

# Structured Product Details

Name	Reverse Exchangeable Notes linked to Ternium S.A.
Issue Size	\$1.00 million
Issue Price	\$1,000
Term	6 Months
Annualized Coupe	14.55%
Pricing Date	August 22, 2007
Issue Date	August 27, 2007
Valuation Date	February 22, 2008
Maturity Date	February 27, 2008
Issuer	Lehman Brothers
CDS Rate	47.01 bps
Swap Rate	5.30%
Reference Asset	Ternium S.A.'s stock
Initial Level Trigger Price Conversion Pric Dividend Rate Implied Volatili Delta <sup>1</sup>	1.76%
Fair Price at Issue	\$936.55
Realized Return	15.43%
CUSIP 524908L57 SEC Link 5207/Archives/edgar/ data/806085/000119312507188697/d424b2.htm	

Structured Products Research Report

Report Prepared On: 12/05/12

# Reverse Exchangeable Notes linked to Ternium S.A.

# Description

Lehman Brothers issued \$1.00 million of Reverse Exchangeable Notes linked to Ternium S.A. on August 27, 2007 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.

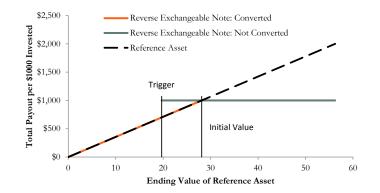
These 6-month notes pay monthly coupons at an annualized rate of 14.55%. In addition to the monthly coupons, at maturity on February 27, 2008 investors will receive the market value of 35.56 shares of Ternium S.A.'s stock if on February 22, 2008 Ternium S.A.'s stock price closes below \$28.12 (Ternium S.A.'s stock price on August 22, 2007) and had ever closed at or below \$19.68 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 Ternium S.A.'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 Ternium S.A.'s stock. For reasonable valuation inputs this note was worth \$936.55 per \$1,000 when it was issued on August 27, 2007 because investors were effectively being paid only \$43.08 for giving Lehman Brothers an option which was worth \$106.54.

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 Ternium S.A.'s stock price (borizontal axis). For comparison, the dashed line shows the payoff if you invested in Ternium S.A.'s stock directly.

Geng Deng, Ph.D., FRM Director, SLCG (+1) 703.890.0741 GengDeng@slcg.com

> FIND SLCG STRUCTURED PRODUCTS RESEARCH AT www.SLCG.com

© 2012 SECURITIES LITIGATION & CONSULTING GROUP. ALL RIGHTS RESERVED. 3998 FAIR RIDGE DRIVE, SUITE 250, FAIRFAX, VA 22033 | MAIN (703) 246-9380 | INFO@SLCG.COM 100 WILSHIRE BLVD, SUITE 950, SANTA MONICA, CA 90401 | MAIN (310) 917-1075

**Related Research** 

### **Research Papers:**

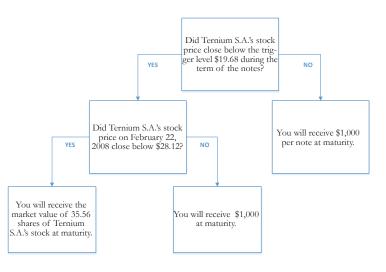
www.slcg.com/research.php

- "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

Ternium S.A.'s Stock	Converted Note Payoff	Non-Con- verted Note Payoff
\$0.00	\$0.00	
\$2.81	\$100.00	
\$5.62	\$200.00	
\$8.44	\$300.00	
\$11.25	\$400.00	
\$14.06	\$500.00	
\$16.87	\$600.00	
\$19.68	\$700.00	\$1,000.00
\$22.50	\$800.00	\$1,000.00
\$25.31	\$900.00	\$1,000.00
\$28.12	\$1,000.00	\$1,000.00
\$30.93	\$1,000.00	\$1,000.00
\$33.74	\$1,000.00	\$1,000.00
\$36.56	\$1,000.00	\$1,000.00
\$39.37	\$1,000.00	\$1,000.00
\$42.18	\$1,000.00	\$1,000.00

## Maturity Payoff Diagram



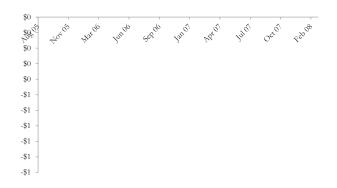
The contingent payoffs of this Reverse Exchangeable Note.

# Analysis

This reverse convertible's 14.55% 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 Ternium S.A.'s stock when they are worth substantially less than the face value of the note at maturity.

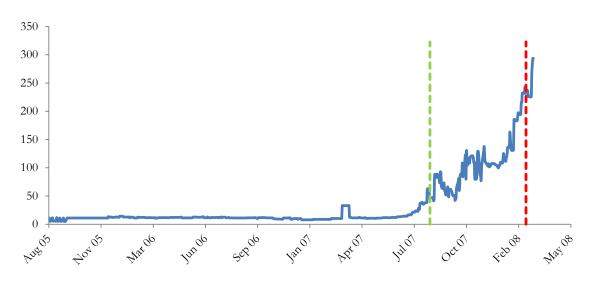
Investors purchasing reverse convertibles effectively sell put options to Lehman Brothers and post the note's issue price as collateral to secure satisfaction of the investors' obligations under the option contracts. Lehman Brothers pays investors a "coupon" that is part payment for the put options and 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

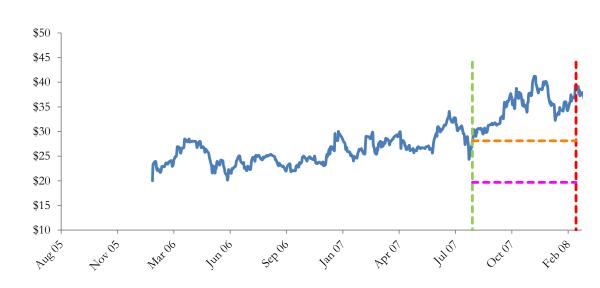


The graph above shows the adjusted closing price of the issuer Lehman Brothers for the past several years. The stock price of the issuer is an indication of the financial strength of Lehman Brothers. The adjusted price shown above incorporates any stock split, reverse stock split, etc.

## 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.



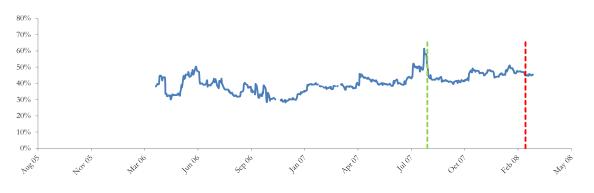
#### Ternium S.A.'s Stock Price

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

### **Realized Payoff**

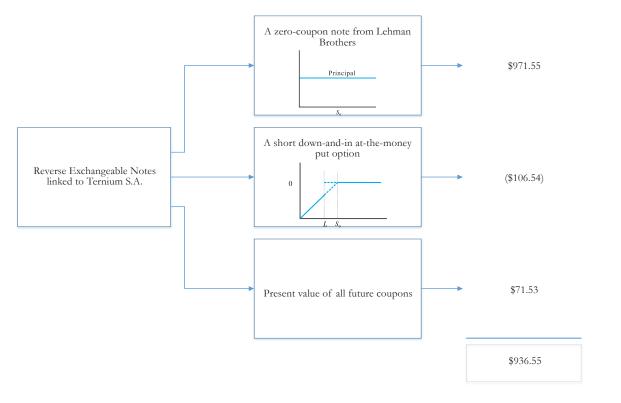
This note matured on February 27, 2008 and investors received \$1,000.00 per note.

# Reference Asset Ternium S.A.'s Stock's Implied Volatility



The annualized implied volatility of Ternium S.A.'s stock on August 22, 2007 was 49.99%, meaning that options contracts on Ternium S.A.'s stock were trading at prices that reflect .... expected annual volatility of 49.99%. The higher the implied volatility, the larger the expected fluctuations of Ternium S.A.'s stock were trading at prices that reflect an expected annual volatility of 49.99%. The higher the implied volatility, the larger the expected fluctuations of Ternium S.A.'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 Ternium S.A.'s stock price on August 22, 2007.
  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 Ternium S.A.'s stock on August 22, 2007.
  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.

©2012 Securities Litigation and Consulting Group. All Rights Reserved. This research report and its contents are for informational and educational purposes only. The views and opinions on this document are those of the authors and should not be considered investment advice. Decisions based on information obtained from this document are your sole responsibility, and before making any decision on the basis of this information, you should consider whether the information is appropriate in light of your particular investment needs, objectives and financial circumstances. Investors should seek financial advice regarding the suitability of investing in any securities or following any investment strategies.