

A Primer on Insurance- Linked Securities

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Different from Credit Securitisation

“It’s securitisation, Jim, but not as we know it.”

Traditional securitisation:

- transfer (and, usually, tranching) of credit risk
- transfer of agreements/instruments which have associated payment obligations (true sale securitisation) or by agreement to make payments by reference to performance of payment obligations under which such agreements/instruments (synthetic securitisation)

Insurance-linked securitisation:

- risk transferred is not credit risk, but the risk of the insurer having to make payments as a result of claims arising from catastrophic events
- risk transferred is not all of the risk

Difference between Banks and Insurers

- Banks lend money which is to be repaid
- Insurers take in money (premiums) with the contingent obligation to pay money (claims) in the event that insured suffers a loss
- The risk that banks want to offload in credit securitisation is the risk of not being (re)paid
- The risk that insurers want to offload in insurance-linked securitisation is the risk of having to pay monies out.

Nature of the Risk Transferred in ILS (1)

- Any type of risk to which an insurer or reinsurer is exposed
- P&C (property and casualty risk) in respect of property insurances – risk of lots of properties being damaged at once by a catastrophic event, e.g. windstorm, hurricane, earthquake
- Mortality risk in respect of life insurances – risk of lots of people dying at once and therefore insurer having to make payments on lots of life policies
- Liability insurances – risk of an event causing the insurer to make to make lots of payments on liability policies – Avalon Re Ltd. (providing OIL Casualty Insurance Ltd protection against a frequency of large liability claims arising out of accidents on Gulf of Mexico oil rigs) – not a success
- Not just insurers and reinsurers that use ILS to protect against risk – also large corporates, e.g.
 - EDF's Pylon and Pylon II – French electricity grid operator getting protection against risk of windstorm damaging grid
 - MyLotto24's Hoplon II – online lottery betting operator getting protection against risk of having to make multiple jackpot payouts

Nature of the Risk Transferred in ILS (2)

- Entity transferring risk to the issuer is referred to as the “sponsor”. Concept is equivalent to that of “originator” in credit securitisation.
- Risk transferred is generally excess of loss risk, i.e. sponsor transfers only the risk of losses above a certain level. In addition, sponsor is protected only for losses up to a maximum amount.
 - Attachment point = Level of losses at which payments to sponsor start
 - Exhaustion point = Level of losses at which payments to sponsor finish
 - Llayer = Difference between exhaustion point and attachment point
- Transfer of risk may be on a per occurrence basis or an aggregate basis
 - Per occurrence basis = protection is provided only to the extent that the losses from any individual event (e.g. any windstorm) during the risk period exceed the attachment point
 - Aggregate basis = protection is provided to the extent that the aggregate of losses from all events across a particular risk period exceeds the attachment point

How is the Risk Transferred (1)

Credit securitisation: transfer of agreements/instruments (true sale securitisation) or credit derivative (synthetic securitisation)

Insurance-linked securitisation: insurance regulation prevents transfer of the policies – risk transfer is effected by bilateral agreement between issuer and sponsor under which issuer agrees to pay sponsor in certain circumstances

Three types of risk transfer: (i) reinsurance, (ii) derivative and (iii) dual trigger

Reinsurance Contract:

- Indemnity trigger – upon the occurrence of a covered event, the Sponsor receives a payment corresponding to its actual loss arising from the event.
- Uses reinsurance terminology, e.g. reinsurer, reinsured, etc.
- Issuer has to be authorised to carry on reinsurance activity. Need to consider: (i) jurisdiction of issuer and (ii) jurisdiction of sponsor.

How is the Risk Transferred (2)

Derivative:

- Non-indemnity trigger –payment based on an abstract variable rather than sponsor's actual loss, e.g. parametric (level of wind speeds or size of earthquake as reported) or industry loss (industry-wide losses from the particular event as collated and reported)
- Does not use reinsurance terminology.
- May be documented using an ISDA.

Dual Trigger Reinsurance Contract:

- Uses reinsurance terminology.
- Non-indemnity trigger
- However, sponsor only receives payment to the extent of its actual loss
- Sponsor can treat a dual trigger reinsurance contract as reinsurance.
- However, from investor's perspective the notes issued have a non-indemnity trigger.

Same regulatory issues with dual trigger reinsurance contracts as regular reinsurance contracts.

Collateralising ILS (1)

True sale credit securitisation:

- the underlying agreements/instruments transferred are the collateral for the notes

Insurance-linked securitisation:

- the transfer is of a potential liability without any associated asset

Proceeds of note issuance need to be invested in some form of collateral until either

- paid to the sponsor pursuant to the Risk Transfer Contract or
- repaid to the noteholders on redemption of the notes

Collateral must:

- satisfy the requirements of regulator of sponsor
- satisfy commercial requirements of investors

Collateralising ILS (2)

Paradigm collateral:

- no credit risk
- pays stable return that matches payments on notes
- no market risk - collateral is self-liquidating or certainty of sale at face value

Pre-Lehman collapse, collateral arrangement was: (i) investment in a pool of securities and (ii) total return swap (TRS) with counterparty exchanging cashflows on pool of securities for LIBOR-based cashflow linked to payment dates for cat bonds

- No independent valuation of pool of securities
- Lehman Bros swap counterparty on four cat bond transactions

Three types of collateral arrangement currently in use:

- Money market funds
- Bespoke puttable notes issued by AAA rated entity, e.g. IBRD, EBRD, KfW
- Tri-party repo

Collateralising ILS (3)

Primary factor in choosing a collateral arrangement is how it will affect the spread that investors will require and, in turn, the periodic payments payable by the Sponsor.

- Generally, the full return on the collateral is passed through on the cat bonds (plus the periodic payments payable by the Sponsor).
- Different collateral arrangements give different returns relative to LIBOR/EURIBOR
- However, investor preference is not necessarily for collateral with the highest return relative to LIBOR/EURIBOR – a higher return is often outweighed by perceived greater credit risk

Return on bespoke notes: depends on funding needs of the potential issuers

Return on money market funds: depends on interest rate environment

Return on tri-party repo: generally higher than on bespoke notes and money market funds

- protection of daily marks on collateral by tri-party repo agent and haircut applied
- concern as to nature of assets that are repoed
- however, tri-party repos on existing cat bonds have restrictions as to the nature of the collateral and minimum rating requirements for all collateral
- tri-party repo more complex than bespoke notes and money market funds – repo counterparty needs to be a party to the transaction documents.

Expenses in ILS Transactions (1)

True sale credit securitisation:

- deal expenses are paid out of (i) proceeds of issuance of notes and (ii) cashflows received on underlying agreements/instruments
- on-going deal expenses are paid out of the same cashflows on the underlying agreements/instruments as are applied to pay interest and principal on the notes
- third party service providers to issuer have no recourse to the originator in respect of fees/expenses/liabilities

Insurance-linked securitisation:

- deal expenses are paid out of an expense account funded by sponsor
- income received on collateral is not applied to pay on-going deal expenses
- no complicated waterfalls
- third party service providers to issuer receive indemnity from sponsor under which sponsor agrees to pay fees/expenses/liabilities to the extent not satisfied by issuer out of expense account

Expenses in ILS Transactions (2)

Reasons for the difference:

- If sponsor is an insurer/reinsurer) insurance regulation requires that the full principal amount of collateral be available to meet payments to sponsor under risk transfer contract
- For true sale credit securitisation, historically, transfer was intended to remove transferred assets from the balance sheet of originator. This was undermined if the originator had non-arm's length relationship with issuer.

Service Providers

- Note Trustee / Security Trustee / Paying Agent
- Account Bank
- Modelling Agent
- Reset Agent (indemnity-trigger) / Calculation Agent (non-indemnity-trigger)
- Claims Reviewer (indemnity-trigger only)
- Loss Reserve Specialist (indemnity-trigger only)
- Insurance Manager (indemnity trigger) / Administrator (non-indemnity trigger)
- Listing Agent
- Repo Counterparty (tri-party repo collateral only)
- Arranger / Initial Purchaser

Modelling Agent (1)

Choice of three: RMS, AIR and Eqecat

Two / three roles:

- (1) Models the transaction to general risk analysis included in offering documents. Risk analysis includes:
 - Probability of attachment, or the likelihood that the bond will suffer some losses..
 - Probability of exhaustion, or the likelihood that the bond will suffer a complete loss..
 - Expected loss, or the amount investors should expect to lose on the bond in any given year. It is typically expressed as a percentage of the issue size.
 - Loss distribution and sample modeled loss scenarios, to give investors some information about the types of events (location, magnitude, etc.) likely to cause a loss to their investment.
 - Set of historical simulations showing how the bond would fare if past catastrophic events were to happen today.

Modelling Agent (2)

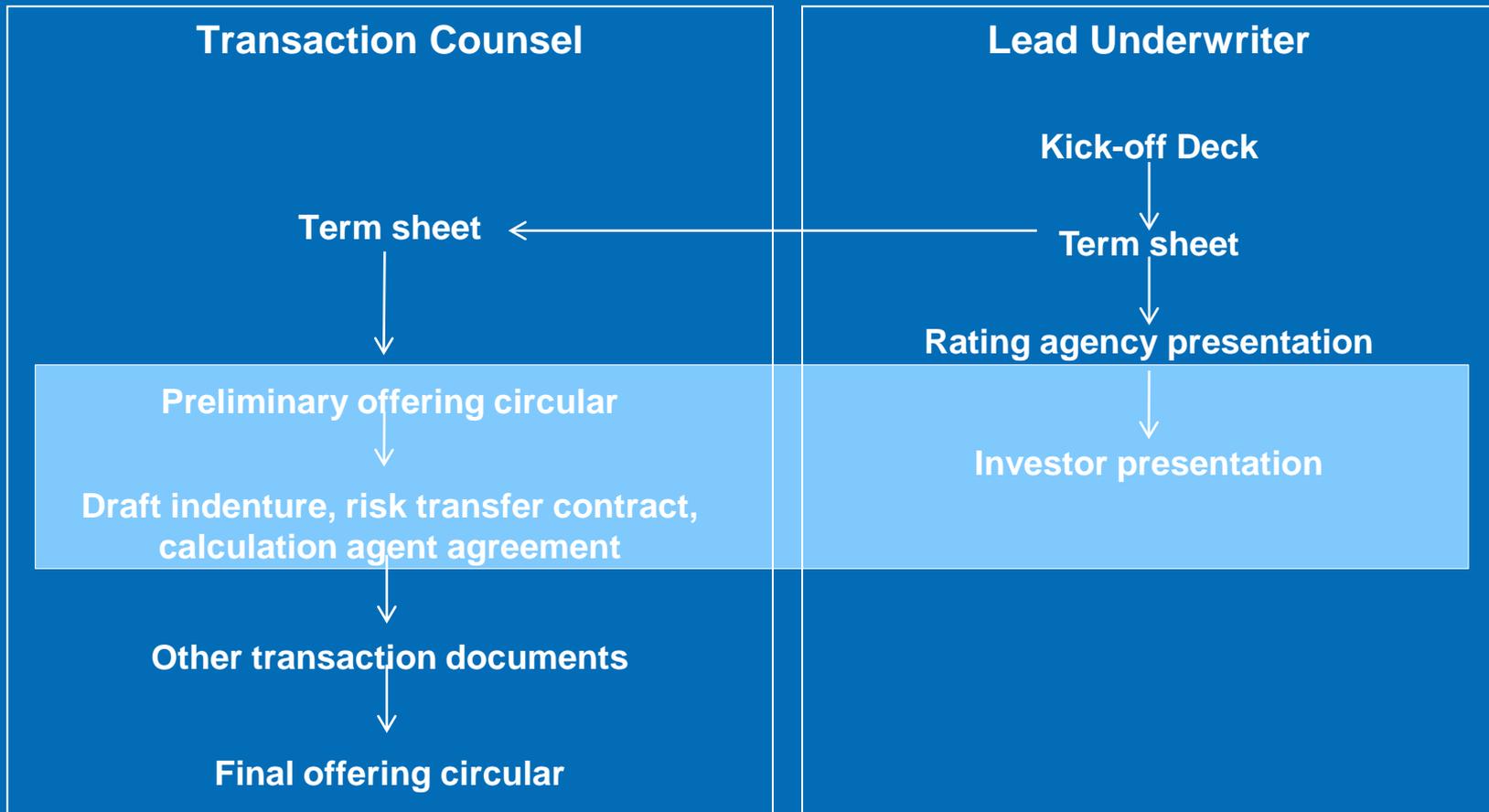
(2) Acts as reset agent

- ILS transactions provide protection against losses over multiple years, most typically three.
- However, the risk to non-parametric bonds is estimated based on the exposure (the sponsor's or the industry's, depending on the trigger) in force at issuance.
- Combination of a fast-growing exposure base and an indemnity or industry loss trigger could expose investors, over time, to a substantially greater risk than that for which they are being compensated.
- Growing disconnects between the risk analysis and the exposure in later years will cause the sponsor's basis risk to increase over time.
- Resets are typically performed on an annual basis. Attachment point adjusted to maintain the bond's probability of loss at the level defined at issuance.

(3) Acts as calculation agent (non-indemnity trigger deals only)

- Obtains data from the reporting agency and calculates whether the trigger is met and, if so, the payment to the Sponsor

Documentation Process for Cat Bonds



Transaction Documents

Core transaction documents

- Trust Deed, Paying Agency Agreement, Account Bank Agreement (English law)
Indenture (New York law)
- Reinsurance Agreement / Risk Transfer Contract with sponsor
- Calculation Agent Agreement / Reset Agent Agreement with modelling agent
- Reinsurance Trust Agreement (U.S. sponsors only – Rule 114 trust required)

Additional transaction documents

- Deed of Charge (always English law governed)
- Claims Reviewer Agreement (indemnity trigger only)
- Loss Reserve Specialist Agreement (indemnity trigger only)
- Purchase Agreement (equivalent of Subscription Agreement)
- Indemnification Agreements with service providers