Structured Products Research Report

Report Prepared On: 08/02/13

Structured Product Details

Name	Buffered Bullish Enhanced Return Notes linked to iShares MSCI EAFE Index Fund
Issue Size	$528,000
Issue Price	$1,000
Term	24 Months
Annualized Coupon	0.00%
Pricing Date	May 17, 2011
Issue Date	May 20, 2011
Valuation Date	May 17, 2013
Maturity Date	May 22, 2013
Issuer	Royal Bank of Canada
CDS Rate	86.24 bps
Swap Rate	0.71%
Reference Asset	iShares MSCI EAFE Index Fund
Initial Level	$60.64
Dividend Rate	2.28%
Implied Volatility	22.58%
Delta[1]	0.59
Fair Price at Issue	$958.88
Realized Return	3.88%
CUSIP	78008TAE4
SEC Link	www.sec.gov/Archives/edgar/data/1000275/000121465911001783/b518111424b2.htm

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

Description

Royal Bank of Canada issued $528,000 of Buffered Bullish Enhanced Return Notes linked to iShares MSCI EAFE Index Fund on May 20, 2011 at $1,000 per note.

These notes are Royal Bank of Canada-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.

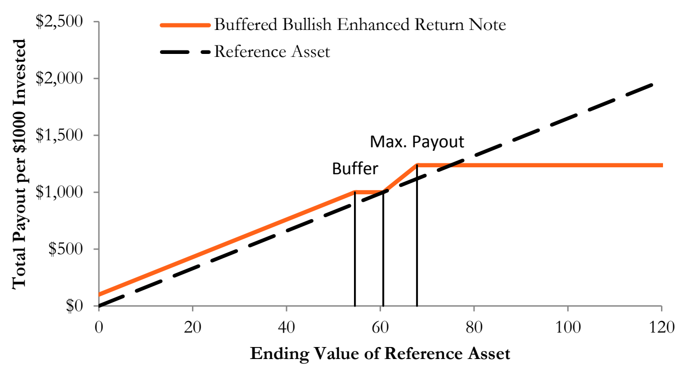
If on May 17, 2013 iShares MSCI EAFE Index Fund's share price is higher than $60.64, but lower than $67.84, the notes pay a return equal to the percentage increase in iShares MSCI EAFE Index Fund multiplied by 2.0, up to a cap of 23.75%. If on May 17, 2013 the refe is below $60.64 but not below $54.58, investors receive $1,000 face value per note. If iShares MSCI EAFE Index Fund's share price on May 17, 2013 is lower than $54.58, investors receive face value per note reduced by the amount the reference asset is below $54.58 as a percent of the initial level, $60.64.

Valuation

This product can be valued as a combination of a note from Royal Bank of Canada, one short out-of-the-money put option, two long at-the-money call options, and two short out-of-the-money call options. For reasonable valuation inputs this note was worth $958.88 when it was issued on May 20, 2011 because the value of the options investors gave Royal Bank of Canada plus the interest investors would have received on Royal Bank of Canada's straight debt was worth $41.12 more than the options investors received from Royal Bank of Canada.

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.

Related Research

Research Papers:
www.slcg.com/research.php

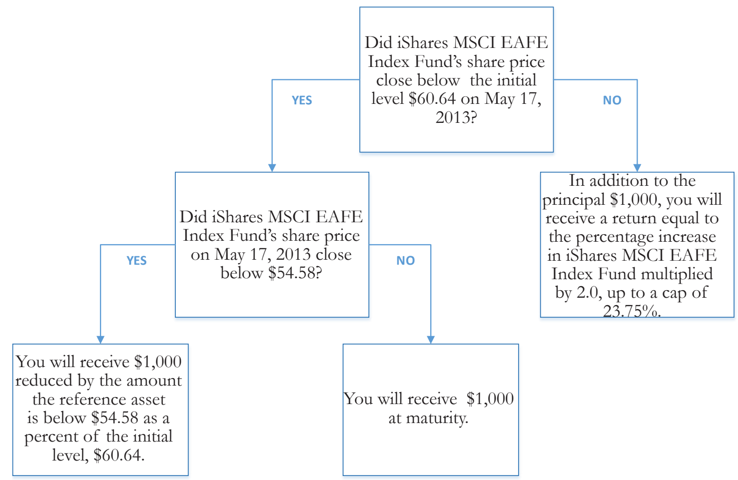
- *"Are Structured Products Suitable for Retail Investors?"* December 2006.
- *"Structured Products in the Aftermath of Lehman Brothers,"* November 2009.
- *"What TiVo and JP Morgan Teach Us about Reverse Convertibles,"* June 2010.

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	$100.00
$6.06	$200.00
$12.13	$300.00
$18.19	$400.00
$24.26	$500.00
$30.32	$600.00
$36.38	$700.00
$42.45	$800.00
$48.51	$900.00
$54.58	$1,000.00
$60.64	**$1,000.00**
$66.70	$1,200.00
$72.77	$1,237.50
$78.83	$1,237.50
$84.90	$1,237.50
$90.96	$1,237.50

Maturity Payoff Diagram

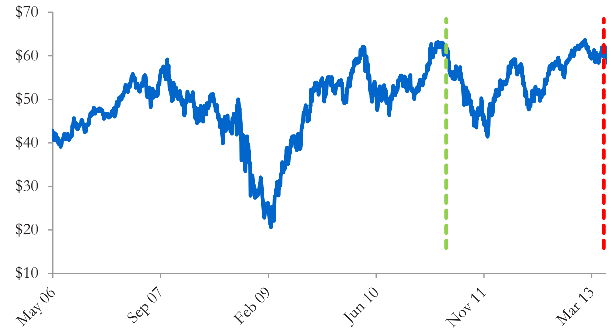


The contingent payoffs of this Buffered Bullish Enhanced Return Note.

Analysis

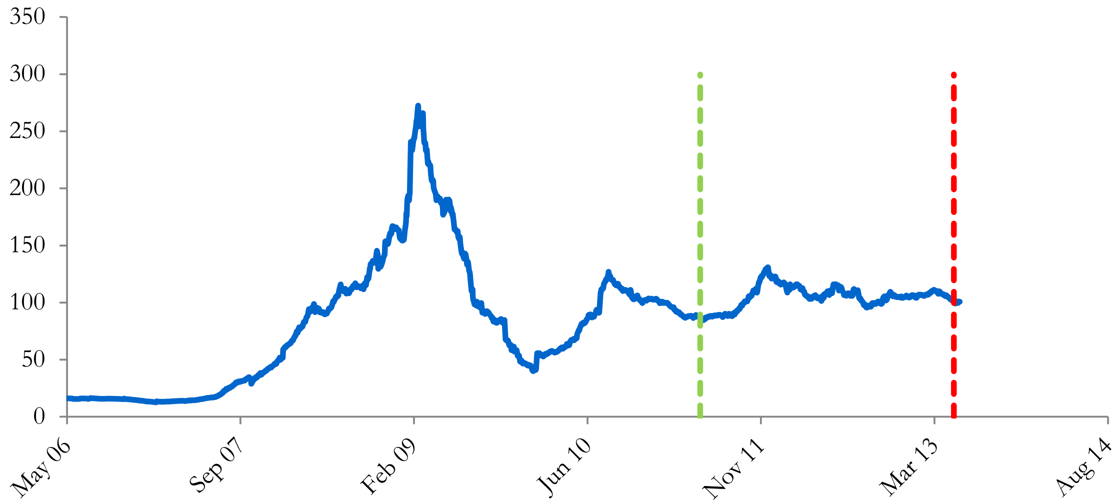
This Buffered Bullish Enhanced Return Note pays investors the increase in iShares MSCI EAFE Index Fund multiplied by 2.0 capped at 23.75%, but if iShares MSCI EAFE Index Fund declines over the term of the note, investors will suffer losses equal to the percentage decline in iShares MSCI EAFE Index Fund. In addition, investors bear the credit risk of Royal Bank of Canada. Investors purchasing this Buffered Bullish Enhanced Return Note effectively sell at-the-money put and out-of-the-money call options to Royal Bank of Canada, buy at-the-money call options, and a zero-coupon note from Royal Bank of Canada. This Buffered Bullish Enhanced Return Note is fairly priced if and only if the market value of the options investors received from Royal Bank of Canada equals the market value of the options investors gave Royal Bank of Canada plus the interest investors would have received on Royal Bank of Canada's straight debt.

Royal Bank of Canada's Stock Price



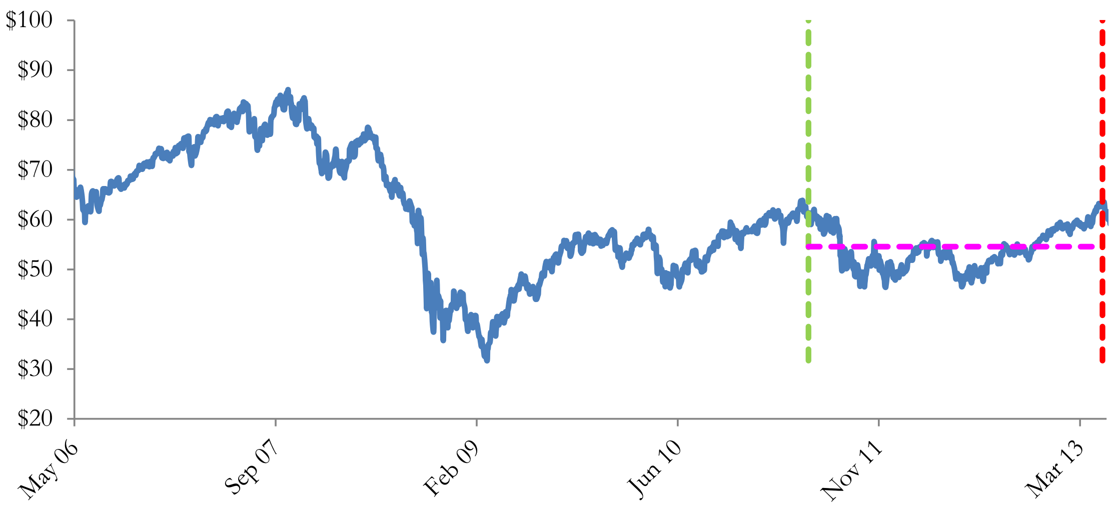
The graph above shows the adjusted closing price of the issuer Royal Bank of Canada for the past several years. The stock price of the issuer is an indication of the financial strength of Royal Bank of Canada. The adjusted price shown above incorporates any stock split, reverse stock split, etc.

Royal Bank of Canada's CDS Rate



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

iShares MSCI EAFE Index Fund's Share Price

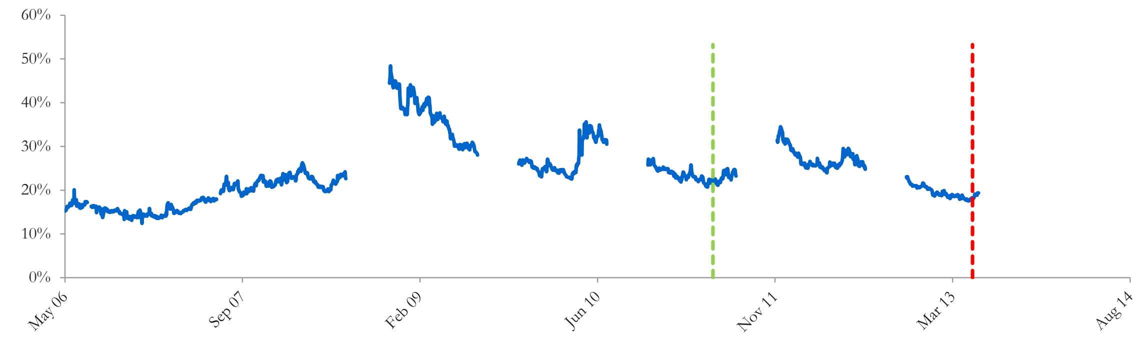


The graph above shows the historical levels of iShares MSCI EAFE Index Fund for the past several years. The final payoff of this note is determined by iShares MSCI EAFE Index Fund's share price at maturity. Higher fluctuations in iShares MSCI EAFE Index Fund's share price correspond to a greater uncertainty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

Realized Payoff

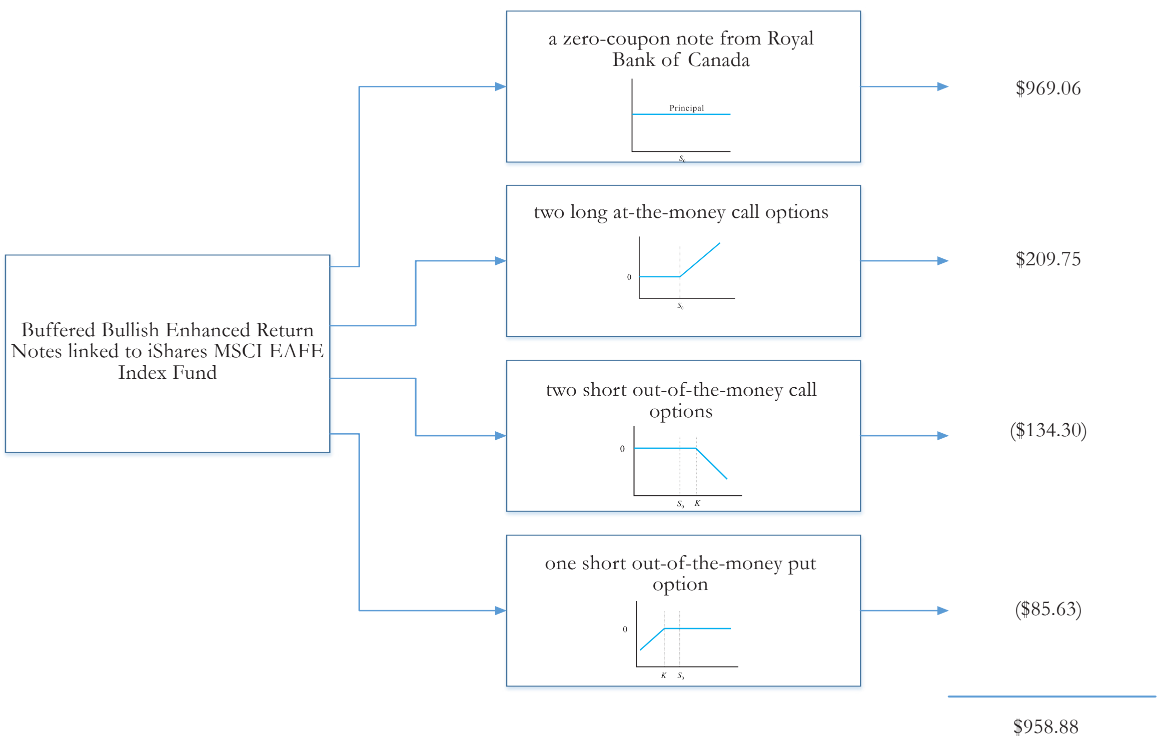
This note matured on May 22, 2013 and investors received $1,079.49 per note.

Reference Asset iShares MSCI EAFE Index Fund's Implied Volatility



The annualized implied volatility of iShares MSCI EAFE Index Fund on May 17, 2011 was 22.58%, meaning that options contracts on iShares MSCI EAFE Index Fund were trading at prices that reflect an expected annual volatility of 22.58%. 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 Enhanced 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 Enhanced Return Note.

1. Delta measures the sensitivity of the price of the note to the iShares MSCI EAFE Index Fund's share price on May 17, 2011.
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 iShares MSCI EAFE Index Fund on May 17, 2011.
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.