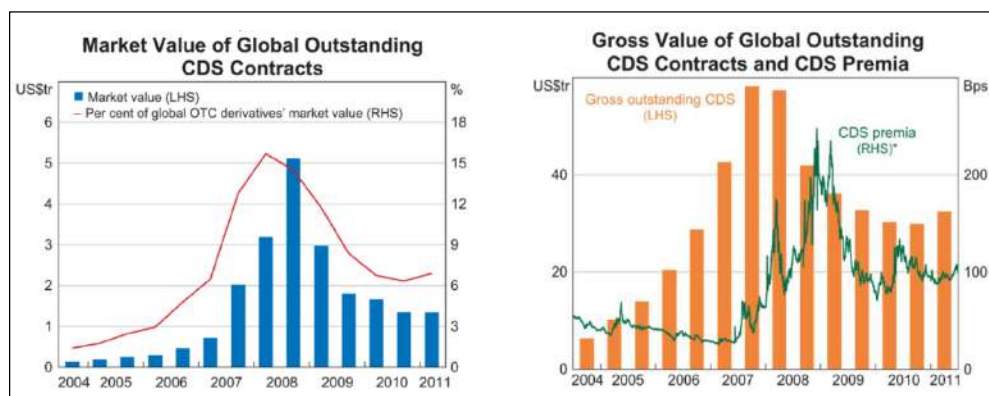
The market for Credit Default Swap (CDS) is used increasingly in the trade and risk management of financial institutions in Australia. It has become a great source of information on the pricing of credit risk. The CDS market, however, can be seriously affected by the poor liquidity which makes the pricing of CDS very difficult, especially where large divergences exist in the bond market of pricing.

**Figure 12: Outstanding CDS and Bonds**



**Source:** The Depository Trust and Clearing Corporation, RBA

**Figure 13: Market & Gross Value of Global Outstanding CDS**



Source: RBA

### 7.3 Credit Derivative Status in Canada

The market of corporate debt in Canada represents only 1.2 percent of the entire world market. Canadian entities formed a new market it started to grow and CDSs wrote was the reason behind it. The growth of the CDS market globally is highly connected with the growth of the CDS market in Canada. Though it preserves a very small percentage of the global market in both CDS and corporate debt, it is growing rapidly in the past 5 to 10 years.

### 7.4 Credit Derivative Status in China

The market of credit derivatives is rapidly growing in China. China allowed the insurance companies to use credit derivatives in the case of hedging against the possibility of risk to encourage funds from the insurance to be used in the real economy (BEIJING, May 19 Xinhua). The government is encouraging the credit derivative and for that reason, it is having tremendous growth.

## 8. Current Status of Loan Rescheduling and Loan Restructuring

The rising trend of the NPL has an ongoing adverse impact on the country's financial sector. If loanable funds are blocked as NPL, banks will not have enough reserve for giving future loans, which will affect the economy in multiple ways like it will hinder growth of employment, reduce aggregate

demand, reduce national income and ultimately affect the economy of Bangladesh. Rising NPL will also have an undesirable impact on the banks' profitability. There are mainly two parties in NPL. One is: NPL from the Banks' side and the other is NPL from Clients' side. From client's perspective, the main causes are willful defaulter, lack of financial literacy among client, fund diversion, installment size is too big or rescheduling period too small, losses of the businessman, etc. From the bank's perspective, like charging excessive interest rate, personal relationship, bank manager's sanctioned loans without sufficient collateral and proper scrutiny of business, Politically Favoured Persons (PFPs) and greed and ignorance of bank officials, etc. To combat the NPL, among various measures, loan rescheduling is one of them. Loan rescheduling, re-fixing the terms and conditions of a non-performing loan in order to ensure recovery, is a recognized tool to deal with classified loans.

Rescheduling exercise refers to modification of financing/ loan repayment terms, whereby the principal terms and conditions of the financing/ loan contract are not changed significantly. Rescheduling exercise normally only involves extending or broadening the financing/ loan tenure and revision of payment installments.

Restructuring exercise refers to modification of principal terms and conditions of the financing/loan, which may include change in the type or structure of the financing/loan or other significant change to its terms. Restructuring exercise may involve restructuring or conversion of the type or nature of the financing/loan such as overdraft to term financing/loan or from revolving financing/loan into non-revolving financing/loan. This exercise is to enable the customers to improve their cash flow and overcome financial difficulties from the banks' perspective, the rescheduling or restructuring can help the banks to reduce non-performing facility portfolios, introduce immediate write-back of specific provision, and maximize credit recovery exercise as well. As for the customers, rescheduling or restructuring can help them to ease their cash flow, allow continuity in their businesses and perhaps, avoid any legal action.

**Figure 14: Periodical Measures Adopted to Address Nonperforming Loans in Bangladesh**

<p><b>1986</b></p> <p><b>National Commission on Money, and Credit:</b></p> <ul style="list-style-type: none"> <li>• Setting of recovery targets for SCBs and DFIs</li> <li>• Prohibiting defaulters from access to further credit</li> <li>• Linking loan recovery measures with the central bank</li> </ul>	<p><b>1990</b></p> <p><b>Financial Sector Reform Project:</b></p> <ul style="list-style-type: none"> <li>• Enacting new laws, regulations, and instruments (such as, Financial Loan Court Act, 1990 and Bankruptcy Act, 1997)</li> <li>• Fixing collection targets and resolution of legal cases for the 100 largest defaulters</li> <li>• Publishing list of 100 largest defaulters in different media</li> </ul>	<p><b>1996</b></p> <p><b>Banking Reform Committee:</b></p> <ul style="list-style-type: none"> <li>• Formulating recovery cells and camps in SCBs</li> <li>• Introduction of incentives to bank officials for recovery</li> </ul>	<p><b>2000</b></p> <p><b>Structural Adjustment Performance Review Initiative:</b></p> <ul style="list-style-type: none"> <li>• Improving central bank's supervision and regulation</li> <li>• Enacting the Money Loan Court Act 2003 and the Bank Company (Amendment) Act 2003 for quick settlement of filed cases</li> <li>• Central bank's instructions to banks to maintain 9% ratio of capital adequacy to risk weighted assets, with core capital at least 4.5%</li> <li>• Making provision to appoint two directors from the depositors in bank board</li> </ul>	<p><b>2005</b></p> <p><b>Credit Risk Grading (CRG) Manual:</b></p> <ul style="list-style-type: none"> <li>• Making CRG system mandatory from 2006 to prevent fresh NPLs</li> </ul>
<p><b>2007</b></p> <ul style="list-style-type: none"> <li>• Corporatizing SCBs</li> <li>• Transfer of regulatory authority of SCBs from the Ministry of Finance to the Bangladesh Bank</li> <li>• Raising minimum capital adequacy ratio from 9 to 10</li> </ul>	<p><b>2012</b></p> <p><b>Revision of loan classification and provisioning:</b></p> <ul style="list-style-type: none"> <li>• Tightening loan classification to bring it more in line with international practices</li> <li>• Tightening of definition and delinquency periods for fixed term loans</li> </ul>	<p><b>2013</b></p> <ul style="list-style-type: none"> <li>• Amending the Bank Company Act, giving Bangladesh Bank authority to remove the Managing Director of the SCBs</li> <li>• Special diagnostic examination of SCBs by Bangladesh Bank</li> <li>• Signing by SCBs revised MoU with Bangladesh Bank with quantitative targets, including reduction of NPLs, limits on the growth of their lending portfolio, and recovery from the largest defaulters</li> </ul>	<p><b>2014</b></p> <ul style="list-style-type: none"> <li>• Automation of bank branches by end-2016 in financial reporting</li> </ul>	<p><b>2015</b></p> <ul style="list-style-type: none"> <li>• Placing observers in the board of banks with worsening internal governance</li> <li>• Restructuring of large loans above Tk5 billion</li> <li>• Signing by SCBs annual performance agreement with the Ministry of Finance to reinforce good practices</li> </ul>
<p><b>2019</b></p> <p><b>Ongoing Reform Measures:</b></p> <ul style="list-style-type: none"> <li>• If necessary, amendments to the Bangladesh Bank Order, 1972; Bank Company Act, 1991; Bankruptcy Act, 1997; Money Loan Court Act, 2003; Bank Nationalization Ordinance, 1972; Financial Institution Act, 1993; Bankers' Book Evidence Act, 1891; Cooperative Societies Law, 2001; Negotiable Instrument Act, 1881; and regulations on mergers and acquisitions</li> <li>• Placing a special audit for banks to probe irregularities in the sector</li> <li>• Launching a new guideline on credit risk management effective 1 July 2019</li> <li>• Recommendations of forming of an AMC, creation of secondary market for NPLs, setting up a separate data warehouse for NPLs under the existing facilities of the Credit Information Bureau of the Bangladesh Bank, and tax rebate facility for traders of the default loans</li> <li>• Easing loan classification and provisioning rules effective 30 June 2019</li> </ul>				

Source: ADB Briefs, November 2019, No.116



### **8.1 Bangladesh Bank Guidelines of Loan Rescheduling**

Under certain circumstances, Bangladesh Bank recognized that a legitimate banking practice may allow for the renewal or extension of a continuous loan or line of credit along with term loan that are beyond the control of the borrower. But in this regard, BB did not indicate that the borrower's willingness or ability to repay has deteriorated the quality of the loan. Though BB is concerned that rescheduling (also known as “prolongation” or “evergreening”) has a low probability of repayment which is carried at full value on banks' balance sheet, it may result in an overstatement of capital. The purpose of this Policy for Rescheduling of loans is not only to encourage commercial banks to accelerate growth by providing loans to the priority sectors but also cautioning about the nonperforming loan. Bangladesh Bank issued Master Circular no. 15/2012 dated 23.09.2012 for the banking sector of Bangladesh in order to communicate its policy stance that rescheduling should be done only in limited circumstances and with restrictions.

BB made few amendments on BRPD Circular No.15 dated September 23, 2012 on the time limit of ‘loan rescheduling’ for fixed term loan and short-term agricultural and micro credit in 2013. According to this circular, time limit for rescheduling of both classified fixed term loan and short-term agricultural and micro-credit has prescribed time-limit that may be added with the expiry date/repayment date of last installment to determine the repayment schedule which will start from the date of rescheduling. In addition to that, the earlier expiry date/repayment date of last installment in case of rescheduling was not considered.

BB issued special policies in May 2019 on loan rescheduling for one time exit for loan defaulters with 2% down payment and a long 10-year repayment facility with one-year grace period. Moreover, the circular also extended one time exit facility with maximum interest waiver for the defaulters. It is to be mentioned that there would be no new credit facility for the defaulted borrowers, who are entitled as the beneficiary of the special rescheduling facility.

In February 2019, BB permitted banks to:

- (i) write off loans that remained classified as bad debt for three years instead of the previous five years, subject to full provisioning;
- (ii) write off bad loans up to BDT 200,000 without filing any lawsuit instead of the previous threshold of BDT 50,000; and
- (iii) write off loans without keeping full provision.

In July 2019, additional measures were announced to ease standards of loan classification, rescheduling and restructuring. An application period for additional relief was opened; however, the implementation date of the new measures has not yet been announced. The new classification rules and rescheduling terms include: - Classification: Term loans will be considered sub-standard if no installments have been made for nine consecutive months, up from three months. Loans will fall under “doubtful” and “bad” categories if there is no payment of installments for 12 months and 18 months respectively, up from six and nine months.

Each bank is required to have its own rescheduling policy to be approved by its Board of Directors. The policy defines the circumstances and conditions under which a loan may be rescheduled. BB encourages the banks to adopt more rigid policies for rescheduling than what is recommended by BB. The policy must include controls to evade the routine rescheduling and repeat rescheduling of loans in those cases where borrowers are experiencing financial difficulty or there is doubt that the full amount of loan will be recovered. In unproductive sectors or unprofitable business enterprises in productive sectors, the policy should place strict limits or even prohibition. However, exceptions are made for certain sectors/business enterprises. The precondition is that those sectors/business enterprises should be identified in the policy and a justification for rescheduling should be given.

## 8.2 Volume and Trend of Loan Rescheduling

**Table 1: Amount of Rescheduled Loan**

Year	Amount (in Billion BDT)
2012	55.0
2013	180.2
2014	123.5
2015	191.4
2016	154.2
2017	191.2
2018	232.1
2019	527.7

**Source:** Scheduled Bank Statistics, BB

From the above table it can be easily observed that the amount of rescheduled loans was the highest in 2019 at Taka 527.7 billion, while it was lowest in 2012 at Taka 55.0 billion. Rescheduled loan amounts moved with an overall upward trend during the year 2012 to 2017. Though the movement is not consistent, the amounts are quite large which will ultimately show an artificial healthy profit and inflated asset position of the banking sector. This artificiality may hamper the performance of the sector.

**Table 2: Proportion of SS, DF and BL Loans: Total Industry of Banks (%)**

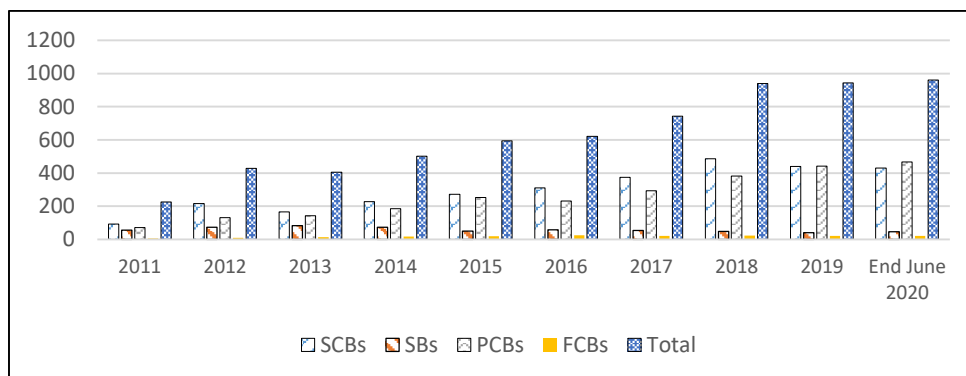
Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
SS	13.40	14.80	19.10	11.20	11.00	8.9	10.2	7.5	9.4	9.1
DF	8.40	11.50	14.20	10.10	11.20	6.5	5.4	5.5	4.7	4.1
BL	78.10	73.80	66.70	78.70	77.80	84.6	84.4	87	85.9	86

Note: SS=Substandard, DF=Doubtful and BL=Bad and Loss

**Source:** Financial Stability Report 2014-2019, BB

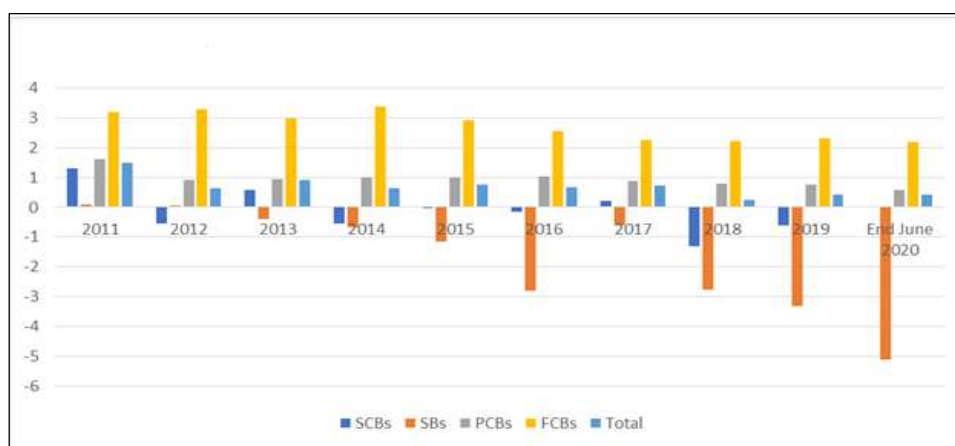
Although several policy initiatives regarding restructuring, rescheduling, recovery, one time exit and write-off of classified loans have also been taken by Bangladesh Bank to reduce NPLs, the amount of NPLs by the type of banks increased significantly (Figure-15). It has adversely affected the overall profitability of the banking industry which is shown in Figure-16.

**Figure 15: Amount of NPL by the Types of Banks (in Billion BDT)**



Source: Annual Report, BB, 2020

**Figure 16: Return on Asset (ROA) Ratio by Types of Banks**



Source: Annual Report, BB, 2020

With a view to avoid keeping provisioning against the toxic loans and showing hefty net profits, the majority of the lenders rescheduled their default loans on a wholesale basis without verifying the cash flow of the borrowers or without securing the required down payment. In the long run, this doesn't bring any good as it artificially shows a lower amount of default loan. It is just window dressing to make the statistics look better than what they are. As a result, the default culture remains and props up habitual defaulters. The rescheduling of defaulted loans will allow banks not to keep provisioning, meaning they will be able to show higher profits. The relaxed

policy on rescheduling has given a wrong signal to the financial sector and may create a moral hazard. Many good borrowers may feel discouraged to repay their loans on time because of the easy repayment policy. The record amount of rescheduling will hit banks' profitability as funds remain stuck for long because of rescheduling. The large amount of rescheduling puts banks in the liquidity crisis. The random rescheduling has weakened the financial norms in the banking sector and eroded business confidence as well. The private sector credit growth has been sluggish for long and it will not get a boost if this trend persists.

### **8.3 Concentration of Rescheduled Loans**

#### ***Sector-Wise Rescheduled Loan Composition***

Rescheduled loans in the industrial sector (regardless of the size of the industries) were 30.1 percent, whereas the percentage in the working capital category was 6.9 percent. The RMG and textile sector accounted for 18.5 percent of the total rescheduled loans. Among the other loans categories, commercial loans accounted for 10 percent, other non-specified sectors (including ship-building and ship-breaking, transportation and communication and consumer credit, etc.) accounted for 11.4 percent and foreign trade (export credit, import credit, and loans against trust receipts) accounted for 11.7 percent of the total rescheduled loans (Financial Stability Report-2019, BB).

#### ***Industry Size – Wise Rescheduled Loan Composition***

BDT 872.6 billion under large industries accounted for 57.6 percent of the total rescheduled loans at the end of December 2019. Medium, small, micro and cottage, and other industries accounted for 14.5 percent, 9.2 percent, 2.1 percent and 16.5 percent respectively (Financial Stability Report-2019, BB). At the end of December 2019, the highest rescheduled loan ratio was found in medium industries with 21.2 percent. Large, micro and cottage, small and other industries accounted for 17.5 percent, 16.0 percent, 13.2 percent, and 7.2 percent respectively. All ratios increased compared to the previous year (Financial Stability Report-2019, BB).

### ***Bank Cluster-Wise Rescheduled Loan Composition***

PCBs provided the highest amount of rescheduled loan facility at the end of December 2019 which was 59.1 percent of total rescheduled loans of the banking industry. During the same period, SCBs, SBs, and FCBs accounted for 35.5, 4.8, and 0.6 percent respectively in the industry's aggregate rescheduled loans (Financial Stability Report-2019, BB).

### **8.4 Loan Rescheduling during COVID-19**

Because of COVID-19, the banking sector experienced a sharp fall in the regular loan repayments and recovery from NPL in the second quarter of 2020. As a result, NPL will significantly rise and will lead to provision shortfall in many banks. It has hit the capital base of banks. In the absence of secondary market for real-estate in Bangladesh, banks will face critical situation in selling mortgaged assets which may aggravate this situation. In 2019, BDT 52,770 crore of the defaulted loans were regularized under the policy that allowed defaulters to regularize defaulted loans for 10 years by making 2 per cent down payment which was highest in a single year. So, despite the moratorium facility, non-performing loans went up to BDT. 96,116.65 crore in the first half of the last year which was BDT. 94,313 crores in December a year ago.

This temporary situation may increase the net profit of the banks by transferring the interest of the loans which is yet to be realized to their income books. This profit will not exist as the interest income may become suspense if loans become defaulted.

### **8.5 Problems of Loan Rescheduling**

Due to the existing perils or antagonistic effects of loan rescheduling, the study team is recommending to introduce different types of credit derivative products as an alternative mechanism to hedge the credit risk. In spite of relaxing the loan rescheduling criteria and allowing flexibility to the defaulter for repaying the debt, the following problems are still encountered by our banking sector:

### **a) Capital Erosion**

Rescheduling is a widely accepted legitimate practice globally, most banks in some cases rescheduled the loan for the sake of rescheduling without making any professional wisdom. They rescheduled the bad loans to clean the book and decreasing the bad loans exaggeratedly without any further examination and scrutiny of document. As a consequence, it deteriorated the balance sheet of the banks or financial Institutions and caused capital erosion of the lending institution. Rescheduling is one of the predominant reasons for capital erosion. Loans are classified into three categories substandard, doubtful and bad-loss. In case of bad and loss, 100 percent provision is maintained whereas partial i.e. certain percentage of provision is made against other classified loans. Provision shortfall is always there. The bank is exposing to capital shortfall risk due to lower provision. In the standard practice, as soon as loan is moving towards NPL, full provision is created in order to protect bank's capital. But unfortunately, our banking sector is far away from the standard practice of provision. So, profit is artificially overstated. Similarly, good profit means good dividend, so in the form of dividend, substantial amount of profit which was supposed to be retained as provision is taken out of the bank. This is one of the root causes of capital shortfall in Bangladesh. *According to Bangladesh Bank (BB) in March 2020, thirteen scheduled banks among them five are state- owned commercial banks, two state- owned specialized banks, five private commercial banks and one foreign bank, faced a combined capital shortfall of Tk. 25,904 crore due to higher amount of Non-performing Loans (NPLs).*

### **b) Moral Hazard Problem**

A large amount of funds in the form of non-performing loans is now stuck with defaulters –enhancing the banks' cost of funds. From May 1, 2019, defaulters have been allowed to reschedule their loans for 12 years after furnishing 2 percent down payment. So, the central bank's latest intervention to relax the loan classification rules has created a moral

hazard problem among the borrowers to not to repay their loans timely. Some good borrowers have stopped repaying their monthly credit installments due to different types of facilities offered to defaulters by BB.

**c) Eroded Business Confidence Creates Liquidity Crisis for the Banking Industry**

The random rescheduling has weakened the financial norms in the banking sector and provided a wrong signal to the market. Moreover, private sector credit growth has been sluggish for a long period, and it also erodes business confidence if the trend continues. Under the new rescheduling policy, defaulters got the chance to regularize their loans for 10 years, including one year's grace period, at 9 percent interest rate, only making 2 percent down payment which further adversely affected the situation. It creates new pressure on banks because the repayment of the rescheduled amount will be very slow due to the two percent down payment requirement and the long tenure of repayment. This will adversely affect the liquidity pressure on the banks. Moreover, if new rescheduling policy does not work, it will create further problems for the banking sector by adding to fresh default loans.

**d) Absence of Asset Management Corporation:**

The Korea Asset Management Corporation (KAMCO) purchased NPLs at a considerable discount and sold it at impressive prices for profit. The insolvent banks acquired by the healthier banks also received capital injected through public bonds issued by the Korea Deposit Insurance Corporation and guaranteed by the government on interest costs. Because of this aggressive reform, commercial banks had become more transparent and healthier than before; and both foreign and local investors' confidence has been largely restored. As a result, the NPL ratio dropped (ADB Brief, 2019). But, in Bangladesh, we solely depend on loan rescheduling due to lack of this strategy and a structured capital market.



#### **e) Lack of Corporate Governance and Customer's Due Diligence**

According to the Report of Global Competitiveness in 2019 of World Economic Forum, Bangladesh holds 130th position among 141 countries by getting a score of 38.3 out of 100 in soundness of banks. Since India, Pakistan, Sri Lanka and Nepal hold 89th, 93rd, 94th and 106th position respectively, Bangladesh is in inferior position among the South Asian countries. The factors that determined the banks' soundness are weak monitoring, growing default loans, lack of good governance, balance sheets, availability of funds, and capacity to repay. The Financial Stability Report published by Bangladesh Bank in 2019 showed that the country's banking sector maintained the lowest Capital Adequacy Ratio (CAR) in 2019 compared with the neighboring countries (India, Pakistan and Sri Lanka). Bangladesh maintained the CAR at 11.60 percent which is 17 percent, 16.5 percent, and 15.1 percent in Pakistan, Sri Lanka and India respectively. The ratio of defaulted loans, the capability of keeping provisioning against regular and classified loans and the actual situation of corporate governance are reflected by the Capital Adequacy Ratio (CAR). Practicing loan rescheduling for a long period of time would deteriorate and shrink the capacity of banks to disburse fresh loans in productive sector which will, in turn, adversely affect the entire economy.

#### **9. Prerequisites of Credit Derivative Products**

To launch credit derivative products in Bangladesh, the first and foremost prerequisite is to establish "Credit Derivative Product Company (CDPC)" which is a narrow-focus financial operating company that play the role of specialty "reinsurer" of credit risk. In the current credit crisis, they are performing well in the global market place, honoring their obligations to counterparties and proving themselves as ??. CDPCs should increasingly become important and useful players in the financial system in the future.

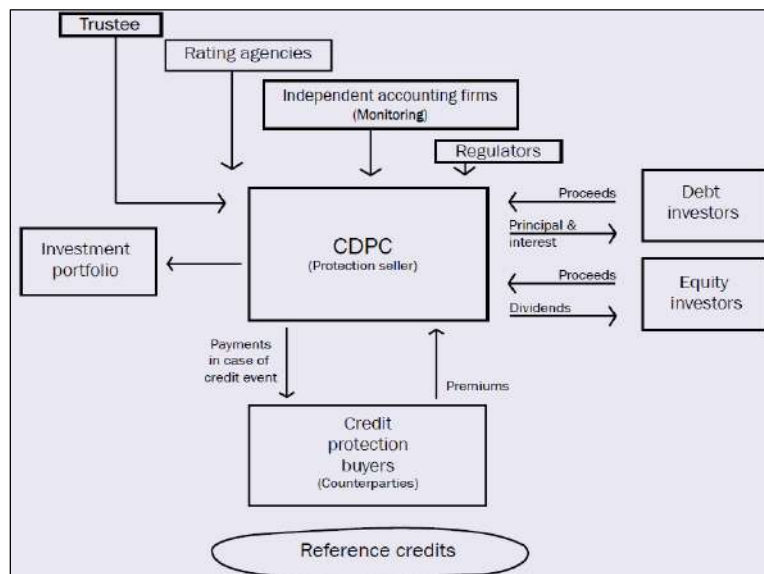
## 9.1 What is CDPC and How it Works?

One definition of a CDPC is provided by Moody's: "CDPC's are highly rated, standalone structured financial operating companies with tightly defined risk management and operating parameters that offer credit protection to counterparties through Credit Default Swap (CDS) contracts on single name corporates or tranches of synthetic CDO's (mostly of corporates)". In different countries, CDPC is also known as "Asset Management Company (AMC)".

The key features of CDPCs may be summarized as follows:

- They support real risk transfer for banks by selling protection against credit events— single name defaults or "super-senior" tranches "tail risk" – primarily in the corporate investment world.
- They are ongoing-concerns, perpetual operating companies, not temporary vehicles. They are capitalized with equity and debt provided by long-term investors.
- CDPCs are designed to withstand extreme credit conditions and perform their obligations to counterparties, as symbolized by triple A counterparty ratings.

**Figure 17: How CDPC Works?**



CDPCs are structured to protect counterparties and investors in their rated debt obligations. This is done by constraining them to specific, predefined limited activities and to risk controls. They must maintain their triple A counterparty ratings and should these ratings be at risk, the CDPCs are forced to limit their activities until they improve their risk profile (in contrast to monolines, where repeated rating downgrade surprises have damaged credibility). Their focus is strictly on credit risk and all other risks are carefully eliminated or minimized.

CDPCs are limited purpose companies, subject to operating guidelines approved by the rating agencies. The operating guidelines explicitly list all the permitted activities for a CDPC such as selling protection, investing its cash and paying interest and dividends to investors. The CDPC is meant to stay within clear risk parameters such as exposure limits to single names, to sectors, asset classes and to ratings categories in order to maintain its rating.

CDPCs are subject to capital adequacy models which quantify their expected credit loss. These are Monte Carlo simulation-based models which are constantly run under a range of assumptions for the probability of default of the assets in the portfolio, the correlation of these defaults, the probability of default of counterparties and multiple stress scenarios. The expected loss must remain consistent with the triple A ratings on the rating agencies' global scales.

In addition to the structural features described above, CDPCs' mode of operation limits their focus narrowly to synthetic credit risk and practically eliminates liquidity and market risks.

## **9.2 Operating Modes of CDPCs**

The operating guidelines dictate three different operating “modes” that function as built-in circuit breakers requiring the CDPC to build up or retain capital and reduce risk if rating quality is at risk. The three operating modes are as follows:

**a) Normal Operating Mode**

The normal operating mode is generally characterized by having adequate capital to support the CDPC's obligations to its counterparties at the risk level indicated by the initial credit rating. Under this mode, the CDPC follows its operating guidelines and is free to undertake all permitted activities in accordance with its operating guidelines. CDPCs commence operations in the normal operating mode and will remain there as long as they maintain compliance with their operating guidelines, including the capital tests.

**b) Suspension Operating Mode**

If certain operating guideline criteria that could imperil the counterparty credit rating are violated, then the CDPC enters into a suspension operating mode, which typically results in the CDPC notifying the rating agencies and the board of directors, and the CDPC is not being allowed to enter into new CDS, except on a "maintain or improve" basis. (See below for typical suspension events.) Upon suspension, the CDPC will generally not be allowed to pay dividends to the equity holders, and there is limited ability to call debt. If a CDPC cures the violation, it can exit the suspension operating mode and return to the normal operating mode. Raising additional capital and novating CDS that are causing violations are two methods of curing violations.

**c) Wind-Down Mode**

A CDPC enters into wind down mode if certain suspension events are not cured within a grace period. This mode is permanent (unlike the suspension mode, which can be exited if a CDPC cures the violation). During wind-down mode, the CDPC does not enter into any new business; it just runs off the existing CDS portfolio and manages risks. All cash proceeds are used to pay off liabilities until the CDS portfolio is completely matured.

### ***Permitted Activities of CDPC***

The operating guidelines specify activities that the CDPC may conduct. Activities that are not described are not permitted. Typically permitted activities include:

- Issuance of equity and debt securities
- Redemption, call or retirement of equity and debt securities
- Entry into and liquidation of eligible CDS with permitted counterparties
- Entry into and liquidation of eligible investments
- Receipt, purchase and liquidation of deliverable obligations assuming the CDPC is permitted to use physical settlement of CDSs
- Entry into any other activities that have received rating agency consent and board of director approval
- Entry into any incidental activities permitted under the operating guidelines that allow it to perform the activities described above.

### **10. Application of Credit Derivative Products**

This section discusses how different market members can apply for credit derivative instruments in their organizations and accordingly enhance financial executions. The vital utilization of credit derivative to upgrade monetary execution for associations, regardless of whether monetary or not in any case, is given below:

- Credit Risk Management
- Relative Value Trading
- Risk Reduction
- Market Making (trading)
- Capital Management
- Balance Sheet Management
- Credit Line Management
- Accessing Markets
- Enhancing Yields.

### ***Credit Risk Management***

Credit derivatives were initially introduced as instruments for hedging the credit risk exposure through the procurement of protection against damages incurred due to 'credit events'. At the advent of the industry in 1993, commercial banks were required to use them on their corporate loan books to protect against credit risk. The idea behind credit derivatives is clear, and this makes it straightforward. They are equally beneficial for both the sellers and purchasers of security. For example, investors who were not able to get revelation to this sector (for lower 'market' of loans from bank) can now easily take loans as commercial banks discharge their credit book risk. Credit derivatives' versatility offers consumers a range of benefits precisely as OTC securities can be configured to satisfy particular consumer targets. Firstly, the banks used the credit derivatives. The banks tried to hedge the losses from portfolio default from illiquid assets, for example, the emerging-market syndicated loans and corporate loans and as a result the market started to develop. The use of securitization for moving the credit risk from the statement of financial position created bad connection with the debtors. To maintain the banking relationships while hedging the credit risks, the bank purchase protection on the loan book by using CDSs. The loan would be protected by the CDSs and also shown on the statement of position.

As a commodity, the banks using the credit derivatives are bidding for customers. The CDS market has grown in interest-rate swaps exactly as the market did with dealer banks which provide two-way swaps prices to consumers and banks. The credit security in this position are purchased and sold by the banks.

**Figure 18: Credit Derivative User Application**

<b>Credit Derivative User Application</b>						
	Commercial Banks	Securities Houses	Corporations	Insurance Companies	Fund Managers	Government Bodies
Risk Reduction	✓	✓	✓	✓	✓	✓
Credit Line Management	✓	✓	✓	X	X	X
Capital Management	✓	✓	X		X	X

Credit Derivative User Application						
	Commercial Banks	Securities Houses	Corporations	Insurance Companies	Fund Managers	Government Bodies
Balance Sheet Management	✓	✓	✓	✓	X	X
Enhancing Yields	✓	✓	X	✓	✓	X
Market Access	✓	✓	X	✓	✓	X
Market Making	✓	✓	X		X	X

### ***Relative Value Trading***

The liquid market for credit derivatives allows the investors to get a viable and attractive option by using the credit derivatives. There are some methods of credit market investment for credit derivative transactions. For a proper application of these plans, a multi-strategy investment fund will better work than the traditional way of funding. Moreover, an expert credit analyst is highly required for credit market investment selection and analysis. The cash and synthetic assets, CDS or loans, and cash bonds can be used for applying the following strategies. Using CDS can also help implement some specific credit market investment strategy.

### ***Risk Reduction***

Credit risk reduction is the process of reducing the unwanted risk exposure in a single business activity or in multiple business activities, resulting in a transfer of credit to a third party. Basically, it revolves around the segregation of unwarranted credit risk, whether for a one-off credit concern (such as a single deal) on ongoing business activity and the transmission of that credit risk to any other party or parties. However, credit risk can initiate in any single party or in any specific industry exposures or in any country based economic exposure. These all aspects can have an adverse impact on the revenue of the business. For example, in order to reduce the credit risk in case of raising capital through bonds, the exposed party may require the use of credit derivative protection for either short term or long term. CDS (credit default swap), CLN and CDO are some of the credit derivatives that can enhance the risk-taking capacity of the businesses.

### ***Credit Line Management***

Credit line management is not about mitigating the risk exposure; rather it is about limiting the credit exposures to the borrowers, traditional derivative counterparties, trading partners, industrial parties, etc. Credit lines are the internal limits that an organization places on its exposures to borrowers, trading partners or traditional derivatives counterparties. Even though more associated with banks and securities houses, credit lines can in a similar manner be proper for corporations, fund managers, and insurance companies. Credit lines can be administered into groupings, for instance, counterparty, industry section, country, and even thing type. Credit line management focuses on the effective management of credit line rather than on credit risk reduction. The objective is to empower advancing business relationships with upheld borrowers, trading assistants, and counterparties.

Management of Credit Line can be used in two unique ways to successfully manage credit lines:

1. Purchase of credit derivative protection (reduce credit exposure), and
2. Sale of credit derivative protection (increase credit exposure)

Credit derivative contract is like a portfolio management concern, since the credit derivative protection has to be diversified by the protection selling party. For example, if a bank continues to provide loans to a major corporation in the secondary market, other corporations being aware of it will not feel safe to continue purchasing credit derivative protection from the bank because any default occurring in that major corporation's performance might incur significant loss in the bank's credit derivative arrangement performance. For this reason, confidentiality in the credit derivatives transaction is required by the seller of the credit derivative protection under the credit line management process.

### ***Capital Management***

Capital management is the way of managing the capital in terms of higher return and lower risk for the particular business operation. For this reason,



the limited capital resource of the business should be organized, based on the risk-return criteria.

### ***Balance Sheet Management***

A credit derivative product is of off-balance sheet nature that leads the firm to presume the unfunded credit exposure. However, the off-balance sheet exposure is initiated with credit derivative protection contract sale, and this provides a systematic return over the duration.

### ***Yield Enhancement***

Credit derivative is not a method of earning yields directly; rather, it can turn the process of increasing yield by minimizing the risk exposures. For example, in a loan arrangement, the coupon income is the downside risk for the credit derivative contract and the upside potential is unlimited. In case of the seller of the credit derivative protection, the seller earns additional yield without any prior investment and in case of any default, there is a contingent liability to be paid.

### ***Market Access***

Previously, credit loans were not thought of any tradable product. It was only an instrument to take loan for a certain period. However, with the inception of the credit derivative, it has become a new method of trading in the market that can create synthetic longs, structured credit products and replication of credit exposure payoffs, keeping the loan contracts as underlying for investment bankers, insurance companies, fund managers and sovereign nations to some extent.

### ***Market Making***

With the credit derivative trading feature, new market for this derivative has been built where dealers and brokers are initiating bid-ask prices for the contract, structuring the derivative such as CLN, CDO, and CDS along with some other packages to be traded in the OTC market.

## **11. Thoughts for Discussion**

Throughout history, the economy of Bangladesh as a whole or the banking sector as an industry are not getting any noteworthy recompenses of loan

rescheduling although the motives of the Government as well as BB is optimistic. BB, with endorsement of the Government, provides second or third chance to the defaulter to pay off the debts; however, these habitual defaulters take undue advantage of the regulators' compassionate attitude towards them. As a result, it is a matter of great apprehension whether the exercise of loan rescheduling will continue in near future or some alternative mechanism might be required to be introduced. Considering the above facts, the research team wants possible solutions of the following challenges to draw some affirmative and constructive recommendations.

- a) *In spite of relaxing the criteria of loan rescheduling several times (last amendment held in May, 2019), why is the banking industry not getting any significant benefit from loan rescheduling?*
- b) *Are there any loopholes in the existing criteria of loan rescheduling? Whether further amendment is necessary?*
- c) *Whether the banking industry is really competent and sincere enough in recovering the NPL? Where is the gap?*
- d) *Whether The Money Loan Court Act 2010 needs to be amended to make it more effective?*
- e) *In addition to existing non-legal measure of loan recovery, whether some new and innovative measures need to be introduced?*
- f) *Considering the existing culture of loan default, whether it would be viable to establish "Asset Management Company" or "Credit Derivative Product Company" in Bangladesh?*
- g) *Whether BB needs to introduce a specific and up-to-date guideline for the operation of "Credit Derivative Product Company" in line with global standard?*
- h) *Before launching CDPC, whether a comprehensive market survey or feasibility study needs to be conducted by BB?*
- i) *To what extent, the credit derivative products discussed in the study would be suitable in the Bangladesh context?*
- j) *What would be the major challenges/threats towards establishing CDPC and its products in Bangladesh whereas majority of the loan defaulters are habitual and highly politically connected?*

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## Annexure I: Participating Banks in FGD

Sl	Name of the Banks	No. of Participants
1.	Bank Asia Ltd.	1
2.	BRAC Bank Ltd.	1
3.	Citibank N.A.	3
4.	Commercial Bank of Ceylon PLC	3
5.	Dhaka Bank Ltd.	1
6.	Eastern Bank Ltd.	2
7.	Hong Kong and Shanghai Banking Corporation Limited	4
8.	Mutual Trust Bank Ltd.	1
9.	Pubali Bank Ltd.	1
10.	Rupali Bank Ltd.	1
11.	Southeast Bank Ltd.	1
12.	Standard Chartered Bank	5
13.	The City Bank Ltd.	1
14.	United Commercial Bank Ltd.	1
15.	Woori Bank Ltd	2
<b>Total</b>		28

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Our best wishes to BIBM.



Selim R.F. Hussain  
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