

# Structured Product Details

Name	Reverse Exchangeable Notes linked to NYSE Euronext	
Issue Size	\$191,000	
Issue Price	\$1,000	
Term	6 Months	
Annualized Coupe	13.50%	
Pricing Date	April 25, 2008	
Issue Date	April 30, 2008	
Valuation Date	October 27, 2008	
Maturity Date	October 30, 2008	
Issuer	Lehman Brothers	
CDS Rate	302.44 bps	
Swap Rate	3.06%	
Reference Asset	NYSE Euronext's stock	
Initial Level Trigger Price Conversion Pric Dividend Rate Implied Volatil Delta <sup>1</sup>	1.50%	
Fair Price at Issue	\$943.49	
Maturity Payoff	\$0.00	
CUSIP SEC Link data/806	524935AT0 www.sec.gov/Archives/edgar/ 085/000119312508095383/d424b2.htm	

Structured Products Research Report

Report Prepared On: 01/11/13

# **Reverse Exchangeable Notes linked to NYSE Euronext**

# Description

Lehman Brothers issued \$191,000 of Reverse Exchangeable Notes linked to NYSE Euronext on April 30, 2008 at \$1,000 per note.

These notes are Lehman Brothers-branded reverse convertibles. Reverse convertibles pay periodic interest coupons and at maturity convert into shares of the reference security if the price of the reference stock at the notes' maturity is below its price when the notes were issued and had closed below a specified "trigger" during the term of the notes.

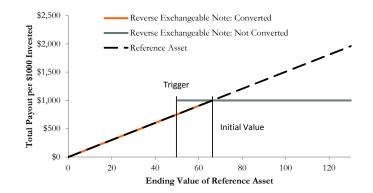
These 6-month notes pay monthly coupons at an annualized rate of 13.50%. In addition to the monthly coupons, at maturity on October 30, 2008 investors will receive the market value of 15.07 shares of NYSE Euronext's stock if on October 27, 2008 NYSE Euronext's stock price closes below \$66.35 (NYSE Euronext's stock price on April 25, 2008) and had ever closed at or below \$49.76 during the term of the notes. Otherwise, investors will receive the \$1,000 face value per note.

# Valuation

This Lehman Brothers reverse convertible linked to NYSE Euronext's stock can be valued as a combination of a note from Lehman Brothers and a short down-and-in, at-the-money put option on NYSE Euronext's stock. For reasonable valuation inputs this note was worth \$943.49 per \$1,000 when it was issued on April 30, 2008 because investors were effectively being paid only \$36.07 for giving Lehman Brothers an option which was worth \$92.57.

There is no active secondary market for most structured products. Structured products, including this note, therefore are much less liquid than simple stocks, bonds, notes and mutual funds. Investors are likely to receive less than the structured product's estimated market value if they try to sell the structured product prior to maturity. Our valuations do not incorporate this relative lack of liquidity and therefore should be considered an upper bound on the value of the structured product.

# Payoff Curve at Maturity



The payoff diagram shows the final payoff of this note given NYSE Euronext's stock price (borizontal axis). For comparison, the dashed line shows the payoff if you invested in NYSE Euronext's stock directly.

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**Related Research** 

### **Research Papers:**

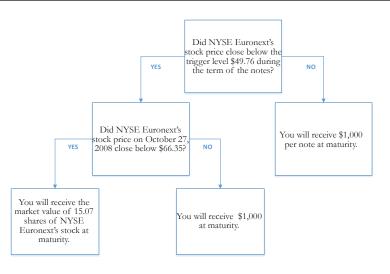
www.slcg.com/research.php

- "Are Structured Products Suitable for Retail Investors?" December 2006.
- *"Structured Products in the Aftermath of Lehman Brothers,"* November 2009.
- "What TiVo and JP Morgan Teach Us about Reverse Convertibles," June 2010.

## Principal Payback Table

NYSE Euronext's Stock	Converted Note Payoff	Non-Con- verted Note Payoff
\$0.00	\$0.00	
\$6.64	\$100.00	
\$13.27	\$200.00	
\$19.91	\$300.00	
\$26.54	\$400.00	
\$33.18	\$500.00	
\$39.81	\$600.00	
\$46.45	\$700.00	
\$53.08	\$800.00	\$1,000.00
\$59.72	\$900.00	\$1,000.00
\$66.35	\$1,000.00	\$1,000.00
\$72.99	\$1,000.00	\$1,000.00
\$79.62	\$1,000.00	\$1,000.00
\$86.26	\$1,000.00	\$1,000.00
\$92.89	\$1,000.00	\$1,000.00
\$99.53	\$1,000.00	\$1,000.00

#### Maturity Payoff Diagram



The contingent payoffs of this Reverse Exchangeable Note.

# Analysis

This reverse convertible's 13.50% coupon rate is higher than the yield Lehman Brothers paid on its straight debt but, in addition to Lehman Brothers's credit risk, investors bear the risk that they will receive shares of NYSE Euronext's stock when they are worth sub-stantially less than the face value of the note at maturity.

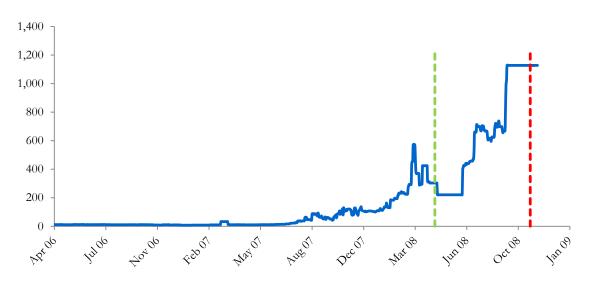
Investors purchasing reverse convertibles effectively sell put options to Lehman Brothers and post the note's issue price as collateral to secure satisfaction of the investors' obligations under the option contracts. Lehman Brothers pays investors a "coupon" that is part payment for the put options and part interest on the investors' posted collateral. This reverse convertible is fairly priced if and only if the excess of the reverse convertible's "coupon rate" above the interest Lehman Brothers pays on its straight debt equals the value of the put option investors are giving to Lehman Brothers. Whether the reverse convertible is suitable or not is equivalent to whether selling put options on the reference stock at the option premium being paid by Lehman Brothers was suitable for the investor.

#### Lehman Brothers's Stock Price

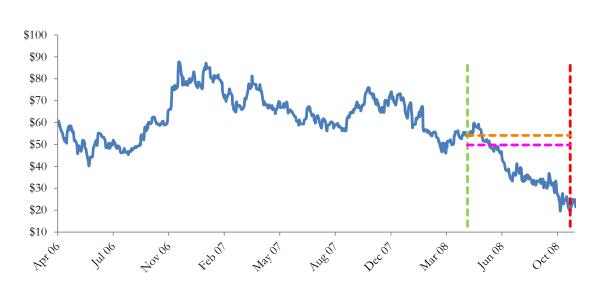


The graph above shows the adjusted closing price of the issuer Lehman Brothers for the past several years. The stock price of the issuer is an indication of the financial strength of Lehman Brothers. The adjusted price shown above incorporates any stock split, reverse stock split, etc.

## Lehman Brothers's CDS Rate



Credit default swap (CDS) rates are the market price that investors require to bear credit risk of an issuer such as Lehman Brothers. CDS rates are usually given in basis points (bps). One basis point equals 0.01%. Higher CDS rates reflect higher perceived credit risk, higher required yields, and therefore lower market value of Lehman Brothers's debt, including outstanding Reverse Exchangeable Note. Fluctuations in Lehman Brothers's CDS rate impact the market value of the notes in the secondary market.



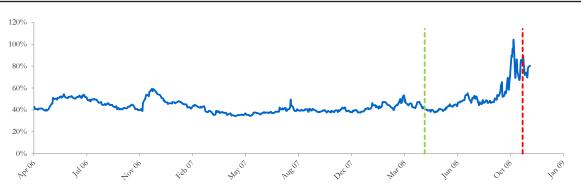
#### NYSE Euronext's Stock Price

The graph above shows the historical levels of NYSE Euronext's stock for the past several years. The final payoff of this note is determined by NYSE Euronext's stock price at maturity. Higher fluctuations in NYSE Euronext's stock price correspond to a greater uncertainty in the final payout of this Reverse Exchangeable Note.

## **Realized Payoff**

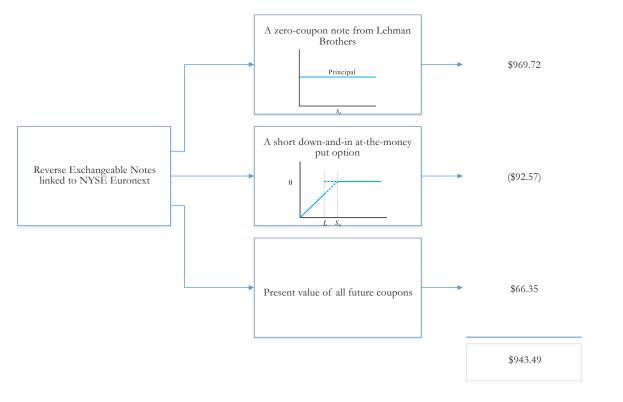
Lehman Brother filed for Chapter 11 bankruptcy protection on September 15, 2008. The notes paid nothing when it maturied on October 30, 2008.

## Reference Asset NYSE Euronext's Stock's Implied Volatility



The annualized implied volatility of NYSE Euronext's stock on April 25, 2008 was 41.03%, meaning that options contracts on NYSE Euronext's stock were trading at prices that reflect an expected annual volatility of 41.03%. The higher the implied volatility, the larger the expected fluctuations of NYSE Euronext's stock price and of the Note's market value during the life of the Notes.

#### Decomposition of this Reverse Exchangeable Note



This note can be decomposed into different components, and each component can be valued separately. The chart above shows the value of each component of this Reverse Exchangeable Note.

- Delta measures the sensitivity of the price of the note to the NYSE Euronext's stock price on April 25, 2008.
  CDS rates can be considered a measure of the probability that an issuer will default over a certain period of time and the likely loss given a default. The lower the CDS rate, the lower the default probability. CDS rate is given in basis points (1 basis point equals 0.01%), and is considered as a market premium, on top of the risk-free rate, that investors require to insure against a potential default.
  Fair price evaluation is based on the Black-Scholes model of the NYSE Euronext's stock on April 25, 2008.
  Calculated payout at maturity is only an approximation, and may differ from actual payouts at maturity.
  Our evaluation does not include any transaction fees, broker commissions, or liquidity discounts on the notes.

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