Collateralized Debt Obligations

January 2005

Morgan Stanley

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Section 1

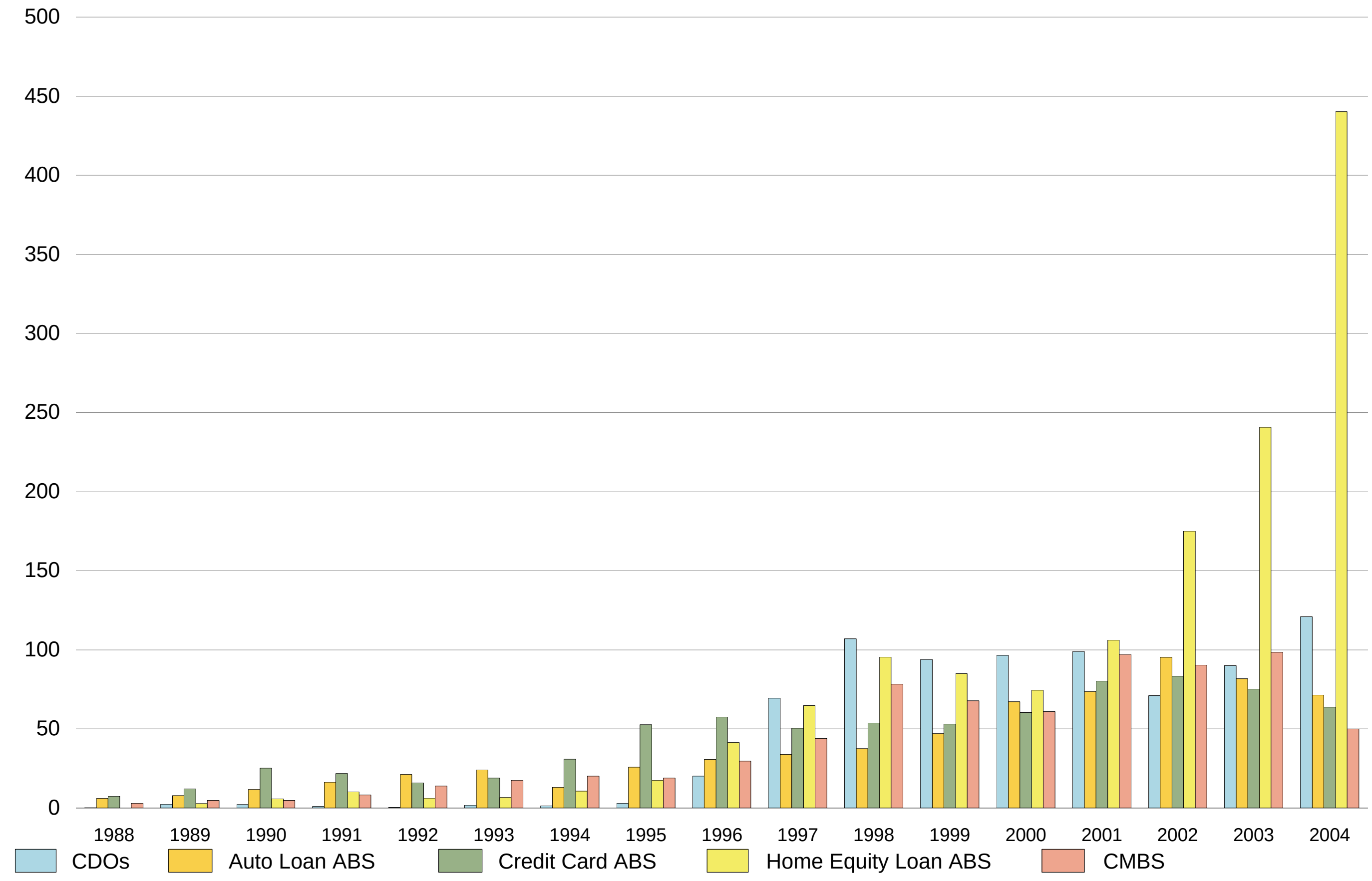
CDO Market Overview

Market Size Comparison

- **CDOs are a major segment of the overall Asset-backed market**

CDO, ABS and CMBS Issuance (1)

Volume ($Bn)



Sources Moody's Investors Service, Fitch IBCA, MCM Corporate Watch, Asset-Backed Alert, Morgan Stanley

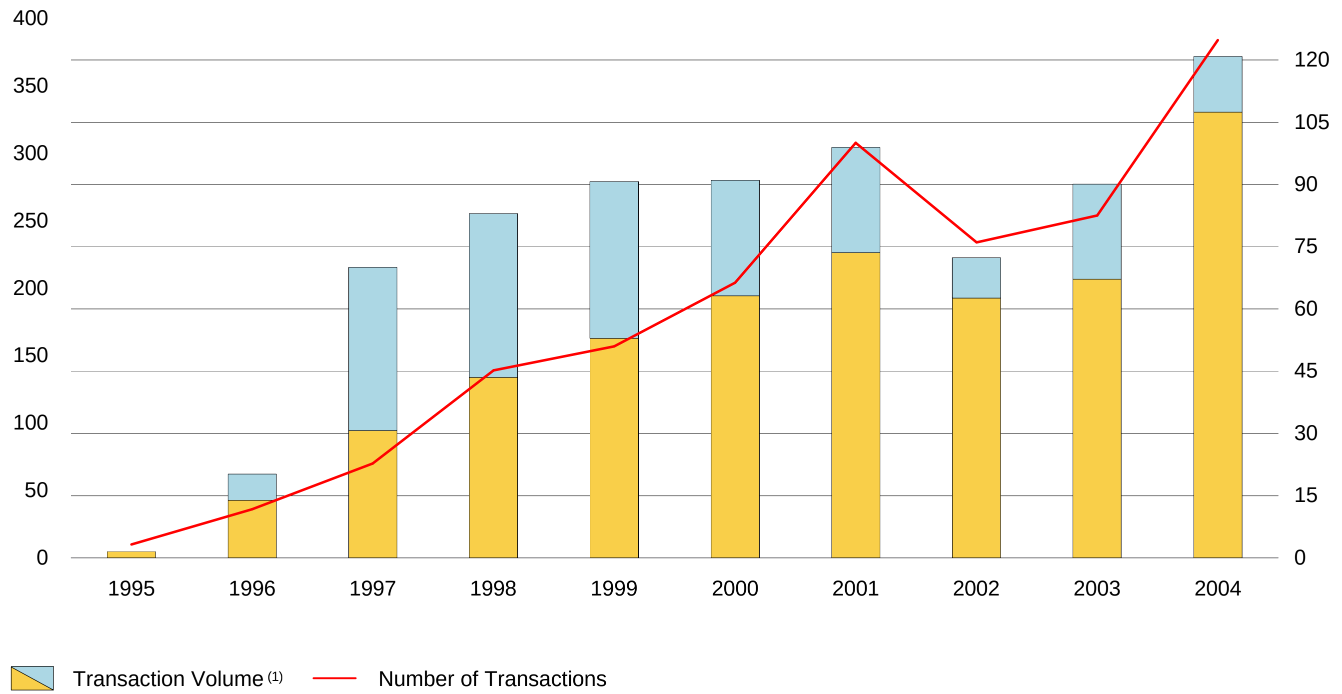
Note
1. As of December 31, 2004. All issuance numbers are global.

CDO Primary Market Growth

- Approximately $690 Bn of CDO securities have been issued since 1988. The majority of the issuance has occurred in the past few years, including approximately $83Bn in 1998, $80Bn in 1999, $91Bn in 2000, $99Bn in 2001, $73Bn in 2002, $90Bn in 2003, and $121Bn in 2004[1]

Market Growth[1]

Number of Transactions



Sources Moody's Investors Service, Fitch IBCA, Inc., Asset-Backed Alert, MCM Corporate Watch, S&P, Morgan Stanley

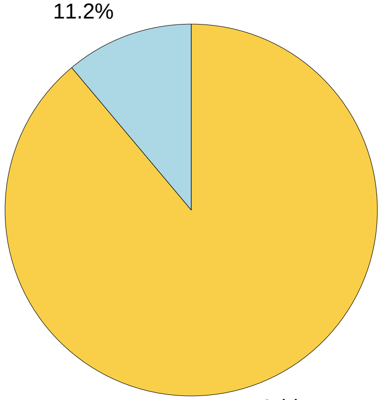
Notes
1. As of December 31, 2004
B/S = Balance Sheet (Blue)
ARB = Arbitrage (Yellow)

CDO Market Overview

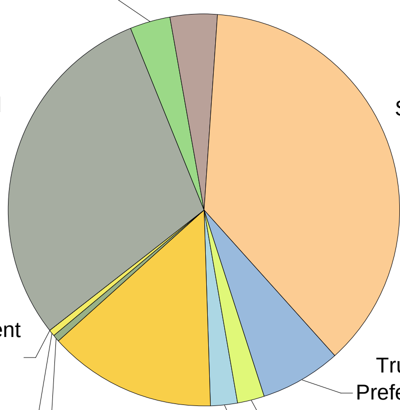
CDO Issuance Volume 2004(1)(2)

- **In the current credit environment, ABS CDOs and CLOs retain their popularity as the largest asset types by issuance volume**
- **The structured finance CDO market grew tremendously during the last five years**

All Transactions
Total Volume = $120.9Bn



Arbitrage Transactions
Total Volume = $107.4Bn



Sources Moody's Investors Service, Fitch-IBCA, MCM Corporate Watch, Asset-Backed Alert, Morgan Stanley

Notes
1. As of December 31, 2004
2. Data may not add up to 100% due to rounding

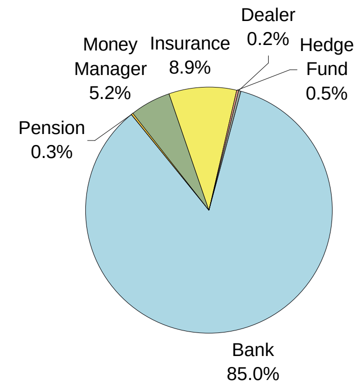
CDO Market Overview

Morgan Stanley’s 2004 Distribution [1]

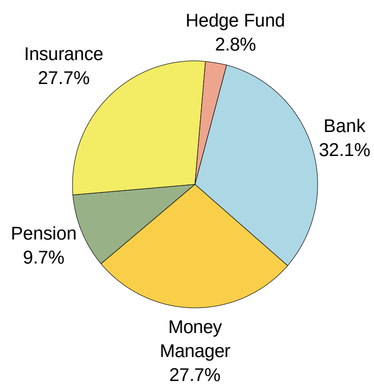
By Account Type

2004YTD

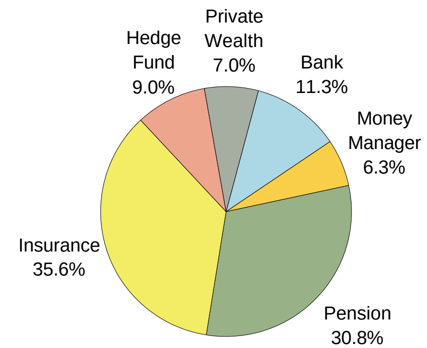
Senior Notes $3.22Bn



Mezzanine Notes $444MM

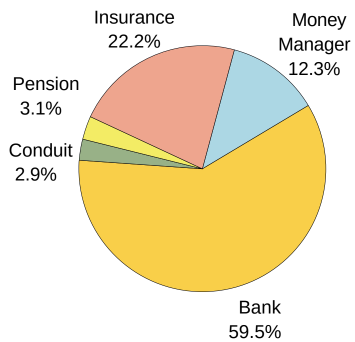


Equity $492MM

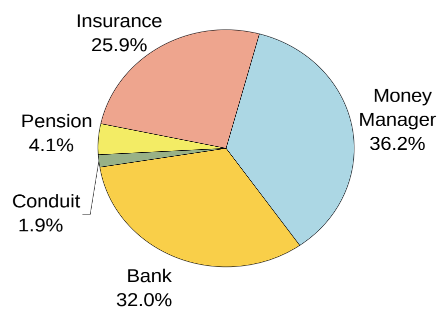


2003

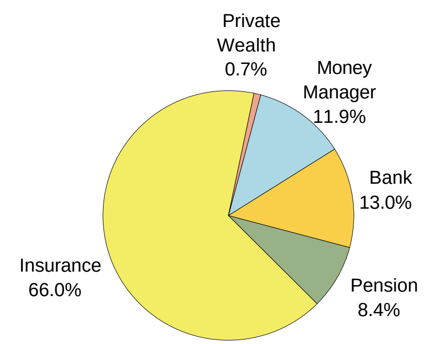
Senior Notes $1.88Bn



Mezzanine Notes $269MM



Equity $152MM



Notes

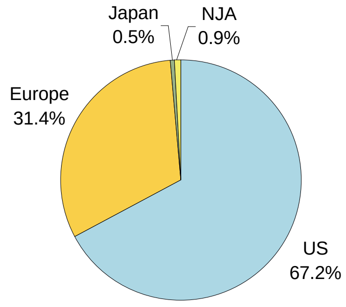
1. Source: Morgan Stanley. As of December 31, 2004. Excludes manager retained tranches

Morgan Stanley's 2004 Distribution (cont'd) (1)

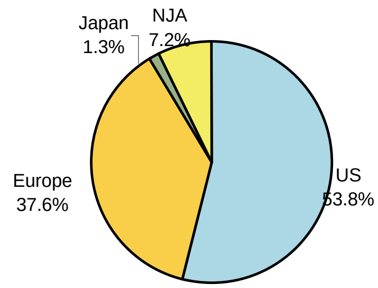
By Region

2004YTD

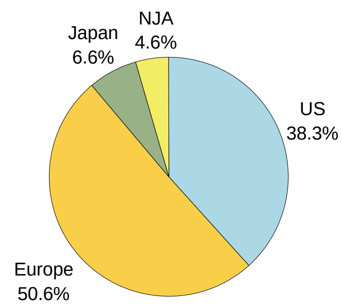
Senior Notes
$3.22Bn



Mezzanine Notes
$444MM

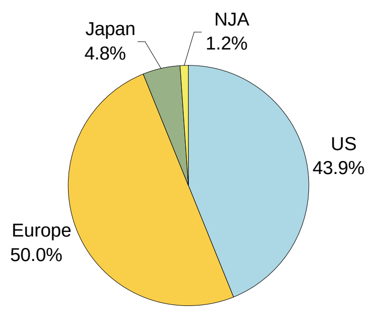


Equity
$492MM

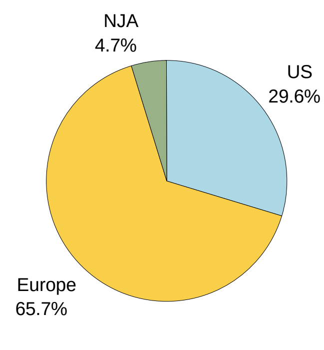


2003

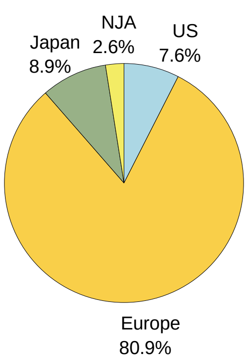
Senior Notes
$1.88Bn



Mezzanine Notes
$269MM



Equity
$152MM



Notes

1. Source: Morgan Stanley. As of November 31, 2004. Excludes manager retained tranches

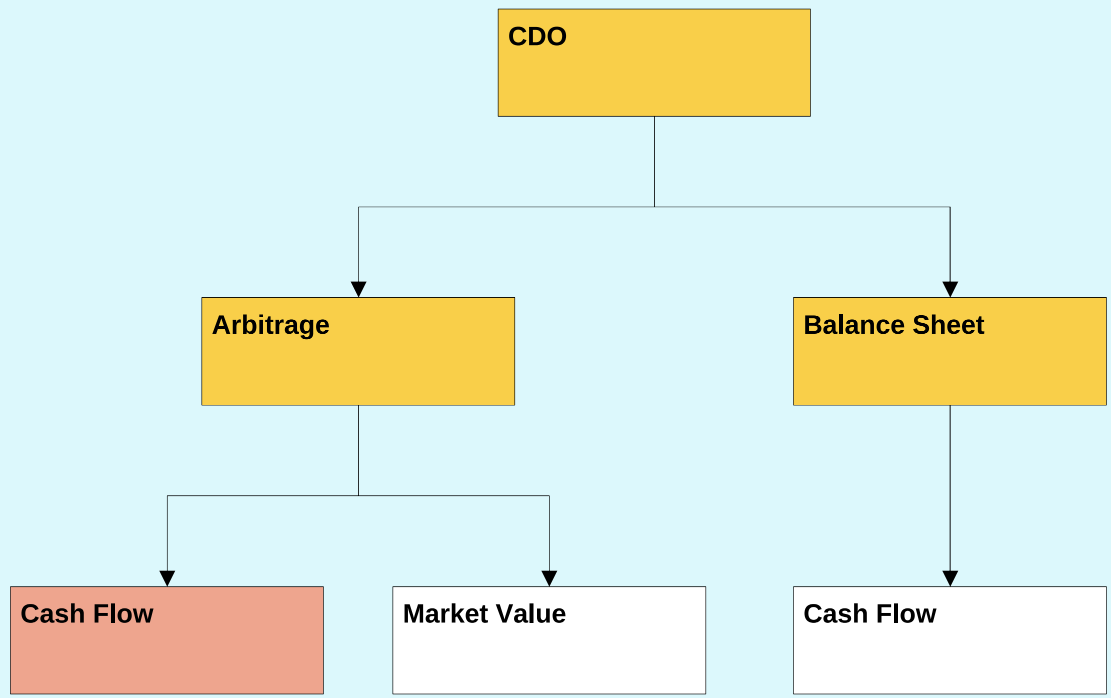
Section 2

What is a CDO?

Assets and Structures

Overview of CDO Types

- Most CDOs can be placed into two groups, arbitrage and balance sheet transactions
- Further, arbitrage CDOs can be characterized as either cash flow or market value deals
- Balance sheet CDOs are primarily cash flow/synthetic transactions, and are often driven by regulatory and/or capital objectives
- Arbitrage CDOs offer the most frequent opportunities for investment in subordinated tranches
- This presentation will focus principally on cash flow arbitrage CDOs



Overview of CDO Types (cont'd)

Characteristics of Cash Flow Arbitrage CDOs

- Leverage does not fluctuate with market value
- Cash flows from the collateral drive the performance of the CDO's securities. Typically, current income provides the bulk of the Equity's yield
- Primary consideration is default risk or par deterioration of underlying assets. At no time are portfolio assets forced to be sold solely because of their market value
- The transaction attempts to extract the difference between relatively higher spreads on assets purchased by the CDO and lower spreads paid on the debt securities issued
- Examples: D.L. Babson CLO, TCW ABS CDO

Characteristics of Market Value Arbitrage CDOs

- Collateral is marked to market on an ongoing basis; primary considerations are price volatility and liquidity of the underlying securities
- Leverage varies based on adjusted market value of the collateral
- Current cash flow from asset pool does not necessarily affect the rated securities
- Greater Collateral Manager trading flexibility
- A wider variety of underlying asset classes can be utilized
- Examples: Special Value Opportunities Fund (SVOF)

Characteristics of Balance Sheet CDOs

- Utilizing CDO technology, issuers can achieve off-balance sheet financing and credit relief for a fixed income portfolio
- The underlying assets of balance sheet CDOs usually consist of low investment grade commercial and industrial (C&I) loans, although other assets may be used
- The underlying portfolio is typically not actively managed and cash flows from the collateral drive the performance of the CDO's securities
- The primary consideration is default risk of the underlying assets. At no time are portfolio assets forced to be sold solely because of their market value
- Frequently, these transactions are synthetically completed using credit derivatives
- Issuer or sponsor bank will typically retain the Equity in the transaction
- Examples: Signature QSPE, Fleet CLOs

Structural Overview

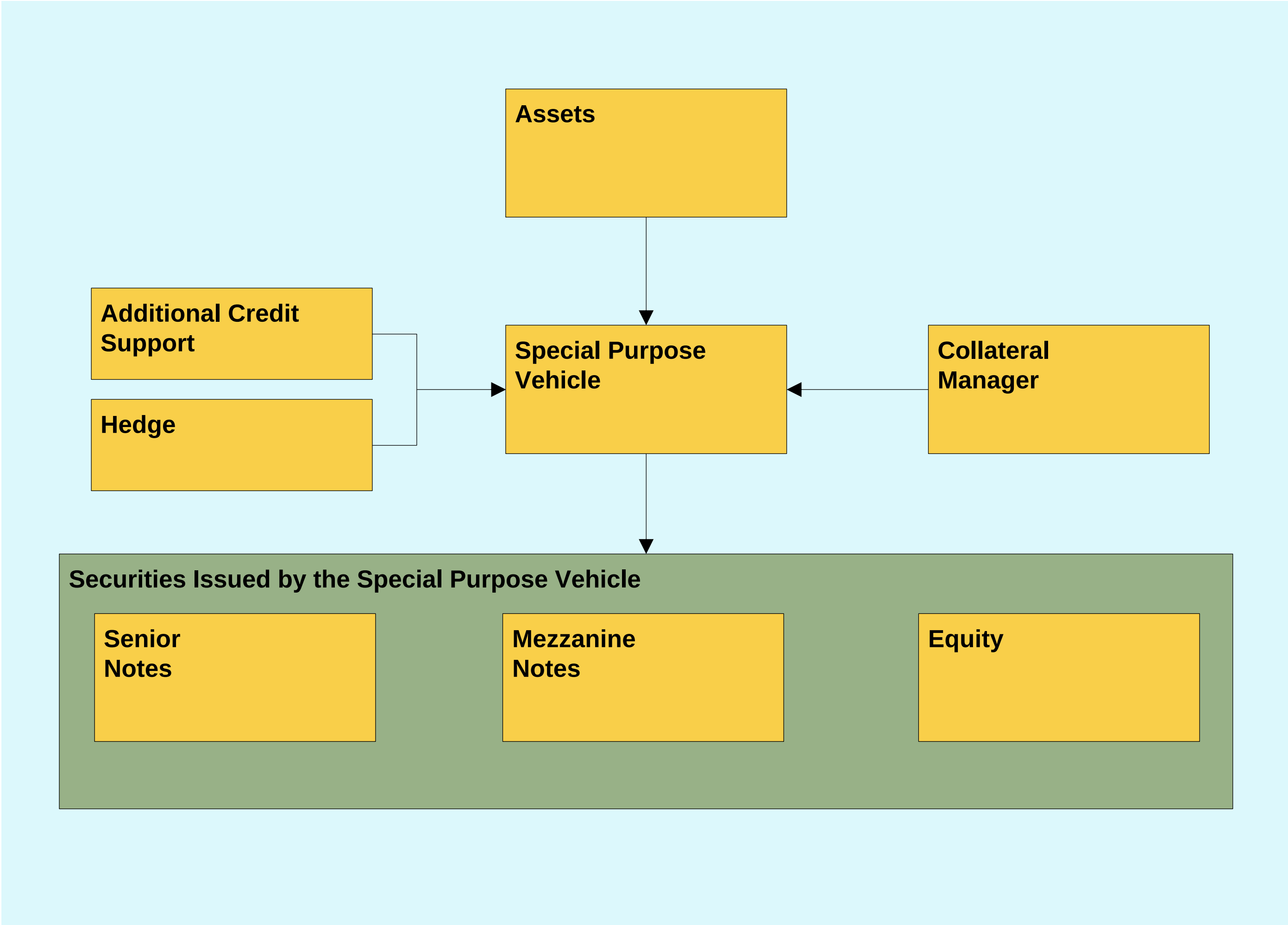
Overview of CDO Structure

- CDOs are managed, structured fixed income funds that are levered in order for the Equity to achieve a higher risk/return profile consistent with various private investment alternatives
  – The CDO market has been developing since the late 1980s
  – Around $600 Bn of CDO securities have been issued since 1988. Annual issuance is between $80 and $100Bn.
- The purpose of a CDO is to tranche the credit risk and return profile of a diversified pool of assets into higher credit quality, lower returning investments and lower credit quality, potentially higher returning investments
  – This is done by establishing a special purpose vehicle (trust, partnership, offshore company, etc.) that purchases and holds the underlying asset pool
  – The special purpose vehicle (SPV) issues Senior Notes, Mezzanine Notes and Equity collateralized by the asset pool
- A Collateral Manager monitors the asset pool and makes trading decisions within specified parameters
- Similar to the equity of corporate entities, the Equity (which is typically unrated) is the economic residual of a CDO
  – The Equity has a claim on all monies not utilized to service debt and expenses
  – Equity holders are in a first loss position with respect to defaults and monetized credit deterioration in the underlying asset pool

Notes: Source: Moody's Investors Service, Fitch IBCA, Inc., Asset-Backed Alert, MCM Corporate Watch, S&P, Morgan Stanley. As of September 30, 2003.

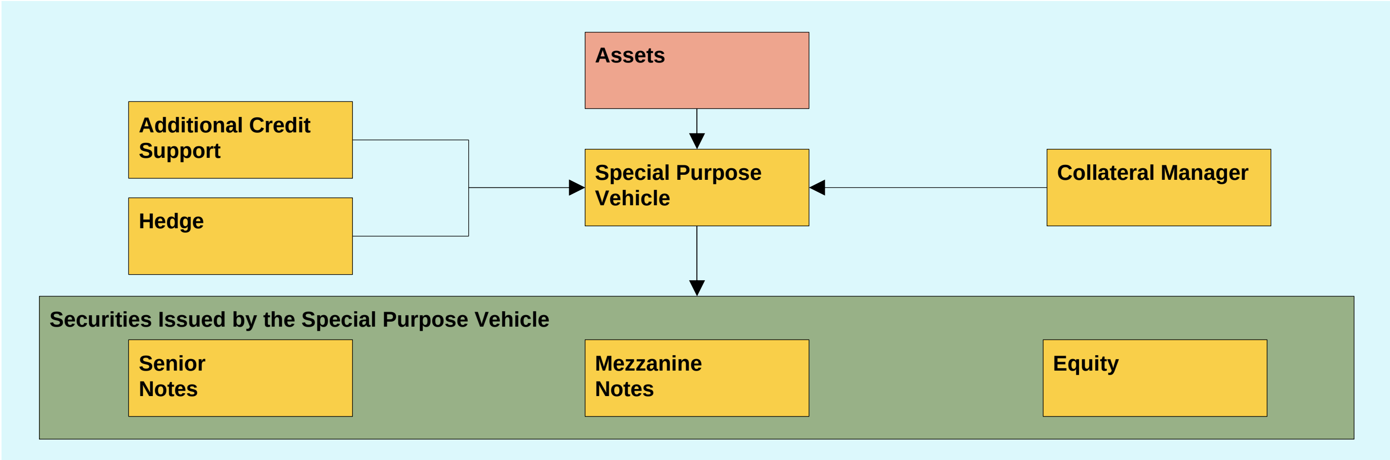
Sample CDO Structure

- The CDO structure includes assets, liabilities and a number of participants providing services to the issuer



Sample CDO Structure (cont'd)

Assets

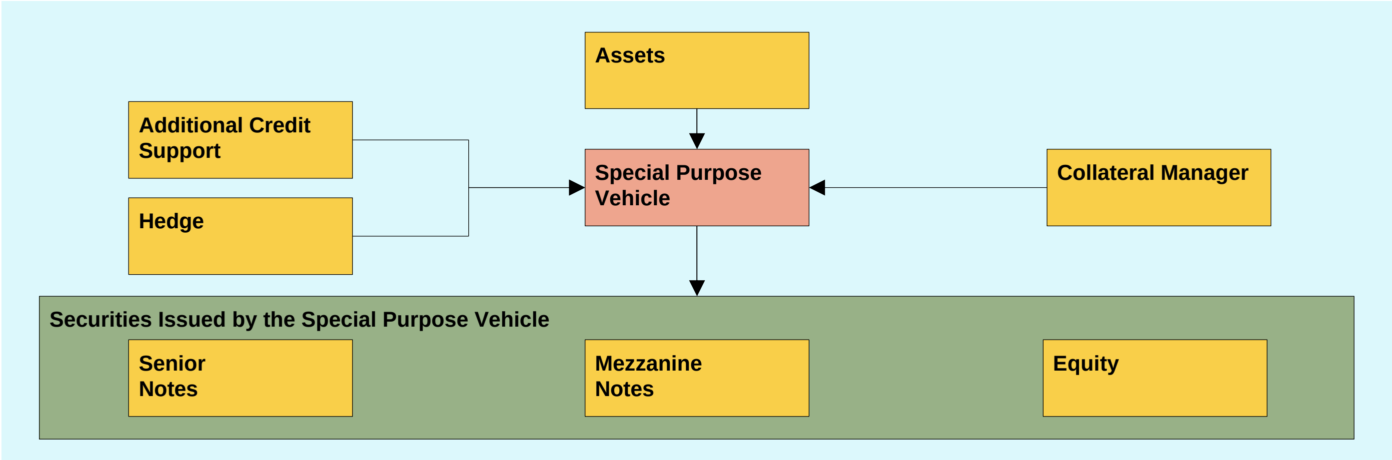


Overview of CDO Assets

- Underlying portfolio purchased by the Special Purpose Vehicle to collateralize the Notes
- A variety of fixed income securities and loans can serve as collateral. The specific types of collateral permitted for a given transaction are defined in the indenture and transaction documentation
  - Structured finance/asset-backed securities/ mortgage-backed securities
  - U.S. high yield bonds or loans
  - European high yield bonds or loans
  - Emerging markets securities
  - Investment grade bonds or loans
  - REIT bonds
  - Synthetic securities including default swaps and credit-linked notes
  - Distressed debt
  - Convertibles
  - Mezzanine debt
- Range of new asset types is constantly increasing
- Typically the assets are rated
- Assets are selected and managed by the Collateral Manager

Sample CDO Structure (cont'd)

Special Purpose Vehicle

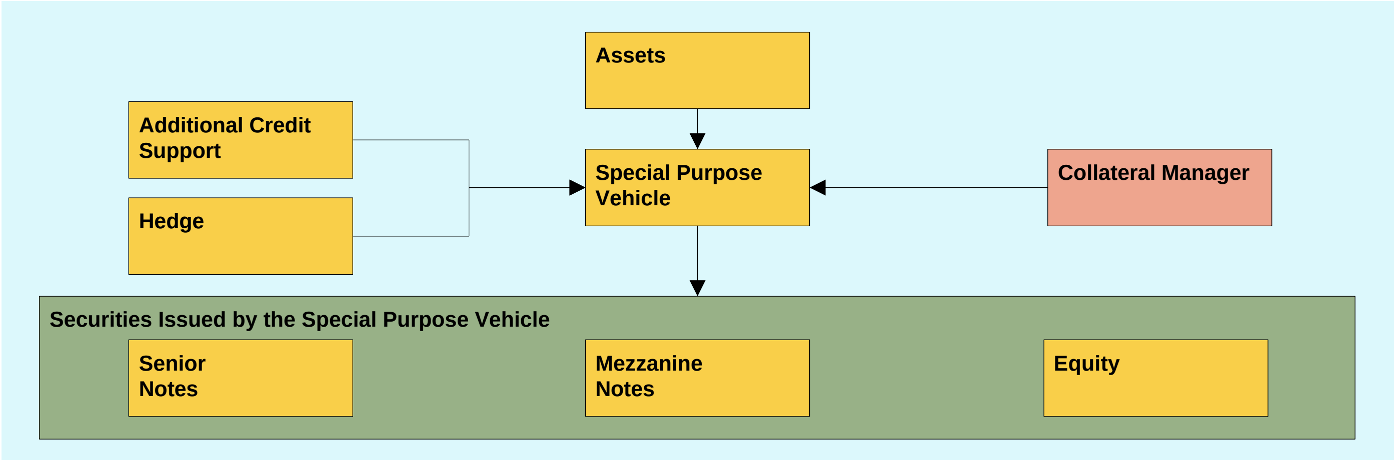


Overview of the Special Purpose Vehicle (SPV)

- CDOs are structured by establishing an SPV (trust, partnership, limited liability company, offshore company, etc.), which purchases and holds the transaction's assets
- To finance the assets, the SPV issues one or more tranches of Senior Notes, Mezzanine Notes, and Equity
- A Trustee is hired by the SPV to serve as custodian and administrator for the Noteholders
- The Trustee is responsible for monitoring the Collateral Manager's activities to ensure the assets are traded within transaction parameters

Sample CDO Structure (cont'd)

Collateral Manager

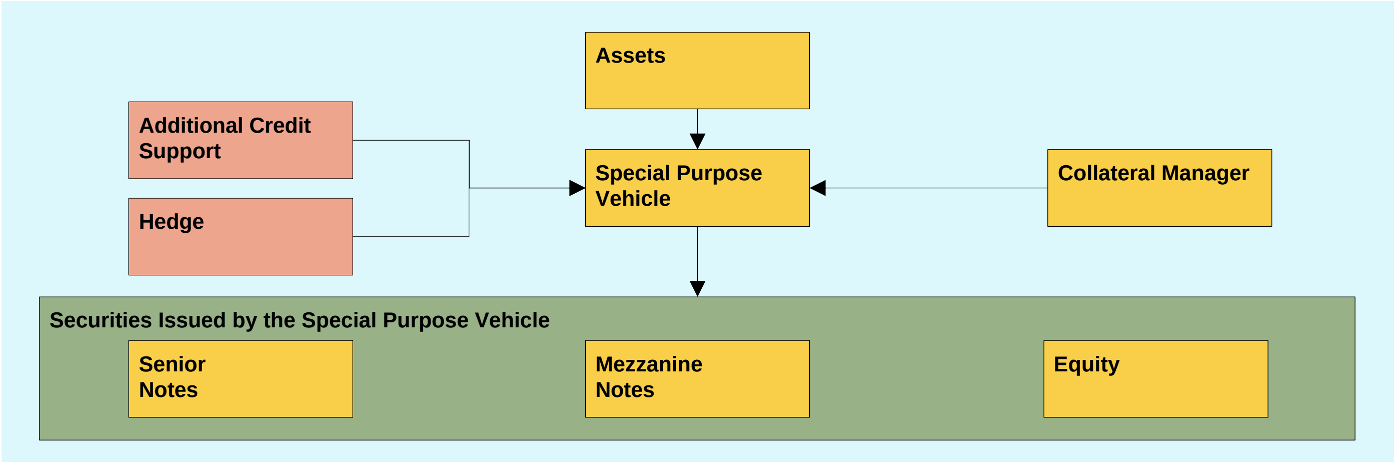


Overview of the Collateral Manager

- Professional investment manager selected at inception by Equity holders, Noteholders, and SPV to run the portfolio
- Selects initial collateral and monitors and administers the assets over time
- Engages in trades designed to maximize returns and avoid losses while keeping the portfolio within parameters established prior to closing and defined in the transaction's documentation
- Manages credit, interest rate and foreign exchange risks (if any) within the structure
- For its services, the Collateral Manager receives a periodic fee from the SPV, which may be fixed or performance-based or a combination thereof

Sample CDO Structure (cont'd)

Hedge and Additional Credit Support

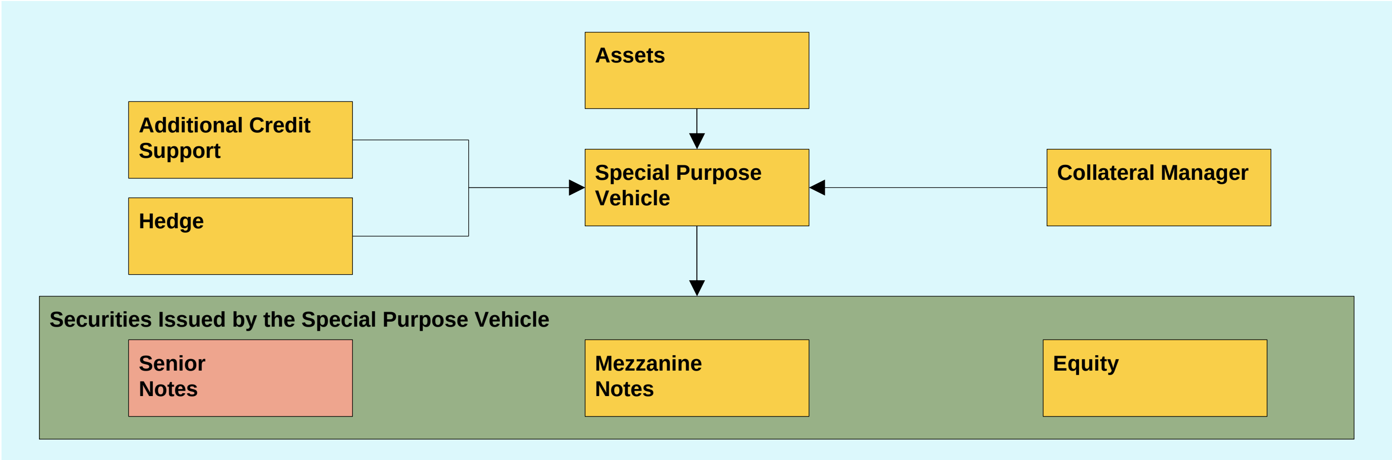


Overview of the Hedge and Additional Credit Support

- In order to enhance the support for the Notes, CDOs sometimes include reserve funds, insurance policies or letters/lines of credit
  - Interest reserve funds provide additional liquidity in order to cover potential shortfalls in interest proceed collections versus interest due on the Notes
  - Principal reserve funds provide additional monies for collateral acquisition to reduce portfolio ramp-up risks
  - Insurance policies and letters/lines of credit are sometimes included in order to enhance the ratings on certain classes of Notes
- Asset/liability mismatches may occur due to interest rate basis risk, fixed/floating risk or foreign exchange risk. The Collateral Manager, with the approval of the rating agencies, frequently will enter into hedges in order for the CDO to reduce these risks

Sample CDO Structure (cont'd)

Senior Notes



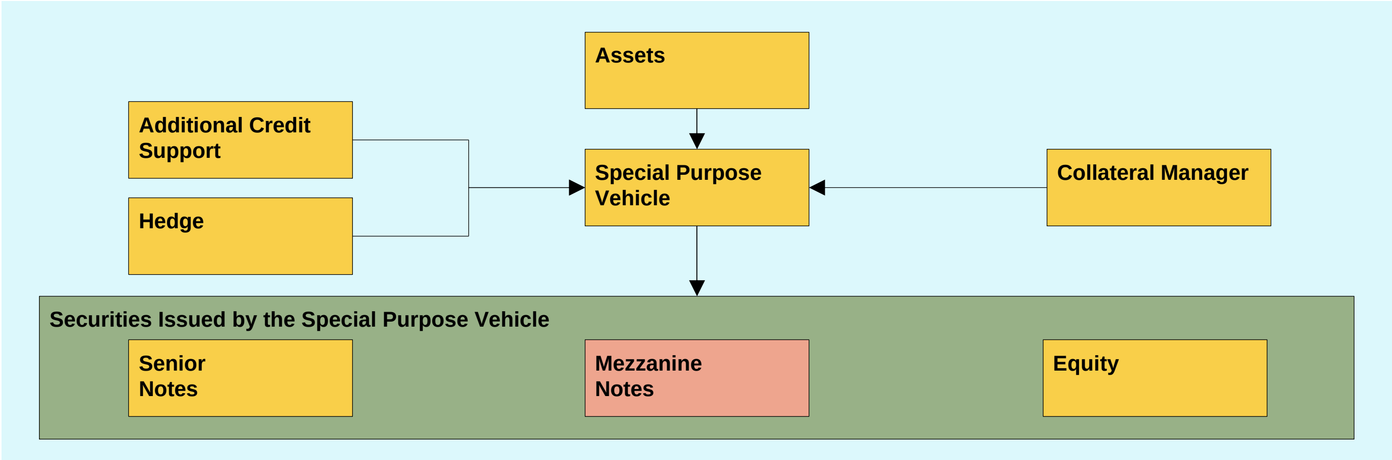
Overview of the Senior Notes

- Provide the primary leverage for the Equity
- Typically high investment grade ratings (≥ AA)
- Generally 70 to 80% of the SPV's capital structure
- First claim on cash flows generated by the assets
- May have a fixed or floating rate coupon
- May be split into more than one sequential tranches (e.g., AAA and AA)
- Typical final maturity 10 to 15 years, average life 7 to 12 years, callable after 3 to 5 years

What is a CDO?

Sample CDO Structure (cont'd)

Mezzanine Notes

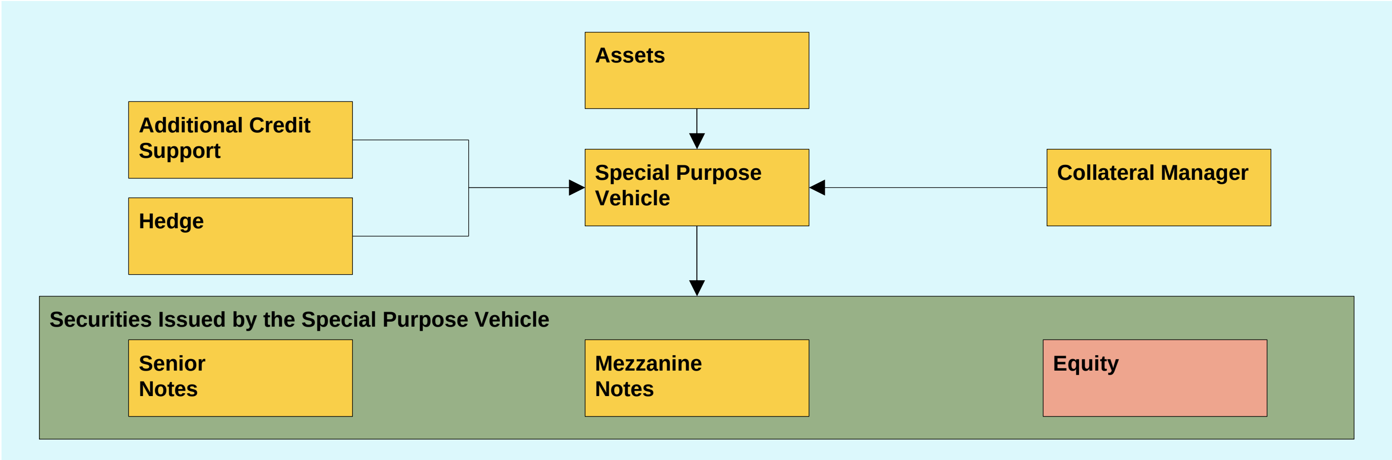


Overview of the Mezzanine Notes

- Provide additional leverage for the Equity
- Typically high non-investment grade to low investment grade ratings (BB to A)
- Generally 10 to 20% of the SPV's capital structure
- Claim on portfolio's cash flows after payment of Senior Notes' debt service
- May have a fixed or floating rate coupon
- In many cases, interest may be capitalized and compounded if cash flow is insufficient
- Typical final maturity 10 to 15 years, average life 9 to 15 years, callable after 3 to 5 years

Sample CDO Structure (cont'd)

Equity



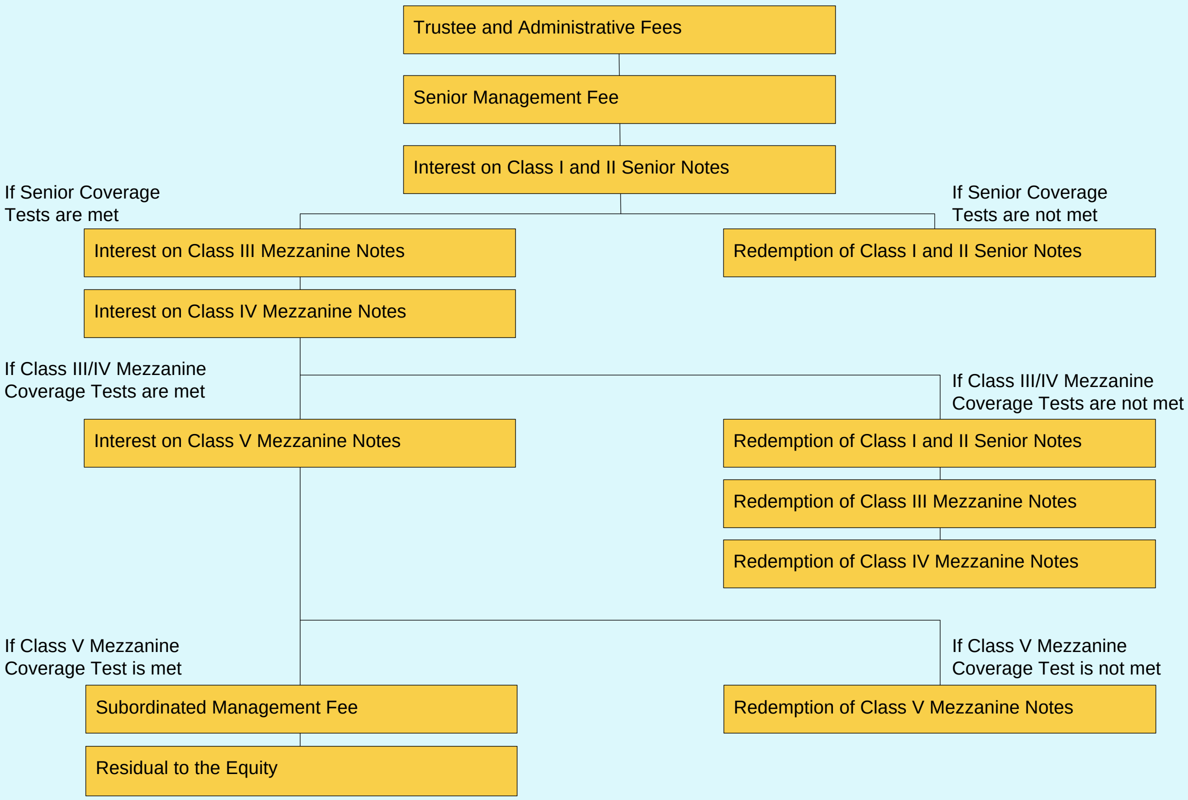
Overview of the Equity

- Leveraged investment in underlying fixed income assets
- Economic residual of collateral, including periodic residual interest cash flows and residual principal cash flow at maturity or call date
- High current income and total return potential
- After the Non-Call Period, can capture residual market value of collateral after repayment of Senior and Mezzanine Notes through exercise of call option (typically requires at least a majority vote of all Equity holders)
- Roughly 8 to 15% of the SPV's capital structure
- Absorbs the impact of defaults on the collateral up to the total initial value of the Equity

Priority of Payments for the Hypothetical CDO

Interest Proceeds

"Interest Proceeds" include all cash payments of interest or dividends received on the underlying collateral pool

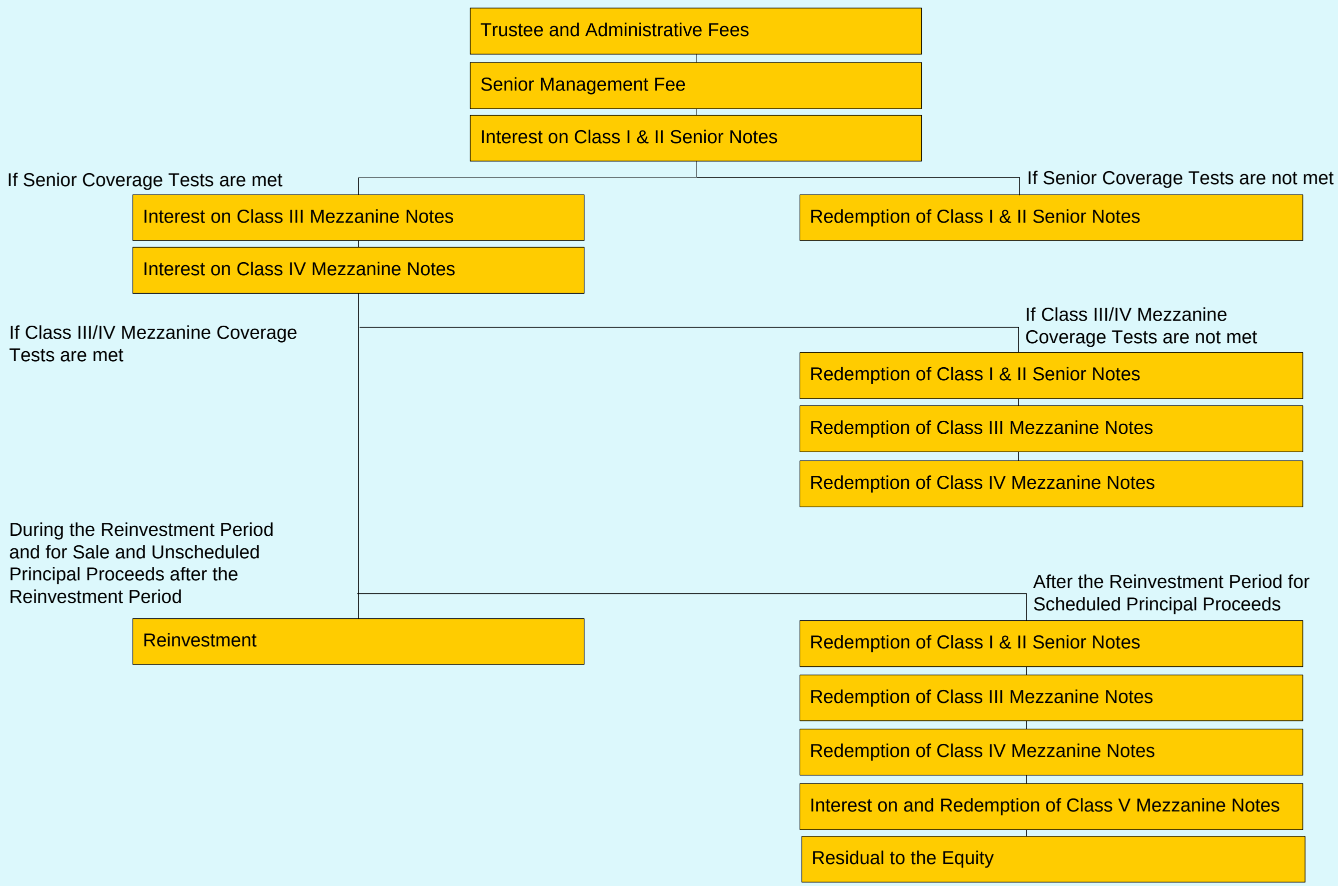


Priority of Payments for the Hypothetical CDO (cont’d)

Principal Proceeds

- **Principal Proceeds are only used to pay expenses, fees and interest on Class I, II, III and IV Notes to the extent Interest Proceeds are insufficient**
- **Principal Proceeds are utilized before Interest Proceeds to redeem Class I, II, III and IV Notes sequentially, as applicable, until the Class I/II Senior Coverage Tests and the Class III/IV Mezzanine Coverage Tests are back in compliance**

“Principal Proceeds” include maturity and scheduled or unscheduled amortization payments from collateral, as well as proceeds from sales of collateral that have not been reinvested



Factors Affecting Cash Flow Equity Returns

Overview of Factors

- Defaults or par losses (monetized credit deterioration)
- Underlying asset class characteristics
- Structure and leverage factor
- Cost of senior funding
- Ramp-up risk
- Collateral Manager

Defaults or Par Losses

- *Reduced Interest/Principal:* Realized losses arising from sales of collateral or defaults (which are generally treated as realized losses for Coverage Test purposes even before the defaulted collateral is sold) cause a reduction in coupon and principal collection that adversely affect Equity returns
- *Failure of Overcollateralization Tests:* Realized losses on the underlying portfolio can cause the CDO to fail its interest or par overcollateralization Coverage Tests
  - As previously stated, to remedy a breach in the Coverage Tests, cash flows that otherwise would be paid to junior tranches in the CDO are diverted to pay down more senior debt of the transaction, thus reducing Equity returns
- *Timing:* Because the Equity cash flows are generally front-loaded, the timing of losses in the underlying portfolio plays a critical role in the return potential
  - All things being equal, collateral deterioration later in the life of a transaction has less of an impact on the Equity returns
- *Mark-to-Market:* Mark to market or unrealized losses on non-defaulted obligations have no direct effect on the yield to maturity of the Equity but will effect the mark-to-market value of the Equity

Underlying Asset Class Characteristics

- Because cash flow CDO Equity is dependent on the monies generated by the underlying portfolio, returns are heavily dependent on the characteristics and mix of the collateral
- *Recovery Rate:* The total cash flow generated by the collateral is not only determined by the size and timing of coupon and principal collections, but is also affected by the size and timing of any recoveries after defaults and by the call features imbedded in the assets
  - In general, the size and timing of recoveries on defaulted assets is dependent on the collateral's capital structure position, its status and its legal jurisdiction
- *Liquidity and Price:* The capital appreciation potential of CDO Equity is largely dependent on the liquidity and price volatility of the underlying assets and the imbedded call features of the collateral
- *Prepayments:* Because of the reinvestment risk which they introduce into the transaction, the prepayment and liquidity characteristics of the underlying assets also affect CDO Equity returns

Structure and Leverage Factor

- CDO Equity returns are highly dependent on collateral cash flow generation, and at no time are portfolio assets forced to be sold solely because of their market value
- The return profile of CDO Equity can be tailored to meet investors' appetites by adjusting the effective leverage factor at the outset of the transaction
- Among other factors, the amount of leverage in a CDO is affected by asset mix and assumptions, spread environment, rating agency methodology and Collateral Manager. In general, lower quality and/or more subordinated assets require more structural overcollateralization and thus afford less leverage in the CDO structure
- While hedges are utilized to minimize asset and liability mismatches, depending on the structure, interest rate movements can be magnified or muted in CDO Equity returns

Cost of Senior Funding

- Because of the leveraged nature of Equity, the cost of senior funding has a magnified effect on CDO Equity returns
- The cost of senior funding is dependent upon, among other factors, the placement agent’s distribution capabilities, the market environment, rating agency participation and the Collateral Manager’s expertise
  - **Placement Agent Distribution Capabilities:** With the increased volume in the CDO markets over the last several years, there has been broader investor participation. However, with the flood of new market participants entering the CDO arena, investors have tended to reward the experienced structuring and placement agents with tighter liability pricing
  - **Market Environment:** While the general spread environment is important in the context of reducing the cost of funding, it is the relative spread difference between the assets (generally high yield) and the liabilities (majority investment grade) which has the most dramatic effect
  - **Rating Agency Participation:** Primarily due to Noteholders’ investment requirements, rating agency participation (Moody’s, S&P and Fitch) in a transaction affects pricing levels
  - **Collateral Manager:** Much as with structuring and placement agents, the experience of Collateral Managers in both the underlying asset classes and the intricacies of the CDO structure impact the senior cost of funding

Ramp-Up Risk

- Because CDO Equity returns are dependent on the ability of the Collateral Manager to acquire the underlying portfolio within the transaction's parameters at the spreads and prices assumed in order to meet cash flow projections, CDO Equity holders are subject to ramp-up risk
  - Ability to meet spread targets
  - Negative carry
- The liquidity of the asset class, the spread environment during acquisition and the supply/demand dynamics in the market are large determinants in ramp-up speed
- Ramp-up timing can range from immediate for some high yield bond, investment grade bond and emerging market CDOs to several years for some leveraged loan and unique asset class transactions
- In addition to the cash flow implications in purchasing assets for a CDO, there is also ramp-up risk concerning the quality of the portfolio. Specifically, in order to meet price and spread targets in difficult ramp-up environments, Collateral Managers may be forced to purchase lower rated or longer maturity assets unless adequate structural protection such as reserve funds are included

Collateral Manager

- For most traditional CDO structures, the Collateral Manager's expertise with both the underlying asset classes and the CDO's trading parameters provides significant value to CDO Equity holders
- It is of paramount importance that the CDO's structural limitations and flexibilities are consistent with a Collateral Manager's investment style and historical performance
- Several attributes of a Collateral Manager directly affect the return performance of the CDO
  - Ability to access and trade the underlying asset collateral pool
  - Ability to manage and monitor risk
  - Ability to maximize asset recovery rates after default

Selecting the Asset Class

- **Different underlying asset classes offer varying degrees of benefit to the investor**
- **These distinctions are generalized and specific situations may vary**

Asset Class	Low Price Volatility	High Current Income	Prepayment Protection	High Capital Gain Potential	Low Expected Loss Severity
HLT Loans	●	◕	○	○	●
High-Yield Bonds	◑	●	◑	◑	◑
Emerging Markets Bonds	◔	◑	◕	◕	◔
Distressed Debt / Special Situations	○	○	○	●	◑
Investment Grade Debt	◕	◔	●	◔	◕
ABS / MBS	◑	◔	◕	◑	◕

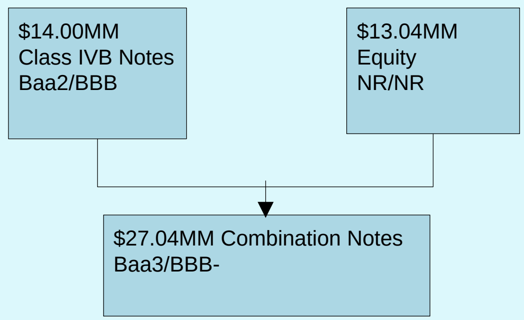
Combination Notes

What is a CDO?

Combination Note Overview

- **A Combination Note is a security issued by a CDO (with its own CUSIP) that represents the economics of two or more classes of notes in a CDO. Different compositions may be used to create Combination Notes with different ratings and return characteristics**
- **A Combination Note receives the aggregate principal and interest from the underlying securities**
- **Goals:**
  - **Yield enhancement**
  - **Improved capital treatment**

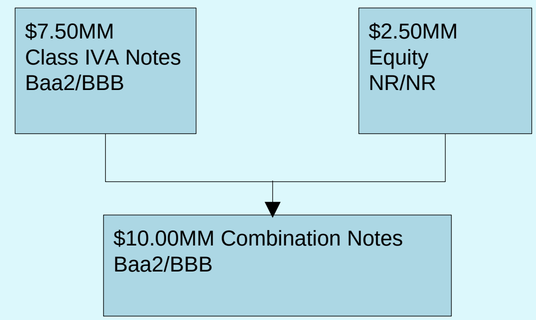
Sample ABS CBO Combination Note



Rating: Baa3/BBB- (Moody's/S&P) with respect to return of principal and a yield of 6.50% (Swaps)

Maturity: 8 years

Sample CLO Combination Note



Rating: Baa2/BBB (Moody's/S&P) with respect to return of principal and a yield of 4.75% (LIBOR)

Maturity: 12 years

Key Investment Advantages of Combination Notes

Credit Enhancement and Return Potential

- The Combination Note gives investors the benefit of structural credit enhancement in order to achieve the desired rating
- The Combination Note provides investors with potential capital appreciation opportunities and residual cash flow

Exchange Feature

- Each Combination Note is a separate security and may be traded as such
- In addition, investors have the ability to exchange their Combination Note at any time for the underlying components
- Following an exchange, the underlying components may be traded separately

Participation in Voting Rights

- Investors will share in all votes of the underlying tranches in proportion to the amount of each tranche represented by the Combination Note
- Because Combination Notes frequently are composed in part of Equity, Combination Noteholders participate in any vote to call the liabilities of the CDO transaction

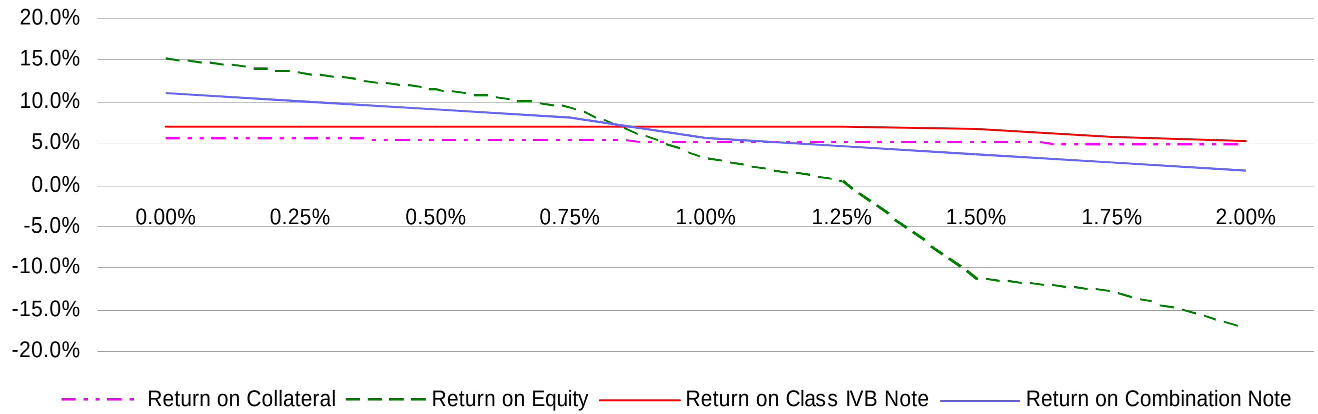
Risk-Based Capital Efficiency

- The rating of a Combination Note may result in more favorable risk-based capital treatment for some investors than the risk-based capital required for holding the component pieces separately
- Investors should consult their own advisors as to their risk-based capital treatment

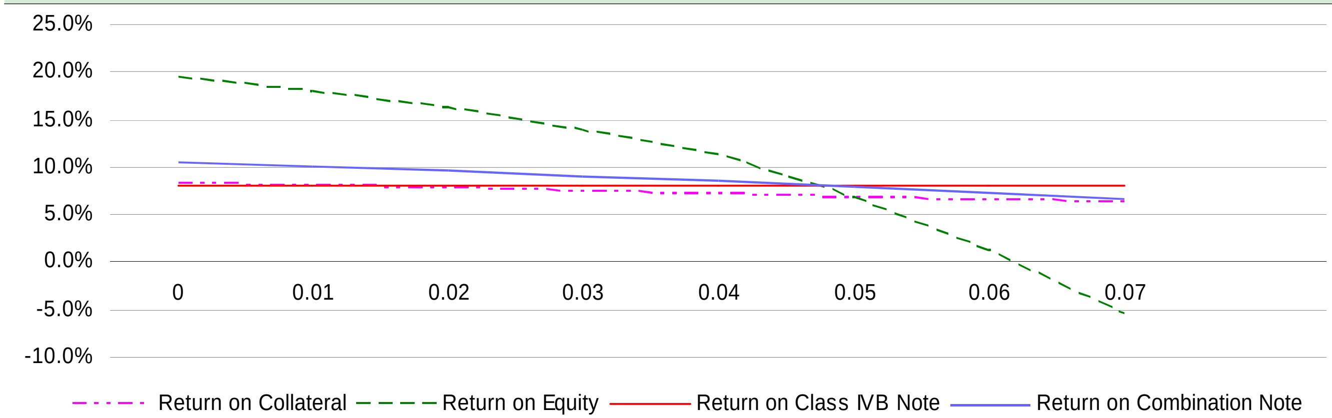
Hypothetical Yield to Maturity on Combination Notes (1) (2)

- Combination Notes provide more downside protection than Equity
- Combination Notes have greater upside potential than the straight debt securities of a CDO
- The structure, return profile and rating of a Combination Note can be adjusted according to investor preferences

ABS CDO Annualized Returns



CLO Annualized Returns



Notes

1. Assumes Combination Note composition as outlined on “Combination Note Overview” page
2. See the “Assumptions Applicable to Exhibits” from the “Return Characteristics of Hypothetical CDOs” section for more details

Section 3

CDO Jargon

CDO Jargon

Jargon Cheat Sheet

CDO Jargon	
Capped Equity Coupon	• "Cash-on-cash" coupon capped at a certain level (e.g., 10%) • Excess interest above this cap is used to redeem mezzanine notes (e.g., BBBs) or reinvest in new collateral • Shortens the average life of mezzanine notes if used in conjunction with a turbo feature
Controlling Class	• Class of Notes which is entitled to vote in certain circumstances • In many cases, this class controls the liquidation of the portfolio in an Event of Default
WARF	• "Weighted Average Rating Factor" • Score which corresponds to the average rating of the portfolio • Corresponds to the default probability used by Moody's to size the subordination level
Diversity Score	• Statistical measure used by Moody's to represent the portfolio as a number of equally sized, uncorrelated bonds • Used to size the capital structure
PIK	• "Pay-in-kind" • When interest is diverted from the mezzanine bonds to redeem more senior classes • Unpaid interest is capitalized
Turbo Feature	• Using a portion of excess spread to redeem Notes • Commonly used in BBBs of ABS CDOs in conjunction with a capped equity coupon

Summary of the Hypothetical CDO's Structural Features

General	Our hypothetical CDO issues Class I Senior Notes, Class II Senior Notes, Class III Mezzanine Notes, Class IV Mezzanine Notes, and Equity
Coverage Tests	The CDO is subject to asset to liability interest and par coverage levels. If these levels are impaired relative to baseline covenanted values determined at inception, the Senior Notes and the Mezzanine Notes will begin to be retired through special redemptions funded by the diversion of cash flows that otherwise would have been payable to the holders of Equity or would have been available for reinvestment
Quality Tests and Collateral Limitations	The asset portfolio must remain within certain quality guidelines set at the transaction's initiation. If these limitations are violated the Collateral Manager will be subject to additional trading restrictions
Callability	Except for mandatory redemptions described in the Coverage Tests section, Senior and Mezzanine Notes may not be redeemed during the first 3 years of the transaction (the "Non-Call Period"). Typically, CDO Equity holders have the option to call the transaction after the Non-Call Period
Reinvestment	Subject to satisfying the Reinvestment Criteria (described more fully herein) during the first 5 years of the transaction (the "Reinvestment Period"), the Collateral Manager may reinvest all principal collections (scheduled, unscheduled and sale proceeds) from the collateral. After the Reinvestment Period, only unscheduled receipts of principal (e.g., from calls and prepayments) and sale proceeds may be reinvested, subject to satisfaction of the Reinvestment Criteria
Cash Flow Waterfall	On every payment date, principal (subject to reinvestment) and interest on the assets are used to meet the expenses of the CDO and pay debt service on the Senior Notes and Mezzanine Notes. A portion of the interest and principal collections are also used to pay Collateral Manager fees and other third party expenses. Holders of the Equity receive the remaining residual cash flow in each period

Hypothetical CDO Collateral Coverage and Quality Tests

Collateral Coverage Tests

- Objective: structural remedy if portfolio losses exceed a threshold
- Par Value and Interest Coverage Tests ensure that a minimum amount of collateral and interest cash flow underlies the rated bonds
  - Generic Par Value Coverage Ratio Formula = $\dfrac{\text{(Par Value of Performing Assets + Adjusted Par Value of Defaulted Assets)}}{\text{(Par Value of CDO Liabilities)}}$
  - Generic Interest Coverage Ratio Formula = $\dfrac{\text{(Interest Expected to be Collected on the Performing Assets for the Current Period)}}{\text{(Interest Due on CDO Liabilities for the Current Period)}}$
- A breach of these Coverage Tests below the baseline covenanted values determined at inception results in additional trading restrictions and potential cash flow diversion, as outlined in the “Hypothetical CDO Reinvestment Criteria” and the “Priority of Payments for the Hypothetical CDO” pages herein
- Coverage Tests can be sequential or direct pay

Collateral Quality Tests

- Objective: Collateral Quality Tests ensure that the collateral pool remains within certain guidelines over the life of the transaction with respect to several important attributes
- A breach of these Collateral Quality Tests results in additional trading restrictions
  - Maximum Weighted Average Rating Factor
  - Minimum Weighted Average Spread
  - Minimum Weighted Average Coupon
  - Minimum Weighted Average Recovery Rate
  - Minimum Diversity Score
  - Maximum Maturity Profile (average life constraint)
  - S&P Trading Model

Hypothetical CDO Collateral Debt Obligation Limitations

Portfolio Percentage Limitations

- Objective: ensure that the portfolio composition does not change much from the initial
- In addition to Collateral Coverage and Quality Tests, the collateral portfolio is subject to limitations outlined in the definition of Collateral Debt Obligation described in the underlying documentation
- A breach of the limitations outlined in the definition of Collateral Debt Obligation results in additional trading restrictions
- The following is a brief list of the types of limitations governed by the definition of Collateral Debt Obligation
  - Percentage of fixed and floating rate assets
  - Percentage of each underlying asset type in the portfolio
  - Obligor/issuer, country and industry concentrations
  - Counterparty concentrations and rating criteria
  - Percentage of assets rated CCC or below

Hypothetical CDO Collateral Sale Provisions

- In managing the collateral portfolio, the Collateral Manager does not have unlimited flexibility, but may sell securities that fit within certain predefined categories, and reinvest the proceeds subject to the constraints of the transaction as described more fully in the Reinvestment Criteria section

Defaulted Security

- May be sold at any time

Equity Security

- May be sold at any time

Credit Risk Security

- May be sold at any time

Credit Improved Security

- May only be sold if, in the Collateral Manager's judgment, the proceeds can be reinvested within a specified period of time in substitute collateral whose aggregate par amount is at least 100% of the par amount of the Credit Improved Security sold

Discretionary Security

- Discretionary Security is any collateral which does not meet the previously stated criteria for Defaulted, Equity, Credit Risk or Credit Improved Security
- Discretionary Securities may only be sold during the Reinvestment Period and such sales are subject to a per annum cap established at the inception of the CDO
- May only be sold if, in the Collateral Manager's judgment, the proceeds can be reinvested within a specified period of time in substitute collateral whose aggregate par amount is at least 100% of the par amount of the Discretionary Security sold

Hypothetical CDO Reinvestment Criteria

- During the Reinvestment Period, all Principal Proceeds, and thereafter unscheduled principal payments and sale proceeds may be reinvested as long as the following criteria are satisfied (the “Reinvestment Criteria”)
- Except as outlined below, the Coverage Tests and Collateral Quality Tests must be satisfied following reinvestment
- With regards to a Collateral Quality Test which is in violation, such ratio must be maintained or improved
- With respect to the reinvestment of sale proceeds, if a Coverage Test is violated, such proceeds may only be reinvested if the Coverage Test is maintained or improved following the purchase of additional assets
- If a limitation outlined in the definition of Collateral Debt Obligation is violated, the ratio or amount relating to such guideline must be maintained or improved following reinvestment

Section 4

Relative Value

Primary and Secondary

Why CDOs?

Spreads for 10-Year Securities(1)(2)

- **CDO spreads are favorable as compared to other fixed income assets due to less liquidity, structural leverage and complexity of the asset class**

CDO Issuance	AAA	AA	BBB
100% High Yield Loan CLO	**+36**	**+70**	**+245**
ABS CDOs	**+40**	**+85**	**+300**
Other Issuance Type	**AAA**	**AA**	**BBB**
Sovereign	-20	-2	+25
Corporate	–	+58	+139
Credit Card ABS	+18	–	+85
CMBS	+33	+40	+85

Source Morgan Stanley as of June 15, 2004

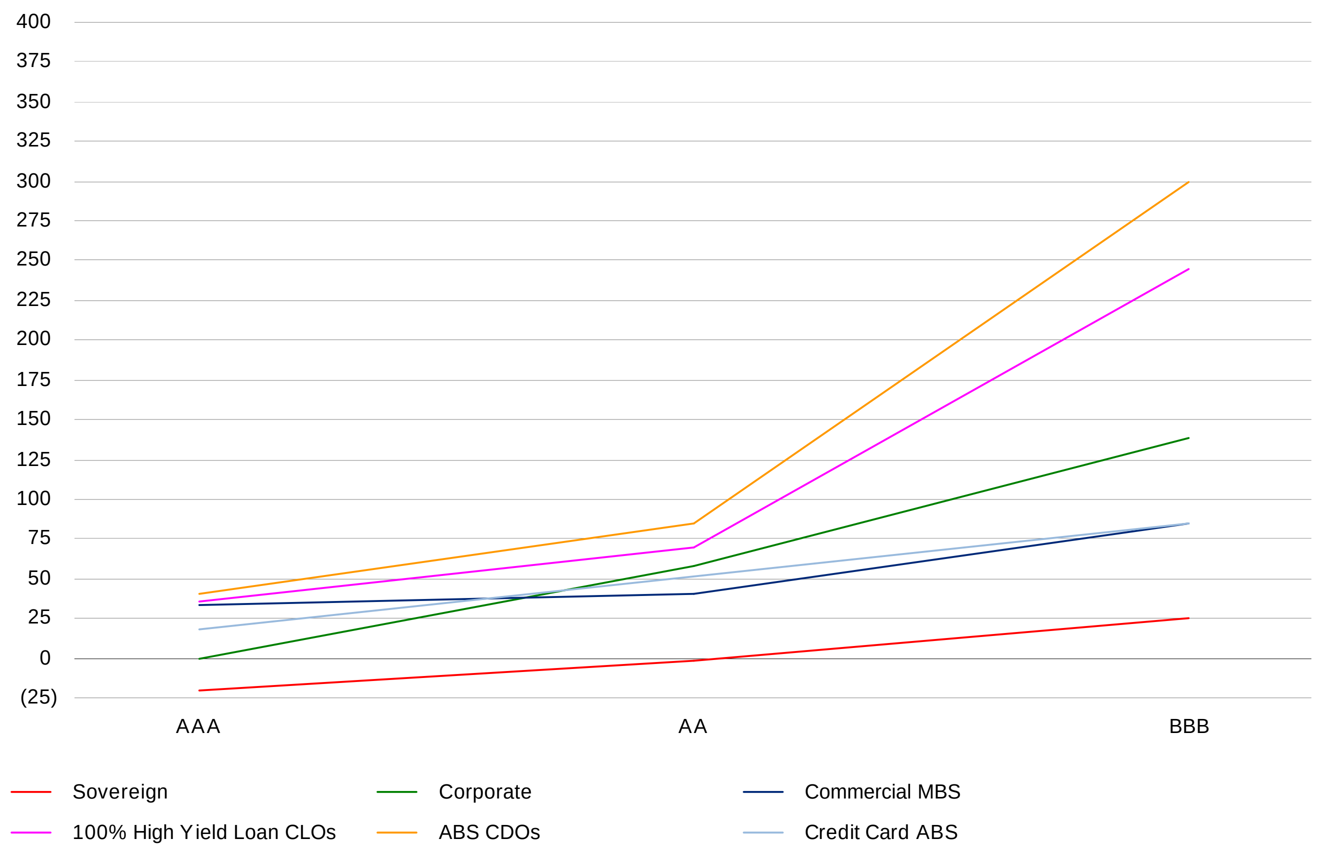
Notes
1. Spreads to 6M LIBOR with the exception of Credit Card ABS (spreads to 1M LIBOR) and Commercial MBS (fixed spreads swapped to 3M LIBOR). Fixed spreads are swapped to floating rate equivalents for comparison purposes
2. Varies greatly depending on the issuer credit

Relative Value

Relative Value by Rating vs. Other Similarly Rated Securities (1) (2) (3)

- **CDO Senior Notes offer attractive relative value versus other similarly-rated investments. This graph shows spreads to LIBOR of various asset classes by rating**

Cash Flow CDO Senior Notes Ratings
Spread to LIBOR (bps) (1) (2) (3)



Source Morgan Stanley

Notes
1. Spreads to 6M LIBOR with the exception of Credit Card ABS (spreads to 1M LIBOR) and Commercial MBS (fixed spreads swapped to 3M LIBOR). Fixed spreads are swapped to floating rate equivalents for comparison purposes
2. Varies greatly depending on the issuer credit
3. As of June 15, 2004

Secondary Valuation Methods

CDO Valuation

Methodologies	Characteristics	Applications
Discounted Cash Flow (DCF) Analysis	• Traditional Cashflow Engine • Allows transparent assumptions, but deterministic in nature • Provides varying sensitivity analysis	• Applied to recently issued and healthy seasoned deals to determine base / best / worse case yields • Allows the application of trading to a "spread"
Net Asset Value (NAV) / Liquidation Basis	• Calculated as Market Value of Assets plus / minus hedge less liabilities	• Applied to Stressed and Distressed CDO Debt • Helps to show relative value
Interest-Only (IO) Analysis / Principal-Only (PO) Analysis	• Assumes tranche receives interest or principal payments for remaining average life	• Applies a different discount rate to both the interest and principal components of a bond
Simulation/Probabilistic Analysis (e.g., Monte Carlo, Binomial Expansion Technique (BET))	• Requires probability distribution assumptions of defaults and recoveries • Potentially more accurate but less transparent	• Applied to all deals to determine and test assumptions • Allows the use of correlation assumptions and applies to cash deals
Comparables in the Primary and Secondary Markets	• Looks for similar characteristics of the tranche being valued to tranches viewed in the primary and secondary markets	• Suggests a range of valuations applied to the tranche by the market

Section 5

Case Studies

Case Studies

Inman Square Funding

Structural Features

- Managed by TCW
- Portfolio of predominantly RMBS and ABS with an average rating of Ba1/Ba2
- Reinvestment Period of 2 years
- Non-Call Period of 2 years
- Expected to be 80% ramped by close with a maximum 3 month ramp-up period
- Auction call in year 7
- Maximum WARF of 1250
- Minimum WAS of 334 bp

Comments

- First predominantly below investment grade multisector ABS CDO

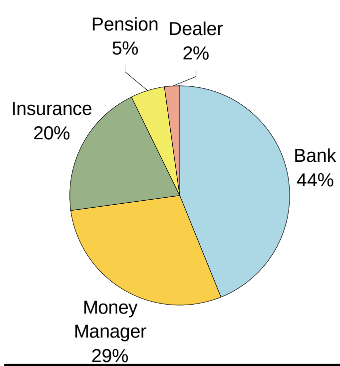
Summary of Terms

Pricing Date: September 17, 2004

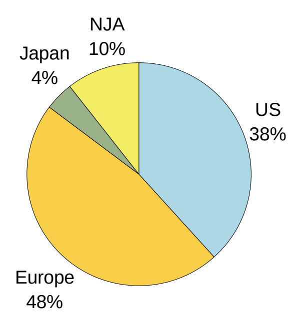
Class	Size ($MM)	Rating Moody's/S&P	Maturity (Years)	Price	Average Life (Years)	Coupon
Class I Senior Notes	165.0	Aaa/AAA	30.0	100.0	4.0	3 M LIBOR + 60 bp
Class II Senior Floating Rate Notes	30.0	Aa2/AA	35.0	100.0	5.7	3 M LIBOR + 95 bp
Class II Senior Fixed Rate Notes	7.0	Aa2/AA	35.0	100.0	5.7	4.28%
Class III Mezzanine Notes	18.0	A3/A-	35.0	100.0	6.4	6.27%
Class IV Mezzanine Floating Rate Notes	15.0	Baa2/BBB	35.0	100.0	5.5	3 M LIBOR + 350 bp
Class IV Mezzanine Fixed Rate Notes	4.0	Baa2/BBB	35.0	100.0	5.5	7.27%
Subordinated Notes	61.0	NR	35.0	52.3	–	Residual
Total	**300.0**					

Rated Liability Distribution

Distribution by Investor Type



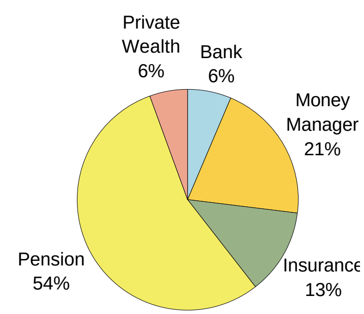
Geographic Distribution



Source Morgan Stanley Internal

Subordinated Note Distribution

Distribution by Investor Type



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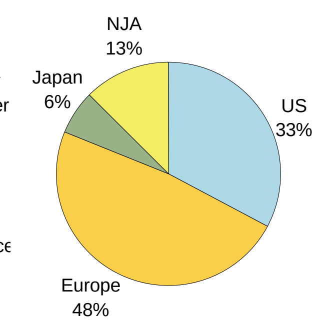


Source Morgan Stanley Internal

Case Studies

Babson CLO Ltd. 2004-II

Structural Features

- Managed by Babson Capital Management
- Subject to a trading matrix; maximum WARF of 2,200-2,325; minimum diversity score of 55-65
- 6-month ramp-up period; 45% ramped-up at closing

Summary of Terms

Pricing Date: September 30, 2004

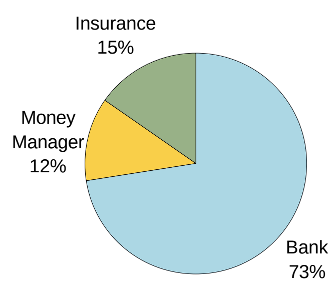
Class	Size ($MM)	Rating Moody's/S&P	Maturity (Years)	Average Life (Years)	Coupon
Class A Senior Revolving Notes	35.00	Aaa/AAA	12.0	8.4	3 M LIBOR + 32 bp; 16 bp commitment fee on undrawn amounts
Class A Senior Term Notes [1]	308.25	Aaa/AAA	12.0	8.4	3 M LIBOR + 32 bp
Class B Senior Notes	18.00	Aa1/AA+	12.0	10.6	3 M LIBOR + 57 bp
Class C-1 Mezzanine Notes	24.00	A2/A	12.0	11.1	3 M LIBOR + 105 bp
Class C-2 Mezzanine Notes	3.00	A2/A	12.0	11.1	5.692%
Class D-1 Mezzanine Notes	19.50	Baa2/BBB	12.0	11.5	3 M LIBOR + 215 bp
Class D-2 Mezzanine Notes	4.00	Baa2/BBB	12.0	11.5	6.812%
Subordinated Notes	38.25	NR	12.0	–	Residual
Total	**450.00**				

Comments

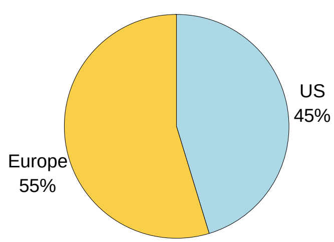
- Senior Par Coverage Test
  - 122.0% initial, 111.0% limit
- Mezzanine Par Coverage Test
  - 107.0% initial, 102.1% limit
- Interest Diversion Coverage Test
  - 107.0% initial, 105.5% limit
  - If breached, 70% of excess interest to be diverted to reinvestment

Rated Liability Distribution

Distribution by Investor Type



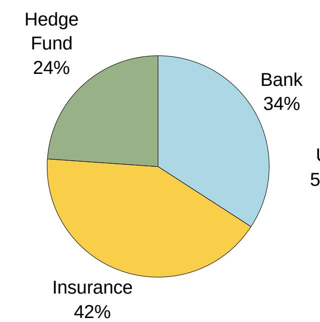
Geographic Distribution



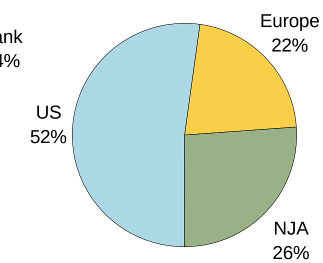
Source Morgan Stanley

Subordinated Note Distribution

Distribution by Investor Type



Geographic Distribution



Source Morgan Stanley

Notes

1. Includes Class A-2A Senior Notes, Class A-2AV Senior Notes, Class A-2B Senior Notes and Class A2-C Senior Notes

Section 6

Morgan Stanley CDO Research

Morgan Stanley Research

Recent Publications

Piece	Date	Summary
CDO Summary Report	Monthly	Monthly report summarizing collateral performance for Morgan Stanley lead-and co-managed CDOs
CDO Market Insights: Seasoning for Convergence: The First Steps	1/11/05	Investigates the actual convergence thus far of the cash CDO and synthetic credit markets, also considering the future of convergence between these two asset classes
ABS CDOs: The Usual Suspects	12/17/04	Explores the prospects for ABS CDOs in the early part of 2005, particularly with respect to ratings drift, relative to other CDOs (Part of the annual year-end ABS Outlook publication)
CDO Market Insights: 2004 Hits a Century–What's at Issue?	12/8/04	Reviews the developments in the CDO market in 2004, with an eye towards the near-term future of the asset class. Also takes a look at the leveraged loan market, as CLOs formed a large part of 2004's CDO issuance
ABS CDOs: Every Bond You Break	10/8/04	Explores the expected impact of a rising interest rate environment on home equity pool performance, which represents a significant portion of the underlying asset pool of many ABS CDOs
ABS CDOs: Every Move You Make	10/1/04	Analyzes the expected impact of rising interest rate assumptions on ABS CDO performance
ABS CDOs: NAV-igating Around Defaults	8/13/04	Describes the importance of utilizing NAV analysis, in conjunction with other measures of CDO risk, to correctly value ABS CDO tranches
ABS CDOs: 2004 2nd Half Outlook	7/16/04	Offers market commentary for ABS CDO performance in the latter half of 2004 in terms of liquidity, transparency, and arbitrage opportunities
ABS CDOs: Manu-Fractured Housing's Impact on CDOs	6/25/04	Attributes most of the early 2004 instances of ABS CDOs to the poor performance of manufactured housing assets in earlier deals. Further explores the potential for continued ABS CDO downgrades due to continued weakness in the MH sector
ABS CDOs: NIM That Thang: NIMing the CDO Equity	6/4/04	Makes the argument that a theoretical CDO NIM could be a very attractive investment opportunity that is more resilient to prepayments, defaults, and interest rate stresses
Credit Derivative Insights: Origami with CLO Paper?	5/21/04	Looks at the changes in perception of CDO mezzanine performance as different recovery rate and diversity score assumptions are made
ABS CDOs: CDO Equity Through NIM Goggles	4/16/04	Compares CDO equity cashflows to Home Equity NIM payments to shed light on the nature of CDO equity
Credit Derivatives Insights: A View from the Top	3/19/04	Examines the pricing of super senior and senior notes using different models, as well as presenting views regarding the value of these notes going forward
ABS CDOs: Deals Gone Wild!	3/5/04	Looks at Asset Notch Drift for ABS CDOs as a strong leading indicator for CDO deal performance
Credit Derivatives Insights: How Many Sides in a CDO Squared?	1/23/04	Explains the basic mechanics and rationale for the inclusion of secondary CDO paper in primary CDO transactions, as well as the potential benefits to investors

Morgan Stanley CDO Research

CDO Research: Summary Report

- **Investors interested in Oasis CBO, for example, can review the latest statistics in the CDO Summary Report available through the CDO Research Link**
- **The CDO Summary Report has key statistics on 80 outstanding Morgan Stanley CDOs**

Morgan Stanley

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Structured Credit

Oasis CBO, Limited
Managed by MSAM & Miller Anderson & Sherrerd, L.L.P.

DEAL SUMMARY

Closing Date	5/20/1997
First Coupon Date	11/30/1997
First Call Date	5/30/1999
End Reinvestment Period	5/30/2002
Collateral Type	EM/HYB
Total Size ($mm)	$587.10
Morgan Stanley Role	Lead-Manager
Transaction Type	Arbitrage CDO
Trustee	JPM Chase
Bloomberg Ticker	OASIS

CAPITAL STRUCTURE

Class of Notes	*Original Face ($mm)*	*Current Face ($mm)*	*Payment Frequency*	*Final Maturity*	*Coupon Spread (bp)*	*Orig. Expected Avg. Life*	*Ratings (Moody's/Fitch) Original*	*Ratings (Moody's/Fitch) Current*
Senior Secured Floating Rate Notes	$414.20	$180.07	Semi-Annual	5/30/2011	6mL + 37.5	8.2 Years	Aa1/AA+	Aa1/AAA(12/19/03)
Second Priority Senior Notes	$86.80	$86.80	Semi-Annual	5/30/2011	6mL + 142	11.0 Years	Baa3/BBB-	Baa1(6/6/03)/A+(12/19/03)
Subordinated Notes	$86.10	$86.10	Semi-Annual	5/30/2011	Residual	n.a.	n.a.	n.a

COLLATERAL BALANCE

	Total Principal Amount of CDS($mm)	*Eligible Investments ($mm)*	*Defaulted Par($mm)*
Initial:	$687.68	$0.04	
As Of Date			
10/20/2004	$364.66	$34.30	$11.60
09/20/2004	$371.04	$27.92	$11.60
08/20/2004	$377.29	$21.67	$11.60
07/20/2004	$382.95	$17.05	$12.64
05/23/2004	$399.88	$0.00	$12.64
04/20/2004	$395.18	$38.67	$12.64

COLLATERAL COVERAGE TESTS

	Par Coverage Tests *Senior*	*Second*	***Interest Coverage Tests*** *Senior*	*Second*
Minimum:	**153.80%**	**128.70%**	**146.90%**	**118.50%**
Initial:	166.00%	137.00%	172.00%	138.00%
As Of Date				
10/20/2004	215.36%	145.31%	353.19%	203.00%
09/20/2004	215.36%	145.31%	344.62%	198.07%
08/20/2004	215.31%	145.28%	346.52%	199.16%
07/20/2004	215.31%	145.28%	336.73%	193.54%
05/23/2004	194.36%	139.35%	345.99%	209.46%
04/20/2004	191.71%	137.45%	356.67%	215.93%

COLLATERAL QUALITY TESTS

	Maximum Moody's WARF	*Minimum Moody's Diversity Score*	*Caa Basket*	Collateral Composition *% Fixed*	*% Floating*	*% Loans*	Emerging Market Region *Africa/ Middle East*	*Asia*	*Caribbean*	*Eastern Europe*	*Latin America*
Threshold:	**2,250**	**10.0**	**5.00%**								
Initial:	2,180	20.0									
As Of Date											
10/20/2004	2,107	12.4	8.50%	35.6%	64.4%	11.2%	13.50%	10.10%	0.30%	29.10%	28.60%
09/20/2004	2,147	12.3	8.50%	35.7%	64.3%	11.4%	13.80%	10.10%	0.30%	29.10%	29.91%
08/20/2004	2,358	12.1	12.30%	35.7%	64.3%	12.3%	14.70%	10.10%	0.30%	29.10%	30.58%
07/20/2004	2,364	12.3	11.20%	35.9%	64.1%	12.5%	14.60%	10.10%	0.60%	29.80%	30.60%
05/23/2004	2,242	13.0	10.50%	33.4%	66.6%	13.1%	14.20%	10.10%	0.50%	27.80%	28.13%
04/20/2004	2,145	13.1	9.30%	32.5%	67.5%	13.5%	14.40%	10.20%	0.80%	28.20%	27.16%

Source Morgan Stanley, "CDO Summary Report", November 15, 2004

Important Information and Qualifications