

**Structured Product Details** 

Name Capped Buffered Underlying Securities (BUyS) linked to Vanguard Emerging Markets ETF

Pricing Date August 1, 2013
Issue Date August 6, 2013
Valuation Date February 2, 2015
Maturity Date February 5, 2015

IssuerDeutsche BankCDS Rate21.55 bpsSwap Rate0.58%

Reference Asset Vanguard Emerging Markets ETF's stock
Initial Level \$39.78
Dividend Rate Implied Volatility
Delta¹ 0.61

Fair Price at Issue \$952.82

CUSIP 25152REB5 SEC Link www.sec.gov/Archives/edgar/ data/1159508/000095010313004757/ dp39975\_424b2-ps1807af.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.

Capped Buffered Underlying Securities (BUyS) linked to Vanguard Emerging Markets ETF

# Description

Report Prepared On: 08/26/14

Deutsche Bank issued \$1.00 million of Capped Buffered Underlying Securities (BUyS) linked to Vanguard Emerging Markets ETF on August 6, 2013 at \$1,000 per note.

These notes are Deutsche Bank-branded Buffered PLUS securities that do not pay periodic coupons, but instead pay a single amount at maturity depending on the final level of Vanguard Emerging Markets ETF's stock.

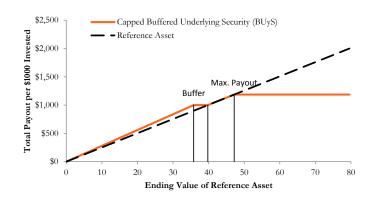
If on February 2, 2015 Vanguard Emerging Markets ETF's stock price is higher than \$39.78, but lower than \$47.18, the notes pay a return equal to the percentage increase in Vanguard Emerging Markets ETF's stock, up to a cap of 18.60%. If on February 2, 2015 the refe is below \$39.78 but not below \$35.80, investors receive \$1,000 face value per note. If Vanguard Emerging Markets ETF's stock price on February 2, 2015 is lower than \$35.80, investors receive face value per note reduced by 1.11 times the amount the reference asset is below \$35.80 as a percent of the initial level, \$39.78.

## **Valuation**

This product can be valued as a combination of a note from Deutsche Bank, 1.11 short out-of-the-money put options, one long at-the-money call option, and one short out-of-the-money call option. For reasonable valuation inputs this note was worth \$952.82 when it was issued on August 6, 2013 because the value of the options investors gave Deutsche Bank plus the interest investors would have received on Deutsche Bank's straight debt was worth \$47.18 more than the options investors received from Deutsche Bank.

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



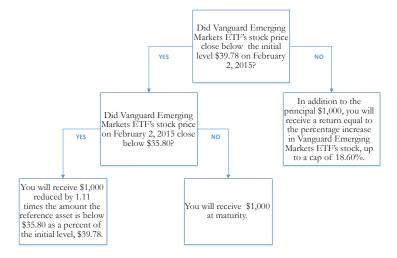
The payoff diagram shows the final payoff of this note given Vanguard Emerging Markets ETF's stock price (horizontal axis). For comparison, the dashed line shows the payoff if you invested in Vanguard Emerging Markets ETF's stock directly.

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#### Principal Payback Table

Vanguard Emerg- ing Markets ETF's Stock	Note Payoff
\$0.00	\$0.01
\$3.98	\$111.12
\$7.96	\$222.23
\$11.93	\$333.34
\$15.91	\$444.45
\$19.89	\$555.56
\$23.87	\$666.67
\$27.85	\$777.78
\$31.82	\$888.89
\$35.80	\$1,000.00
\$39.78	\$1,000.00
\$43.76	\$1,100.00
\$47.74	\$1,186.00
\$51.71	\$1,186.00
\$55.69	\$1,186.00
\$59.67	\$1,186.00

## Maturity Payoff Diagram

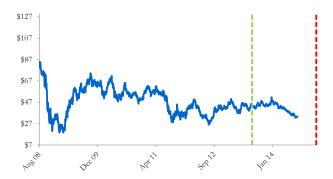


The contingent payoffs of this Capped Buffered Underlying Security (BUyS).

## **Analysis**

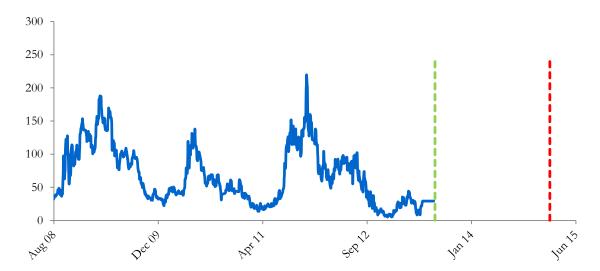
This Capped Buffered Underlying Security (BUyS) pays investors the increase in Vanguard Emerging Markets ETF's stock capped at 18.60%, but if Vanguard Emerging Markets ETF's stock declines over the term of the note, investors will suffer losses equal to the percentage decline in Vanguard Emerging Markets ETF's stock. In addition, investors bear the credit risk of Deutsche Bank. Investors purchasing this Capped Buffered Underlying Security (BUyS) effectively sell at-the-money put and out-of-the-money call options to Deutsche Bank, buy at-the-money call options, and a zero-coupon note from Deutsche Bank. This Capped Buffered Underlying Security (BUyS) is fairly priced if and only if the market value of the options investors received from Deutsche Bank equals the market value of the options investors gave Deutsche Bank plus the interest investors would have received on Deutsche Bank's straight debt.

## Deutsche Bank's Stock Price



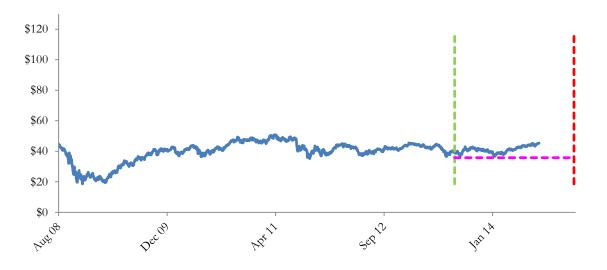
The graph above shows the adjusted closing price of the issuer Deutsche Bank for the past several years. The stock price of the issuer is an indication of the financial strength of Deutsche Bank. The adjusted price shown above incorporates any stock split, reverse stock split, etc.

## Deutsche Bank's CDS Rate



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

## Vanguard Emerging Markets ETF's Stock Price

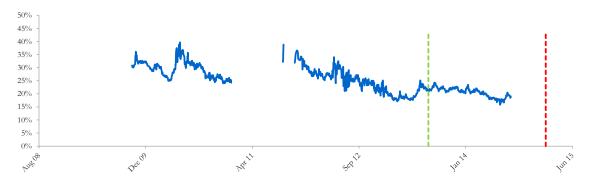


The graph above shows the historical levels of Vanguard Emerging Markets ETF's stock for the past several years. The final payoff of this note is determined by Vanguard Emerging Markets ETF's stock price correspond to a greater uncertainty in the final payout of this Capped Buffered Underlying Security (BUyS).

## Realized Payoff

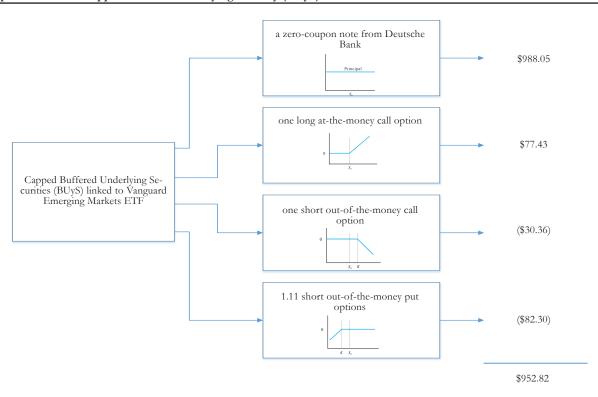
This product will mature on February 5, 2015.

## Reference Asset Vanguard Emerging Markets ETF's Stock's Implied Volatility



The annualized implied volatility of Vanguard Emerging Markets ETF's stock on August 1, 2013 was 21.55%, meaning that options contracts on Vanguard Emerging Markets ETF's stock were trading at prices that reflect an expected annual volatility of 21.55%. The higher the implied volatility, the larger the expected fluctuations of Vanguard Emerging Markets ETF's stock price and of the Note's market value during the life of the Notes.

## Decomposition of this Capped Buffered Underlying Security (BUyS)



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 Capped Buffered Underlying Security (BUyS).

- Delta measures the sensitivity of the price of the note to the Vanguard Emerging Markets ETF's stock price on August 1, 2013.
   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 Vanguard Emerging Markets ETF's stock on August 1, 2013.
   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.