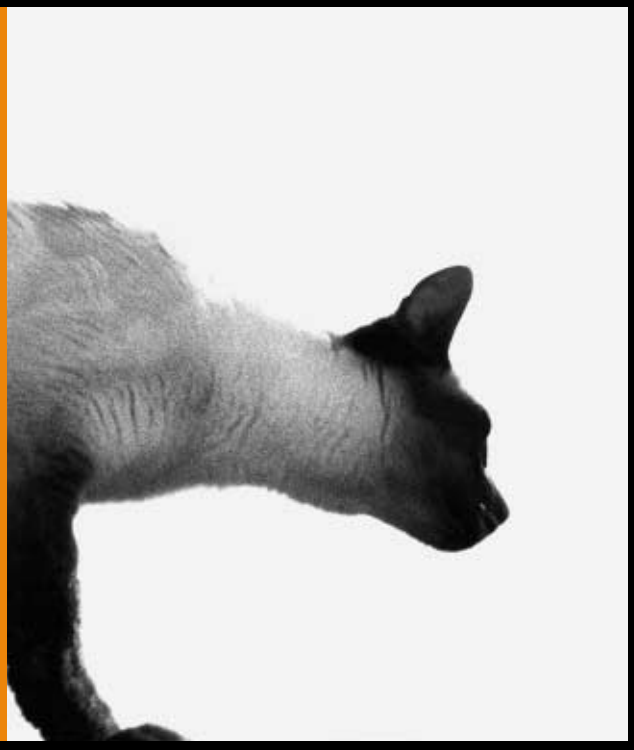


The Euromoney Syndicated Lending Handbook 2004

YieldCurve.com

A special review by Ketul Tanna and Moorad Choudhry

Market interaction and the project finance collateralised debt obligation

Market interaction and THE PROJECT FINANCE collateralised debt obligation

by Ketul Tanna and Moorad Choudhry, YieldCurve.com

In this article we describe how a specific product class in the securitisation and debt capital markets, the collateralised debt obligation (CDO), has been introduced into the project finance market. This has resulted in a long-overdue interaction between the two sectors, which presents a potential significant benefit for investors as well as issuers. First though we consider the differences between the project finance and the corporate debt markets, and the different behaviour of assets in both sectors.

A major element of global debt capital, the project finance market has been viewed as distinctly separate from the traditional traded market in debt capital, that of bonds and corporate loans. This reflects significant differences in the two markets' characteristics, however it may also be viewed as an anomaly whose continuation is surprising, not least because of the involvement of many of the same banking firms in both markets. The application of securitisation technology, a well-established technique for intermediation in the debt capital markets, to the project finance arena has finally resulted in interaction between the two sectors. This is a progressive development in finance.

Traditionally, project finance has been raised in one of two ways: project loans, usually from a syndicate of banks, that are granted on the back of expected revenues from the project itself, and project development debt that is backed by cashflows from those with an equity-interest in the project itself. The use of securitisation technology, in the form of the CDO, in the project finance market is a new third way of raising finance in this sector. In a CDO transaction, bonds are issued to raise financing for a pool of loans put together by commercial banks, multilateral development banks and export credit agencies.

PROJECT FINANCE DEBT

Project finance is a generic term used to indicate debt financing for (typically) large, capital-intensive projects such as infrastructure building. These may include motorway roads and toll roads, power plants, pipelines and mineral exploration facilities. Project sponsors may be both public-sector or, increasingly in developed economies, private sector. The financing itself is usually required for a single 'asset', the infrastructure item itself,

which may be comprised of a number of assets itself. Much project financing is made up of a group of such assets, which are paid for by a pool of bank loans from a syndicate of banks. The loans are typically originated and fully funded at the start of the project. However there also exist transactions structured in the form of an open pool of loans. This form is followed when the sponsors of the project wish to raise aggregate financing that is greater in value that the current or initial projected pool of assets. By raising loans to such a greater value, the project sponsors are able to undertake future projects or further work on the existing project.

Project finance loan structures feature different characteristics compared to conventional corporate loan structures, that reflect different risk profiles of the two types. For instance, projects typically exhibit the following:

- amortising debt;
- specific (and usually more stringent) loan covenants;
- decreasing leverage over time;
- scheduled debt service repayments;
- cash 'traps' to hold reserve cash;
- lender protection built into the loan structure.

The different risk profile for the investor in the bond market can be seen from the above. For instance amortising debt produces a lower leverage over time, and also reduces the refinancing risk of a project compared to a corporation. A tailored schedule of debt service payments also lowers the risk for the loan investor; project financings are characterised by a paying off of principal over time. Generally a project will set its schedule of principal repayments to match the timing of cashflows expected from the project. Features such as loan covenants and cash traps also enable investors to monitor performance more closely than they may be able for a corporate financing. The elements of protection for lenders built into the loan structure include:

- a block on payment of dividends;

Key differences in debt structure, corporate finance versus project finance — **Exhibit 1**

Project financings	Corporate financings
Pledge to lenders of physical assets and revenues arising from operations	Issue unsecured debt
Highly leveraged tranasctions	Lower level of leverage
Higher level of debt servising as share of expenses	Lower share of debt expenses
Amortising debt	Bullet repayment structure
Higher recovery rates on default	Lower recovery rates on default
Lower statistical likelihood of default	Higher statistical likelihood of default
Lower loss severity	Higher loss severity

Source: YieldCurve.com

- a list of proscribed events that trigger default even if sufficient funds exist to service debt;
- external monitoring of loan protection provisions.

It is worth considering further the differing characteristics of project finance versus corporate finance debt, as this enables us to see how project finance CDOs would differ from traditional CDOs. Exhibit 1 is a summary of these differences, which we emphasise are the norm abut by no means the rule.

As well as the difference in loan structure, project finance debt also exhibits a different behaviour profile compared to corporate debt. Project finance debt is secured, which means that lenders have a call on the borrower's assets in the event of default. The nature of the enterprise, as well as the loan structure itself, means that default is more likely to lead to re-structuring of debt rather than liquidation. This contrasts significantly with most corporate financing. The amortising nature of the debt also leads to different patterns of behaviour. Similarly with a mortgage financing, a pool of amortising loans that is approaching maturity has less likelihood of experiencing default compared to a corporate loan with bullet maturity. This is due partly to the accretion of equity in the project over time, but also because the project sponsor (like the mortgage borrower) has greater incentive to make loan repayments on time for a project that has been substantially paid off. This feature leads to lower statistical likelihood of default.

Finally there is the 'essential' nature of many infrastructure projects, which means that in practice they will overcome obstacles such as cashflow difficulties, sometimes as a result of government and political pressures, and reach completion.

REASONS FOR UNDERTAKING SECURITISATION

The driving force behind securitisation has been the need for banks to realise value from the assets on their balance sheet. Typically these assets are residential mortgages, corporate loans, and retail loans such as credit card debt. This list has now been expanded to include project finance loans and syndicated loans. A bank may wish to reduce the size of its balance sheet for the following reasons:

- if revenues received from assets remain roughly unchanged but the size of assets has decreased, this will lead to an increase in the return on equity ratio;
- the level of capital required to support the balance sheet will be reduced, which again can lead to cost savings or allows the institution to allocate the capital to other, perhaps more profitable, business;
- to obtain cheaper funding: frequently the interest payable on ABS securities is considerably below the level payable on the underlying loans. This creates a cash surplus for the originating entity.

By entering into securitisation a lower-rated entity can access debt capital markets that would otherwise be the preserve of higher-rated institutions. By holding the assets within a separate legal entity framework, defined in formal legal terms, the financial status and credit rating of the originator becomes almost irrelevant for the bondholders. The process of securitisation often involves credit enhancements, in which a third-party guarantee of credit quality is obtained, so that notes issued under the securitisation are often rated at investment grade and up to AAA-grade.

The process of structuring a securitisation deal ensures that the liability side of the SPV – the issued notes – carries lower cost than the asset side of the SPV. This enables the originator to secure lower cost funding that it would not otherwise be able to obtain in the unsecured market. This is a tremendous benefit for institutions with lower credit ratings

Mechanics of securitisation

Securitisation involves a 'true sale' of the underlying assets from the balance sheet of the originator. This is why a separate legal entity, the SPV, is created to act as the issuer of the notes. The assets being securitised are sold onto the balance sheet of the SPV. The process involves:

- undertaking 'due diligence' on the quality and future prospects of the assets;
- setting up the SPV and then effecting the transfer of assets to it;
- underwriting of loans for credit quality and servicing;
- determining the structure of the issued notes, including how many tranches are to be issued, in accordance to originator and investor requirements;
- the notes being rated by one or more credit rating agencies;
- placing of notes in the capital markets.

The sale of assets to the SPV needs to be undertaken so that it is recognised as a true legal transfer. The originator will need to hire legal counsel to advise it in such matters. The credit rating process will consider the character and quality of the assets, and also whether any enhancements have been made to the assets that will raise their credit quality. This can include *overcollateralisation*, which is when the principal value of notes issued is lower than the principal value of assets, and a liquidity facility provided by a bank.

A key consideration for the originator is the choice of the underwriting bank, which structures the deal and places the notes. The originator will award the mandate for its deal to an investment bank on the basis of fee levels, marketing ability and track record with assets being securitised.

PROJECT FINANCE AND THE SECURITISATION MARKET

Traditional CDOs (or CLOs for collateralised loan obligations, whose underlying assets are exclusively bank loans) are a means of raising funding which is paid for by the cashflows generated by the underlying pool of loans or bonds. A key feature of CDOs is that the credit rating of the bonds issued by the CDO will be higher (generally) than that of any individual bond or loan in the asset pool. This reflects the application of securitisation technology, which reduces default risk through diversified cashflows. Other features that lead to the higher rating of the liabilities include overcollateralisation and tranching of notes to form senior, mezzanine and junior priority of payments.

Given that the CDO represents securitisation of loans, it should not be unexpected that it may be used in connection with project finance loans. There are a number of potential advantages to integrating the securitisation and project finance markets, for note investors, borrowers and bank lenders. The potential benefits include:

- **Capital market investors:** a project finance CDO/CLO is an additional means of diversification in its own right. It is also a method to access the (hitherto unavailable) project finance market via an efficient and lower-risk instrument: investing in a CDO/CLO rather than a single-asset project loan offers greater liquidity and secondary market opportunity, as well as a formally rated asset for the investment portfolio. It is also more diversified than a direct investment in one loan.
- **Borrowers:** the CDO/CLO is an additional mechanism by which to raise finance, and from a market not previously accessible to borrowers. These include fund managers previously investing in corporate bond funds, high-yield bonds and ABS and CDO notes. The cost of the funds raised are typically lower than traditional bank loans, as CDO notes typically carry a higher rating.
- **Bank lenders:** The benefit to bank lenders is the same that applied when ABS, MBS and CDO were first introduced, and which were mentioned earlier. A CDO offers a way to create liquid instruments out of previously illiquid assets, as well as raise funding and lower regulatory capital cost.

Thus, we should expect to observe an increasing number of project finance CDOs, as market participants gain familiarity with the concept. This is a positive development, as it increases interaction between two important segments of the capital markets. It brings the bank loan market in project finance to the debt capital market, and all the advantages of liquidity and transmission of market data that this market enjoys. It also expands the participation of investment managers in the project finance market, and offers an additional investment opportunity for them. This should have the effect of reducing overall costs. Given that much of the project finance market operates in order to fund important infrastructure projects in emerging economies, this development is to be encouraged as beneficial for the financial markets as a whole.

OVERVIEW OF THE CDO AND INVESTOR ISSUES

The CDO as a securitised product

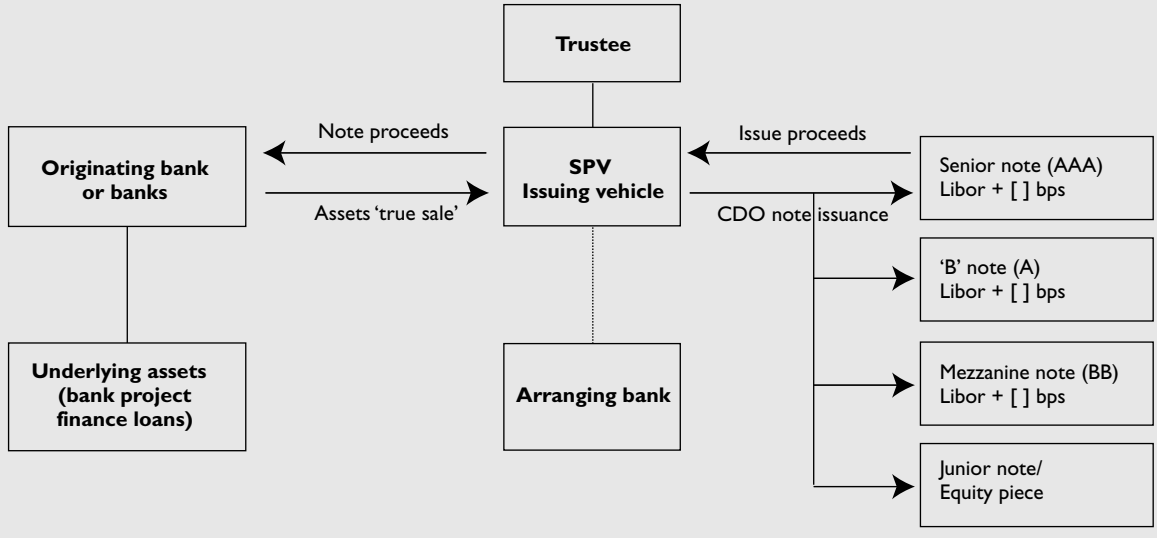
A *cashflow* CDO structure is represented by an issue of the notes whose interest and principal payments are linked to the performance of the underlying assets of the structure. These underlying assets act as the *collateral* for the issued notes, hence the name. Generally CDOs feature a multi-tranche note structure, with a number of issued securities, most or all of which are rated by one or more of the public credit ratings agencies. The priority of payment of the issued securities reflects the credit rating for each note, with the most senior note being the highest rated. The term *waterfall* is used to refer to the order of cashflow payments. Sufficient underlying cashflows must be generated by the issuing vehicle in order to meet the fees of third-party agency servicers and all the note issue liabilities. In Europe issued securities may pay a fixed or floating coupon, usually on a semi-annual, quarterly or monthly basis, with senior note issues rated from AAA to A and junior and mezzanine notes rated BBB to B. There may be unrated subordinated and *equity* pieces issued. The equity note is actually a bond, and represents the shareholding interest in the vehicle; its return is variable and linked to the performance of the collateral pool. Investors in the subordinated notes receive coupon after payment of servicing fees and the coupon on senior notes. The equity and subordinated note are the first loss pieces and, as they carry the highest risk, have a higher expected return compared to that of the underlying collateral.

There are two types of CDO, collateralised bond obligations (CBOs) and collateralised loan obligations (CLOs). As the names suggest, the primary difference between each type is the nature of the underlying assets; a CBO will be collateralised by a portfolio of bonds while a CLO will represent an underlying pool of bank loans. Following this distinction, CDOs can be broken into two main types, balance sheet CDOs and arbitrage CDOs. Balance sheet CDOs are most akin to a traditional securitisation; they are created to remove assets from the balance sheet of the originating bank or financial institution, usually to reduce regulatory capital requirements, increase return on capital or free up lending lines. Project finance CLOs are invariably balance sheet CDOs.

An arbitrage CDO is created when the originator, who may be a bank or fund manager, wishes to exploit the yield differential between the underlying assets and the overlying notes. This may be achieved by active management of the underlying portfolio, which might consist of high-yielding or emerging market bonds. Arbitrage CDOs are categorised further into cashflow and market value CDOs. Put simply a cashflow CDO is one in which the underlying collateral generates sufficient cashflow to pay the principal and interest on the issued notes, as well as the servicing fees of third party agents. In a market value CDO, the collateral manager actively runs the portfolio and, by means of this trading activity,

Generic cashflow CDO

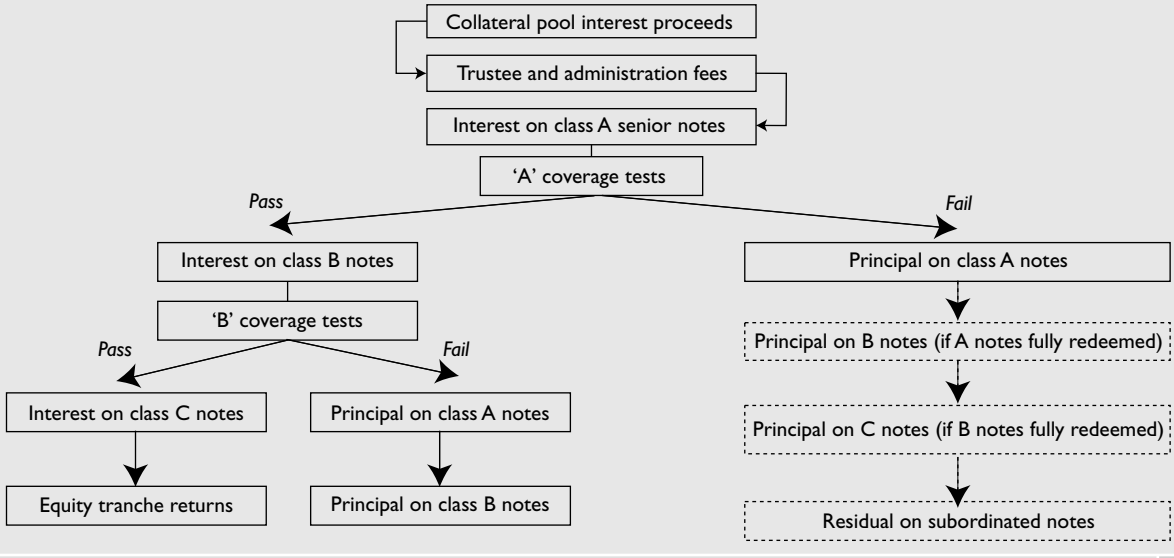
Exhibit 2



Source: YieldCurve.com

Interest cashflow waterfall for cashflow CDO

Exhibit 3



Source: YieldCurve.com

generates sufficient returns to pay the CDO obligations. The underlying securities are marked-to-market on a daily basis in the same manner as a trading book.

Another type of CDO, the synthetic CDO, uses credit derivatives to mirror the economic effect on credit risk of transferring assets off a bank balance sheet, without an actual transfer or sale taking place. These are discussed in detail in Choudhry (2004).

Cashflow CDO

These are similar to other asset-backed securitisations involving an SPV such as ABS or MBS products. Bonds or loans are pooled together and the cashflows from these assets used to back the liabilities of the notes issued into the market. As the underlying assets are sold to the SPV, they are removed from the originator's balance sheet; hence the credit risk associated with these assets is transferred to the holders of the issued notes. The originator also obtains funding by issuing the notes. The generic structure is illustrated in Exhibit 2. The underlying assets indicated in the diagram can be made up of corporate loans, project finance loans or syndicated loans, the basic structure remains unchanged irrespective of the specific type of assets that are securitised.

The cashflows of the underlying assets are used to fund the liabilities of the overlying notes. As the notes carry different ratings, there is a *priority of payment* that must be followed which is the cashflow waterfall. The most senior payment must be paid in full before the next payment can be met, all the way until the most junior liability is discharged. If there is insufficient funds available, the most senior notes must be paid off before the junior liabilities can be addressed. The waterfall process for interest payments is shown in Exhibit 3.

The different risk profiles of the issued notes results because they are subordinated, that is, the notes are structured in descending order of seniority. In addition the structure makes use of credit enhancements to varying degrees, which include:

- overcollateralisation: the overlying notes are lower in value compared to the underlying pool; for example, US$250m nominal of assets are used as backing for US$230m nominal of issued bonds;
- cash reserve accounts: a reserve is maintained in a cash account and used to cover initial losses; the funds may be sourced from part of the proceeds;
- excess spread: cash inflows from assets that exceed the interest service requirements of liabilities.

Investor considerations

Investors are attracted to the senior notes in a transaction because these allow them to earn relatively high yields compared to other asset-backed bonds of a similar credit rating. Other advantages include:

- exposure to a diversified range of corporate and other credits;
- access to the fund management and credit analysis skills of the portfolio manager;
- generally, a lower level of uncertainty and risk exposure compared to a single bond of similar rating.

Investors are often attracted to balance sheet CDOs because they are perceived as offering a higher return than say, credit card ABS at a similar level of risk exposure. They also represent a diversification away from traditional structured finance investments. The asset pool in a balance sheet CDO is static, that is it is not traded or actively managed by a portfolio manager; for this reason the structure is similar to more traditional ABS or repackaging vehicles. The typical note tranching are:

- senior note, AAA-rated, 90% - 95%
- subordinated note, A-rated, 3% - 5%
- mezzanine note, BBB-rated, 1% - 3%
- equity note, non-rated, 1% - 2%.

Investors who are familiar with CDOs and the process by which they are rated by agencies such as Moodys and

S&P will consider the specific characteristics of project finance CDOs compared to the traditional CDO. This includes a comparison of:

- the default and recovery profile of project finance loans versus corporate loan and high-yield bonds;
- the extent of diversity of project finance loans across industrial sectors and geographical regions, as well the potentially greater impact of political influences compared to corporate debt;
- the likelihood of default for loans types of differing structures, such as the amortising loans of most project finance compared to bullet loans of most corporate finance loans.

The level of information available on project finance loans and project finance CDOs is lower compared to corporate loans and CDOs, but this is to be expected given the relative newness of the former. Over time we can expect this information gap to be bridged as more market practitioners in the securitisation markets take an interest in the concept of the project finance CDO.

Reference:

Choudhry, M., *Structured Credit Products: Credit Derivatives and Synthetic Securitisation*, John Wiley & Sons 2004

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