# Structured Products Research Report

Report Prepared On: 08/02/13

### **Structured Product Details**

Name Plus linked to S&P 500 Index

Issue Size	\$11.16 million
Issue Price	\$10
Term	13 Months
Annualized Coupon	0.00%
Pricing Date	April 23, 2009
Issue Date	April 30, 2009
Valuation Date	May 25, 2010
Maturity Date	May 28, 2010
Issuer	Barclays
CDS Rate	205.13 bps
Swap Rate	1.91%

Initial Level	851.92
Dividend Rate	3.30%
Implied Volatility	34.37%
Delta <sup>1</sup>	0.73

Fair Price at Issue	\$9.09
Realized Return	27.87%

CUSIP	06740C410
SEC Link	www.sec.gov/Archives/edgar/ data/312070/000119312509088534/d424b2.htm

### 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.

## Plus linked to S&P 500 Index

## Description

Barclays issued \$11.16 million of Plus linked to S&P 500 Index on April 30, 2009 at \$10 per note.

These notes are Barclays-branded PLUS securities that do not pay periodic coupons, but instead pay a single amount at maturity depending on the S&P 500 Index level at maturity.

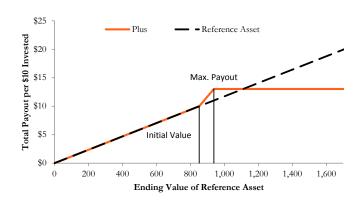
If the S&P 500 Index level on May 25, 2010 is higher than 851.92, but lower than 937.96, the notes pay a return equal to the percentage increase in the S&P 500 Index multiplied by 3.0. If on May 25, 2010 the S&P 500 Index level is above the 937.96, the notes pay the maximum payout of \$13.03. If on May 25, 2010 the S&P 500 Index level is below 851.92, investors receive the face value per note reduced by the percentage decline in the reference asset. The notes will pay nothing at maturity if the reference asset declines to zero.

### **Valuation**

This note can be valued as a combination of a note from Barclays, a short at-the-money put option, three long at-the-money call options, and three short out-of-the-money call options. The short at-the-money put option exposes investors to any decline in the S&P 500 Index. The three short out-of-the-money call options has the strike price of 937.96, and limits the maximum return of the notes beyond the cap level. For reasonable valuation inputs this note was worth \$9.09 when it was issued on April 30, 2009 because the value of the options investors gave Barclays plus the interest investors would have received on Barclays's straight debt was worth \$0.91 more than the call options investors received from Barclays.

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 the S&P 500 Index level (horizontal axis). For comparison, the dashed line shows the payoff if you invested in the S&P 500 Index directly.

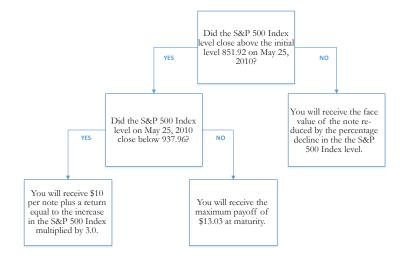
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### Principal Payback Table

The S&P 500 Index	Note Payoff
0.00	\$0.00
85.19	\$1.00
170.38	\$2.00
255.58	\$3.00
340.77	\$4.00
425.96	\$5.00
511.15	\$6.00
596.34	\$7.00
681.54	\$8.00
766.73	\$9.00
851.92	\$10.00
937.11	\$13.00
1,022.30	\$13.03
1,107.50	\$13.03
1,192.69	\$13.03
1,277.88	\$13.03

#### Maturity Payoff Diagram

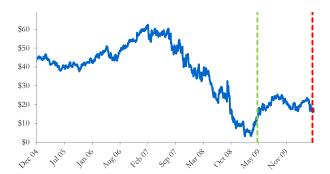


The contingent payoffs of this Plus.

## **Analysis**

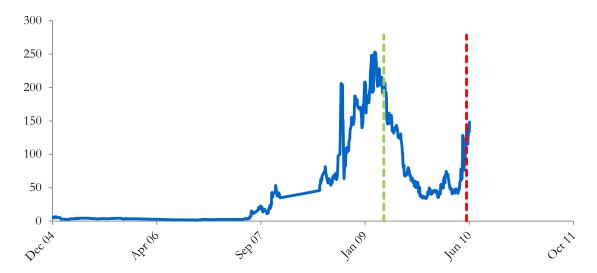
This Plus pays investors the increase in the S&P 500 Index multiplied by 3.0 capped at 30.30%, but if the S&P 500 Index declines over the term of the note, investors will suffer losses equal to the percentage decline in the S&P 500 Index. In addition, investors bear the credit risk of Barclays. Investors purchasing this Plus effectively sell at-the-money put and out-of-the-money call options to Barclays, buy at-the-money call options, and a zero-coupon note from Barclays. This Plus is fairly priced if and only if the market value of the options investors received from Barclays equals the market value of the options investors gave Barclays plus the interest investors would have received on Barclays's straight debt.

#### Barclays's Stock Price



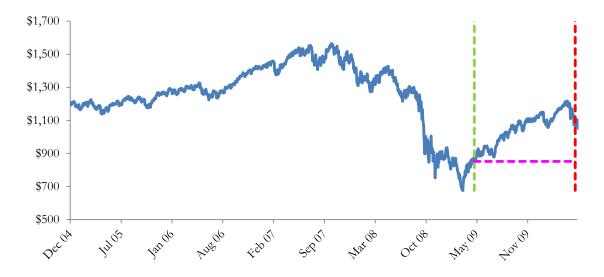
The graph above shows the adjusted closing price of the issuer Barclays for the past several years. The stock price of the issuer is an indication of the financial strength of Barclays. The adjusted price shown above incorporates any stock split, reverse stock split, etc.

### Barclays's CDS Rate



Credit default swap (CDS) rates are the market price that investors require to bear credit risk of an issuer such as Barclays. 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 Barclays's debt, including outstanding Plus. Fluctuations in Barclays's CDS rate impact the market value of the notes in the secondary market.

#### The S&P 500 Index Level

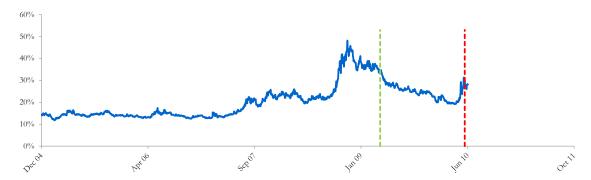


The graph above shows the historical levels of the S&P 500 Index for the past several years. The final payoff of this note is determined by the S&P 500 Index level at maturity. Higher fluctuations in the S&P 500 Index level correspond to a greater uncertainty in the final payout of this Plus.

#### Realized Payoff

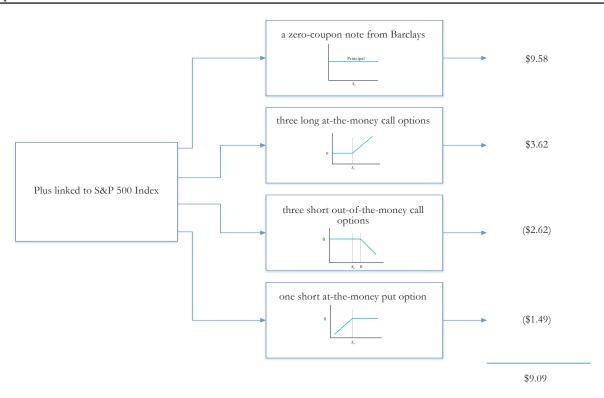
This note matured on May 28, 2010 and investors received \$13.03 per note.

### Reference Asset The S&P 500 Index's Implied Volatility



The annualized implied volatility of the S&P 500 Index on April 23, 2009 was 34.37%, meaning that options contracts on the S&P 500 Index were trading at prices that reflect an expected annual volatility of 34.37%. The higher the implied volatility, the larger the expected fluctuations of the S&P 500 Index level and of the Note's market value during the life of the Notes.

#### Decomposition of this Plus



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 Plus.

- Delta measures the sensitivity of the price of the note to the the S&P 500 Index level on April 23, 2009.
  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 the S&P 500 Index on April 23, 2009.
  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.