The Structured Credit Market

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Agenda

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IV. CDOs – Opportunities for Yield Players
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I. A Brief History of Structured Credit

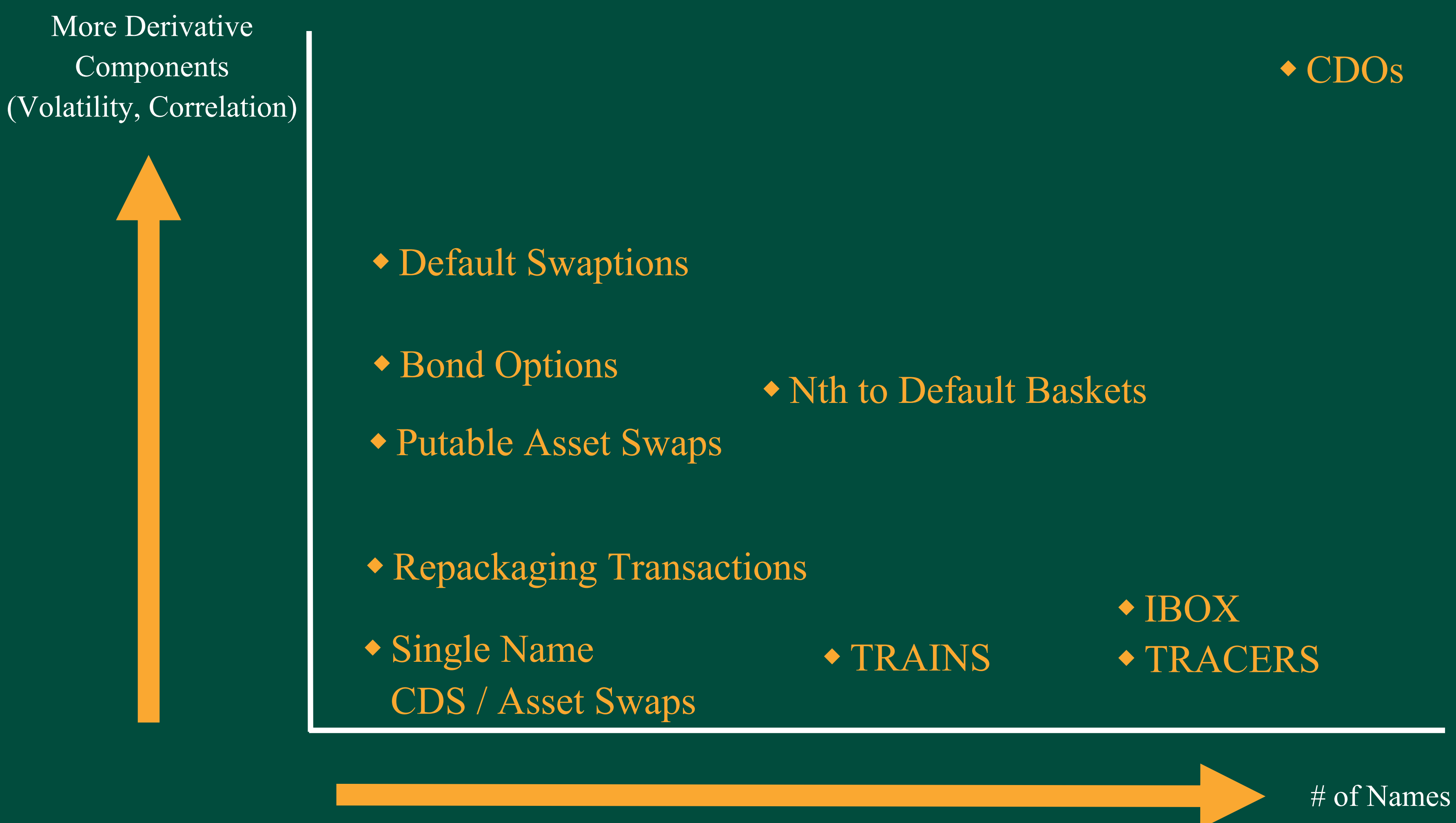
What is Structured Credit?

- Structured Credit Products provide investors with credit risk through
  - Securitization
  - Derivatives
  - Combination
- Structured Credit Products enable the efficient transfer, concentration, dilution and repackaging of credit risk

Structured Credit Products

- Repackaging Transactions – Zero to Full Bonds, IOs, POs, CLNs
- Asset Swaps
- Credit Default Swaps
- Portfolio Products
- Bonds Options
- Spread Options
- Nth to Default Baskets
- CDOs

Structured Credit Product Matrix

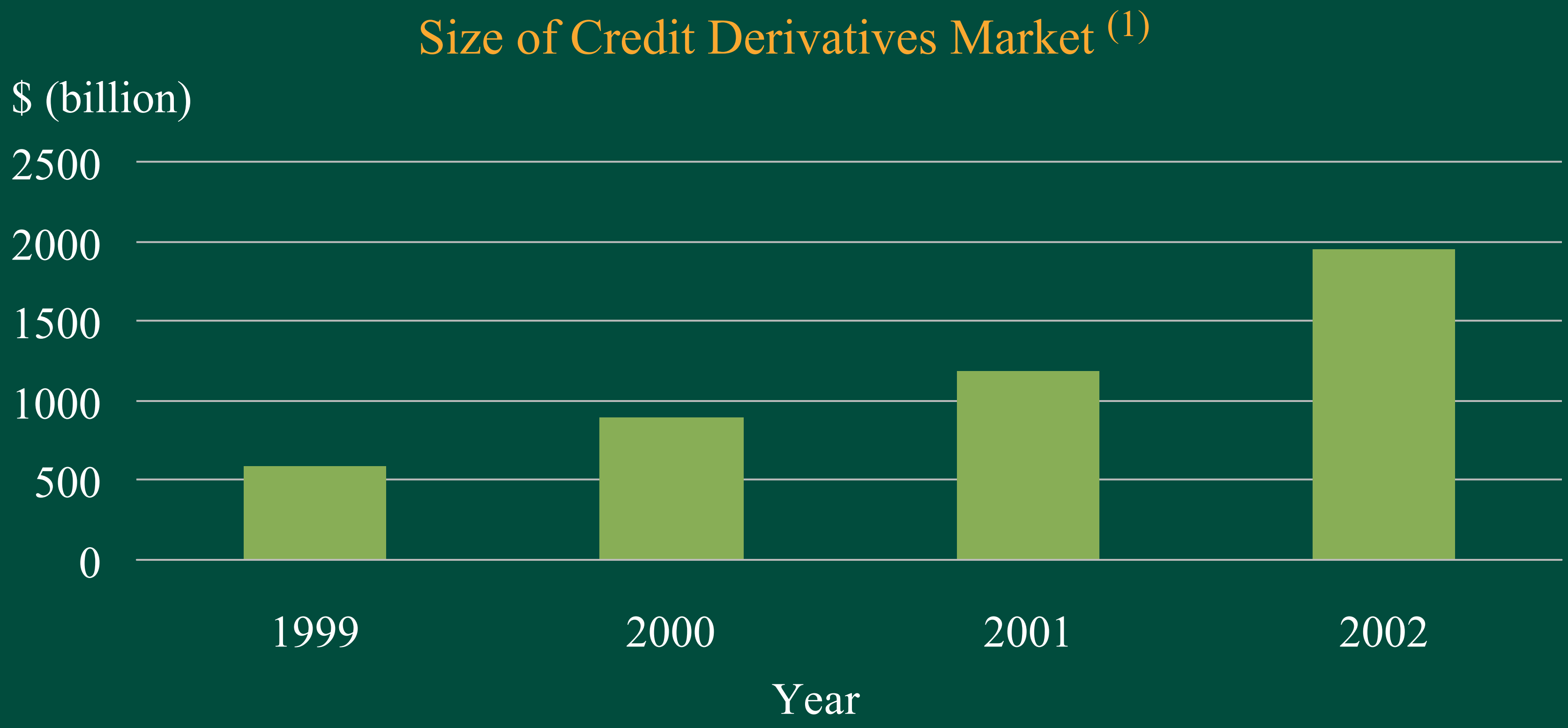


Development of Structured Credit Markets

Year	Event
1989	First CDO
1992	Development of the Asset Swap Market
1996	Start of "Modern" CDO Market
1997	Credit Default Swaps
1998	Synthetic CDO (Balance Sheet), Nth to Default Baskets
1999	Structured Finance CDOs
2001	Establishment of Correlation, Trading Books, Portfolio Products
2002	Option Products, Cap Structure Arbitrage
2003	Contingent Risk – "Perfect" Asset Swaps

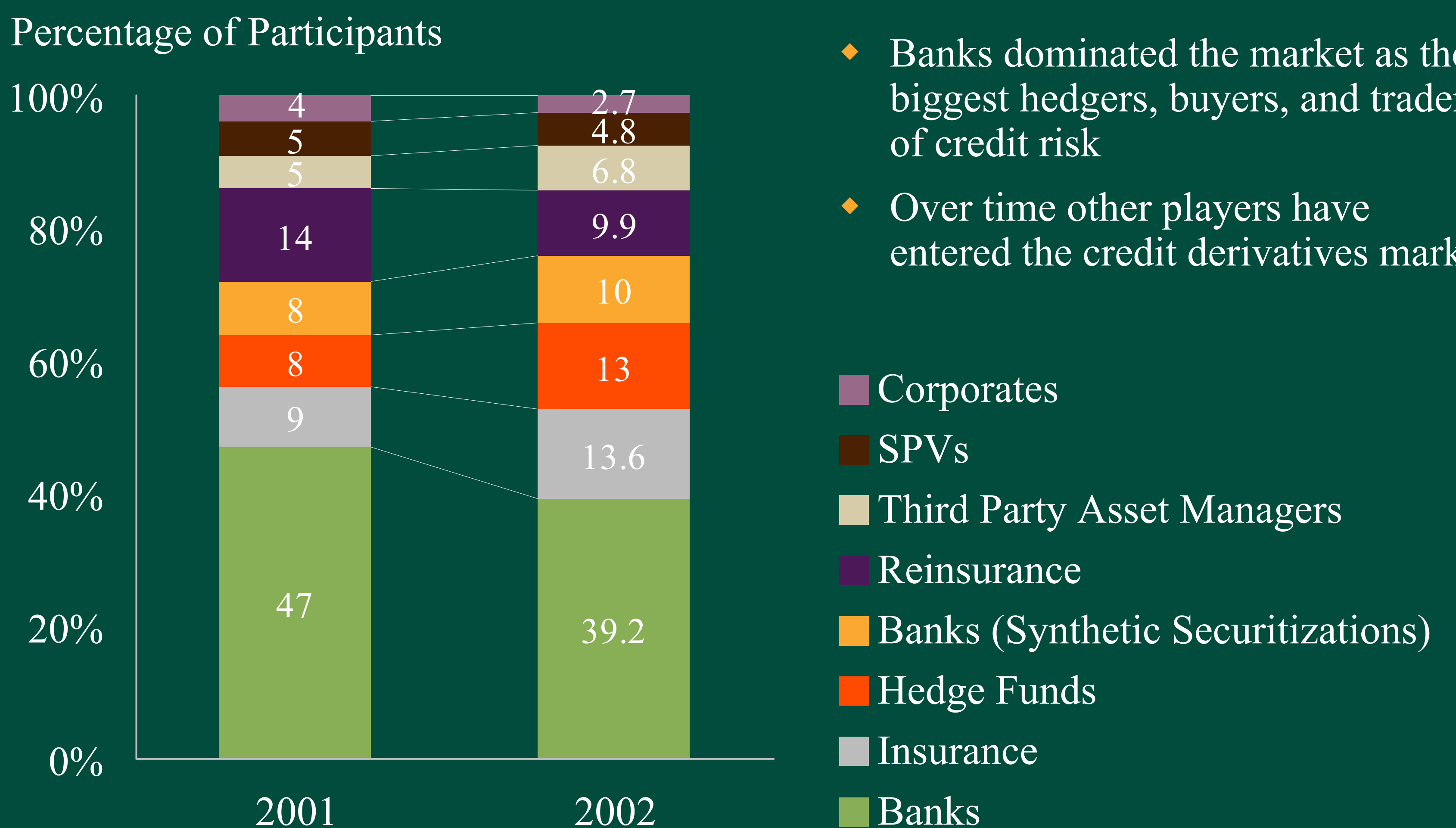
Size of the Structured Credit Market

The credit derivatives market currently totals over $2 trillion



(1) British Bankers Association Credit Derivatives Survey 2001/2002

Shift in Participant Profile



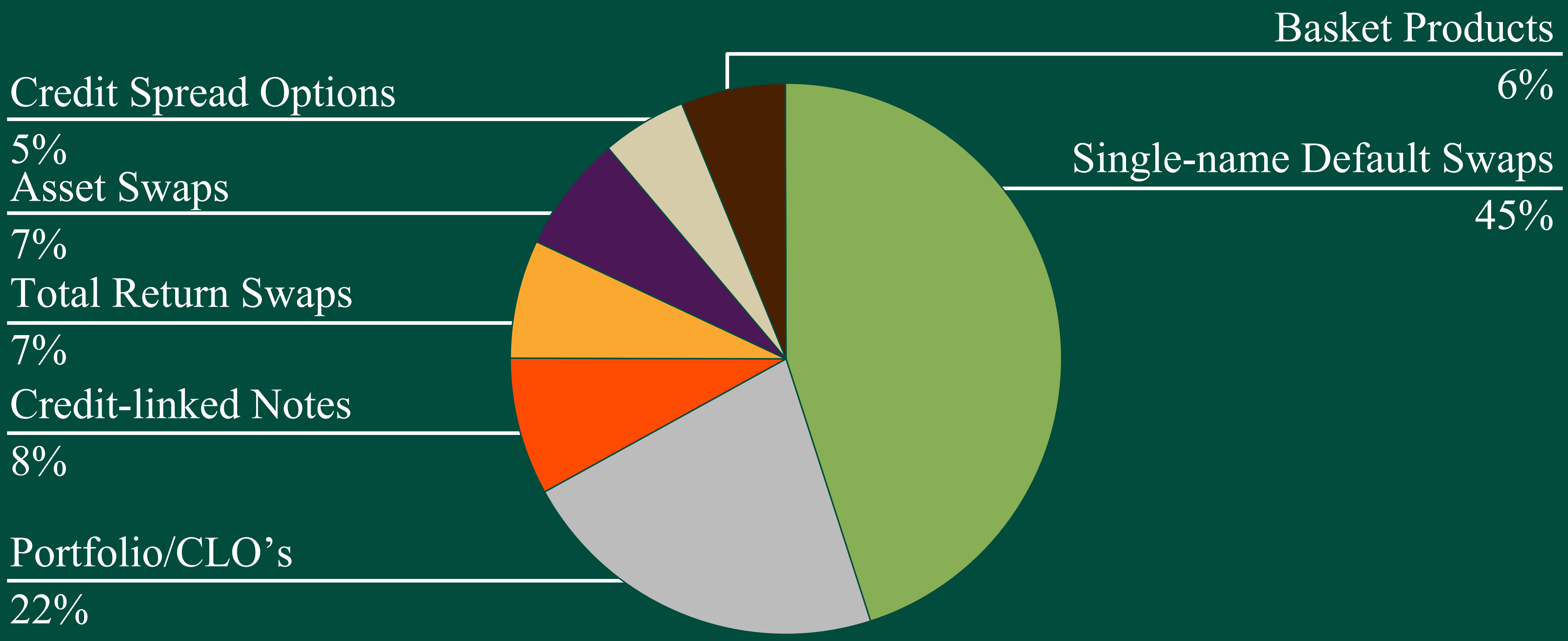
- Banks dominated the market as the biggest hedgers, buyers, and traders of credit risk
- Over time other players have entered the credit derivatives market

Source: Risk Magazine Credit Derivative Survey, February 2003 & February 2002

Market Composition

The fastest growing portions of the market

- Correlation products (CDOs and *N*th to Default Baskets)
- Options



Source: British Bankers Association Credit Derivatives Report 2001/2002

Size and Composition of the CDS Market

Expanding Universe of Traded Names

- Growth in HY trading universe
- Although default rates in high yield and the corresponding need for hedging has fallen, high yield spread rally has made hedging costs less prohibitive

Number of 5-Yr CDS with at Least 3 Dealers Quoting Markets

Source: Mark-it Partners, as of 1/7/2004

Insurance Company Activity

- As a direct result of Replication, several insurers executed credit default swap transactions for the first time
- As of late December 2003, there have been 320 Replication transactions using default swaps filed with the SVO
- In terms of credit risk profile exposure, approximately three-fourths were assigned NAIC 1 Designations, and approximately one-fourth were assigned NAIC 2 Designations
- Across all completed filings of default swap transactions with the SVO, the average size and life of these trades were approximately \$5mm to \$10mm and 4 years, respectively [1]
- On average, the top 20 life insurers have invested a minimal 0.15% of their invested assets in CDS notional

(1) Based on completed Replication filings with the SVO representing 320 transactions

II. The Role of Structured Credit in Traditional Portfolios

Structured Credit in Corporate Portfolios

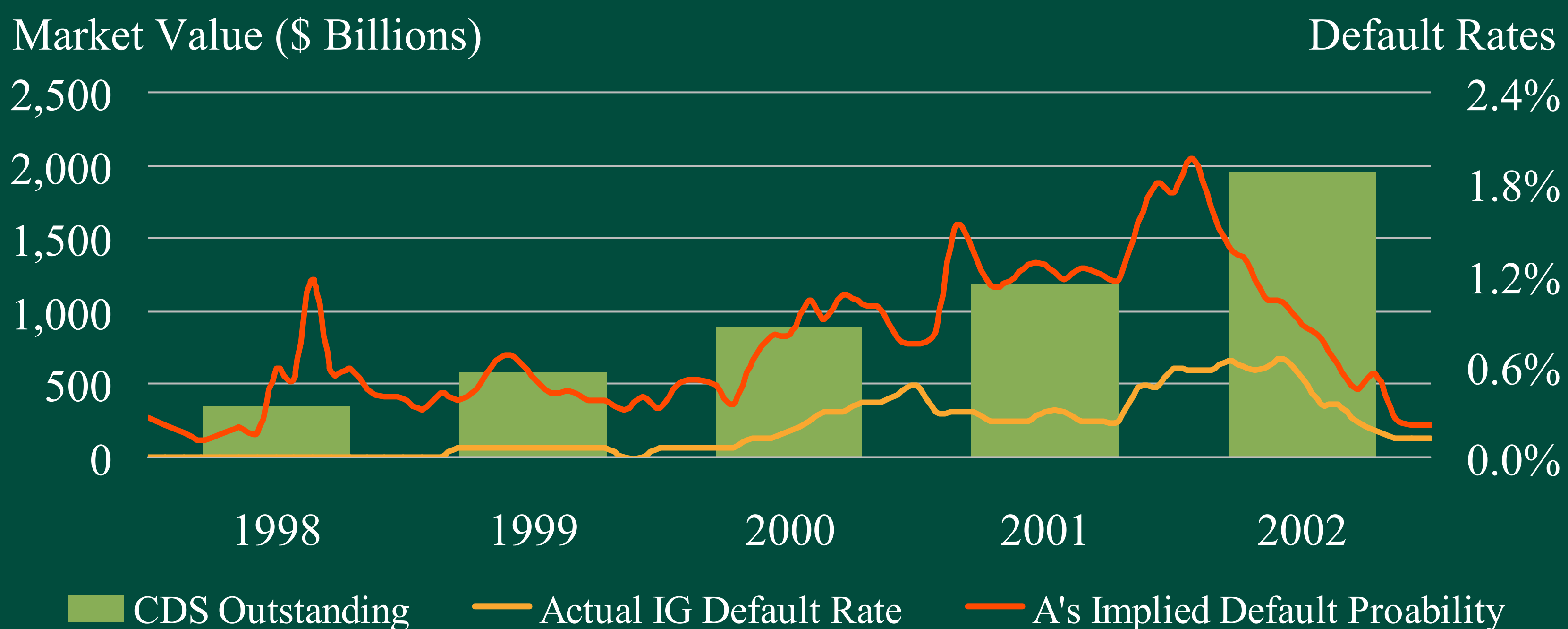
- Credit investors are implicitly taking views on the following
  - Levels and Term Structure of Credit Spreads
  - Level and volatility (correlation) of defaults
  - Volatility of Spreads
- Structured Credit offers a way to express views around these parameters
  - Default Swaps (CDS) and Portfolio CDS
  - CDOs and Tranched Portfolio CDS
  - Options
- And are subject to
  - Correlation between debt and equity markets
  - Relationship between CDS and Equity Vol serves as leading/ lagging indicators

III. Transformation of CDS into a Spread Product

CDS as a Hedging Tool

- Dramatic increase in IG defaults from ‘01–’03 made the cost of hedging a rational expense
- The fall in default rates has lowered this need for protection

CDS Volumes vs. Default Rates [1]



(1) British Bankers Association Credit Derivatives Survey 2001/2002, Lehman Brothers

Dimensions of CDS Investing

Credit Default Swaps (CDS) Offer a Way of Taking Views on the Level and Term Structure of Credit Spreads

- Trading outright spreads or the basis between cash and CDS
- The CDS term structure is the most recent development in the market
- The bid for diversification and liquidity has lead to the development of many portfolio CDS

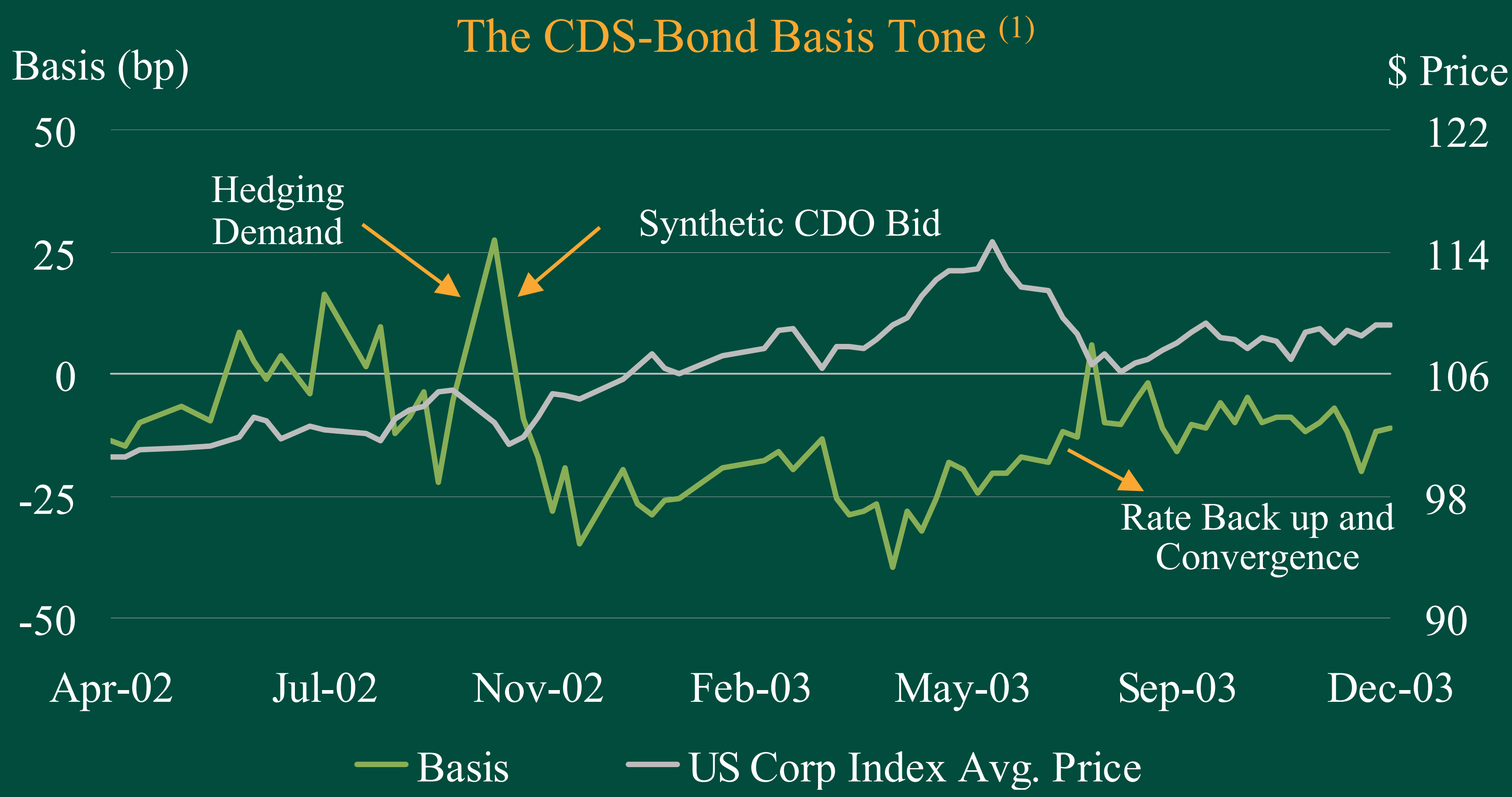
Trading the Basis

Credit Default Swaps as a Spread Product

- Carry
  - Negative basis – Buy bond and buy protection and earn differential
  - Positive basis – Sell bond and sell protection and earn differential
- Convergence
  - Main driver of outperformance
  - 16 month average basis of -15 bp, standard deviation of 11 bp [1]
- Spread duration for mismatched trades
  - CDS is most liquid in the 5 year part of the curve, similar maturity bonds may not always exist, or be available
- Second order exposure to rates (Convexity)
  - If rates fall, basis widens because the $ price of the bond rises and hedge ratio rises
  - Correspondingly, if rates rise, basis tightens

(1) Lehman Brothers

Trading the Basis

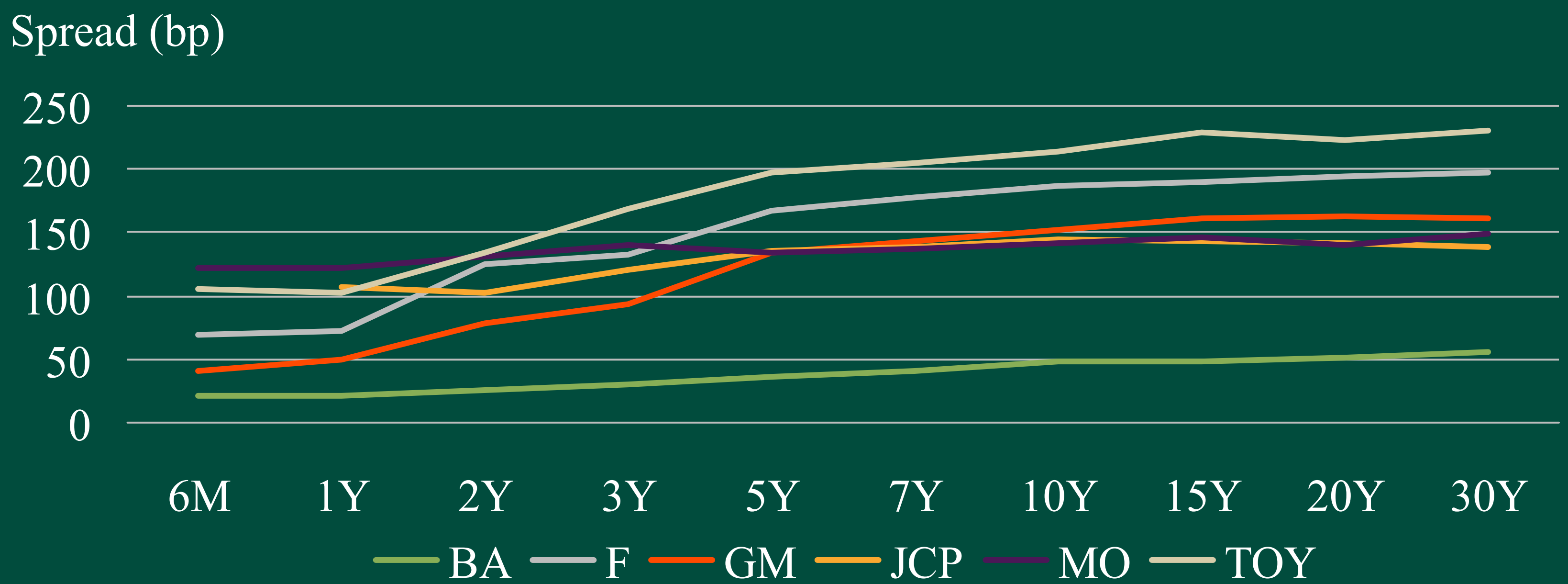


(1) Lehman Brothers

Trading the Term Structure

CDS Spread Curves – A Recent Development

- Roll down of curve on short end
- Longer dated Synthetic CDO issuance increases 7 year liquidity
- Portfolio CDS provides lift for 10 year



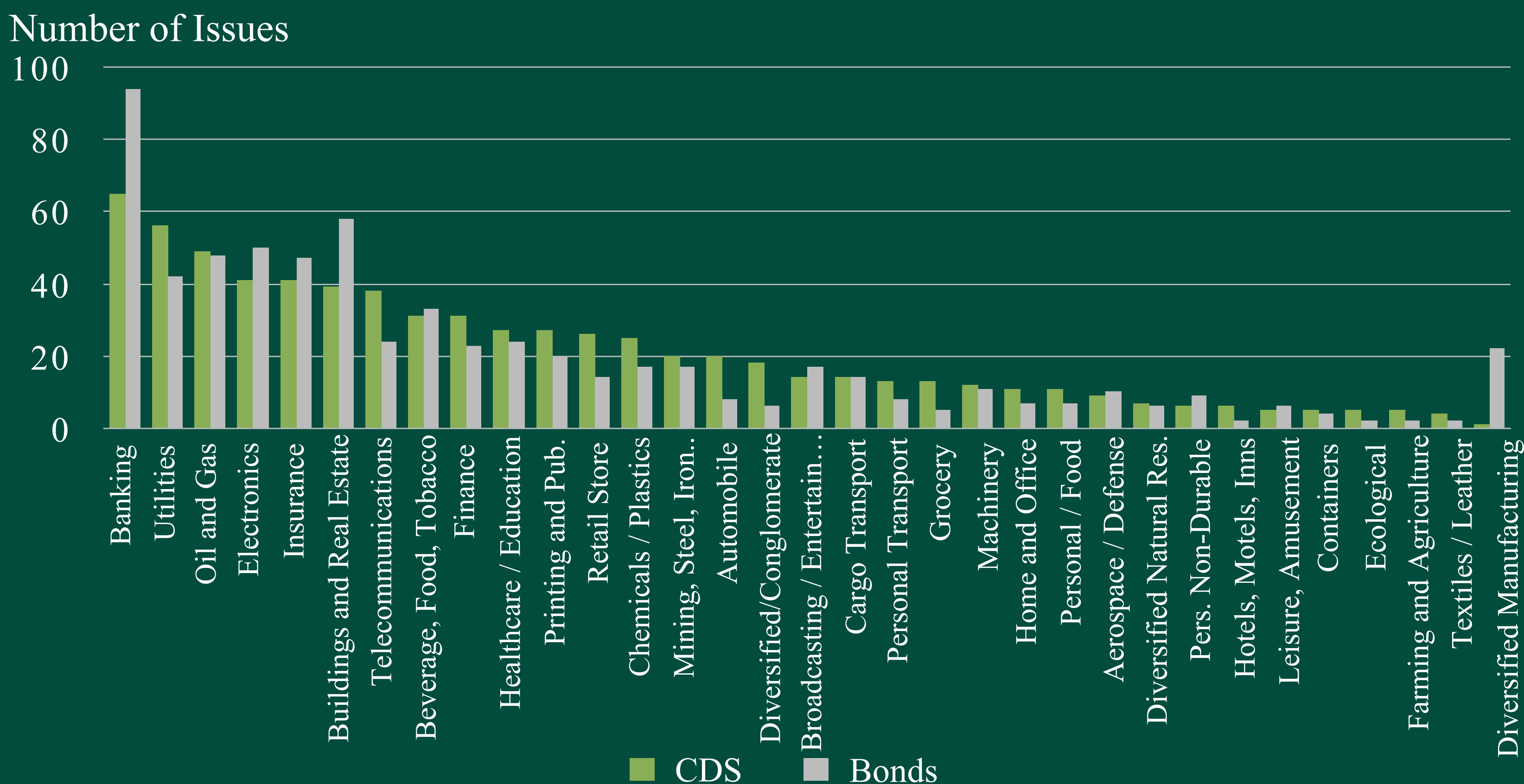
Source: Mark-it Partners, as of 1/9/2004

Trading the Term Structure

- In an improving credit environment, we would expect curves to flatten with the long end rallying more than the short end
- In many cases, buying the long cash bond and buying 5-year protection offers a way to add spread duration, and play the basis in conjunction with a term structure flattener
- CDS – Cash term structures are likely to align themselves as market becomes more efficient
- Some bearish investors can continue to play the steepener trade, particularly for rich names by selling protection on the short end and buying protection on the long end

Portfolio CDS Investing

- The CDS Market provides a larger universe of issuers in most industries, thereby providing an optimal market for diversification (1)



(1) Lehman Brothers U.S. Corporate Bond Index, Mark-it Partners, Moody's industry group classifications

Portfolio CDS Investing

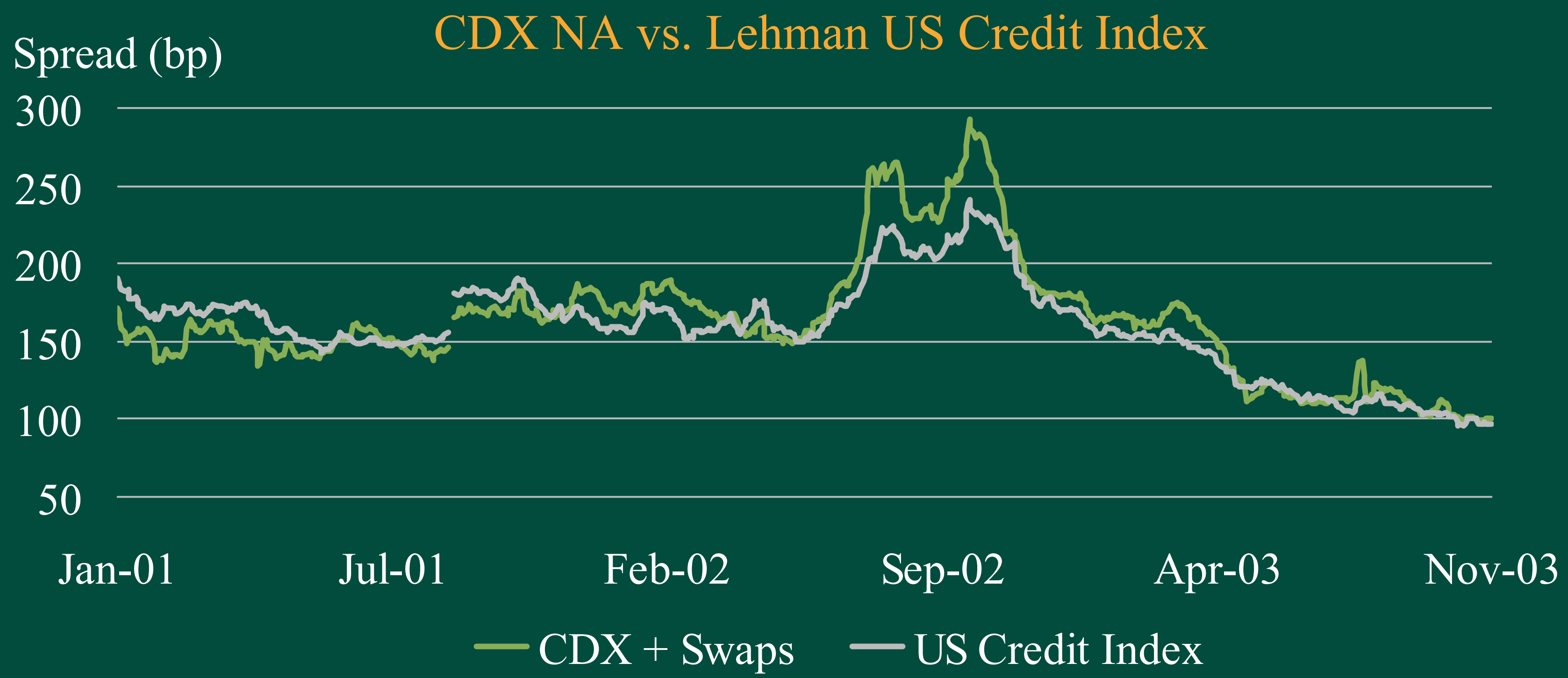
Development of Portfolio CDS Products

- Several new introductions of portfolio CDS in 2003 driven by demand for liquidity and diversification
- Reference a portfolio of IG, HY, and EM CDS for different regions of the world
- IBOXX CDX and Dow Jones TRACX are currently the two most popular products. Both products are unfunded
- Products are rolled every 3 or 6 months. Rolling involves a review of the names and substitution as necessary and results in a new series
- IG and EM trade on spread whereas HY trades on dollar price

Portfolio CDS Investing

Replicating the Lehman Brothers Credit Index

- CDX + 5 yr Swaps would have been a good replication of the Lehman Brothers Credit Index



Source: Lehman Brothers, Mark-it Partners Data; No data in the period following 9/11/01

Portfolio CDS Investing

Spreads on Portfolio CDS vs. Similar Cash Portfolio

- Portfolio CDS trade in a tight bid-offer
- Since they consist of the most liquid names, they trade tighter than their cash “equivalents” (We use the LB Credit index and the crossover index as comparisons)

Product	# of Credits	Current Spread	Cash Equivalent (LB Index to Libor)
TRACX II NA	100	52.5/54.5	58
TRACX II HBeta	40	80.5/83.5	185
CDX IG NA	125	46/47	58
CDX IG HVol	30	84/85	185

Portfolio CDS Investing

Opportunities in 2004

- Efficient means of accessing diversified portfolio of corporate credit
  - Replication strategy for a cash or CDS index
- Parking cash during portfolio ramp up for asset managers and CDO managers
- Executing Long-Short sector views
- Continued development of derivatives off of these products

IV. CDOs – Opportunities for the Yield Players

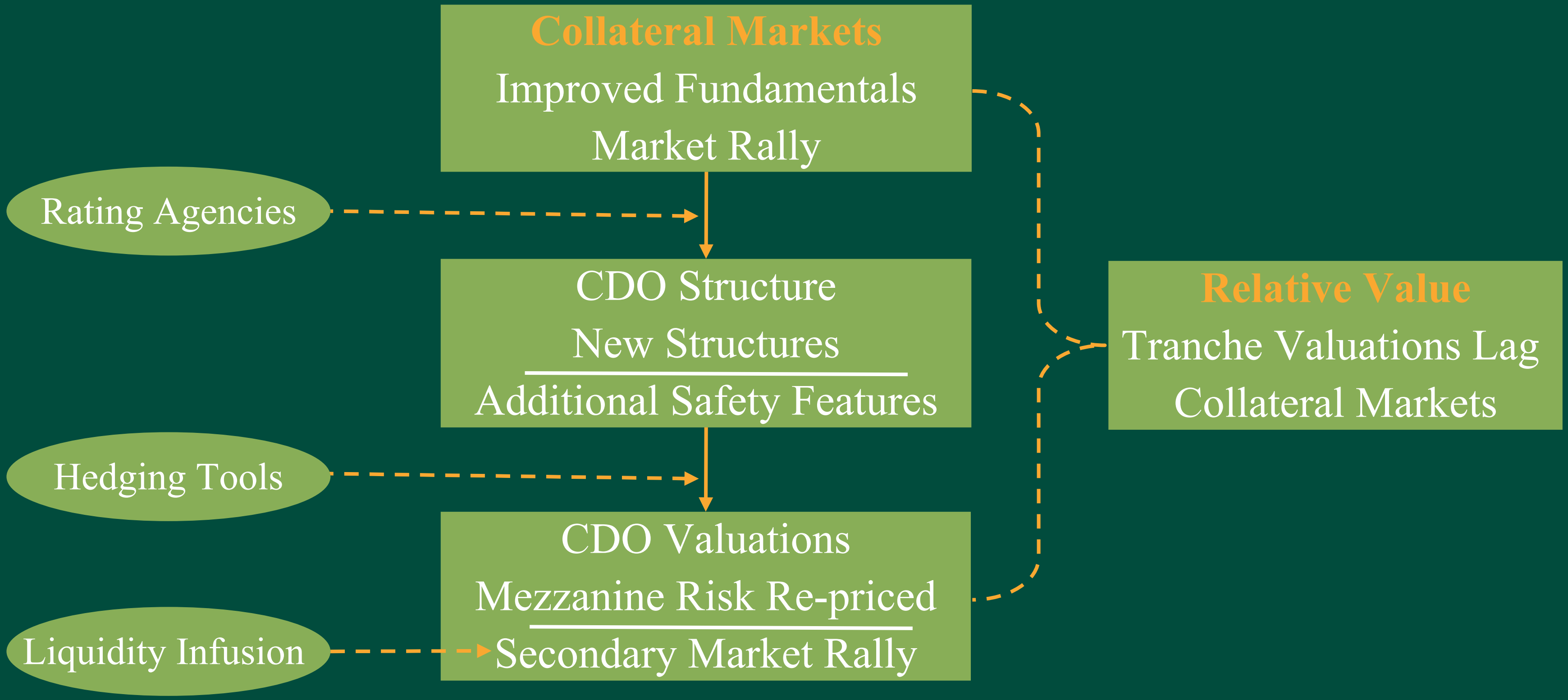
CDOs – The Yield Opportunity

The Outlook Supports a Constructive View

- CDOs are a way for traditional investors to add exposure to the level and volatility of defaults (a function of default correlation) at the desired risk level
- CDOs offer a way to execute a constructive view in a low default, improving recovery rate, tight credit spread, low interest rate environment
- While senior tranches continue to trade wider than comparable fixed income securities, subordinate tranches continue to benefit from non-recourse financing with relatively low mark-to-market volatility

2004 – CDOs Reloaded

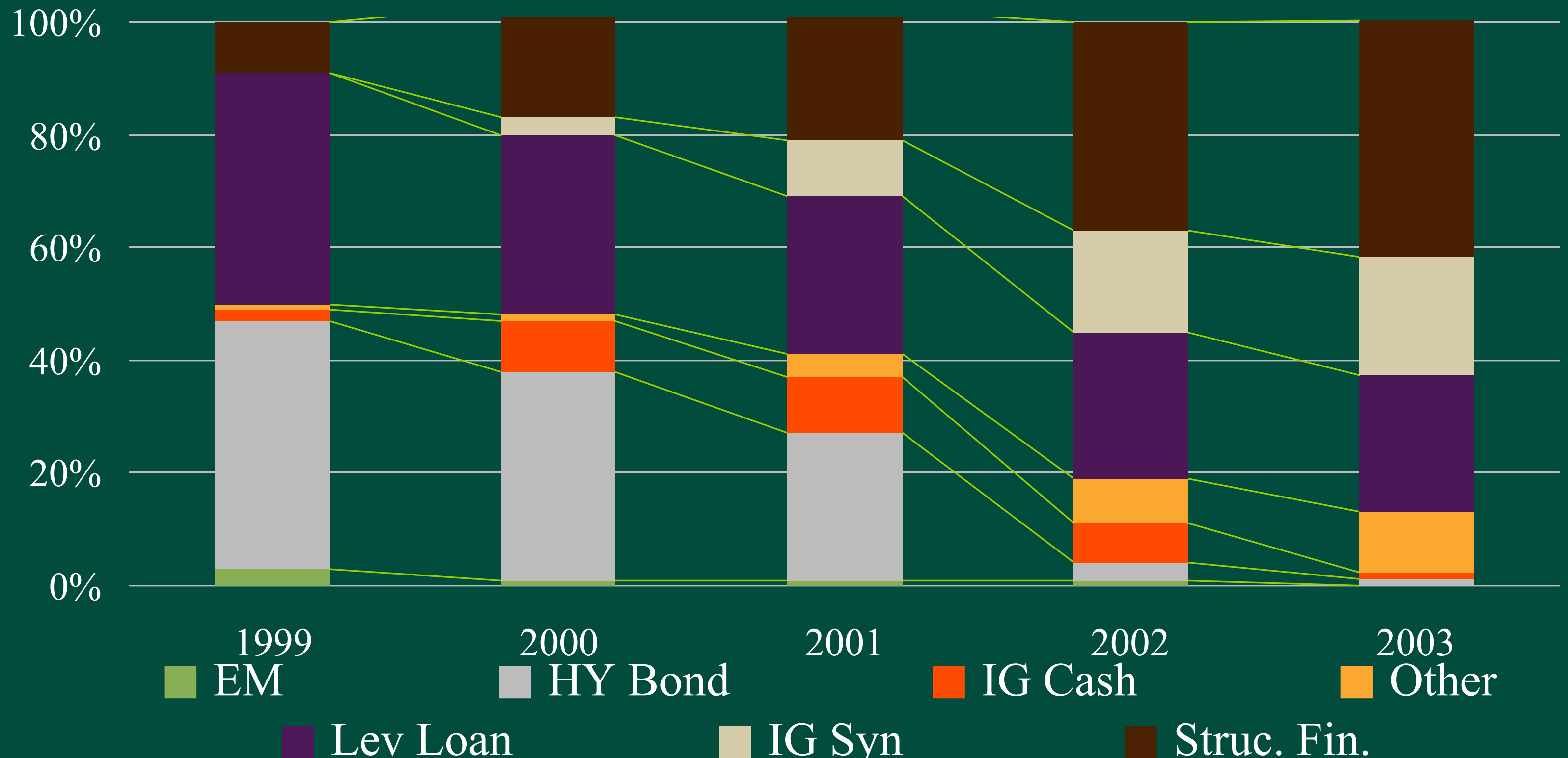
Coming Out of the Credit Cycle



Market Composition

Arbitrage Issuance Volumes were Robust at $105.9 bn in 2003

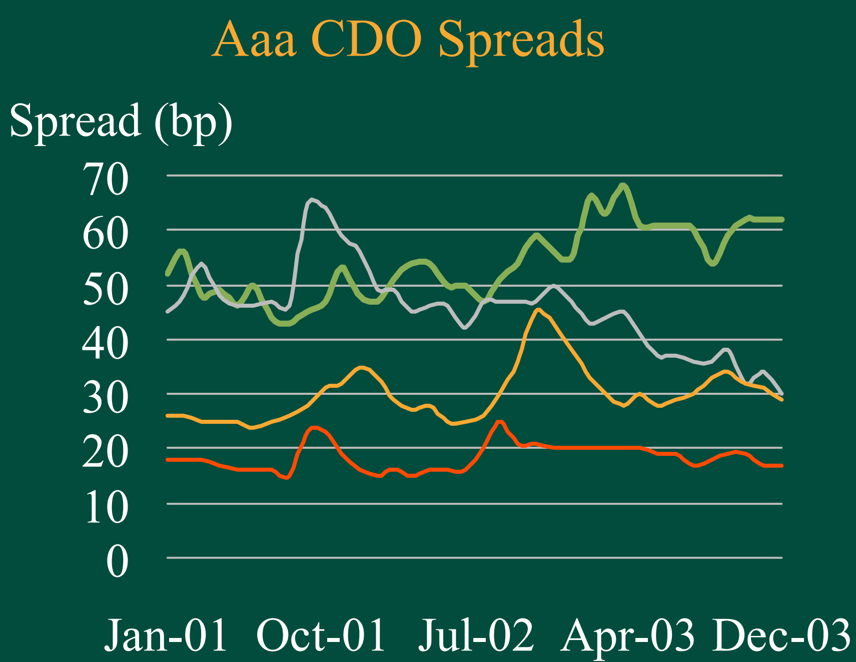
- Synthetics, SF, and LL CDOs dominate issuance
- Expect slow down in overall issuance in 2004

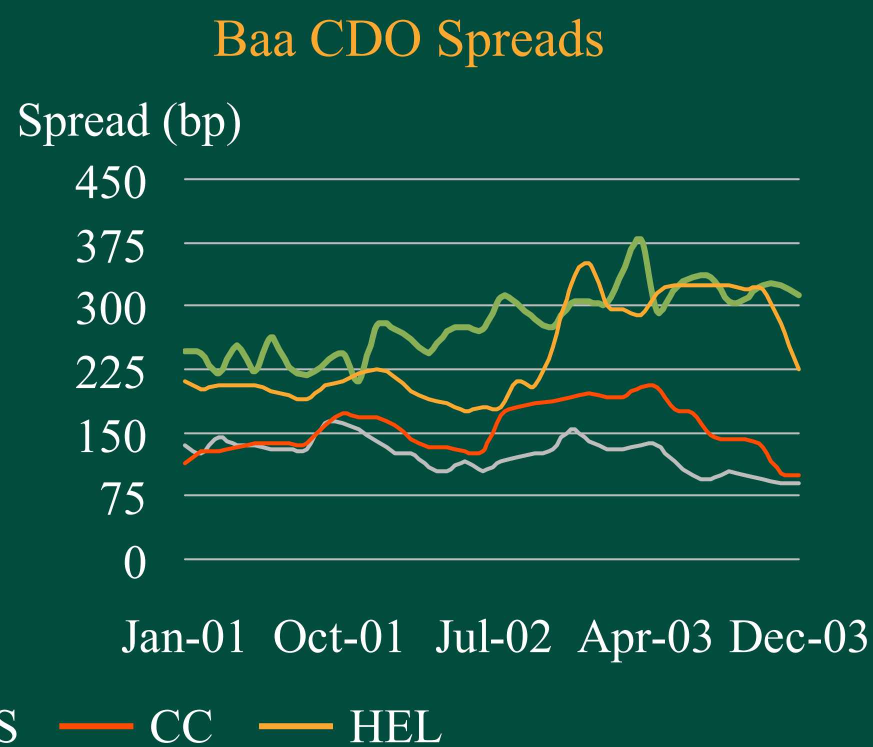


Source: Lehman Brothers

CDO Valuations Lag

Primary CDOs Have Lagged Most Other Structured Finance



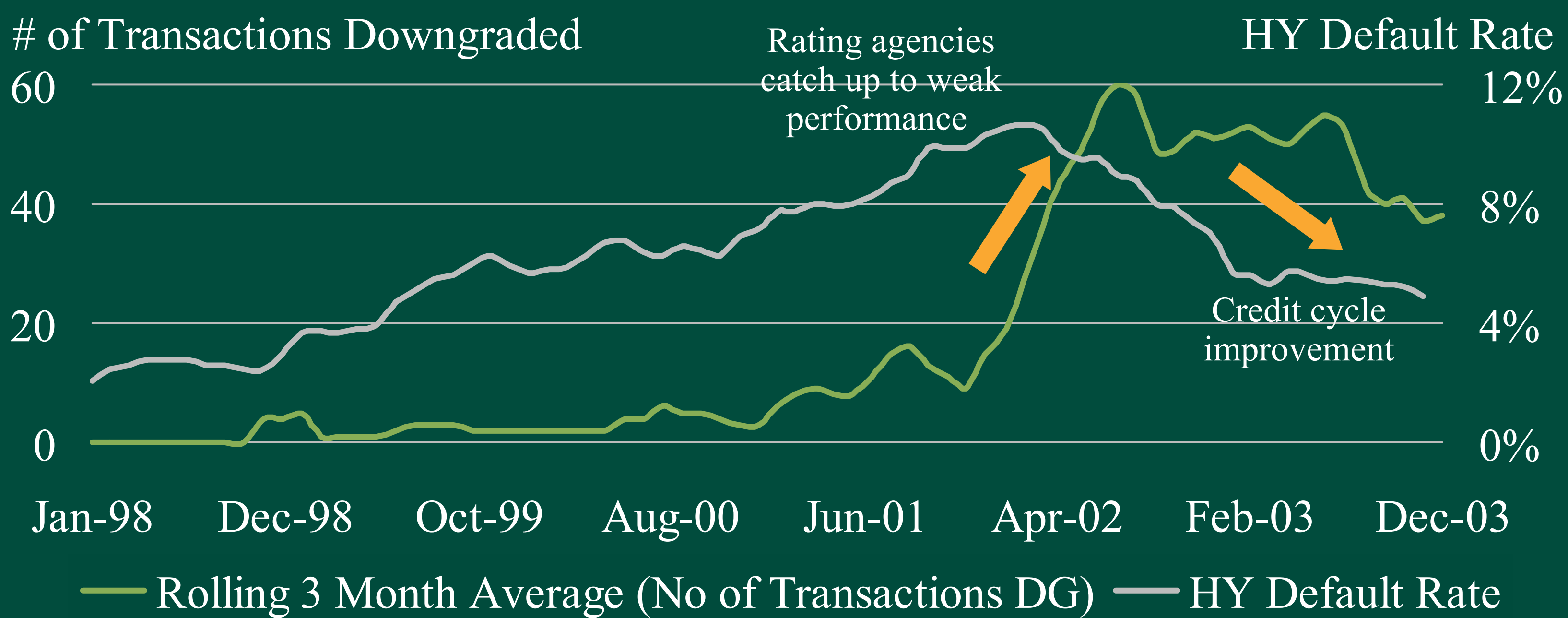


Source: Lehman Brothers

Improved Fundamentals

CDO Downgrades React to Collateral Markets

- Rolling 3-month average number of CDO downgrades has been on a downward trend
- Lag between credit cycle improvement and downgrade statistics
- Higher idiosyncratic risk could drive downgrades up for IG CDOs



Source: Lehman Brothers, Moody's Investors Service

Strong Technicals

Technicals Improved

- Large infusion of capital for secondary, distressed CDOs
  - Hedge funds and "new" money have had significant impact
  - Should feel some spill over effect on primary
- Yield hungry investors are likely to return in a significant manner
  - Traditional investors have trickled back into the market
  - Investor expansion has continued globally albeit at a lower pace
  - New investment capital from pensions and endowments likely in 2004
- Street capital significantly higher
  - Dedicated secondary desks
  - Tranched portfolio CDS changes liquidity in synthetics

Relative Value – Primary CDOs

CDO Spreads Compared to Other Asset Classes

- Yield hungry investors should be all over the asset class

Aaa:

	CDOs (Primary)	Corporate	Credit Cards	HEL	CMBS
Dec 2002	55	65	20	38	47
Dec 2003	57	23	17	29	30
Difference	+2	-42	-3	-9	-17

Baa:

	CDOs (Primary)	Corporate	Credit Cards	HEL	CMBS
Dec 2002	305	186	196	350	140
Dec 2003	308	83	100	225	90
Difference	+3	-103	-96	-125	-50

Relative Value – Secondary CDOs

Distressed CDOs Had a Stellar Year

- Is there any juice left?

CDO Investment	Indicative Levels Dec 2002	Indicative Levels Dec 2003	Estimated Return	Comparative 2003 Returns
Clean Senior	L + 80-100	L + 50-60	4%-5%	ABS Aaa - 3.9%
Stressed Senior	L + 200-300	L + 70-80	7%-8%	Corp Aaa - 3.6%
Distressed Senior	$75 - $85	$85-$100	10%-20%	
2nd Priority (non PIKable)	L + 125-150	L + 70-80	7%-8%	Corp Aa – 4.6%
Stressed Mezzanine	$50-$80	$70-$90	15%-20%	Corp Baa – 11.8%
Distressed Mezzanine (fix the PIK)	$20-$50	$40-$80	40%-100%	Corp B – 26.6%

Relative Value – Secondary CDOs

Strategic and Tactical Opportunities Continue to Exist

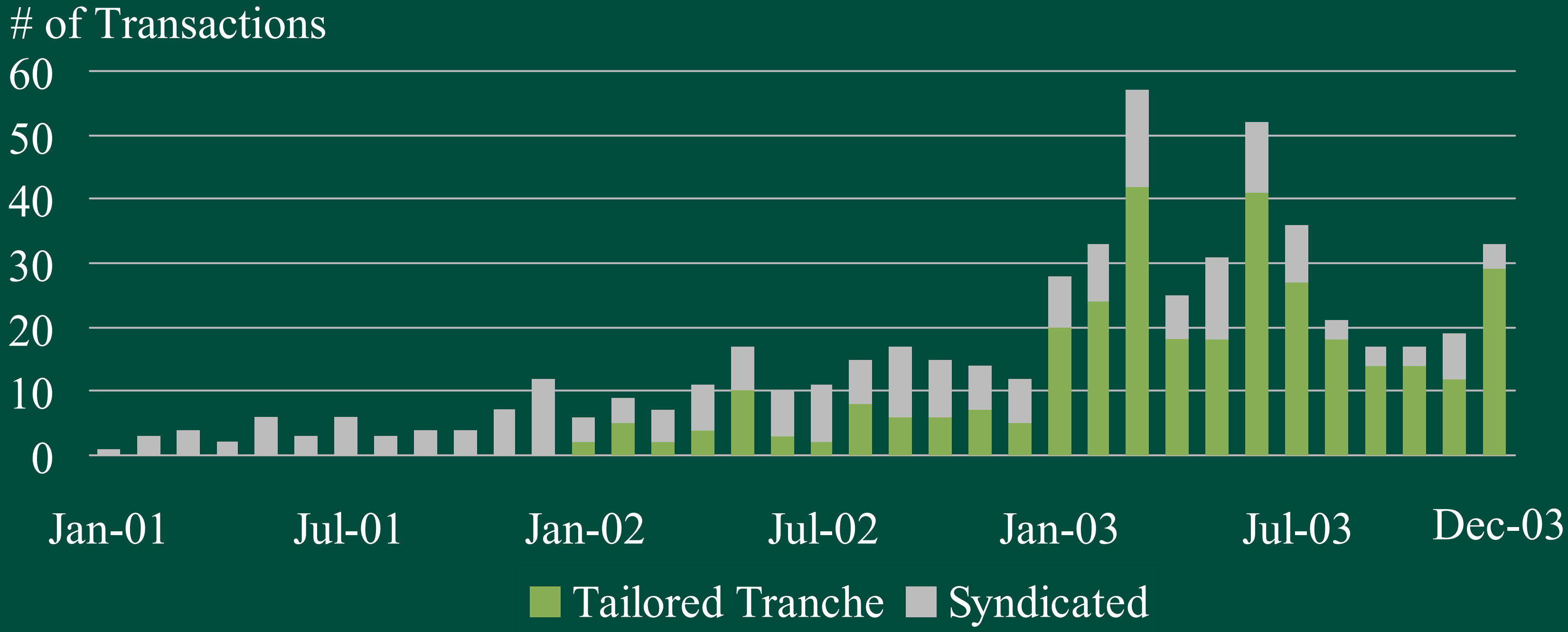
	Senior	2nd Priority	Mezzanine/Sub
	Greater spread than other fixed income securities.	Higher return alternative for investors with a greater risk appetite	High returns, but careful waters to tread.
HY	Room for tightening. Relatively low risk	Moderate risk but attractive returns in case of low defaults or high recovery rates.	High returns but exposed to distressed bond valuations.
IG	Room for tightening, further help from interest rate swaps.	N/A	Leveraged exposure to credit, but limited optionality in a low volatility environment.
LL	Little upside. Low risk, robust tranches.	Tight spreads, low risk on clean and potential upside on stressed.	Attractive risk reward characteristics on BBs.
SF	Attractive as the SF market turn the corner.	High return alternative for investors with a greater risk appetite	High risk and tough to analyze.

Synthetic CDO Innovation

The New Generation of Synthetic CDOs – Single Tranche CDOs

- With the transformation of synthetics into single tranche deals, the next phase should see single tranche synthetics with structural features

Synthetic Arbitrage CDO Issuance by Month



Source: Lehman Brothers

Relative Value – Synthetic CDOs

The Value Themes

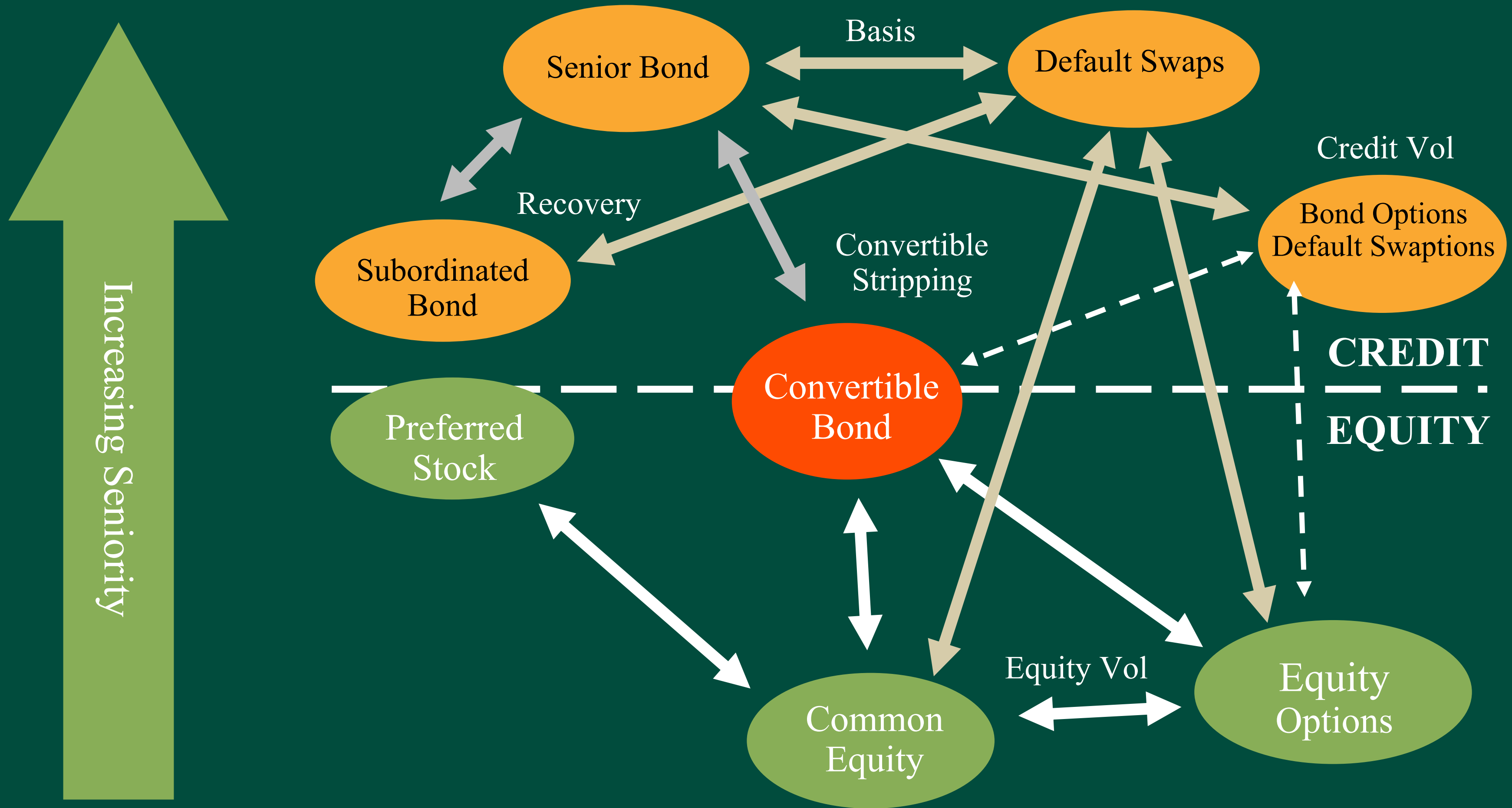
- A constructive spread and default environment, combined with a growth era
  - Synthetic equity hedged for idiosyncratic risk
  - Cheapness of single name CDS protection makes delta hedging tempting – but we believe cash is better spent hedging VOD
  - Hedging idiosyncratic risk is an art rather than a science
  - Investment grade is more sensitive to economic cycles
- Synthetic ABS CDOs
  - AAA structured finance product is inherently cheap
  - We recommend leveraging this exposure via equity or mezzanine investments

See "Hedging CDO Equity Strategies", September 2nd 2003

V. Relationship Between Debt and Equity Markets

The Debt-Equity Continuum

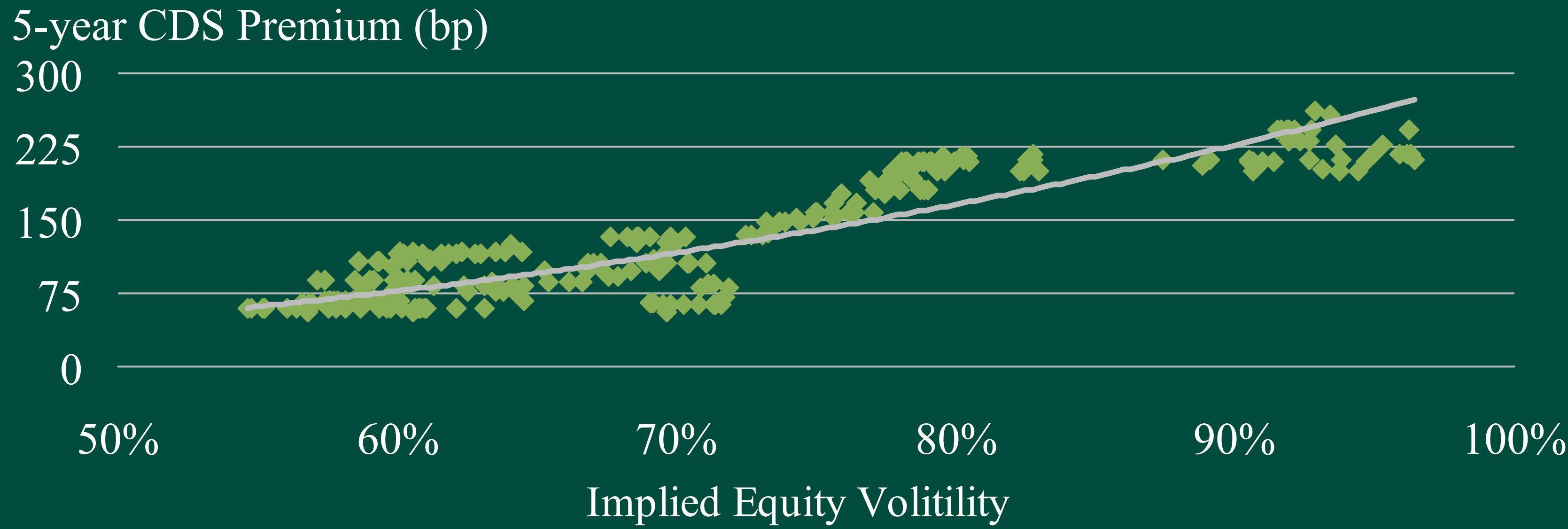
- CDS and Options have allowed for monetization of the "inefficiencies" in the debt-equity space



CDS vs. Implied Equity Vol

- 5-yr CDS spreads and options-implied equity vol generally move in sync (e.g. Sun Microsystems)
- If CDS-implied vol is higher than options-implied vol, then CDS could be rich: Sell CDS, buy equity puts. And vice versa

5-Year CDS vs. Implied Equity Volatility (2003)



Source: Lehman Brothers, 11/14/2002–11/14/2003

Why Should Credit Investors Pay Attention?

- The relative reaction of the equity and debt markets can influence buy, sell, hold or hedge decisions
- The jump in capital structure arbitrage activity from hedge funds has improved the information flow between debt and equity, making the market more efficient
- Higher correlation between corporate bonds and stock diminishes the diversification benefit of having credit in an overall portfolio
- Activity is focused in high-volatility names: mostly high-yield and crossovers

VI. Issues for Consideration in 2004

Issues for Consideration

The cyclical change in the spread and interest rate environments makes the structured credit market the place for incremental opportunity within credit. But there are several issues for consideration…

- Traditional credit investors in the U.S. are likely to continue to embrace the structured credit market but will need to work through FAS 133 and "fund mandate" constraints
- Limited loan growth and the BIS revisions could continue to make banks better sellers of protection, leading to the reverse problem – fewer natural buyers of protection on the margin!
- Hedge funds were a significant force in the spread rally of 2003 but either due to unwinds or due to positioning, do they have the market moving power to push the market into a bearish tone?
- The more benign spread and default environment is leading to a boom in high yield structured credit where the interrelationships with the cash markets are still untested

Issues for Consideration …contd.

- Capital structure arbitrage activity has arguably lead to increased efficiency in the credit markets, but will this force reallocation out of credit into equity due to the lower benefit of diversification in an overall portfolio?
- Correlation trading was the talk of the town in the latter half of 2003 – but in a tightening spread and a higher idiosyncratic risk environment, will investors realize gains on their investments?
- The low hanging fruit in secondary CDOs has largely been arbitraged away – will investors become more aggressive in risk taking or will lower rated tranches soften?
- Traditional CDO investors are trickling back in as liquidity has dramatically improved, but many are still hurt by their 1997-2001 experience and may be more cautious
- The application of structured credit technology on structured finance is likely to take-off but documentation and settlement around this product is still untested

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