

Structured Product Details

Name Buffered Bullish Return Notes linked to iShares MSCI EAFE

Index Fund

Pricing DateJanuary 28, 2013Issue DateJanuary 31, 2013Valuation DateJanuary 27, 2015Maturity DateJanuary 30, 2015

IssuerBank of MontrealCDS Rate124.69 bpsSwap Rate0.44%

Reference Asset iShares MSCI EAFE Index
Fund
Initial Level \$58.74
Dividend Rate 2.95%
Implied Volatility 19.09%
Delta<sup>1</sup> 0.41

Fair Price at Issue \$976.70

CUSIP 06366RKZ7
SEC Link www.sec.gov/Archives/edgar/
data/927971/000121465913000423/
a129135424b2.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.

# Buffered Bullish Return Notes linked to iShares MSCI EAFE Index Fund

# Description

Report Prepared On: 04/29/13

Bank of Montreal issued \$1.94 million of Buffered Bullish Return Notes linked to iShares MSCI EAFE Index Fund on January 31, 2013 at \$1,000 per note.

These notes are Bank of Montreal-branded Buffered PLUS securities that do not pay periodic coupons, but instead pay a single amount at maturity depending on the final level of iShares MSCI EAFE Index Fund.

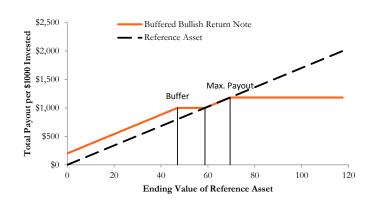
If on January 27, 2015 iShares MSCI EAFE Index Fund's share price is higher than \$58.74, but lower than \$69.46, the notes pay a return equal to the percentage increase in iShares MSCI EAFE Index Fund, up to a cap of 18.25%. If on January 27, 2015 the refe is below \$58.74 but not below \$46.99, investors receive \$1,000 face value per note. If iShares MSCI EAFE Index Fund's share price on January 27, 2015 is lower than \$46.99, investors receive face value per note reduced by the amount the reference asset is below \$46.99 as a percent of the initial level, \$58.74.

# **Valuation**

This product can be valued as a combination of a note from Bank of Montreal, one short out-of-the-money put option, one long at-the-money call option, and one short out-of-the-money call option. For reasonable valuation inputs this note was worth \$976.70 when it was issued on January 31, 2013 because the value of the options investors gave Bank of Montreal plus the interest investors would have received on Bank of Montreal's straight debt was worth \$23.30 more than the options investors received from Bank of Montreal.

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



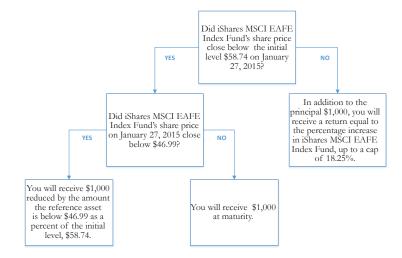
The payoff diagram shows the final payoff of this note given iShares MSCI EAFE Index Fund's share price (horizontal axis). For comparison, the dashed line shows the payoff if you invested in iShares MSCI EAFE Index Fund directly.

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

### Principal Payback Table

iShares MSCI EAFE Index Fund	Note Payoff
\$0.00	\$200.00
\$5.87	\$300.00
\$11.75	\$400.00
\$17.62	\$500.00
\$23.50	\$600.00
\$29.37	\$700.00
\$35.24	\$800.00
\$41.12	\$900.00
\$46.99	\$1,000.00
\$52.87	\$1,000.00
\$58.74	\$1,000.00
\$64.61	\$1,100.00
\$70.49	\$1,182.50
\$76.36	\$1,182.50
\$82.24	\$1,182.50
\$88.11	\$1,182.50

## Maturity Payoff Diagram

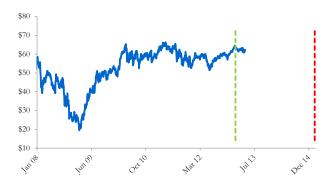


The contingent payoffs of this Buffered Bullish Return Note.

# **Analysis**

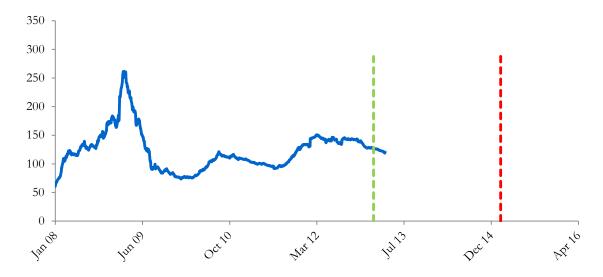
This Buffered Bullish Return Note pays investors the increase in iShares MSCI EAFE Index Fund capped at 18.25%, but if iShares MSCI EAFE Index Fund declines over the term of the note, investors will suffer losses equal to the percentage decline in iShares MSCI EAFE Index Fund. In addition, investors bear the credit risk of Bank of Montreal. Investors purchasing this Buffered Bullish Return Note effectively sell at-the-money put and out-of-the-money call options to Bank of Montreal, buy at-the-money call options, and a zero-coupon note from Bank of Montreal. This Buffered Bullish Return Note is fairly priced if and only if the market value of the options investors received from Bank of Montreal equals the market value of the options investors gave Bank of Montreal plus the interest investors would have received on Bank of Montreal's straight debt.

## Bank of Montreal's Stock Price



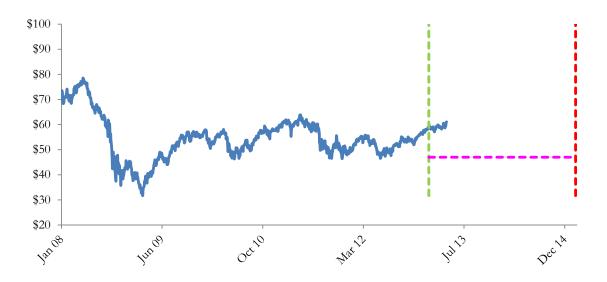
The graph above shows the adjusted closing price of the issuer Bank of Montreal for the past several years. The stock price of the issuer is an indication of the financial strength of Bank of Montreal. The adjusted price shown above incorporates any stock split, reverse stock split, etc.

# Bank of Montreal's CDS Rate



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

### iShares MSCI EAFE Index Fund's Share Price

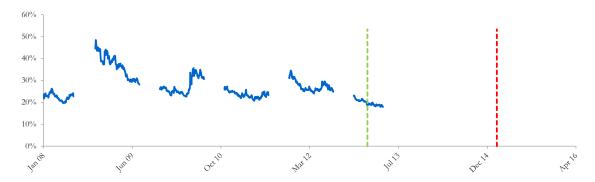


The graph above shows the historical levels of iShares MSCI EAFE Index Fund for the past several years. The final payoff of this note is determined by iShares MSCI EAFE Index Fund's share price correspond to a greater uncertainty in the final payout of this Buffered Bullish Return Note.

## Realized Payoff

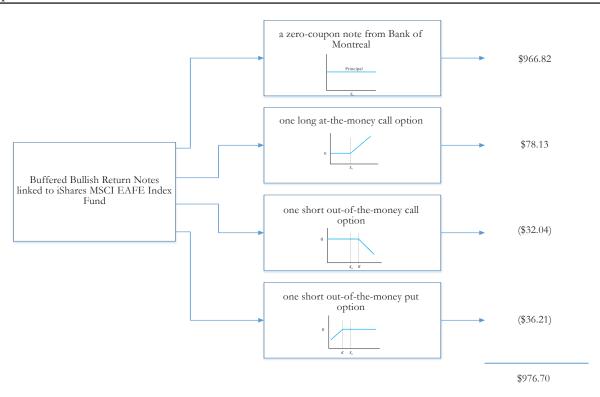
This product will mature on January 30, 2015.

# Reference Asset iShares MSCI EAFE Index Fund's Implied Volatility



The annualized implied volatility of iShares MSCI EAFE Index Fund on January 28, 2013 was 19.09%, meaning that options contracts on iShares MSCI EAFE Index Fund were trading at prices that reflect an expected annual volatility of 19.09%. The higher the implied volatility, the larger the expected fluctuations of iShares MSCI EAFE Index Fund's share price and of the Note's market value during the life of the Notes.

## Decomposition of this Buffered Bullish Return 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 Buffered Bullish Return Note.

- Delta measures the sensitivity of the price of the note to the iShares MSCI EAFE Index Fund's share price on January 28, 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 iShares MSCI EAFE Index Fund on January 28, 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.