

## Structured Product Details

Name Leveraged Buffered Equity Index-Linked Notes linked to Financial Select Sector SPDR Fund **Issue Size** \$13.10 million **Issue Price** \$1,000 25 Months Term Annualized Coupon 0.00% Pricing Date July 22, 2008 Issue Date August 5, 2008 Valuation Date August 23, 2010 Maturity Date September 7, 2010 Goldman Sachs 138.72 bps Issuer CDS Rate 3.68% Swap Rate **Reference Asset** Financial Select Sector SPDR Fund Initial Level \$209.53 3.99% **Dividend Rate** 35.10% Implied Volatility Delta1 0.74 Fair Price at Issue \$920.60 **Realized Return** -70.65% CUSIP 38145E717 SEC Link www.sec.gov/Archives/edgar/ data/886982/000119312508157152/d424b2.htm

Report Prepared On: 08/02/13

# Leveraged Buffered Equity Index-Linked Notes linked to Financial Select Sector SPDR Fund

Structured Products Research Report

# Description

Goldman Sachs issued \$13.10 million of Leveraged Buffered Equity Index-Linked Notes linked to Financial Select Sector SPDR Fund on August 5, 2008 at \$1,000 per note.

These notes are Goldman Sachs-branded Buffered PLUS securities that do not pay periodic coupons, but instead pay a single amount at maturity depending on the final level of Financial Select Sector SPDR Fund.

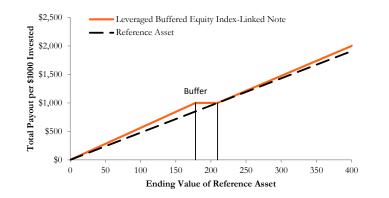
If on August 23, 2010 Financial Select Sector SPDR Fund's share price is higher than \$209.53, but lower than \$404.39, the notes pay a return equal to the percentage increase in Financial Select Sector SPDR Fund multiplied by 1.1, up to a cap of 102.30%. If on August 23, 2010 the refe is below \$209.53 but not below \$178.10, investors receive \$1,000 face value per note. If Financial Select Sector SPDR Fund's share price on August 23, 2010 is lower than \$178.10, investors receive face value per note reduced by 1.18 times the amount the reference asset is below \$178.10 as a percent of the initial level, \$209.53.

## Valuation

This product can be valued as a combination of a note from Goldman Sachs, 1.18 short out-of-the-money put options, 1.1 long at-the-money call options, and 1.1 short out-of-the-money call options. For reasonable valuation inputs this note was worth \$920.60 when it was issued on August 5, 2008 because the value of the options investors gave Goldman Sachs plus the interest investors would have received on Goldman Sachs's straight debt was worth \$79.40 more than the options investors received from Goldman Sachs.

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 Financial Select Sector SPDR Fund's share price (horizontal axis). For comparison, the dashed line shows the payoff if you invested in Financial Select Sector SPDR Fund directly.

# 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.

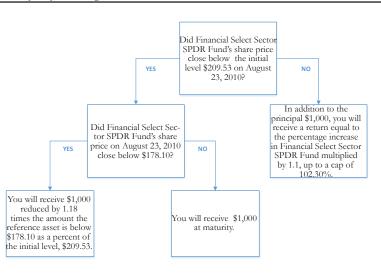
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### Principal Payback Table

Financial Select Sector SPDR Fund	Note Payoff
\$0.00	\$0.00
\$20.95	\$117.63
\$41.91	\$235.28
\$62.86	\$352.93
\$83.81	\$470.58
\$104.77	\$588.23
\$125.72	\$705.88
\$146.67	\$823.53
\$167.62	\$941.18
\$188.58	\$1,000.00
\$209.53	\$1,000.00
\$230.48	\$1,110.00
\$251.44	\$1,220.00
\$272.39	\$1,330.00
\$293.34	\$1,440.00
\$314.30	\$1,550.00

### Maturity Payoff Diagram

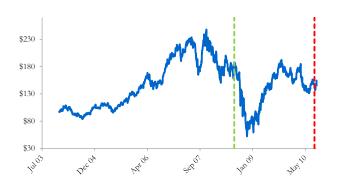


The contingent payoffs of this Leveraged Buffered Equity Index-Linked Note.

## Analysis

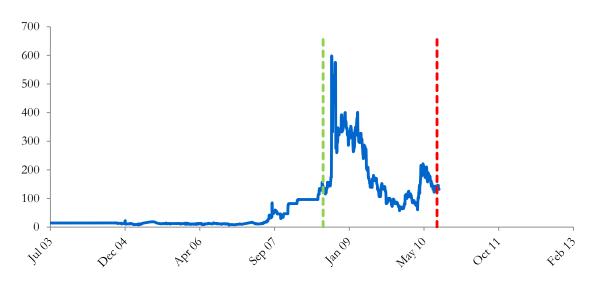
This Leveraged Buffered Equity Index-Linked Note pays investors the increase in Financial Select Sector SPDR Fund multiplied by 1.1 capped at 102.30%, but if Financial Select Sector SPDR Fund declines over the term of the note, investors will suffer losses equal to the percentage decline in Financial Select Sector SPDR Fund. In addition, investors bear the credit risk of Goldman Sachs. Investors purchasing this Leveraged Buffered Equity Index-Linked Note effectively sell at-the-money put and out-of-the-money call options to Goldman Sachs, buy at-the-money call options, and a zero-coupon note from Goldman Sachs. This Leveraged Buffered Equity Index-Linked Note is fairly priced if and only if the market value of the options investors received from Goldman Sachs equals the market value of the options investors gave Goldman Sachs plus the interest investors would have received on Goldman Sachs's straight debt.

#### **Goldman Sachs's Stock Price**

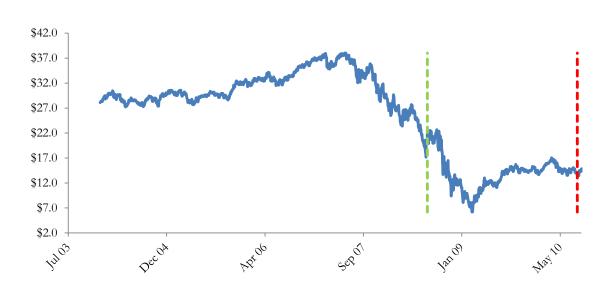


The graph above shows the adjusted closing price of the issuer Goldman Sachs for the past several years. The stock price of the issuer is an indication of the financial strength of Goldman Sachs. The adjusted price shown above incorporates any stock split, reverse stock split, etc.

### Goldman Sachs's CDS Rate



Credit default swap (CDS) rates are the market price that investors require to bear credit risk of an issuer such as Goldman Sachs. 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 Goldman Sachs's debt, including outstanding Leveraged Buffered Equity Index-Linked Note. Fluctuations in Goldman Sachs's CDS rate impact the market value of the notes in the secondary market.



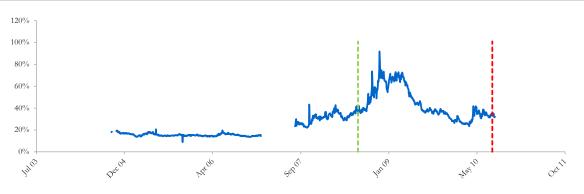
#### Financial Select Sector SPDR Fund's Share Price

The graph above shows the bistorical levels of Financial Select Sector SPDR Fund for the past several years. The final payoff of this note is determined by Financial Select Sector SPDR Fund's share price at maturity. Higher fluctuations in Financial Select Sector SPDR Fund's share price correspond to a greater uncertainty in the final payout of this Leveraged Buffered Equity Index-Linked Note.

### **Realized Payoff**

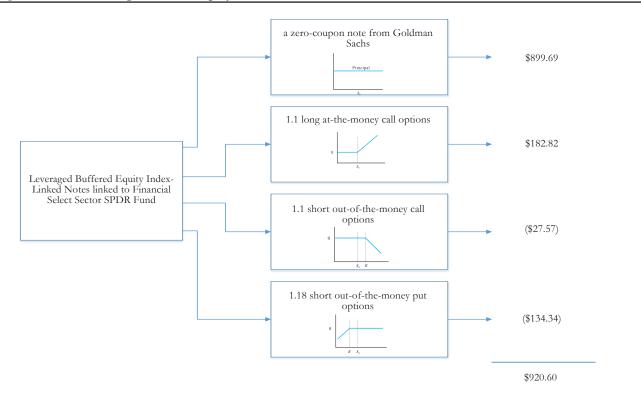
This note matured on September 7, 2010 and investors received \$77.12 per note.





The annualized implied volatility of Financial Select Sector SPDR Fund on July 22, 2008 was 35.10%, meaning that options contracts on Financial Select Sector SPDR Fund were trading at prices that reflect an expected annual volatility of 35.10%. The higher the implied volatility, the larger the expected fluctuations of Financial Select Sector SPDR Fund's share price and of the Note's market value during the life of the Notes.

### Decomposition of this Leveraged Buffered Equity Index-Linked 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 Leveraged Buffered Equity Index-Linked Note.

Delta measures the sensitivity of the price of the note to the Financial Select Sector SPDR Fund's share price on July 22, 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 Financial Select Sector SPDR Fund on July 22, 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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