

## Structured Product Details

Name Capped Bufferedderlying Securities (BUyS) linked to NIKKEI 225 Index

Pricing Date February 20, 2014
Issue Date February 25, 2014
Valuation Date February 20, 2018
Maturity Date February 23, 2018

IssuerDeutsche BankCDS Rate63.62 bpsSwap Rate1.25%

Reference Asset the NIKKEI 225 Index

Initial Level14,449.18Dividend Rate1.53%Implied Volatility20.12%Delta¹0.59

Fair Price at Issue \$951.81

CUSIP 25152RHZ9
SEC Link www.sec.gov/Archives/edgar/
data/1159508/000095010314001287/

dp44196\_424b2-1955af.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 Bufferedderlying Securities (BUyS) linked to NIKKEI 225 Index

# Description

Report Prepared On: 08/26/14

Deutsche Bank issued \$1.00 million of Capped Bufferedderlying Securities (BUyS) linked to NIKKEI 225 Index on February 25, 2014 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 the NIKKEI 225 Index.

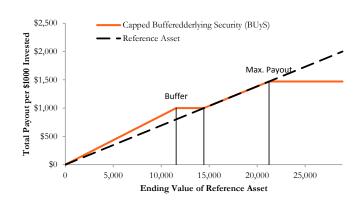
If on February 20, 2018 the NIKKEI 225 Index level is higher than 14,449.18, but lower than 21,240.29, the notes pay a return equal to the percentage increase in the NIKKEI 225 Index, up to a cap of 47.00%. If on February 20, 2018 the refe is below 14,449.18 but not below 11559.34, investors receive \$1,000 face value per note. If the NIKKEI 225 Index level on February 20, 2018 is lower than 11559.34, investors receive face value per note reduced by 1.25 times the amount the reference asset is below 11559.34 as a percent of the initial level, 14,449.18.

## Valuation

This product can be valued as a combination of a note from Deutsche Bank, 1.25 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 \$951.81 when it was issued on February 25, 2014 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 \$48.19 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



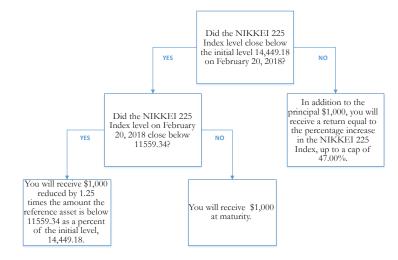
The payoff diagram shows the final payoff of this note given the NIKKEI 225 Index level (horizontal axis). For comparison, the dashed line shows the payoff if you invested in the NIKKEI 225 Index directly.

Tim Husson, Ph.D., Senior Financial Economist, SLCG (+1) 703.890.0743 TimHusson@slcg.com

## Principal Payback Table

The NIKKEI 225 Index	Note Payoff
0.00	\$0.00
1,444.92	\$125.00
2,889.84	\$250.00
4,334.75	\$375.00
5,779.67	\$500.00
7,224.59	\$625.00
8,669.51	\$750.00
10,114.43	\$875.00
11,559.34	\$1,000.00
13,004.26	\$1,000.00
14,449.18	\$1,000.00
15,894.10	\$1,100.00
17,339.02	\$1,200.00
18,783.93	\$1,300.00
20,228.85	\$1,400.00
21,673.77	\$1,470.00

## Maturity Payoff Diagram

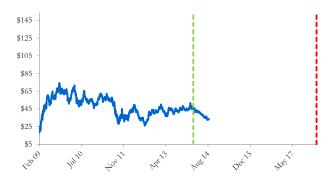


The contingent payoffs of this Capped Bufferedderlying Security (BUyS).

# **Analysis**

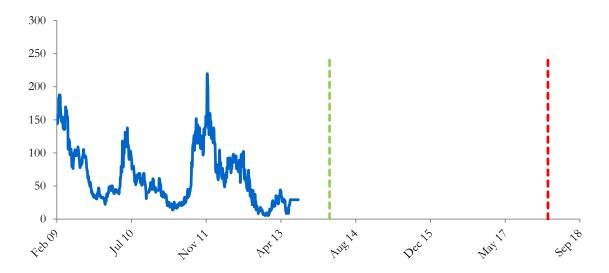
This Capped Bufferedderlying Security (BUyS) pays investors the increase in the NIKKEI 225 Index capped at 47.00%, but if the NIKKEI 225 Index declines over the term of the note, investors will suffer losses equal to the percentage decline in the NIKKEI 225 Index. In addition, investors bear the credit risk of Deutsche Bank. Investors purchasing this Capped Bufferedderlying Security (BUyS) effectively sell at-the-money put and out-of-themoney call options to Deutsche Bank, buy at-the-money call options, and a zero-coupon note from Deutsche Bank. This Capped Bufferedderlying 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



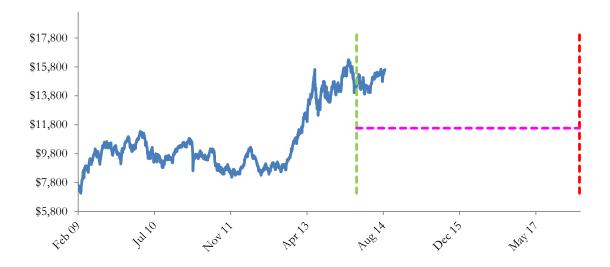
The graph above shows the adjusted closing price of the issuer Deutsche Bank for the past several years. The stock price of the issuer is an indication of the financial strength of Deutsche Bank. The adjusted price shown above incorporates any stock split, reverse stock split, etc.

## 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 Bufferedderlying Security (BUyS). Fluctuations in Deutsche Bank's CDS rate impact the market value of the notes in the secondary market.

## The NIKKEI 225 Index Level

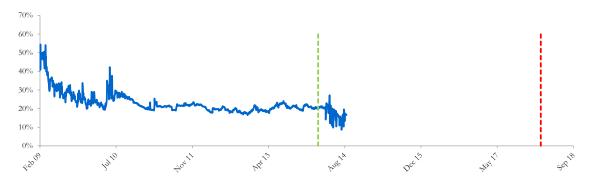


The graph above shows the historical levels of the NIKKEI 225 Index for the past several years. The final payoff of this note is determined by the NIKKEI 225 Index level at maturity. Higher fluctuations in the NIKKEI 225 Index level correspond to a greater uncertainty in the final payout of this Capped Bufferedderlying Security (BUyS).

## Realized Payoff

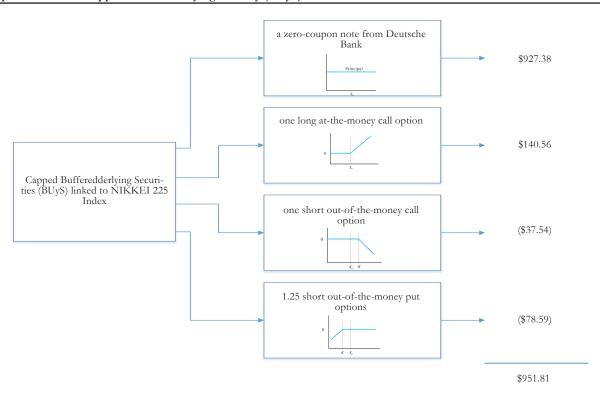
This product will mature on February 23, 2018.

## Reference Asset The NIKKEI 225 Index's Implied Volatility



The annualized implied volatility of the NIKKEI 225 Index on February 20, 2014 was 20.12%, meaning that options contracts on the NIKKEI 225 Index were trading at prices that reflect an expected annual volatility of 20.12%. The higher the implied volatility, the larger the expected fluctuations of the NIKKEI 225 Index level and of the Note's market value during the life of the Notes.

### Decomposition of this Capped Bufferedderlying 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 Bufferedderlying Security (BUyS).

- 1. Delta measures the sensitivity of the price of the note to the the NIKKEI 225 Index level on February 20, 2014.
  2. 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.
  3. Fair price evaluation is based on the Black-Scholes model of the the NIKKEI 225 Index on February 20, 2014.
  4. Calculated payout at maturity is only an approximation, and may differ from actual payouts at maturity.
  5. Our evaluation does not include any transaction fees, broker commissions, or liquidity discounts on the notes.