

**CRITERIA PAPER****Synthetic CDOs: Rating Credit-Linked Notes****ANALYST:**

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The Malaysian securitisation market has grown strongly over the last few years, as investors become accustomed to the various structures and jargon. To promote further market development, this paper discusses synthetic collateralised debt obligations ("CDOs") and RAM's approach to rating Credit-Linked Notes ("CLN") that are issued in synthetic securitisation.

The key features of synthetic securitisation include the following:

- No transfer of assets in synthetic securitisation (securitised assets are 'reference credits').
- Transfer of credit risk for the Protection buyer (defined in the Credit Derivatives section).
- The primary purpose of synthetic securitisation is credit-risk management, rather than raising funds.
- In synthetic securitisation, the (debt) issue size is typically a fraction of the nominal value of the referenced credits.
- RAM's approach to rating synthetic CDOs is similar to that of cashflow CDOs, with emphasis on the default risk of the underlying reference credits vis-à-vis the credit events captured in the credit-default-swap ("CDS") agreement.
- At the same time, other aspects of synthetic securitisation are also emphasised, including requirements for eligible investments; review of the protection buyer, collateral manager, and swap counterparties; as well as legal and structural review.

Globally, synthetic securitisation has outpaced that of cashflow securitisation, with synthetic CDOs now accounting for approximately 75% of the entire CDO market. Meanwhile, the upcoming implementation of Basle II has increased the urgency for banks to measure and model the credit risks of their portfolios. In this regard, synthetic securitisation has tremendous potential for banks that seek alternative tools for credit-risk management. RAM will discuss the potential impact of synthetic securitisation on banks' risk-weighted capital in a subsequent publication.

In Malaysia, synthetic securitisation transactions are envisaged to be submitted to the Securities Commission ("SC") under the *Guidelines on the Offering of Structured Products* ("Guidelines"). For now, synthetic CDOs are expected to appeal to more sophisticated originators and investors, although RAM's interaction with market participants indicates that more parties are open to exploring this new class of assets. This paper assumes that the originators and investors in a synthetic securitisation are financial institutions.

## T RADITIONAL VERSUS SYNTHETIC CDOs

In cashflow securitisation or “traditional” securitisation, an originator sells a portfolio of assets such as home loans, credit-card debts or auto hire-purchase (“HP”) loans to a special-purpose vehicle (“SPV” or “Issuer”), which would then issue bonds or notes backed by the cashflow from the underlying assets. In doing so, the originator has exchanged future cashflow for a lump-sum upfront payment. The originator could then utilise the proceeds from the sale to generate new assets. Operationally, the originator is usually engaged as a servicer for the transaction, to manage the collections from the securitised assets on behalf of the Issuer.

Unlike traditional securitisation, synthetic securitisation does not involve any sale of assets by the originator. Thus, the originator remains the legal and beneficial owner of those assets. Nonetheless, synthetic securitisation involves the transfer of the credit risk of the reference assets (which may comprise corporate debts, retail loans or other reference credits) via the use of credit derivatives.

The documentation for a sale of banking assets can be more complex and time-consuming than that for synthetic securitisation.<sup>1</sup> Furthermore, banks that wish to expand their loan books may be hesitant in selling these assets. However, banks may benefit in terms of risk management if such assets are referenced in a synthetic securitisation. Capital relief, and not funding, is the key motivation for synthetic securitisation.

On the other hand, a key similarity between traditional and synthetic securitisation is that payments on the issued bonds or notes depend very much on the credit risk of the underlying assets.

**Table 1: Differences between traditional and synthetic securitisation**

	<b>Traditional Securitisation</b>	<b>Synthetic Securitisation</b>
Sell assets/raise funds for originator	Yes	No
Transfer of risk	Yes, via sale of assets	Yes, via credit-default swap
Balance-sheet treatment (for the originator)	Mostly OFF balance sheet*	Assets stay ON balance sheet
Capital relief (for the originator)	Yes – for off-balance-sheet portion	Yes – depending on amount of risk transferred
Issue size	Approximately the same as securitised assets	Typically a fraction of the nominal value of the reference credits
Excess spread	Captured by originator via servicing fee, investment in subordinated debt	No need for device to recapture excess spread
Role of originator	Servicer of assets	Asset owner and protection buyer
Credit enhancement methods	Subordination, overcollateralisation, excess spread	Subordination
Risks (for investors)	Default, prepayment, delinquency, interest-rate risks	Default risk of the reference credits

\* It has become increasingly difficult to achieve off-balance-sheet status under the new Financial Reporting Standards.

## CREDIT DERIVATIVES

A derivative is a financial product which derives its value from an underlying asset. A *credit* derivative is a financial product that is linked to credit risk, and therefore derives its value from the credit-worthiness of the underlying asset. In synthetic securitisation, the credit risk of a pool of assets may be transferred through the

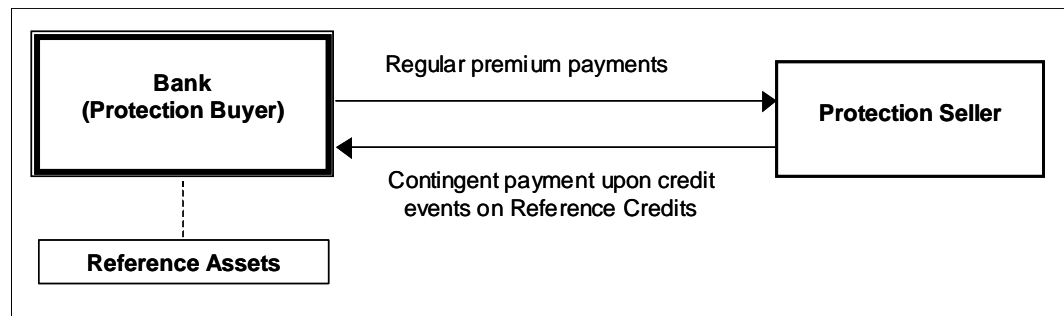
<sup>1</sup> Section 99 of the Banking and Financial Institutions Act prohibits the originating bank from disclosing information relating to the customer accounts to any third party. However, provisions under the *Prudential Standards on Asset-Backed Securitisation* (issued by Bank Negara Malaysia in March 2003) allow rating agencies to assess the credit quality of borrowers.

use of funded and/or unfunded credit derivatives. The most common examples of funded and unfunded credit derivatives are CLN and CDS, respectively.

□ *Credit-Default Swaps*

The mechanics of a CDS are fairly straightforward. A bank seeking credit protection (“Protection Buyer”) for its assets makes regular premium payments to the Protection Seller. The Protection Seller is typically another bank or insurance company, or an SPV. Should certain pre-defined credit events occur, the Protection Buyer would make a claim against the Protection Seller. Settlement of claims can be made in various forms, such as cash settlement net of recoveries, or gross settlement in exchange of physical delivery of the defaulted reference credits.

**Figure 1: Example of a credit-default-swap**



□ *Credit Events*

Credit events commonly found in CDS agreements in the International Swaps and Derivatives Association (“ISDA”) Master Agreements<sup>2</sup> include payment default on the reference credits, insolvency of the reference obligor, restructuring of the reference credit/obligor, or cross-default by a reference obligor on its other credit facilities. The specific choice of credit events can be tailored to suit the Protection Buyer and Protection Seller. However, the minimum credit events include failure to pay and bankruptcy of the obligor. The CDS is a contract that is explicitly referenced to specific credit(s).

□ *Credit-Linked Notes*

In the case of CLN, the credit risk of the reference credits are transferred to CLN investors. Typically managed via an SPV, the SPV will invest the cash proceeds from the CLN issuance in a portfolio of eligible investments. Meanwhile, the SPV will use premium payments received from the Protection Buyer, supplemented by interest income from the eligible investments, to make periodic coupon payments on the CLN. Upon a credit event, some of the eligible investments may be liquidated to pay the Protection Buyer for realised losses on the reference credits. A corresponding amount of CLN will then be written down. Upon maturity of the CLN, the remaining eligible investments will be liquidated to repay the outstanding CLN.

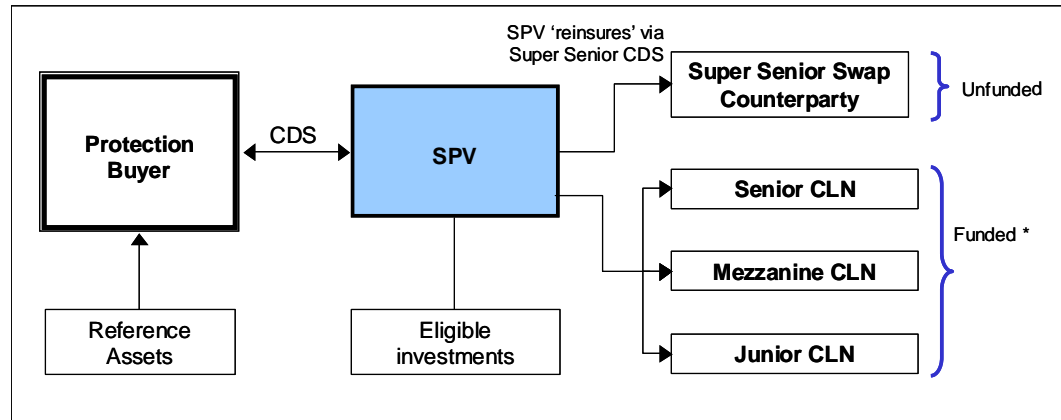
□ *Effect on Protection Buyer*

The Protection Buyer has ‘insured’ or transferred the default risk of the reference credits to the CDS swap counterparty and the CLN investors. Thus, the Protection Buyer would only suffer a loss should both the reference credits and the Protection Seller default. As such, the Protection

<sup>2</sup> A standardised form of agreement where the key terminology is as defined by the ISDA.

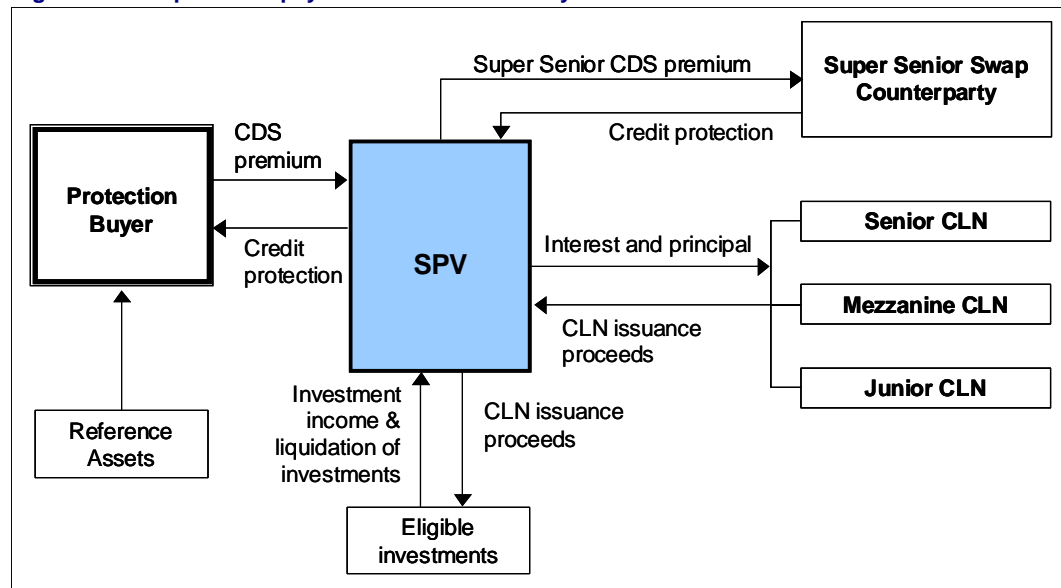
Buyer's risk profile should improve, thereby requiring the bank to maintain a lower level of capitalisation.

**Figure 2: Example of a synthetic securitisation structure**



\* A portion of the credit risk may be retained by the Protection Buyer or transferred to an external party (unfunded).

**Figure 3: Example of the payment mechanics of a synthetic securitisation**



## RATING OF CREDIT-LINKED NOTES

RAM's rating methodology for synthetic securitisation structures covers aspects that are similar to those of cashflow CDOs, namely the evaluation of the following:

- 1) Credit quality of the reference credits
- 2) Recovery rate after the credit event
- 3) Eligible investments
- 4) Counterparty risks
- 5) Legal, tax and structural risks
- 6) Cashflow analysis

### 1) Credit quality of the reference credits

RAM would assess the credit risk of the reference credits, to derive their base-case probability of default ("PD"). In determining the assumptions for the base-case PD, emphasis will be placed on the underwriting standards and servicing ability of the originator. There are several methods through which the credit risk of the reference credits can be evaluated:

- Performing a credit estimate of each obligor in the pool of reference credits
- Rating mapping (of the Protection Buyer's internal scoring system to RAM's rating scale)
- Portfolio approach

The portfolio approach is applied when there is a large number of homogenous reference credits in the securitised pool, thereby making it impractical to assess each individual reference credit. If the Protection Buyer has already assigned an internal rating or credit score to each reference credit, we may map these scores to RAM's rating scale, based on the Protection Buyer's historical default experience.

In determining the base-case PD of the reference credits, specific parameters may also be considered, depending on the type of asset and the choice of credit events. The composition of the pool of reference credits is also analysed. For example, the base-case PD may be adjusted according to the transaction's eligibility criteria, as well as exposure to single obligor and industry concentration.

### 2) Recovery rate after credit event

In addition to analysing the underwriting and servicing aptitudes of the Protection Buyer, RAM also assesses the recovery processes and the historical experiences of recovery rate and recovery timing. This would enable RAM to arrive at the assumptions for loss given default ("LGD") and timing of recovery. The composition of the pool of reference credits (e.g. eligibility criteria, replacement of reference credits, or underlying collateral) could affect the LGD assumptions. The LGD assumptions would also be viewed in conjunction with the transaction's claims-settlement mechanism. The effect of recoveries on the required credit enhancement would be influenced by the method of claims-settlement recovery and the calculation of the settlement amount, including the definitions of credit events and settlement amounts found in the 2003 ISDA Definitions.

Having determined the base-case PD and LGD assumptions, RAM would apply a stress factor<sup>3</sup> to ascertain the appropriate level of credit enhancement required at each rating level. The rating of each class of CLN would then depend on the available credit enhancement.

### 3) Eligible investments

The Protection Seller (or SPV) will use the proceeds from the CLN issue to invest in eligible investments. As proceeds from the liquidation of the eligible investments constitute the Protection Seller's only resource vis-à-vis paying the claims made by the Protection Buyer and/or to redeem the CLN, they should be practically free from credit and market risks. Hence, eligible investments are

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<sup>3</sup> For our 5-year stressed default assumptions, please refer to RAM's methodology paper, *Rating Cashflow-Collateralised Debt Obligations*, re-published in September 2006.

typically restricted to cash or government papers that are highly liquid and can be disposed of easily without penalty. The eligible investments should have a maturity date that falls prior to a payment date of a CLN. In summary, the risks of the eligible investments must commensurate with the CLN issuance.

#### 4) Counterparty risks

Premium payments by the Protection Buyer under the CDS constitute the main source of cashflow for the SPV vis-à-vis meeting coupon payments on the CLN. Hence, the SPV's ability to meet full and timely payments on coupons is linked to the credit profile of the Protection Buyer.

The super senior swap counterparty's credit risk would affect the unfunded portion of the transaction. This is because the ability of the SPV to repay the Protection Buyer - should losses on the reference credits exceed the CLN - depends directly on the super senior swap counterparty's ability to honour the SPV's claims on the super senior CDS. In this respect, RAM would conduct a due diligence on the super senior swap counterparty, to ensure that the minimum requirements are met under the transaction structure. However, the super senior counterparty's credit risk does not have any impact on the rating of the CLN.<sup>4</sup>

#### 5) Legal, tax and structural risks

RAM's legal analysis focuses on proper documentation of the intended transaction structure. The credit events and settlement mechanism chosen in a transaction should be clearly worded to remove any ambiguity with regard to the calculation of the CDS settlement amount, the settlement mechanism, and the arbitration of potential disputes regarding a credit event. Aspects of structural analysis covered in the rating of CLN include the following:

- Definition of credit events
- Eligibility criteria for claims
- Claims and settlement mechanism (whether on the gross or net amount of the loss on the reference credits)
- Limits (if any) on claims that may be made by a particular industry and/or obligor
- Priority for allocation of losses to CLN, including distribution of proceeds from recoveries
- Liquidation of eligible investments and redemption of CLN
- Implications on the claimable amount should there be replenishment of reference credits
- Opinion on the tax position of the Issuer, to gauge the appropriateness of the assumptions regarding the Issuer's senior costs vis-à-vis the premium and interest income.

In addition, RAM would require a legal opinion regarding the bankruptcy-remoteness of the SPV. However, unlike cashflow securitisation, 'true sale' of the underlying assets is not an issue as there is no transfer of assets involved.

#### 6) Cashflow analysis

Cashflow analysis is conducted to evaluate the availability of funds for full and timely payment of the Issuer's obligations, including senior costs as well as interest and principal on the CLN. Often,

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<sup>4</sup> The credit strength of the super senior counterparty would, nonetheless, affect the extent of capital relief for the Protection Buyer.

transactions may be structured to 'match' the Issuer's cashflow, i.e. the cash inflows of the Issuer (via the CDS premium and interest income from eligible investments) match its expected cash outflows (comprising senior costs, CLN coupons, and CDS premium to the super senior CDS counterparty).

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### **Related Articles**

["Credit-Risk Implications under Basle II on Securitisation \(Part I\)", 5 October 2006](#)

["Credit-Risk Implications under Basle II on Securitisation \(Part II\)", 13 October 2006](#)

["FAQ – "Credit Estimates" of Obligors in CDO Transactions", 5 September 2006](#)

["Rating Cashflow-Collateralised Debt Obligations", 27 September 2006](#)

## **Synthetic CDOs - *Rating Credit Linked Notes***

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