

LEHMAN BROTHERS

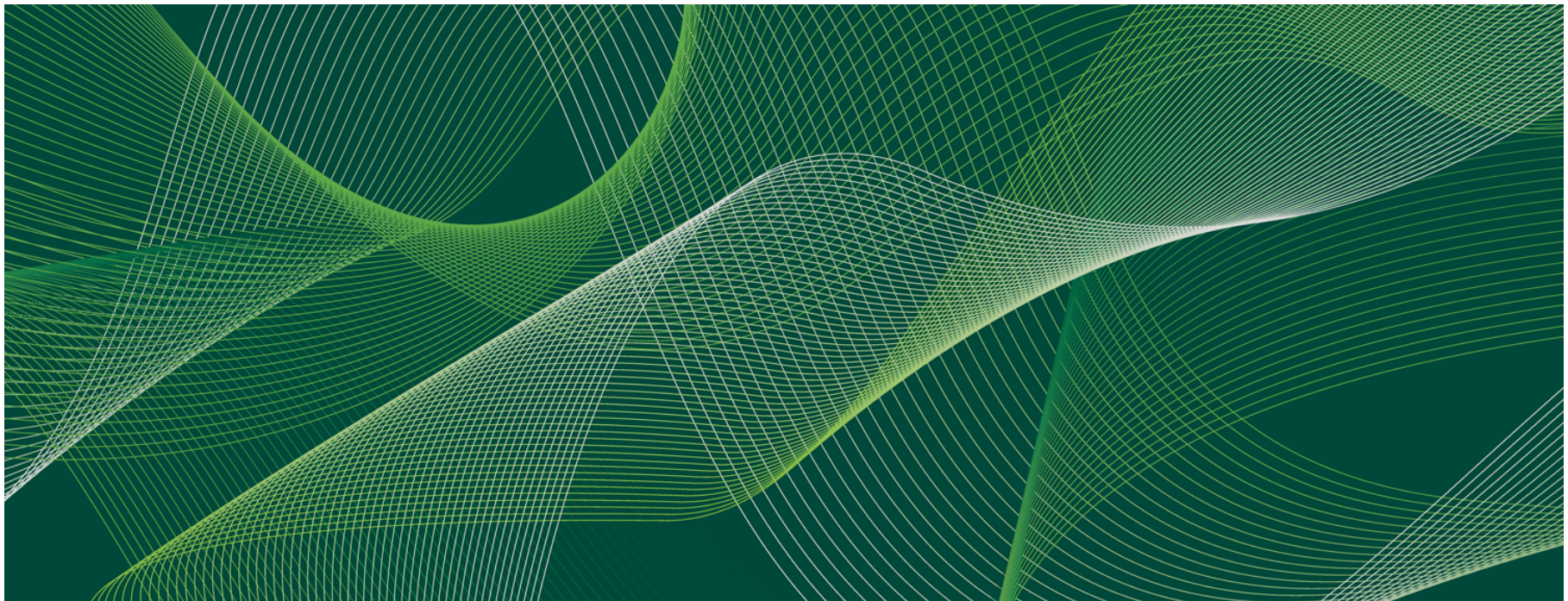
Fixed Income Division

Global

August 6, 2008

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Hedging Fixed Income's Portfolio



Confidential Presentation

Objectives

- ◆ Describe Fixed Income's guiding principles for hedging its illiquid assets
- ◆ Discuss drivers of hedging inefficiency
- ◆ Present hedging performance by business
 - Residential Mortgages
 - Commercial Real Estate
 - Acquisition Finance
 - Syndicated Corporate Loans

Guiding Principles

- ◆ Which positions do we hedge?
 - Hedge illiquid positions that have limited or slow exits
 - Hedge credit risk for those positions which are not part of our core trading strategies
 - Do not necessarily hedge principal positions

- ◆ How do we implement hedges?
 - Prefer name-specific, targeted hedges where available, nonetheless sometimes utilize index hedges
 - Hedges are implemented by those in the business who are closest to the risks
 - Limited Division or Firm-level hedges

- ◆ How much do we hedge?
 - Hedge inefficiencies make 100% hedges either too costly or too risky
 - Expectation of hedge inefficiency leads to reduced size of hedge: for example, 20% correlation would typically be associated with less than 20% hedge size

Hedging Inefficiencies

	Description	Examples
Lack of Instruments	<ul style="list-style-type: none"> ◆ No cash or synthetic instruments in either name or index form to cost effectively off-set idiosyncratic risk 	<ul style="list-style-type: none"> ◆ U.S. Alt-A Residential ◆ U.K. Residential ◆ New issuance Leveraged Loans
Illiquidity of Hedge	<ul style="list-style-type: none"> ◆ Even if hedging instrument exists, insufficient liquidity to accommodate Lehman’s portfolio 	<ul style="list-style-type: none"> ◆ ABX ◆ Property Derivatives
Basis Risk	<ul style="list-style-type: none"> ◆ Difference in price movement between the asset being hedged and the hedging instrument <ul style="list-style-type: none"> – Cash versus derivatives – Name versus index – Capital structure: loans vs. bonds vs. equity – Timing mismatch 	<ul style="list-style-type: none"> ◆ CMBX hedge for CMBS ◆ Equity index hedge for Leveraged Loans
Counterparty Risk	<ul style="list-style-type: none"> ◆ Use of hedging strategy dependent on specific counterparty 	<ul style="list-style-type: none"> ◆ Hedging CDO super senior risk with monoline counterparty

Residential Mortgages

Key Hedging Characteristics

Guiding Principles

- ◆ We employ a variety of synthetic instruments to hedge exposure to both spreads and home owner defaults/home price depreciation
- ◆ In addition, the ABS Synthetics desk ran since 2006 a sizable short position with sub-prime synthetic instruments in the residential mortgage space

Instruments Used

- ◆ Alt-A: Primarily CMBX, CDX/Itraxx, ABX (there are no synthetic Alt-A instruments)
- ◆ Sub-Prime: Primarily ABX, some CMBX and CDX/single-name CDS
- ◆ Europe: Primarily CDX and Itraxx (there are no synthetic European instruments)
- ◆ Utilized a ~\$12BB Total Return Swap with clients through '07 which by Feb '08 was fully rolled off since we were unable to roll due to lack of client interest

Hedging Inefficiencies

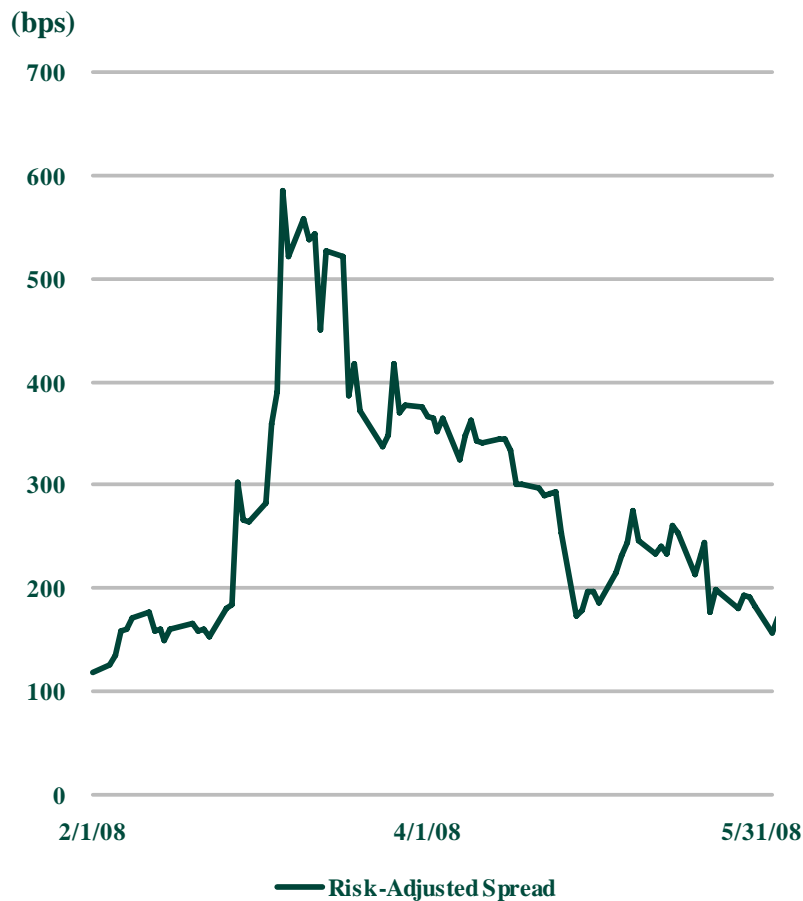
- ◆ Basis risk: Cash versus synthetics; we are long cash assets and cannot short cash positions
- ◆ Lack of instruments: No synthetic instruments in prime space to hedge the fundamental loss exposure
- ◆ Lack of size/liquidity: Size of ABX market is insufficient to hedge our Alt-A book (see next page for details)

Residential Mortgages – Hedging Approach

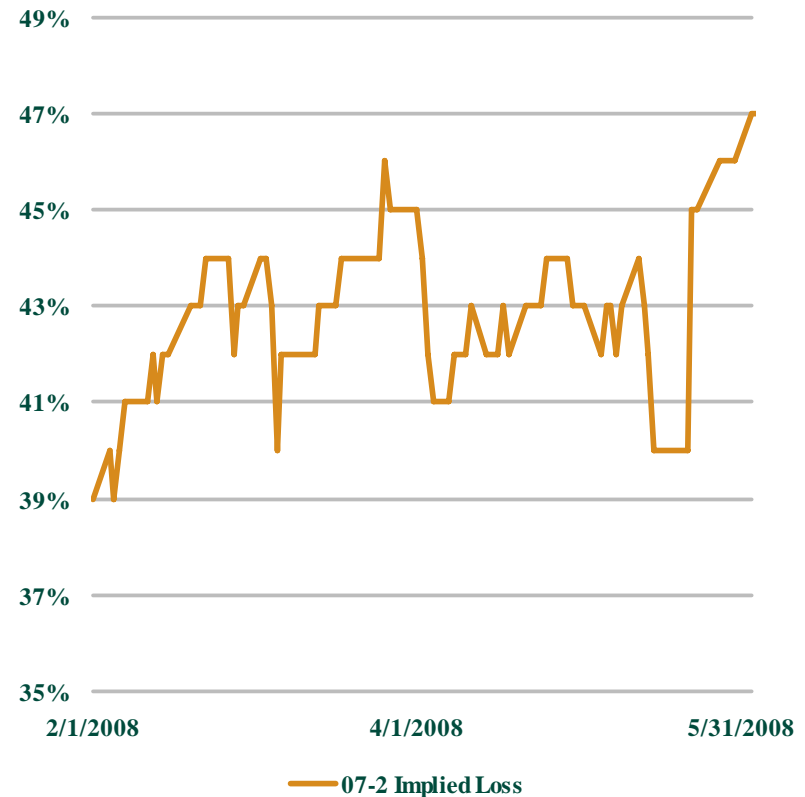
	1. Spread Hedging	2. Fundamental Loss Hedging
Purpose	<ul style="list-style-type: none"> ◆ Exposure to default-adjusted spreads due to general market risk aversion/technicals 	<ul style="list-style-type: none"> ◆ Exposure to defaults on mortgages and consequential losses because of house price depreciation
Instruments	<ul style="list-style-type: none"> ◆ Combination of residential, commercial real estate, corporate spread hedges (e.g., ABX, TRS, CMBX, CDX, single-name CDS) 	<ul style="list-style-type: none"> ◆ Down the capital structure ABX tranches ◆ CDS on sub-prime securities
Applicability for Sub-Prime	<ul style="list-style-type: none"> ◆ More relevant for loans and senior bonds ◆ Higher liquidity in Corporate Indices ◆ Exposure to basis risk 	<ul style="list-style-type: none"> ◆ ABX synthetic instruments are available to hedge similar exposure of cash sub-prime assets (across the capital structure and different vintages)
Applicability for Alt-A		<ul style="list-style-type: none"> ◆ No synthetic instruments in Alt-A space to hedge the fundamental loss exposure ◆ Using ABX as a hedge has basis risk due to difference in Sub-Prime and Alt-A performance ◆ ABX market lacks sufficient size and liquidity. Hence, it is difficult to hedge the HPA component of our entire Alt-A portfolio. For example in May '08, we would have needed to be short ~\$20BB of ABX 07-2 A versus a monthly total market volume (buys & sells) of only ~\$250MM (equivalent of 160 month's volume)

Residential Mortgages – Market Context

ABX Implied Risk Adjusted Spread



Change in 07-2 Cumulative Loss Expectations



Note: 07-2 implied loss is derived from the market prices of ABX index tranches representing derivative contracts on subprime securities issued during the first half of 2007

Residential Mortgages

Q1 and Q2 Gross and Net Write-downs

(\$BB)

	Q1			Q2			Explanation
	Gross	Hedges (1)	Net	Gross	Hedges (1)	Net	
Alt A / Prime	(1.9)	1.0	(0.9)	(1.2)	(0.1)	(1.3)	Lack of proper hedging instruments; unrealistic to hedge using ABX; TRS fully rolled off in Feb '08
Sub prime/ Second lien	(0.5)	0.8	0.3	(0.6)	0.4	(0.2)	Effective ABX and single-name CDS hedges in Q1; hedging efficiency lower in Q2 due to smaller price declines in shorts down the capital structure and those of earlier vintages
Other US ²⁾	(0.2)	0.3	0.1	(0.1)	0.1	(0.0)	
Europe	(0.2)	0.0	(0.2)	(0.3)	(0.1)	(0.3)	Lack of synthetic hedge instrument, additional hedge losses on macro/non-mortgage hedges
ABS CDO	(0.2)	0.1	(0.1)	(0.2)	0.1	(0.1)	Single name Corporate, iTraxx and ABX short positions
Total	(3.0)	2.2	(0.9)	(2.4)	0.4	(2.0)	
Hedging Efficiency:		~72%			~17%		

1) Includes Servicing Rights and Carry

2) Includes Scratch & Dent and Reverse Mortgages

Commercial Real Estate

Key Hedging Characteristics

Guiding Principles

- ◆ We hedge our commercial mortgages inventory
 - Fixed rate book: short positions in synthetic instruments for the CMBS portfolio (both loans and securities)
 - Floating rate book: macro hedge against an overall macro-economic decline
- ◆ Naturally, we don't hedge our principal real estate holdings

Instruments Used

- ◆ Fixed rate book: short positions in CMBX, Total Return Swaps (TRS) since those hedges are most efficient (underlying deals in both the CMBX and TRS are fixed-rate conduit deals)
- ◆ Floating rate book (shorter duration): macro hedge using Itraxx, Hvol in small size due to low correlation with CMBS floaters

Hedging Inefficiencies

- ◆ Basis risk: Cash versus synthetics basis risk for the fixed-rate book hedges
- ◆ Lack of instruments: No hedging instrument exists for the floating rate book; Itraxx, Hvol used as an approximation

Commercial Real Estate

Q1 and Q2 Gross and Net Write-downs

(\$BB)

	Q1			Q2			Explanation
	Gross	Hedges	Net	Gross	Hedges	Net	
Commercial Mortgages	(1.0)	0.4	(0.7)	(0.1)	(0.5)	(0.6)	Short positions in CMBX, Itraxx and Duration Neutral Swaps gained in Q1, but huge cash/synthetic divergence in Q2 (see next page) led to additional hedging loss
Real Estate Held for Sale	(0.3)	0.0	(0.3)	(0.5)	0.0	(0.5)	
Corporate Debt	(0.1)	0.0	(0.1)	(0.0)	0.0	(0.0)	} Limited hedging
Corporate Equity	0.0	0.0	0.0	(0.3)	0.0	(0.3)	
Total	(1.4)	0.4	(1.0)	(0.9)	(0.5)	(1.3)	

Commercial Real Estate – Market Context

Basis between Derivatives & CMBS BBB Bonds



Acquisition Finance

Key Hedging Characteristics

Guiding Principles

- ◆ As part of our Investment Banking business, we provide both High Grade and High Yield Acquisition Financing to our clients
- ◆ Acquisition Financing often involves creation of a new entity or significant changes to an existing entity; as a result, direct name-specific hedges usually do not exist
- ◆ We hedge our High Yield exposures, mostly by using macro/index hedges

Instruments Used

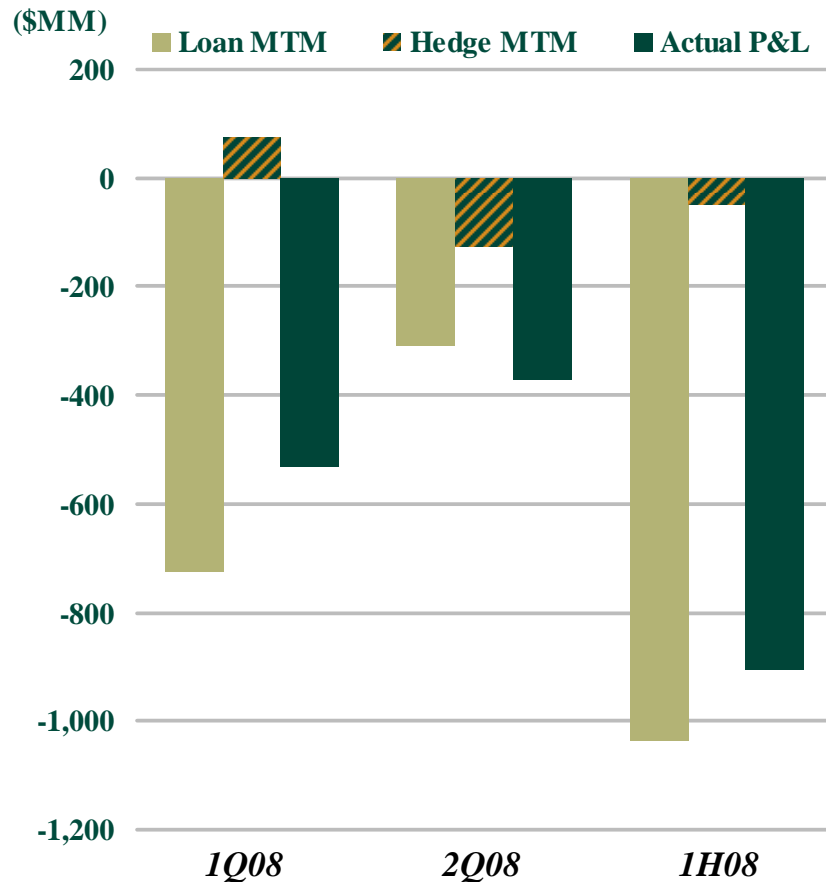
- ◆ Given low correlation between macro hedge and exposure, target 25% hedge ratio
- ◆ Most of the hedges are typically Corporate debt indices: CDX, LCDX, Bond Index
- ◆ Other macro hedges include Equity indices: SPDRS, Russell Index

Hedging Inefficiencies

- ◆ Significant basis risk between single name cash exposure and derivative index hedges
- ◆ Macro hedges are effective in a quick down turn, but over time the correlation breaks down and the time decay/negative carry takes affect

Acquisition Finance

1H08 Performance



- ◆ Hedges diverged in 2Q08: Liquid derivative index hedges vs. illiquid individual cash positions
 - Lost \$100MM on hedges in April
- ◆ In the new issue book, Hedges have made about \$100MM (life to date)
- ◆ High Grade Acquisition Finance is very different:
 - Short-dated loans with minimal volatility
 - Reserve all upfront fees

Syndicated Corporate Loans

Key Hedging Characteristics

Guiding Principles

- ◆ To facilitate our Investment Banking business, we constantly participate in the syndicated lending facilities of our Corporate Clients
- ◆ We use dynamic hedging to reduce earnings volatility related to mark to market changes, and to reduce the impact of defaults
- ◆ Current hedging approach has been in place since 2001; successfully protected Lehman from taking material losses in Enron, Worldcom, and other defaults

Instruments Used

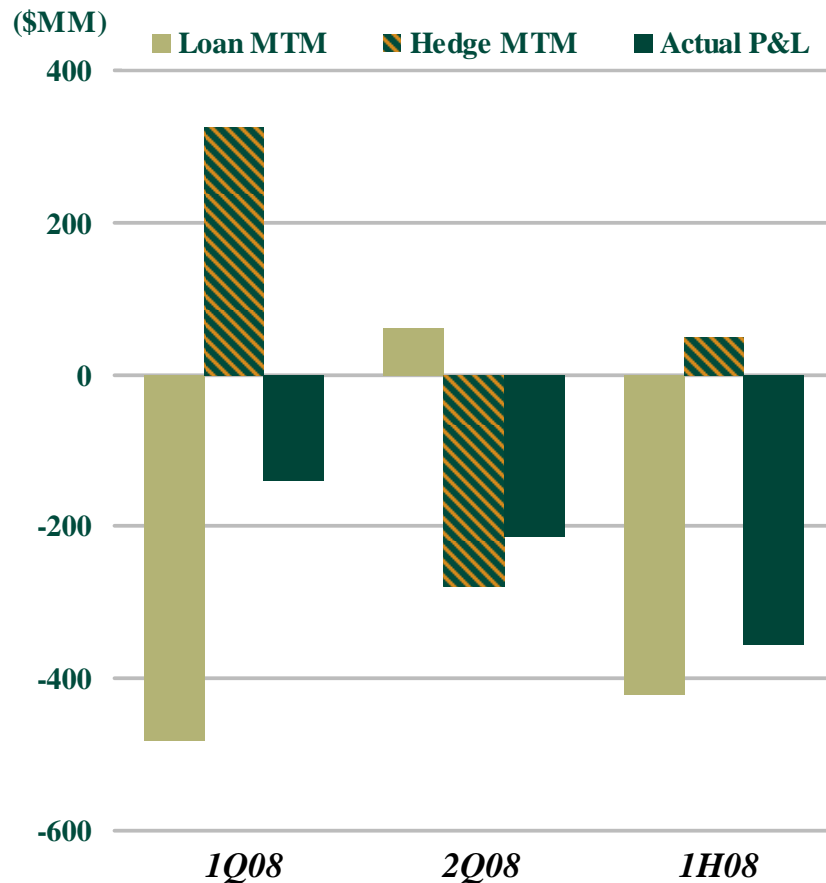
- ◆ Better able to hedge this portfolio given available instruments
- ◆ Bulk of hedges are single-name credit derivatives; currently have several hundred single name CDS hedges, representing most of the book
- ◆ Utilize CDX index and other macro hedges for those names where CDS doesn't exist
- ◆ Notional amount of hedges equal to ~55% of underlying exposure

Hedging Inefficiencies

- ◆ Index vs. Name basis risk on CDX hedges, although we match maturity and rating
- ◆ Different liquidity/technicals in credit derivative vs. cash loan market

Syndicated Corporate Loans

1H08 Performance



- ◆ Current hedging approach was put place in 2001. 2Q08 was the first quarter in which basis resulted in a material negative impact
- ◆ Of the Actual P&L for 2008, (\$225MM) is due to basis risk, while another (\$100MM) is Initial Mark to Market costs for the year, which are unhedgeable
- ◆ Derivative hedges rallied more aggressively than loan assets in 2Q08. Lesser movement in loans was due to:
 - Lower loan appetite from financial institutions dealing with their own capital issues
 - Slower pace to trade loans versus trading derivatives
 - Continued overhang of large acquisition loans
- ◆ Additionally, there was some basis risk due to secured loans being hedged by unsecured positions