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Repackaging

Relative Value in SPVs

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Introduction to Repackaging[1]

Investors looking for structured cashflows can either do so by entering a possibly (unfunded) derivative transaction directly or by buying a structured note. Among structured notes there are two alternative transactions EMTNs or a repackaged or SPV note solution. While MTNs are renowned for their popularity and staying power among European investors, repackaging offers a significant number of advantages due to the improved economics. In essence, a pickup over the primary market can be found by seeking structured products through secondary market transactions (i.e., repackaging).

Comparison of Structured Product: RV in SPVs

	SPV/Repackaging	MTN
20y CMS Steepener	6.75 x (CMS 10y - CMS 2y) (annual, 30/360) Capped at 8.00% Floored at 2.00%	6.00 x (CMS 10y - CMS 2y) (annual, 30/360) Capped at 8.00% Floored at 2.00%
10y Vol Bond	13.50 x Abs [Rate(End) - Rate (Beg)] (semi-annual, 30/360) Floored at 0.00%	12.75 x Abs [Rate(End) - Rate (Beg)] (semi-annual, 30/360) Floored at 0.00%
Funding cost (for issuer)	+5bp	-15bp

Source: Deutsche Bank OTC Structuring, Deutsche Bank EMTN Desk
Indicative pricing for EIB, 24-Sep-2004

As the examples above show, the economics is very often in favour of SPVs or some other repackaged note solution, with enhanced participation rates in both the vol bond and the CMS steepener structures. While MTNs are more familiar to a great many investors, familiarity alone cannot outweigh the economics. SPVs are actually a relatively easy structure and the method affords a great many advantages over MTNs in the freedom of choice over the structure, the domicile, and the security issued (i.e., not just notes). Although the plethora of choices can lead to some confusion to the uninitiated, the end result is the possibility of not only fully customizing cashflows but also optimising returns.

Repackaging offers the possibility of entirely transforming risk profiles: tailoring cashflows and securities to optimize returns, risk allocations and open up investment choices.

What is repackaging?

Repackaging is about creating tailor-made "risk profiles" which are not ordinarily available to clients, and delivering these risk profiles in an accessible and efficient format. Essentially, repackaging is done by breaking a risk profile down to its constituent parts and rebuilding it, where the available tools for accomplishing this risk transformation are SPVs, Notes and Loans, Conduits, Insurance Transformers, Trusts, and Fiduciary Deposits (or Investment Funds and Unit Trusts for retail accounts).

Repackaging provides clients the ability to gain the exposure they seek in the size, currency, maturity and jurisdiction they want, with the credit rating they need. Repackaging involves placing securities and derivatives into a special purpose vehicle (SPV) or other customized legal entity (e.g., trust, partnership, investment fund, fiduciary account), which then issues customized securities (e.g., notes, warrants, bonds, equities, units, fiduciary deposit, etc), which may or may not be listed and are Euroclearable, backed by the instruments in the SPV. The range of products leads to particularly efficient delivery mechanisms for the risk transformations.

Repackaging customizes cashflows, with a customized repackaging platform and a customized security structure helping to optimize returns, risk allocations, and, via their bespoke nature, open up a range of investment choices not otherwise possible. In fact, the basic legal framework for repackaging is so rich that it (or some other related use of SPEs/SPVs) has been used for the majority of financial innovations in the past decade. The framework is simple: creating an SPV or other (usually bankruptcy-remote) legal entity which holds a set of assets, enters

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into any other underlying contracts, and issues some other type of security or securities. This is in fact a very common and robust legal framework that has been used again and again in many contexts of financial innovation, adding to some confusion over the definition of a repackaging.

We seek to redress this confusion between the form and function of repackaging versus other structured and securitized product areas by continuing our comparison with the EMTN, pointing out the economic similarities (and differences); as well as the similarities and differences with the other most common use of SPVs: securitizations. After this, we will give some detail on the type of legal structures typically used as well as the financial instruments typically issued, before going into a number of examples of the most common uses of repackaging. Finally, we will cover, in an introductory fashion, some of the issues around the regulatory framework affecting the choice of the optimal repackaging solution and changes to the accounting framework which will have to be taken into account in all structured product transactions in the future.

Repackaging vs EMTN Programmes

Since the inception of the pan-European programme (governed by English law), EMTNs have gained tremendous following amongst investors due to the ease of customization. In essence, an MTN programme is a means for a frequent borrower to raise funds on an ongoing basis by appealing to the bespoke needs of investors.

Examples of the most common structures issued by the DB EMTN desk include the following customized risk profiles, all of which can also be used as the underlying structure in a repackaging as well:

Virtually all structured cashflows can be delivered through repackaging solutions.

- **Interest-rate products:** Floating-rate notes (FRNs), inverse FRNs, ratchets, range-accrual notes, dual-index notes, target redemption notes (TaRNs), Index-amortising notes, constant-maturity swap-linked notes (CMS), ladder inverse floater (LIFTs), volatility-linked notes (vol swaps).
- **Inflation products:** inflation-linked notes. inflation caps/floors, etc.
- **Equity products:** Equity and equity-index basket linked notes.
- **Currency:** Yen, dollar, etc-denominated or linked.
- **Quanto:** Linked to the performance of an asset in a foreign currency.
- **Credit products:** Credit-linked notes, first-to-default basket.
- **Multi-asset products:** Basket or “best of”/”worst of” products, power-reverse dual currency notes, correlation or co-movement products.

Many more complicated deals that are combinations of the above could be included in the list but cannot be easily classified. Similarly, repackagings can be constructed in exactly the same flavours listed above as well as many others as we shall see in some of our case studies below.

The mechanics of the MTN trade are that an MTN issuer enters into a swap with DB, paying floating and receiving a highly structured cashflow. The issuer then issues an MTN, agreeing to pay the investor this structured cashflow in exchange for a notional amount. The investor sees a structured product, customized to their specific needs (see Exhibit 1)

Exhibit 1: Cashflows of an EMTN

Source: DB Global Markets Research

An SPV or other repack platform can mimic the same economics, although the mechanics are different. The SPV purchases the collateral from the secondary

market. The SPV also enters into a swap with DB, paying Euribor (or the coupon on the secondary paper), and receives a structured coupon. The SPV issues notes or similar instrument which the investor purchases, receiving the structured coupon. (see Exhibit 2). The structure is bankruptcy remote (e.g., if the issuer of the secondary paper defaults, the swap is unwound and marked-to-market with no further recourse) and thus has exactly the same economics as the EMTN.

Exhibit 2: Cashflows of a Repackaging

Source: DB Global Markets Research

Both the MTN and the SPV have the same cashflow under most circumstances (except that there is typically a pickup for the SPV as we illustrated above). Yet, the differences can and should push investors into choosing one vehicle over another based on the context.

Repackaging typically offers best value vs MTNs for larger issue size. Although the economics is similar, some structuring, legal, regulatory and tax issues are treated very differently between the two product areas.

Relative advantages of Repack over EMTN

	Repackaging	EMTN
Economics	Almost always more cost effective.	Usually less cost effective. May be more efficient for small size.
Customizable	Fully; Issuer has no bearing on cashflow customization.	Some structures infeasible due to issuer preferences / reputation risk.
Callable Structures?	Has mark-to-market risk (i.e., unwind usually results in assets being marked to market rather than at par).	Yes, can be callable at par.
Credit Exposure	Credit enhancement may be used. Exposure is technically to SPV, with assets linked to issuer credit.	Exposure to issuer.
Any maturity?	Potential security mismatch. Patched together with LIBOR funding and DB structures.	Yes, usually longer than 1 year (shorter maturities usually issued under CP programmes).
Registered?	May be registered security.	Usually physical bearer security, but may be exchangeable or registered securities. Eurostream or Clearstream cleared.
Security	Note, warrant, fiduciary deposit, Schuldscheine, Genusscheine, Unit Trust, Banker's draft, loan, etc.	Note.
Listing	May be exchange listed or private placement.	May be exchange listed or private placement.
Legal Framework	Depends on the domicile of the SPV, but usually law of Charitable Trust, combined with legal framework for issuance.	EMTN Programme governed by overarching 'shelf' documentation under English Law.
Open to US Investors	Yes.	No, usually involves cumbersome and expensive SEC filings. Sometimes only 144A.

Tax Treatment	Depends on withholding taxes and tax treaties between issuer's country, repack domicile, and investor's country. Credit enhancement may be subject to insurance taxation rules.	Depends on withholding taxes and tax treaties between issuer's country and investor's country.
Regulatory Treatment	May be a preferential treatment, depending on the vehicle, domicile and level of credit enhancement.	MTN will usually assume the regulatory treatment of the given MTN issuer.
Accounting Treatment	Embedded derivative usually bifurcated, marked-to-market on the P&L statement.	Same as Repack.

Source: DB Global Markets Research

In essence, a great many of the advantages of MTNs of gaining access to bespoke cashflows are available in repackagings. And, repackagings are in general more customizable (i.e., the choice of customization is not at the issuer's discretion, since a repack is done only with secondary-market notes as collateral) and consequently repack offer prospects of better regulatory treatment, with the cost of somewhat added complexity. In spite of the added complexity, repackagings will in general offer more spread, making them an attractive alternative in a great many instances.

Repackaging vs Securitizations

Securitizations involve placing non-traded assets (and servicing contracts) in SPVs and structuring cashflows for a broad range of investors.

Securitization has been in use for decades as a chosen means for obtaining cheaper funding by mortgage and other loan issuers. Although early securitizations (especially through agency-MBS debt) did not require the creation of any new legal structures, more recent innovations almost always involve the creation of an SPV or other bankruptcy-remote legal entity, which holds the assets to be securitized. Like repackaging, securitization promises to bring investment opportunities (e.g., access to cashflows from a loan portfolio) to investors who would otherwise be unable to use them due to regulatory constraints, onerous capital charges, etc., or due to their inability to hedge or otherwise transform the cashflows into those that would be acceptable.

In essence any ABS deal, (e.g., equipment lease, home-equity loan, credit-card, etc) gives access to a set of cashflows (backed by leases, loans, or mortgages) not usually traded, as well as affording the issuer the opportunity to a cheaper source of funding than unsecured debt as well as, in some cases, a preferential accounting, rating agency, risk weighting, or tax treatment.

The primary difference is that securitization usually entails placing non-traded financial assets into an SPV, and "securitising" them when the SPV issues notes backed by the financial assets in order to meet issuer needs. In repackaging transactions, the components of the SPV are generally existing securities and derivatives that are "repackaged" into a different form to meet specific investor needs. Among other differences:

- **Repackagings are generally administratively less complex structures than securitisations**. Securitizations have a significantly higher administrative cost due to the need for servicing of the underlying asset (to collect principal and interest and pass them through to security holders, and to deal with credit problems that arise) and passing cashflows on to security holders; escrow/other reserve accounts for over-collateralization (i.e., first-loss piece /credit enhancement) or an insurance wrapping for credit enhancement; and short-term investment facilities to hold cashflows before coupon payments.

- **Due to the large fixed costs, securitisations are typically larger than repackaged transactions**. It is unusual to see securitisation transactions smaller than $100 million, and they often exceed $1 billion in size. Repackagings are less expensive and are often $10 million to $100 million in size.

- **Repackagings are generally more flexible than securitizations**, since repackagings are generally driven by the needs of a single investor, while securitizations will generally involve multiple investors. In a repackaging, repackaged notes issued to investors are frequently eurobonds or medium-term notes but they may also be issued in other forms such as German Schuldshein, commercial paper, loans, or in other documentation formats. The goal is to meet

the needs of investors who are restricted to investing in certain types of securities. In securitisations, multiple investors participate in the transaction and there is usually less flexibility to create structures and documentation formats tailored to meet individual needs.

The grey area is in the form of CBOs (Collateralized Bond Obligations) and CLOs (Collateralized Loan Obligations) where the underlying assets may trade on the market (e.g., corporate or emerging markets bonds), although, obviously not as a portfolio. These markets have taken their cue from the tremendous success of the CMO (Mortgage) market in the US and follow the many trends of the CMO. Credit enhancement and tranching of cashflows make CBOs more similar to other securitizations than to a repack. Increasingly, clients with smaller loan portfolios (i.e., those too small to make a standard securitisation economical) have used more bespoke repackagings as a means of customizing the cashflows.

Having established repackaging in relation to other similar vehicles for recent financial innovations, we shall now discuss the methodology behind a repackaging together with the many possible varieties available.

Repackaging: The Legal Aspects

Repackaging involves setting up a SPV or Charitable trust—a bona fide company (with very limited power). DB buys assets on behalf of the SPV and holds them in custody, enters swaps with the SPV, structures and issues notes on the SPV's behalf.

Repackaging involves the setup or use of a "shell company" or SPV[2]. The SPV (the ***issuer***) is usually set up and structured by the ***arranger*** as a ***charitable trust***, with shares held by an administrator or ***trustees*** on trust for a charity of choice. The trust is usually domiciled offshore due to cost efficiencies and double tax treaties. The *trustees*, usually from a trust company, are charged with acting on behalf of the note holders to insure that the SPV does not enter into any obligations or litigation which could jeopardize the payment of any monies due. They are responsible for ensuring that fiduciary and contractual obligations of the trust are entered into properly. As mentioned, the trust issues a (minimum) number of equity shares, and the trustees retain some portion of them on trust for charity.

A management company provides ***directors*** of the SPV (usually employees of Deutsche Bank) and fulfils other corporate duties for the corporate entity. The *directors* have signing power for the company and are responsible for ensuring that the company fulfils its corporate duties and other fiduciary obligations. The directors also provide substance to the company (e.g., contract for secretarial services, office accommodations and the minimum requirements of the day-to-day functioning of this small corporation).

The powers of the *directors* and *trustees* of the SPV are governed by constitutional documents and contractual documentation which essentially guarantee that the SPV can only operate on autopilot (e.g., they have no rights to unilaterally amend any existing contracts).

The SPV or *issuer* contracts with a ***custodian*** (usually Deutsche Bank) to handle custody and clearance of its securities, and an ***agent*** (usually Deutsche Bank) to arrange for the issuance of notes (or other repackaging securities) as well as the transfer of monies to note holders.

The cost of establishing individual or ***single issue SPVs*** and the documentation of individual repackagings has led active arrangers to develop repackaging programmes, in much the same way as MTN programmes. Repackaging programmes can take two forms: ***multiple issuer programmes***, where separately incorporated SPVs each issue one series of notes, secured on their respective assets, and ***multiple issue vehicles*** where one SPV issues an unlimited number of series of notes, each secured under different underlying assets.

Many of the structural issues involved in establishing and documenting programmes are similar to those involved in setting up individual repackagings. While multiple issue or programmes are clearly not as cost effective as multiple issue vehicles, they do provide a means of effectively 'siloing' secured assets.

[2] Special Purpose Vehicle, sometimes called SPE (Special Purpose Entity), or VIE (Variable Interest Equity) in the accounting literature.

Limited recourse SPVs— doing many repackagings in one SPV— are a more cost effective (and time-efficient) method of restructuring assets.

In multiple issue vehicles, the issue of notes by the SPV will be ***limited recourse*** obligations of the SPV as a means of segregating assets (see Exhibit 3). In a multiple issue vehicle, the pre-requisite will be to ensure that each series of notes is completely segregated from each other series, so the performance of each series depends only upon the performance of the related underlying assets and of the swap counterparty, if applicable[3]. Accordingly, the programme documentation must be carefully drafted with limited recourse language in each contract to which the SPV is a party, so that each issue is ring-fenced and the holders of the notes have no recourse against the assets of the SPV securing notes of the other series. In this way it is possible for a single SPV to issue a different series of notes which can be independently rated.

Exhibit 3: SPVs, Limited recourse and full recourse

Source: DB Global Markets Research

DB has limited recourse SPV programmes for most major domiciles.

In purchasing a note issued by the SPV, the investment is protected by the collateral that is held (normally in DB custody) on the investor's behalf in the SPV. Examples of limited-recourse charitable trust SPV programmes include EARLS (Cayman domiciled, listed on Cayman and Luxembourg exchanges), EIRLES (Ireland), CLASS (Jersey), RIBS BV, ART BV (Nether), ROCK, CREST, GEARS (Gibraltar), GCRe (Bermuda), SWIRLS (Switzerland), COUNTS (Delaware).

Other Flavours of Repackaging

While most SPVs are in the form of charitable trusts[4], there are other vehicles for repackaging in common use, depending on the end-user. The basic structuring example is almost entirely the same even though the vehicle is different. Common structures include:

Investment funds are a repackaging solution primarily intended for retail clients.

- **Investment funds** are the most common platform for retail investors. These can be constructed as closed-end funds which issue *shares* or *units* only once and may trade at a discount or a premium to the NAV—net value of assets in the repackaging vehicle; or they may be constructed as open-end funds with shares trading exactly at the NAV, marked-to-market. Mutual funds can have sub-funds which trade at the NAV of the assets backing them (i.e., they are 'siloed' or limited recourse multi-issuer platforms). Many of these funds will issue shares listed on any one of a number of major stock exchanges. Examples of investment company SPVs include dbInvestor Solutions (domiciled in Ireland, listed on Dublin and Luxembourg exchanges), Investor Solutions (Jersey), and Xavex SICAV (part of the X-markets platform, Luxembourg).

Fiduciary deposits combine the benefits of repackaging together with the added security and improved risk weightings of bank deposits

- **Fiduciary accounts or deposits** are a means for investors to benefit from the regulatory treatment of a certificate of deposit while maintaining the same economics. A Fiducary deposit is a contract between a *fiduciary* (Deutsche Bank Luxembourg) and the principal/investor. The client transfers legal title to the assets under a fiduciary contract. Beneficial ownership remains with the client. The *fiduciary account*, governed by Luxembourg Law (Grand-Ducal Regulation 1983) is

[3] This should distinguish a limited recourse SPV from a *conduit*, or multi-issuer vehicle with no limited recourse, where credits are purposely mixed oftentimes with the benefit of better accounting treatment.

[4] ABS transactions as well are usually structured as charitable trusts, where the so-called "equity piece" which is held by the issuer is in fact subordinated debt and issuers are generally long "clean-up calls", so actual equity or residual value is in fact very small and held by charity.

bankruptcy remote, can enter into swaps (with Deutsche Bank) and pays structured cashflows to client. Fiduciary assets are segregated from the other assets of the Fiduciary, do not form part of the Fiduciary's estate upon liquidation, and remain off-balance sheet for the Fiduciary. Moreover, they are on the client's balance sheet and are returned to the client upon termination of the fiduciary contract. Like other SPVs, Fiduciary accounts remain on auto-pilot and the fiduciary has little to no control over the account other than to service existing contracts and obligations.

- **Unit trusts** are similar in form to an investment fund although governed instead by contacts law. As in the case of investment funds, unit trusts can be structured as limited recourse funds. Examples of unit trust platforms include : XXXXXX.
- **Insurance funds** are a means of offering structured insurance monies to investors

Finally, in the case of a credit event, a strict priority of creditors is established. The following priority is typical in the case that the underlying assets no longer pay, triggering a liquidation of the SPV:

1. Trustees or management
2. Liquidity providers / Repo counterparties
3. Swap or derivatives counterparties
4. Note holders
5. Equity holders

Typically, rating agencies will insist that derivative counterparties become subordinated to note holders in the event of their inability to make payments.

Repackaging: The Securities

Virtually any (usually debt) security can be issued by a repack. While they all have the same economics, the optimal choice of instrument depends on regulatory, accounting and tax issues that vary from country to country.

After setting up some legal entity for the repackaging, and entering into necessary swaps and transfers of collateral, the legal entity will issue securities. The SPV or other entity can issue essentially any security that a corporation can issue. The implications are broad from a tax and regulatory point of view, as there are benefits to holding debt or equity or some hybrid depending on the jurisdiction. While virtually any security can be issued, we will cite only some of the most common forms and some of the limits that SPVs may impose on the structuring of wrappers.

For instance, in no case can a charitable trust issue equity to an investor other than a charity. Moreover, limited recourse SPVs cannot issue equity as this would necessarily be a security backed by assets in multiple silos.

Among the securities or transactions that an SPV can enter into include:

- **Debt —** Note / MTN / Discount Note, Certificate, Bonds, CP, Bankers Acceptance/Bankers Draft, Fiduciary deposits, CDs, GICs, Repo / Reverse Repo, Debentures, Time Deposit, Loan, Pfandbriefe.
- **Equity —** While usually impossible for a charitable trust, equity wrappers are feasible for investment funds, and some equity-debt hybrid products can be issued out of SPVs. Equity securities include Common or Ordinary Share, Beneficiary Share, Preferent Share, Preferred Share, Equity Genusscheine, Depository Receipts (or Depository Certificates), Convertibles, Partnership Shares (Ltd, Shares/Units of Beneficial Interest), Private Equity/Ownership.
- **Funds/Collective Investment (Units or shares in) —** Mutual Funds, Money-Market Funds, Umbrella Funds, Annuities, Insuranced Funds, Trusts.
- **Contracts —** Futures, Options, Rights/Entitlements, Swaps, Warrants, Hybrids, Dividend Right Certificates, Assignment, Lease, Fiduciary Relationship, Insurance.

The most common securities though are the following:

- **Funds (Units) —** Units in a mutual fund (actually usually structured as shares of a partnership investment company) are a prime example of a means of repackaging cashflows in order to fit the needs of retail investors. Funds may be structured to be open-ended or closed-ended**.**

Notes are by far the most common repackaging security.

- **Notes / MTNs / Securitized Debt —** Notes are probably the most commonly issued security from a repackaging. And, in particular, an MTN programme has

slightly higher setup costs but lower costs in terms of individual filings and thus is a cost effective means of issuing notes from a limited-recourse vehicle.

Genusscheine act like debt but are classified as equity.

- **Genusscheine or other Hybrid Debt/Equity Instruments—**Genusscheine or a "participation certificate" are a German security which, although has many features in common with debt (e.g., fixed coupon, etc), are treated by German tax law as being equity, with the consequent benefit of having income treated as capital gains. Similar investment vehicles in other countries (Preferred Shares in Canada, Titres participatifs or Titres subordonnés à durée indéterminée in France, perpetual subordinated debt and preference shares in the UK, and mandatory convertible debt instruments in the US), also offer similar tax advantages.

- **Insurance Policies** —

Schuldscheine are near-private placements and not marked-to-market, according to German banking regulation

- **Schuldscheine**—Schuldscheine are a form of debt instrument which are typically held by German insurance companies. Schuldscheine have been actively issued by the Finanzagentur to meet ongoing needs of the insurance industry. They are somewhere between private placement and publicly traded securities in that they can only be traded three times during their lifetime. They also are, according to German regulation, not marked-to-market.

Fiduciary deposits are just that, deposits, and are afforded beneficial risk weightings

- **Fiduciary Deposits**—Fiduciary deposits are a form of certificate of deposit, thereby being registered securities with Deutsche Bank Luxembourg as a counterparty. Deposits have the beneficial regulatory treatment of reducing the risk weighting to 20% under current (1988 Accord) BIS rules.

When choosing a proper investment vehicle for the repackaging, investors are also afforded further choices for their repackaging:

Rated vs unrated / Exchange listing. If necessary the repackaged notes or shares in fund wrappers can be rated by one or more major rating agencies and they may be exchange listed.

Insurance Wrapping Securities may be traded as is, or can be wrapped via a bond insurer or some other form of credit enhancement. In effect, the investor may have access to many of the same economics of holding a higher-yielding (i.e., lower quality) instrument, while still being afforded the protection of a AAA rated instrument.

Case Studies of Common Repackaging

Examples of repackaging that are exceptionally common include:

- **Repackaged asset swap** – Perhaps the simplest type of repackaging is to repackage an asset swap. While an ASW is a simple and effective technique for investors to earn the credit spread on a security with minimal market risk, many investors are restricted from entering into any sort of swap, due perhaps to regulatory restrictions, investment policy guidelines, or counterparty credit issues. These investors can obtain the same economics through repackaging: an SPV holds some underlying fixed rate asset and enters into an interest rate swap to exchange fixed for float over the term of the asset. The SPV then issues a floating rate note to the investor. In this structure the swap counterparty has exposure to the SPV but not to the investor. In the event of a default on the collateral, the repackaging transaction terminates. Unlike a vanilla asset swap, the swap transaction also terminates with the swap counterparty either paying or receiving the difference on a mark-to-market basis with the SPV. The swap counterparty generally has a priority claim on the collateral and is compensated for any mark-to-market exposure to the SPV before the investor is repaid. The investor, of course, is not a party to the swap. More generally any type of vanilla or structured asset swap could be done in repackaged form as well as cross-currency swaps.

- **CDS securitization/CLNs**

- **First to default basket CLN**

- **Leveraged note**

- **Principal protected note**
- **Immunization Trades**– Immunization trades are a means for insurance companies or other issuers with known liability structures to ensure their asset liability management. Usually these insurance companies or pension funds have assets that do not fully match their liability streams and use active management to handle these shortcomings. To immunize, the assets are purchased by an SPV which enters into the necessary swaps, issuing notes which exactly match the known liability stream.
- **Stripped convertibles** – Another repackaging application is to create stripped convertible securities.In these transactions the SPV issues bonds that are backed by convertible securities. The equity conversion option is stripped out and monetised using equity derivatives. If the equity option is exercised, the outstanding bonds are called. This approach is useful for investors that are interested in a given credit story associated with a convertible bond but are primarily interested in yield rather than the equity conversion feature or who cannot invest in convertible bonds.
- ~~**Tax arbitrage** – Repackaging provides a means for investors to invest in securities that would otherwise be uneconomic because of withholding tax requirements or other undesirable tax features. For example, some countries subject interest payments to foreign investors to withholding tax unless an investor's home country has an appropriate tax treaty in place. The repackaging program can take advantage of tax treaties between two countries by setting up an SPV in an appropriate tax treaty country and acquiring securities that would be subject to withholding in a third country. The SPV then issues notes to investors in the third country that are not subject to withholding tax. The repackaging transaction thus passes the tax treaty benefit to investors who would not otherwise be able to enjoy it.~~

Conclusions

While it is clear that repackaging offers a great many benefits to clients in terms of customisation of cashflows, ability to choose domicile, ability to alter regulatory treatment, ability to pick the investment security to suit the client's particular needs, the choice comes with a cost. The cost of repackaging is truly in understanding the plethora of choices with their respective advantages or disadvantages. Moreover, there is the one-time cost of obtaining familiarity with this new and diverse asset class.

The choices afforded by repackaging involve a great many balances. The choices of legal structure (single or multi-tiered SPV) can affect costs but affords slightly different legal guarantees; the choice of domicile affects legal aspects as well as taxes through means of double-tax treaties and other withholding taxes; the choice of security issued affects both tax and regulatory treatment; the choice of credit enhancement or other insurance wrapping; the choice of cashflow customisation, all of these have a bearing on the end-outcome. And, all of these choices help to produce a single return-optimised security, optimised given the underlying assets, chosen cashflows and optimised for the investor.

Appendix: Accounting and Regulatory

Recent changes to accounting rules will alter the treatment of most repackagings. We highlight the main features of the new IAS ruings.

Accounting Treatment

We note that we will discuss IAS in some detail rather than US GAAP. Unlike US GAAP, which is rule-based, IAS in general, is principles based and many of the decisions given below will be largely subjective.

Under IAS 39, financial assets are classified into one of four categories with the categorisation driving the accounting treatment: **trading**, **available-for-sale**, **loans and receivables**, and **held-to-maturity**. Questions of which classification is the appropriate home for an investment and whether embedded derivatives should be separately marked-to-market are addressed in the sections on bifurcation and hedge accounting.

Mark-to-market considerations of each category

Category	Fair Value	Cost/amortised cost
Loans & Receivables		At effective yield
Held to Maturity (HTM)		At effective yield
Held for Trading (HFT)[1]	To P&L	Only if FV not reliably measurable[2]
Available for Sale (AFS)	To Equity	Only if FV not reliably measurable[2]

[1] Under current IAS 39, any financial asset may be designated as carried at FV with changes in FV recognized on P&L (i.e., HFT). However, this may change under proposed revisions.
[2] Very limited usage, only for unquoted equity instruments and related derivatives
Source: Deutsche Bank Global Markets Research

- **Loans and Receivables** include non-derivatives with fixed or determinable payments which are not quoted in an active market, e.g., trade debt, accoutns receivable, participations, syndications, central bank deposits. These may include some securitised notes or CLOs where the collateral are loans and trade receivables and may also include some preference shares. Accounting is at ammortised cost.
- **Held to Maturity (HTM)** includes assets of fixed or determinable payments and fixed maturity. Corporates must show positive intent and ability that the assets will be held until their maturity. There are two year tainting provisions (i.e., corporates are forced to reclassify all HTM assets into other categories during this period) if any of the assets in HTM are sold *unless*: the asset is very close to maturity, there was a significant deterioration in credit quality, there was a change in tax law relating to interest in the asset, a change in regulation or some major business combination. Accounting is at ammortised cost.
- **Held for Trading (HFT)** includes assets acquired for selling or repurchasing in the near term or parts of portfolio of identified trading financial instruments. Under the revised IAS 39 (discussed in some detail below), *any* financial asset can be HFT. The accounting is at fair value with changes recognised on the income statement.
- **Available for Sale (AFS)** includes all other categories of assets. The accounting is at fair value with changes in FV recognised in equity, although there are proposed changes for individual items to be designated as mark-to-market to the P&L.

We note that fair value is defined as the amount at which the asset trades on an active market (long positions quoted at bid, and short positions quoted at offer), but not what would be paid for a forced or stressed sale. In the case of assets from inactive markets, fair value is established via one of several valuation techniques (e.g., recent transactions, similar transactions, DCF, options pricing).

Many repackagings will need to be consolidated onto the investor's balance sheet according to IAS 27.

Consolidation (IAS 27)

Consolidation involves the decision process over whether an SPV or other entity is considered to be controlled by the investor. If it is, the assets, debt and derivatives are included on the investor's balance sheet. In IAS 27[5], the general ruling for consolidation is refined with an interpretation of SIC 12, which we will consider in some detail.

In particular, according to standard IAS ruling, the issue of consolidation is determined by **control.** But, of course, one of the common features of an

[5] In US GAAP, the old rule on SPE consolidation was contained in EITF Topic number D14, since refined with the newer FIN46, which was fully implemented in January 2003.

SPV/SPE or other repackaging is that, in spite of there being trustees, they exert no control over business that has already been undertaken.
Further considerations from the IAS ruling include:

1. **Activities**-To which corporate entity are they most closely aligned?
2. **Decision Making**-Who makes decisions? Who put the SPV on autopilot?
3. **Benefit**-Who obtains the economic benefit?
4. **Residual Risk**- Who keeps the residual risk?

Clearly, in an SPV or other repackaging, the questions of activities and decision making are usually unanswerable. But issues of benefit and residual risk are of particular relevance. The decision is entirely subjective, since IAS, unlike US GAAP, is principles-based rather than rules-based.
Unfortunately, most of the standard repackagings (e.g., repackaged ASWs, CLNs, Multi-tiered limited-recourse bankruptcy remote SPV programmes, etc) with one single investor will need to be consolidated by the investor.
A Conduit, unlike most repackaging vehicles, commingles assets (i.e., there is no siloing). With no given majority beneficiary or risk taker, the US GAAP rules are very clear, that no consolidation takes place. In the case of IAS, the rules are more ambiguous but it is clear that many conduits will result in no need for consolidation.

Many embedded derivatives are marked-to-market separately from the host security unless they are vanilla interest rate derivatives, non-leveraged interest rate or inflation products.

Bifurcation (IAS 39, IAS 32)

Bifurcation involves the splitting of embedded derivatives from a given asset or liability and marking-to-market the derivative. Embedded derivatives will be bifurcated if:

1. The economic characteristics and risks of the derivative are *not closely related* to the host instrument.
2. The embedded instrument meets the definition of a derivative (i.e., a separate instrument with the same terms as the embedded item satisfies the definition of a derivative)
3. The hybrid product is not marked-to-market to the P&L.

From an accounting standpoint, bifurcated derivatives will be marked-to-market to the P&L (i.e., as though they had been stripped from the original asset and moved to the HFT). Again, if the total asset is already on the HFT there is no need to consider bifurcation.

The primary consideration with bifurcation is whether the derivative and the asset or liability are closely related. Closely-related embedded features depend on the host instrument, but for a debt instrument, can include non-leveraged interest rates, non-leveraged inflation and vanilla interest rate options.

Examples of **non-closely-related** embedded derivatives include the CDS in a CLN; calls and puts (unless the exercise price is approximately equal to the ammortised or accounting cost); a term extending derivative (unless it also involves an interest rate reset to market).

Examples of **closely-related** instruments include: caps struck above spot, floors struck below spot, and collars. Leveraged caps and floors are not closely-related. In general, embedded interest rate derivatives are considered closely related unless the holder may not recover substantially all (e.g., 90%) of his recognized investment or the instrument could at least double the holder's *initial* rate of return on the host contract and result in a rate of return at least twice the market rate of return for a contract with the same terms as the host.

~~***Hedge accounting allows the offset of derivative gains and losses in P&L or equity, reducing some of the burden of mark-to-market. The added cost is showing hedge efficacy.***~~

~~**Hedge Accounting (IAS 39)**~~

~~All changes in fair value of a derivative (bifurcated or otherwise) must be recorded in the current year P&L. This may not be symmetrical with the recognition of gains and losses on the economically hedged item. Consequently, there is the possibility of applying hedge accounting to match the timing of the P&L recognition of the derivative with that of the item being hedged. The issues surrounding hedge accounting are that the determination of whether or not it applies can be somewhat cumbersome (and many valid economic strategies do not qualify). The steps to qualifying a hedge include:~~

1. Identify the type of hedge: fair value or cashflow or net investment.
2. Identify the hedged item or transaction.
3. Identify the nature of the risk being hedged.
4. Identify the hedging instrument.
5. Demonstrate that the hedge has and will continue to be highly effective.
6. Document the hedging relationship above, including the risk management objectives and strategy for undertaking the hedge, and,
7. Monitor the hedge's effectiveness.

Accounting treatment of qualifying hedges

	Fair Value Hedges	Cashflow Hedges
Gain or loss on hedging instrument	Recognised immediately in P&L	To the extent fully effective, in equity
Adjustment to hedged item	For change in FV due to the hedged risk, gain or loss recognised immediately in P&L	N/A
Hedge ineffectiveness is recorded in P&L	By default	Calculated
Gain or loss in equity is transferred to P&L	N/A	At the same time as the hedged item is recognised in P&L

Source: DB Global Markets Research

Bifrucation is not always a foregone conclusion. DB has a range of products which, due to their not highly leveraged nature, qualify as 'closely-related' and should not require bifurcation.

Finally, we should comment that because many of the changes IAS 39 will bring about could be arduous and will likely impact existing structured products, Deutsche Bank has developed a number of products which will likely avoid many of the problems of bifurcation by embedding derivatives which are closely-related, or products where bifurcation should, by design, be unlikely to result in significant volatility in P&L. An example of a security which DB has structured that should not require bifurcation is a 10NC6m EUR Steepener note which pays a fixed coupon in year one and then a leveraged CMS steepener coupon, both capped at a suitably high cap and floored at 0% in every subsequent year.

10YNC6m CMS Steepener

Maturity	10Y	
Coupon	Year 1	6%
	Year 2-10	5x(CMS 10Y - CMS 2Y)
	Capped at	7.95%
	Floored at	0.00%
Payment	Semi-annuall	
Early Termination	Callable at par on each payment date after 6M	

Source: DB Structured Products Trading

Since the note has a floored coupon or is principal protected, the embedded derivative could not result in a loss, and since it is capped, the embedded derivative could not result in a gain doubling the noteholder's initial rate of return. The cap and floor themselves are not bifurcated since they were OTM on the date of issuance and the issuer call is equivalent to amortised cost of the investor so again does not have to be bifurcated. The DB Strategic Solutions Group has done similar analysis and for a range of instruments including range accruals, LIFTs, CMS notes, or various other interest rate products.

The Regulatory Environment

BIS I is soon to be replaced by BIS II. While many gray areas still exist, it seems clear that there will continue to be regulatory benefits from certain repackaging structures.

In 1975, the supervisory authorities and central banks of major developed countries established the Basel Committee on Banking Supervision at the Bank for International Settlements in Basel, Switzerland (the "Basel Committee"). In 1988, the Basel Committee issued capital adequacy guidelines which then were adopted by the major industrialized nations ("Basel I"). This set out capital adequacy rules for banks.

Almost immediately, (in June 1999), the Basel Committee began the process of a revising the accord ("Basel II"). The Basel Committee issued its Third Consultative Paper on Basel II on April 29, 2003. The goal of the Basel Committee is to complete Basel II by early 2005 with implementation to take effect in member countries by the end of 2006. On August 4, 2003, the four relevant regulatory agencies in the United States issued an Advance Notice of

Proposed Rulemaking which constitutes the agencies' plan to implement Basel II in the United States (the "U.S. Proposal").
After the release of the Basel II proposal, securitization professionals were critical of the capital treatment that it accorded to securitizations. After reviewing comments, the Basel Committee issued a press release on October 11, 2003 indicating that it planned on "simplifying the treatment of asset securitization, including the elimination of the 'Supervisory Formula' and replacing it by a less complex formula. Despite this announcement, U.S. securitization professionals continue to express concerns about the perceived impact of Basel II and the U.S. Proposal. While there is ongoing debate about the risks in ABCP conduits, most of the underlying details of Basel II have been ironed out. Yet, the new methodology comes with significant costs due to the increased complexity.

Basel I

As list the rulings on the standard, currently used method, much more straightforward (and full of holes) than the newly proposed method. We note that the definition of on versus off-balance sheet asset is different from a regulatory perspective than it is from an IAS (or US GAAP) perspective. In both Basel I and Basel II, adequate capital-to-weighted risk for banks is defined as 8%. The measurement of the weighted risk is figured by the following table.

Risk Weights for On-Balance Sheet Assets (1988 Accord)-Old method

Risk Weight	Asset Class
0%	•Cash
	•Central govt and Central bank claims denominated and funded in local currency.
	•Other claims on OECD central govts and central banks
	•Claims collateralized by securities or guaranteed by OECD central govts
0, 10, 20 or 50% (at nat'l discretion)	•Claims on public-sector, and loans guaranteed by such entities
20%	•Claims on development banks (IBRD, IADB, AsDB, AfDB, EIB), guaranteed by, or collateralised by securities of issued by such entitites
	•Claims on OECD incorporated banks and loans guaranteed by such entities
	•Claims or loans guaranteed by non-OECD incorporated banks with a remaining maturity ≤ 1Yr
	•Claims on non-domestic OECD public-sector entities, excluding central government, and loans guaranteed by such entities
	•Cash items in process of collection
50%	•Loans fully secured by residential mortgages
100%	•Claims on the private sector
	•Claims on non-OECD incorporated banks with remaining maturity > 1Yr
	•Claims on non-OECD central governments (unless denominated and funded in nat'l currency)
	•Claims on commercial companies owned by the public sector
	•Premises, plant and equipment and other fixed assets
	•Real estate and other investments (including non-consolidated participations in other companies)
	•Capital instruments issued by other banks (unless deducted from capital)
	•all other assets

Source: BIS

It is clear that the original, credit based approach, could easily lead to some advantages from repackaging. For instance, debt issued by non-OECD banks could easily be repackaged into OECD debt with an appropriate OECD-incorporated SPV.

Basel II

Basel II on the other hand establishes several different methods for determining adequacy. In particular, it should be advantageous to mortgage lenders and others who issue securitized products. Moreover, rather than being OECD biased it is based on the credit as well as other market statistics of a given issue. Essentially, the method involves a decision tree, making it somewhat harder to describe in any detail.

Basel II affords three methods ranging from the: Standardised Approach, to the fully certified VAR approach, A-IRB, with F-IRB being the hybrid.

In Basel II as was true of Basel I, banks will be expected to keep to a capital-to-weighted risk ratio of 8% capital ratio, but the measurement of the risk has now been updated. Banks will have the option of three approaches to calculating credit risk:

- **Standardised Approach.** Similar to Basel I, but with greater "granularity" and sophistication, including the use of external credit ratings
- **Foundation Internal Ratings-Based (F-IRB) Approach.** The primary input will be banks' own internal risk assessments, although key data such as LGD (loss given default) and EAD (exposure at default) will be provided by supervisory authorities.
- **Advanced Internal Ratings-Based (A-IRB) Approach.** The most sophisticated approach, in which the bank's own risk models provide the data and the statistical assessment of risk.

Of these, the standardised approach bears the most similarity to Basel I

Risk weights under standardized approach for Basel II

	AAA to AA- or A1/P1	A+ to A- or A2/P2	BBB+ to BBB- or A3/P3	BB+ to BB-	B+ to B-	Below B-	Unrated
Claims on other sovereigns	0%	20%	50%	100%	100%	150%	100%
Claims on local sovereign in local currency, funded locally	Lower risk weight may be allowed at national discretion, or risk weights may be assigned based on OECD country risk scores						
Claims on domestic PSEs	At national discretion, either as claims on the sovereign, or as claims on banks						
Claims on banks, based on sovereign rating of incorporation country:	20%	50%	100%	100%	100%	150%	100%
Risk weights for banks, based on rating of the bank	20%	50%	50%	100%	100%	150%	50%
Claims on security firms covered by capital norms	Same as in case of banks						
Claims on corporates and insurance companies	20%	50%	100%	100%	150%	150%	100%**
Claims on regulatory retail portfolios, other than for past due loans	At national discretion, may be capped at 75%						
Loans backed by security of residential real estate	35%						
Other exposures	100%						
Off balance sheet exposures ≤1 year original maturity	20% credit conversion factor, and then risk weighted						
Off balance sheet exposures > 1 year original maturity	50% credit conversion factor, and then risk weighted						
Off balance sheet exposures anytime cancelable by bank	0% credit conversion factor						
Credit risk mitigation such as guarantees and credit derivatives	Substitution approach, that is, risk weight of the protection provider is substituted for that of the obligor						
Exposures backed by eligible financial collateral	Exposure to be computed by reducing the haircut value of the collateral; standard haircuts specified in the guidelines						

Securitization: for originator	20%	50%	100%	Deduction	
Securitisation for investors	20%	50%	100%	350%	Deduction
Securitisation for investors ≤1 year original maturity	20%	50%	100%	Deduction*	

Source: BIS, Vinod Kothari.com
**Normally, deduction. In case of senior exposures, risk weight of immediately succeeding class*
*** Increase at National Discretion*

Of the three ratings approaches, of course, the most onerous will bring to bear the greatest capital savings. In particular the A-IRB (essentially a VAR approach), for companies which are able to bear the burden of certifying their internal risk system, should give the most regulatory savings.

Basel II also has a great many provisions for securitisations still being ironed out after CP3. We mention them briefly here because of the possibility (to be ruled on by more qualified risk professionals) that these methods may also be used for repackaging. In particular, securitisations that are not handled using the Standardised approach may be weighted using the IRB which includes Ratings Based Approach (RBA), the Supervisory Formula (SF) and Simplified Supervisory Formula (SSF), as well as more idiosyncratic methods. We discuss the RBA method below.

In particular, if used for repack, securitisation risk weightings depend entirely on the number of assets in the SPV. If there are fewer than 6 assets, it is classified as a nongranular pool and is risk weighted accordingly. Granular tranches backed by more assets get preferential treatment. Even for non-granular pools, benefits could be had by using the RBA method in many cases, for instance, when the underlying rating is A, securitisations will receive a 35% risk weighting compared to 50% for corporates. For a BBB+ securitisations get a 50%, for BBB a 75% and for BBB- a 100% risk weighting, while corporates get a 100% blanket weighting for all BBBs. As mentioned, the benefits of using the securitisation approach are much greater for conduits or for CBOs/CLOs, which should qualify for senior granular tranches (i.e., backed by more than 6 bonds or loans) under the RBA apoproach.

RBA risk weightings for securitisations

Rating	Senior granular Tranches	Non senior granular	Tranches backed by non-granular (N<6) pools
AAA/AA (A1-P1)	7%	12%	20%
Aa/AA	8%	15%	25%
A1/A+	10%	18%	35%
A2/A (A-2/P-2)	12%	20%	
A3/A-	20%	35%	
Baa1/BBB+	35%	50%	
Baa2/BBB (A-3/P-3)	60%	75%	
Baa3/BBB-	100%		
Ba1/BB+	250%		
Ba2/BB	425%		
Ba3/BB-	650%		
Below Ba3/BB-	Deduction		

Source: BIS

Repack provides a number of solutions to regulatory issues. With Basel II, the solutions are more customised. For instance, it is feasible to

- Place Bank paper from poor rated countries into a repack with appropriate credit enhancement and gain advantages, but this is only for those investors using the Standardised Approach.
- Portfolios of a large number of assets obtain better regulatory capital if placed in SPVs and treated as senior and subordinated tranches backed by granular pools.
- Portfolios can obtain even better treatment by treating them as a CDO and obtaining a rating (using e.g., S&P's CDO Evaluator or Moody's expected loss calclulations), with the subsequent rating applied to the first-loss piece (FLP)/note that the investor subsequently buys.

- Bank deposits themselves retain preferential treatment, and thus Fiduciary deposits should maintain their beneficial risk weightings.

The details of the entirety of regulatory solutions are far too complex for this current presentation and instead, we direct the interested reader to the Deutsche Bank contacts below.

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