

Credit-linked and repackaged notes: understanding risk exposure is key



Credit-linked structures such as repackaged or credit-linked notes (CLNs) appear at first glance to be flexible solutions offering investors tailored returns based on well understood securities. But attractive returns often come at a cost. Beneath the surface lie additional risk factors driving increasing levels of exposure as well as various mitigants designed to alleviate them.

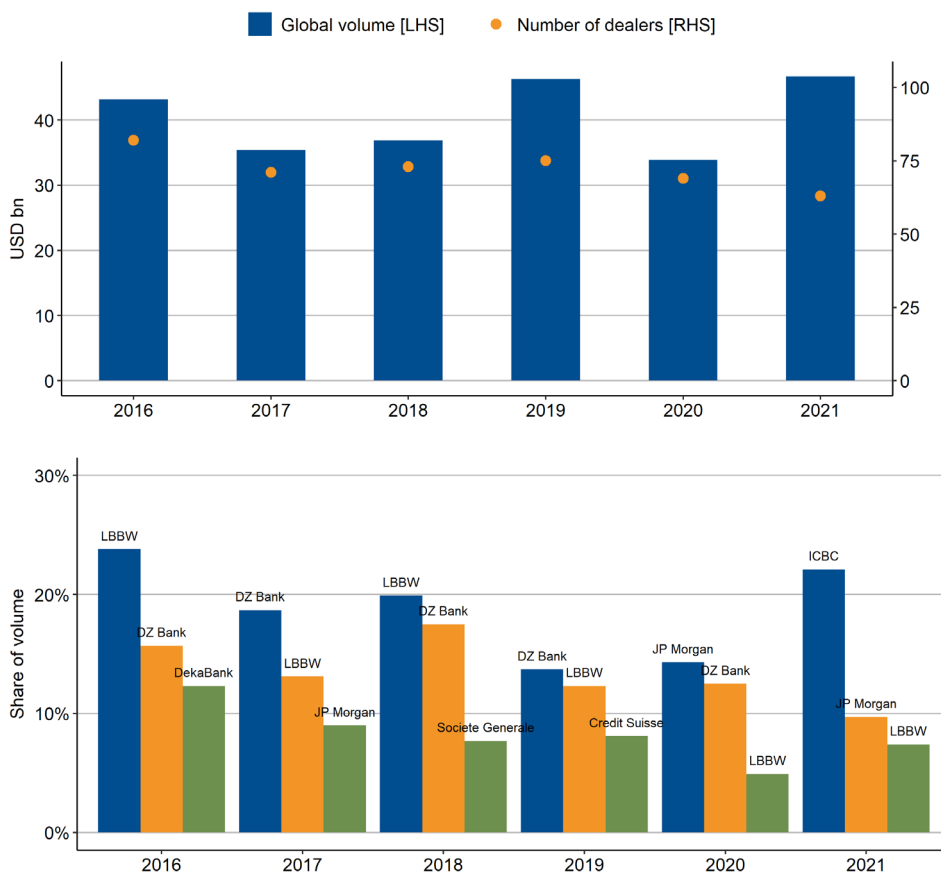
After a year in which we observed global volumes increasing from recent lows through significant contributions by new market participants, we shed some light on these bespoke investment opportunities.

Repackaged notes and CLNs are instruments whose performance is tied to the creditworthiness of an entity, reference asset and all counterparties. These notes create exposure to the credit risk of the reference asset, which is typically highly rated and can transform cashflows from existing instruments into payoffs which can be tailored to an investor’s needs.

The bespoke nature of the payoff as well as common structural features introduce additional risks that need to be assessed when considering such investments. We highlight the key risk drivers and the approaches commonly used to mitigate them.

Current CLN environment

Figure 1: CLN volume syndicated globally & Top 3 dealers by allocation



Source: Bloomberg

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Bloomberg: RESP SCOP

Global CLN deal volumes climbed past USD 46bn in 2021, with the past year narrowly surpassing the high set in 2019. The Industrial and Commercial Bank of China (ICBC) was behind the surge in volumes following an easing in 2020. German banks have also developed a strong presence in this market, particularly Landesbank Baden-Württemberg (LBBW), which maintains a consistent podium position in the CLN space.

Investing in Repackages and CLNs

CLNs offer bespoke payoffs

Repackaged notes and CLNs are both funded instruments i.e. investors make upfront payments to note issuers. Coupons typically pay a risk premium, which varies depending on market conditions. Both instruments involve the use of embedded swaps to achieve a bespoke payoff. The below table highlights some characteristics of these notes in comparison to unfunded credit default swaps (CDS).

While sharing similar characteristics with CLNs, repackaged notes involve interest-rate or currency swaps as opposed to embedded CDS. This means cash flows of repackaged notes generally move further away from coupons of reference assets, and external market conditions exert greater influence.

Table 1: CDS vs CLN comparison

Type of instrument	CDS	CLN	Repackaged notes
Format	Derivative contract	Notes issued out of a bank entity or special purpose vehicle (SPV)	Notes issued out of a SPV
Funded	No	Yes	Yes
Swap Structure	CDS	Bespoke CDS	IR / FX swap
Purpose	Take credit views on a reference entity in a standard manner	Gain long exposure to a reference credit in a bespoke manner	Gain long exposure to a reference asset with tailored returns
Mechanisms upon credit event	Contingent principal payment to protection buyer	Unwind of the structure with recovery proceeds minus costs paid out to investor	Unwind of the structure with recovery proceeds minus costs paid out to investor
Standardisation	High	Low to medium	Low to medium
Customisation	Low	Medium to high	High
Liquidity	Medium to high	Low	Low
Counterparty risk	Reduced due to the rise of central counterparties (CCPs) and clearing houses	High due to the direct exposure to the issuing bank or in the case of a SPV direct exposure to the swap counterparty	Medium to high due to direct exposure to the swap counterparty
Degree of complexity	Low to medium	Medium	Medium to high, depending on the structure and chosen payoff

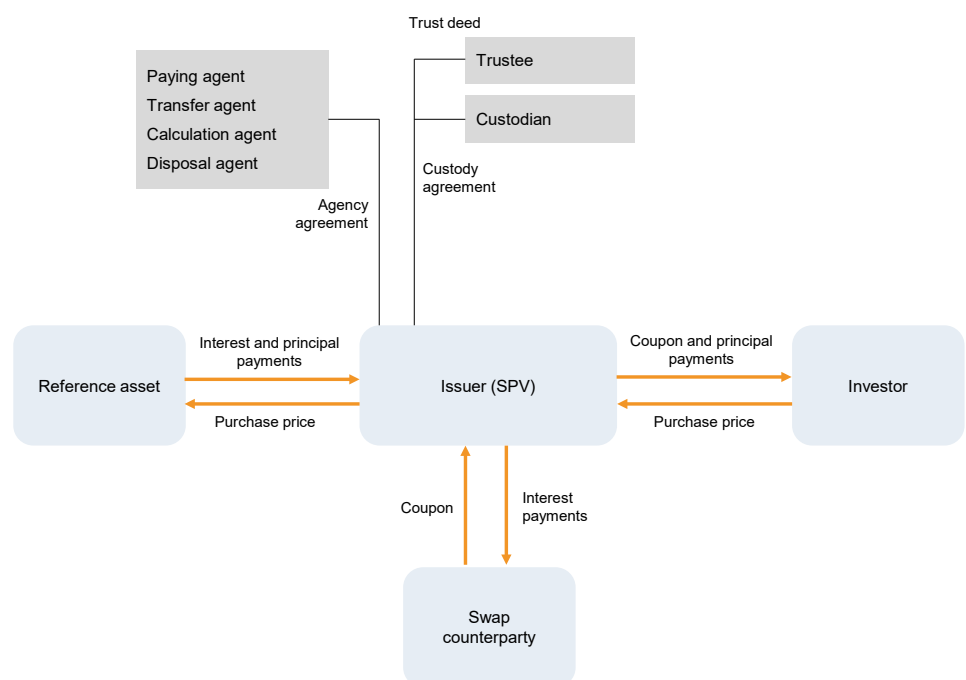
Repackages share many characteristics with CLNs

Note structures

Repackaged notes and CLNs are typically issued by banks or bank-sponsored SPVs. Via banks, investors bear the direct credit risk of the issuing bank on top of the reference asset. SPV structures help to limit exposure to the issuer.

We will focus mainly on a particular repackaged note structure issued by market-standard SPVs, such as the Single Platform Investment Repackaging Entity SA (SPIRE) programme¹. SPIRE, an orphan SPV incorporated in Luxembourg, was established to promote standardisation, transparency, and robustness in the repackaged note market². The general structure of such type of transaction is depicted in Figure 2.

Figure 2: Simplified structure of a SPV issued repackaged note



Transaction parties

The main elements and involved parties in these repackaged transactions are:

1. Investors, who purchase notes and expect to receive a tailored coupon structure that reflects their needs and relevant market conditions at pricing;
2. The reference asset, which can be a single entity or basket of entities;
3. The issuer (SPV), which purchases the reference assets using note proceeds and enters into a swap agreement;
4. The swap counterparty, whose involvement allows the customisation of the coupon structure; and
5. Other parties fulfilling operational services, such as custodians, paying agents, disposal agents, and trustees.

¹ We use the term repackaged note to depict such type of transaction going forward in this report

² Further details on the SPIRE programme can be found on <https://www.spiresa.com/>

Repackaged structures include a swap agreement

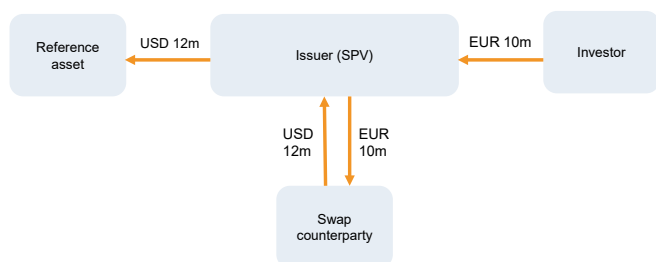
The life of a repackaged note transaction

Figure 3 takes the example of a series of notes issued for EUR 10m notional at par. The notes entitle investors to a floating euro coupon. The SPV is using a USD-denominated sovereign bond as the reference entity, which pays a fixed rate and is priced at par. At issuance, the SPV enters into a swap agreement with the swap counterparty and the EUR 10m notional is exchanged to USD 12m to purchase the bond at a spot rate of EUR/USD 1.20.

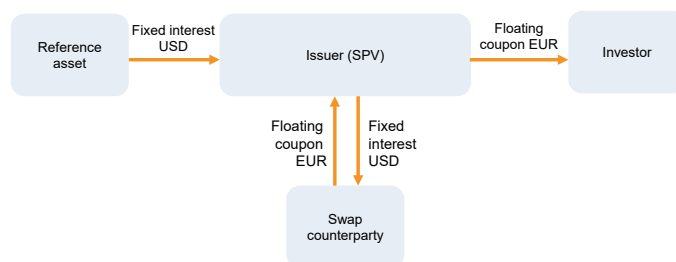
When performing, the swap agreement ensures that the notes are paying investors the agreed floating rate in euros given consistent fixed interest payments in USD and regardless of any movements in the EUR/USD exchange rate. The swap mark-to-market (MtM) value fluctuates throughout the life of the transaction as market conditions (mainly the EUR/USD exchange rate and EUR and USD forward rate curves in this case) change. Given no credit event has occurred, the bond principal is paid at maturity with the swap counterparty paying the original notional amount of EUR 10m.

Figure 3: Simplified example of repackaged note cashflows

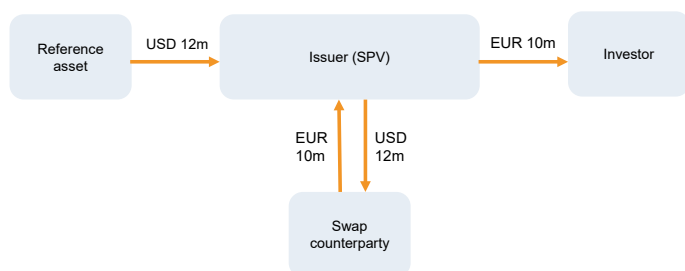
Issuance



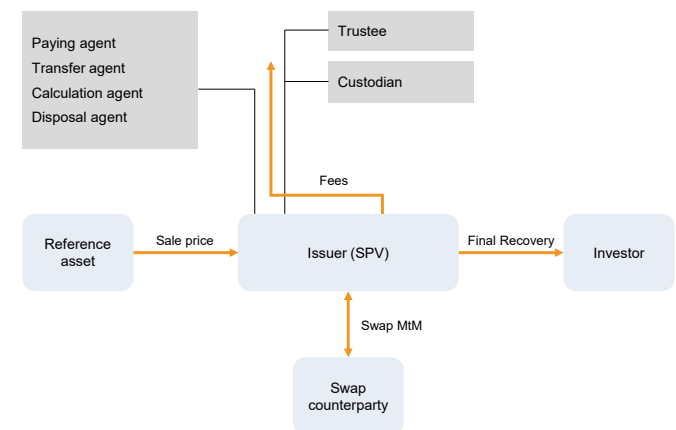
Performing



Maturity



Reference asset default



Reference asset default introduces market risks

If the reference asset defaults, the transaction is forced to unwind early, and the disposal agent immediately sells the asset in the market and initiates the currency exchange. Investors are entitled to any recoveries after accounting for the settlement of the swap MtM and any unpaid senior fees. Payments following the early unwind of such a structure would typically be in the following order of priority: i) settlement of the swap; ii) tax obligations; iii) trustee fees; iv) custodian and other agent fees; v) remaining swap counterparty claims; and vi) amounts due to noteholders.

Table 2: Cash flows when repackaged transaction unwinds

Repackaged note Structure elements	Reference asset	Issuer (SPV)	Swap counterparty	Investor
Maturity – no default	Principal and accrued interests passed on to SPV	Final payments processed, notes are redeemed, and swap agreement matures	Final payments processed and swap agreement expires	Receives principal from SPV along with any accrued interest
Reference asset default	Defaulted asset is sold on the market with possible liquidation costs	Receives initial recovery proceeds and accounts for fees and settlement of swap MtM	Swap agreement terminated early and the swap MtM settled with the SPV	Final asset recovery proceeds net of senior payment obligations passed on from SPV

Repackaged note - Main risk drivers and their mitigants

In this section we outline the main sources of risks in a repackaged note and several mitigants designed to minimise the effects. See Table 3 for an overview on which factors are considered when assessing the forms of risk and their respective impact in terms of the credit quality of the notes.

Table 3: Assessing forms of risk and their observed impact on the credit quality of repackaged notes

Factors to consider	When analysing asset credit risk	When analysing counterparty risk	When analysing market risk	Observed impact on credit quality of notes
Reference asset credit profile	Yes	No	Yes	Very high
Changes in reference asset price while performing	No	No	Yes	Low to medium
Recovery rate upon default of the reference asset	Yes	No	Yes	High
Liquidation costs	No	No	Yes	Low to medium
Swap counterparty credit profile	No	Yes	No	Low to medium
Swap counterparty replacement mechanism	No	Yes	Yes	Low to medium
Mismatch risk	No	Yes	Yes	Low
Wrong way risk	Yes	Yes	Yes	Usually low as investors seek to avoid too highly correlated entities
CSA agreement – collateral posting and margin regulations against regarding swap MtM	No	Yes	Yes	High
Risk to collateral posted under CSA	No	Yes	Yes	Low as highly rated collateral or cash is preferred

Financial counterparty risk is high in repackaged structures

Reference asset credit risk – Risk driver

Although typically highly rated, the reference asset carries over its risk characteristics into the repackaged transaction, driven by the borrower's probability of default. Default of the reference asset prompts early termination of the transaction and most likely results in a loss of principal and coupon to the investor, as described in Figure 3.

Financial counterparty risk: swap counterparty – Risk driver

The swap counterparty defaulting on its obligations under the swap agreement can lead to early termination of the repackaged note. Upon such an event, the reference asset will be sold and the swap agreement terminated, exposing the issuer to potential losses if the full MtM due by the swap counterparty cannot be recovered under the terms of the swap agreement.

Financial counterparty risk: custodian and account bank – Risk driver

All transaction proceeds due to the issuer from the reference asset or swap counterparty will first be paid into the account bank. This introduces further counterparty exposure and potential loss if there is a failure of obligations due to a default of the account bank.

Counterparty, swap, and asset replacement mechanisms – Mitigant

Replacement mechanisms can be included within the repackaged note structure to mitigate the financial counterparty risks described above. Such mechanisms are typically linked to the credit rating of the entity in question, i.e. if its current credit rating is below a defined threshold, a new counterparty meeting the criteria will fulfil the role.

Credit support – Mitigant

To mitigate the effects of financial counterparty risk, transaction counterparties can agree to post collateral against their contractual obligations. In the context of a swap, these agreements are formalised in the form of a Credit Support Annex (CSA) which aims to specify and regulate the forms and amounts of collateral to be posted as margin.

As the posted collateral can take various forms and entail additional credit risk, the CSA outlines distinct classifications of haircuts to apply to value the collateral posted, depending on collateral characteristics such as the currency, bond maturity, issuing country and risk profiles. The CSA could outline, as an example, that a 30-year sovereign bond posted as collateral will be subject to a larger haircut compared to a five-year bond from the same issuer due to differences in perceived risk profile.

Specifications regarding the monitoring of margin used to cover the swap obligations are also agreed upon. These include: i) the posting threshold, below which no collateral is posted; ii) the margin period, the intervals over which margin can be called for; iii) the minimum transfer amounts of margin; and iv) the triggers covering downgrade events, which could result in higher levels of collateral in line with the updated counterparty risk.

Market risk – Risk driver

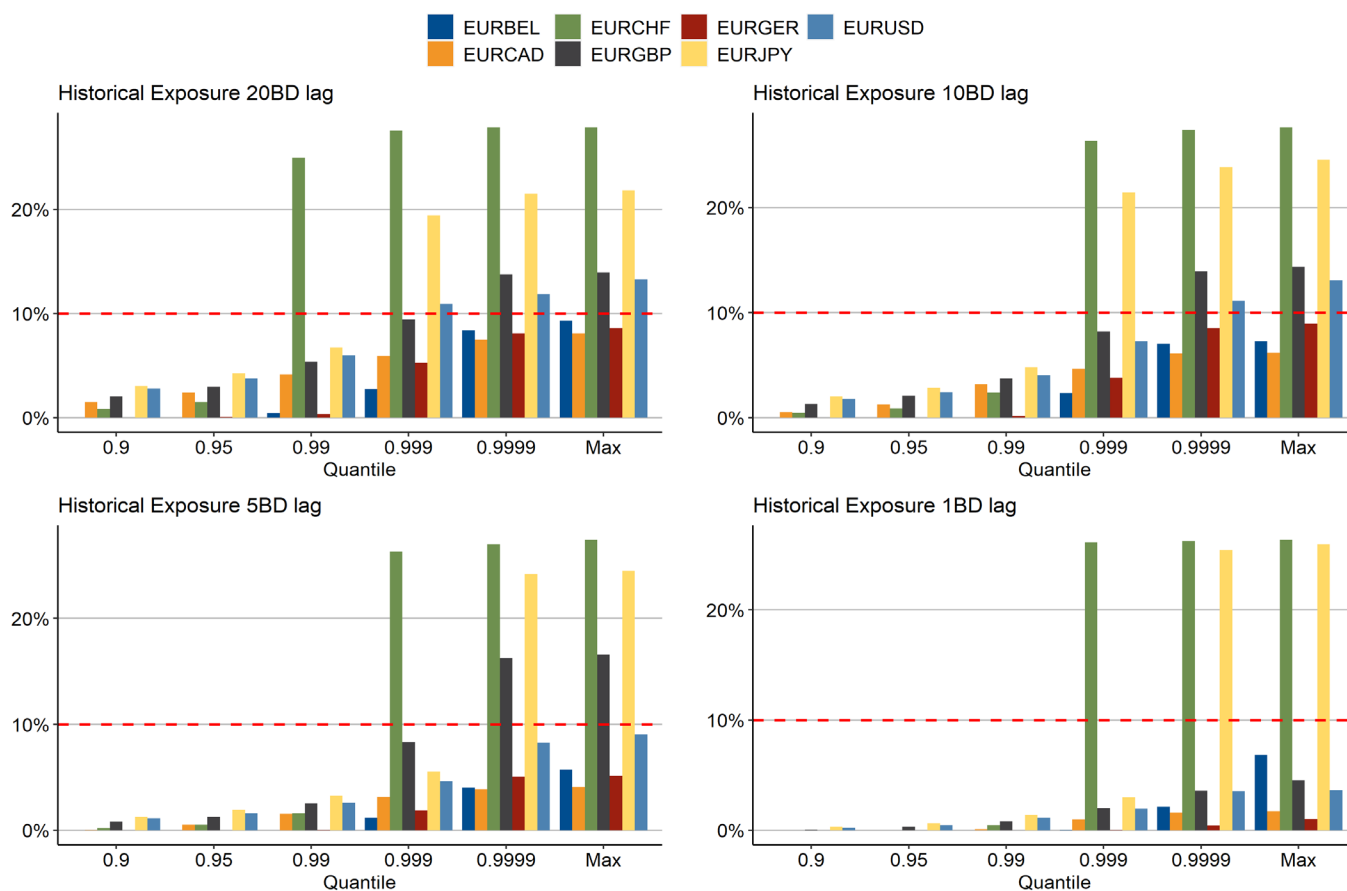
Upon early termination of the transaction, the notes are exposed to market risks. When pursuing an asset sale, deviations in price are likely depending on market and other macro conditions, especially during times of liquidity stress.

The CSA regulates the form and amount of collateral to be posted

Various haircuts apply to different collateral types

Market risk exposure during unwinding or replacement

Figure 4: Historical change in the value of posted collateral over different holding periods due to FX and yield fluctuations



Data covers 1991-2021 at a daily frequency.
Source: Scope, Bloomberg, and corresponding central bank APIs and databases.

CSA market risk increases with time taken to find replacement

Further market risks appear when finding a replacement counterparty (see further comments below). The mechanics of the CSA could leave the structure exposed if the frequency of margining is too low or thresholds are set too high. An attempt to quantify this effect on collateral posted under the CSA could be made by looking at historical data. Figure 5 depicts the historical variation in the value of euro and non-euro-denominated holdings posted as collateral over a series of lagged business days (BD). The longer the time exposure, the larger the potential changes in value.

Wrong way and mismatch risks

Additional risk drivers

Counterparty risk can be magnified when there is a positive correlation between the probability of default of the reference asset, collateral, and counterparty (often described as wrong way risk). Mismatch risk occurs when the SPV is unable to find an appropriate counterparty in a timely manner i.e. when seeking a replacement, under the same terms.

Settlement risks

Large and unforeseen increases in the swap MtM position could result in significant collateral posting requirements and a large settlement if the transaction were to be terminated early. Out-of-the-money (OTM) counterparties may also have a greater incentive to default, which introduces additional risk and stresses the importance of collateral posting.

Replacement mechanism can introduce further costs

In the case of a defaulting swap counterparty, the replacement mechanism would prevent an early termination of the repackage note. However, replacement costs and swap MtM payments may occur depending on several factors such as the time taken to find a replacement, changing market conditions, and whether the SPV is in-the-money or out-of-the-money. We outline the different scenarios in Table 4.

Table 4: Swap exposure upon counterparty default in a repackaged transaction

Swap counterparty default	Without replacement	With replacement	Losses occur when
SPV in-the-money	Swap MtM settled by collateral posted by the defaulting swap counterparty	Collateral posted by defaulting swap counterparty used to enter into an agreement with a replacement swap counterparty	Replacement costs and the swap MtM exceed the amount of collateral posted by the defaulting counterparty (assuming no further recoveries)
SPV out-of-the-money	Full loss of collateral posted by SPV occurs with remaining proceeds going to the investor	Lost collateral previously posted by SPV offset by the replacement counterparty paying into the swap agreement	Swap payments net of replacement costs are less than the posted collateral lost

By banking on the creditworthiness of a reference asset and all counterparties involved, investors can use credit-linked structures such as repackages and CLNs as customised high-yielding investments. The incremental yield compared to vanilla instruments is explained by exposure to additional risk, as highlighted in this report. In particular, if derivative contracts are used, swap counterparty credit quality, replacement mechanisms and details of the CSA agreement should be carefully considered as an integral part of the investment proposal.



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