slcg
SECURITIES LITIGATION & CONSULTING GROUP

Structured Products Research Report

Report Prepared On: 12/11/12

Reverse Convertible Notes linked to Kansas City

Structured Product Details

Name	Reverse Convertible Notes linked to Kansas City
Issue Size	$1.00 million
Issue Price	$1,000
Term	6 Months
Annualized Coupon	15.50%
Pricing Date	June 24, 2008
Issue Date	June 30, 2008
Valuation Date	December 24, 2008
Maturity Date	December 31, 2008
Issuer	Royal Bank of Canada
CDS Rate	100.77 bps
Swap Rate	3.16%
Reference Asset	Kansas City's stock
Initial Level	$44.01
Trigger Price	$33.01
Conversion Price	$18.15
Dividend Rate	0.00%
Implied Volatility	41.41%
Delta[1]	0.44
Fair Price at Issue	$966.06
Realized Return	-77.61%
CUSIP	78008GHC9
SEC Link	www.sec.gov/Archives/edgar/data/1000275/000121465908001457/f62482424b2.txt

Description

Royal Bank of Canada issued $1.00 million of Reverse Convertible Notes linked to Kansas City on June 30, 2008 at $1,000 per note.

These notes are Royal Bank of Canada-branded reverse convertibles. Reverse convertibles pay periodic interest coupons and at maturity convert into shares of the reference security if the price of the reference stock at the notes' maturity is below its price when the notes were issued and had closed below a specified "trigger" during the term of the notes.

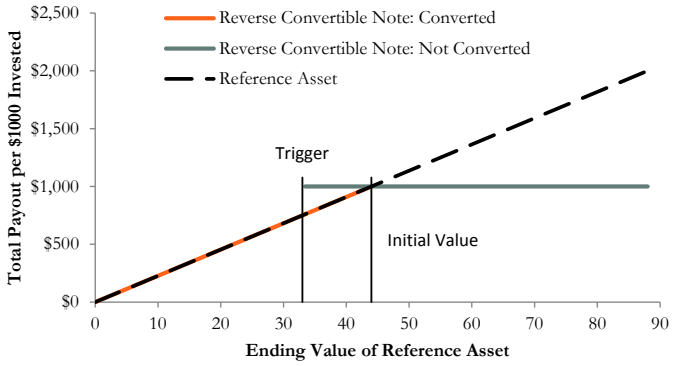
These 6-month notes pay monthly coupons at an annualized rate of 15.50%. In addition to the monthly coupons, at maturity on December 31, 2008 investors will receive the market value of 22.72 shares of Kansas City's stock if on December 24, 2008 Kansas City's stock price closes below $44.01 (Kansas City's stock price on June 24, 2008) and had ever closed at or below $33.01 during the term of the notes. Otherwise, investors will receive the $1,000 face value per note.

Valuation

This Royal Bank of Canada reverse convertible linked to Kansas City's stock can be valued as a combination of a note from Royal Bank of Canada and a short down-and-in, at-the-money put option on Kansas City's stock. For reasonable valuation inputs this note was worth $966.06 per $1,000 when it was issued on June 30, 2008 because investors were effectively being paid only $55.99 for giving Royal Bank of Canada an option which was worth $89.93.

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 Kansas City's stock price (horizontal axis). For comparison, the dashed line shows the payoff if you invested in Kansas City's stock 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.

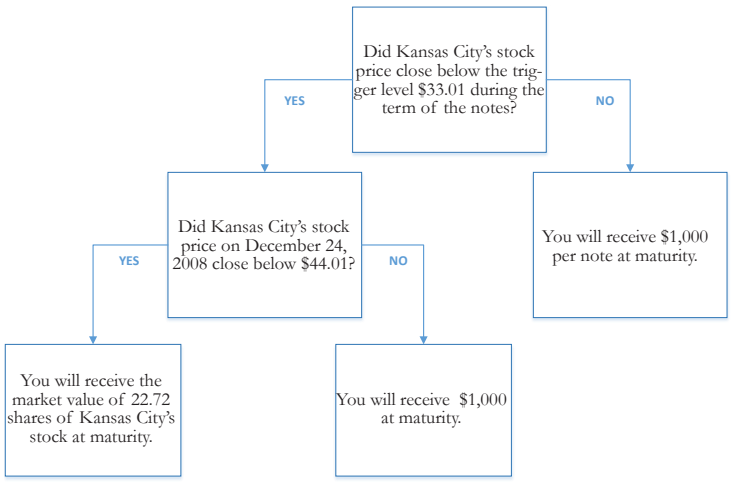
Geng Deng, Ph.D., FRM
Director, SLCG
(+1) 703.890.0741
GengDeng@slcg.com

3998 FAIR RIDGE DRIVE, SUITE 250, FAIRFAX, VA 22033 | MAIN (703) 246-9380 | INFO@SLCG.COM
100 WILSHIRE BLVD, SUITE 950, SANTA MONICA, CA 90401 | MAIN (310) 917-1075

Principal Payback Table

Kansas City's Stock	Converted Note Payoff	Non-Converted Note Payoff
$0.00	$0.00	
$4.40	$100.00	
$8.80	$200.00	
$13.20	$300.00	
$17.60	$400.00	
$22.01	$500.00	
$26.41	$600.00	
$30.81	$700.00	
$35.21	$800.00	$1,000.00
$39.61	$900.00	$1,000.00
$44.01	**$1,000.00**	**$1,000.00**
$48.41	$1,000.00	$1,000.00
$52.81	$1,000.00	$1,000.00
$57.21	$1,000.00	$1,000.00
$61.61	$1,000.00	$1,000.00
$66.02	$1,000.00	$1,000.00

Maturity Payoff Diagram



The contingent payoffs of this Reverse Convertible Note.

Analysis

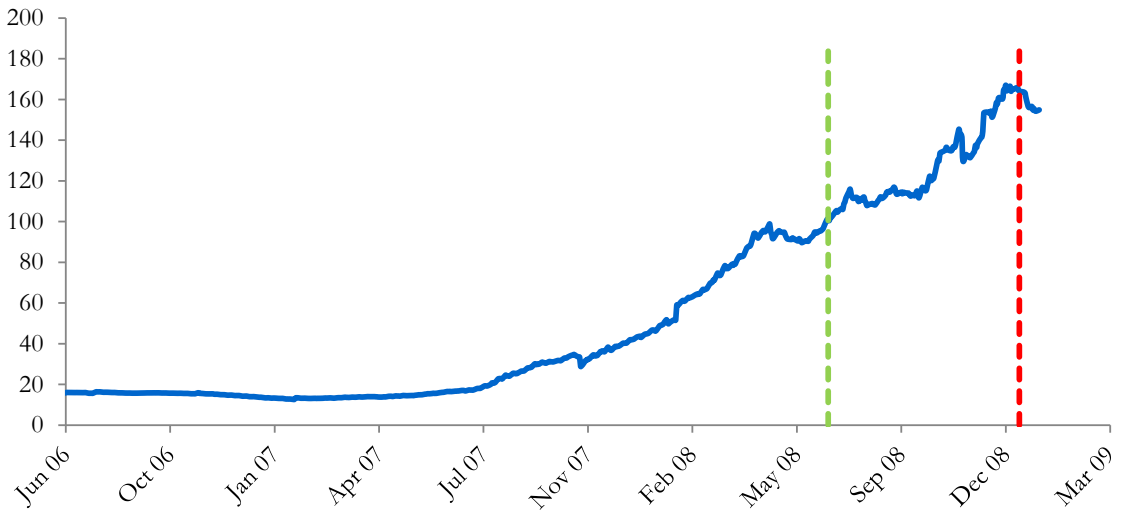
This reverse convertible's 15.50% coupon rate is higher than the yield Royal Bank of Canada paid on its straight debt but, in addition to Royal Bank of Canada's credit risk, investors bear the risk that they will receive shares of Kansas City's stock when they are worth substantially less than the face value of the note at maturity.

Investors purchasing reverse convertibles effectively sell put options to Royal Bank of Canada and post the note's issue price as collateral to secure satisfaction of the investors' obligations under the option contracts. Royal Bank of Canada pays investors a "coupon" that is part payment for the put options and part interest on the investors' posted collateral. This reverse convertible is fairly priced if and only if the excess of the reverse convertible's "coupon rate" above the interest Royal Bank of Canada pays on its straight debt equals the value of the put option investors are giving to Royal Bank of Canada. Whether the reverse convertible is suitable or not is equivalent to whether selling put options on the reference stock at the option premium being paid by Royal Bank of Canada was suitable for the investor.

Royal Bank of Canada's Stock Price

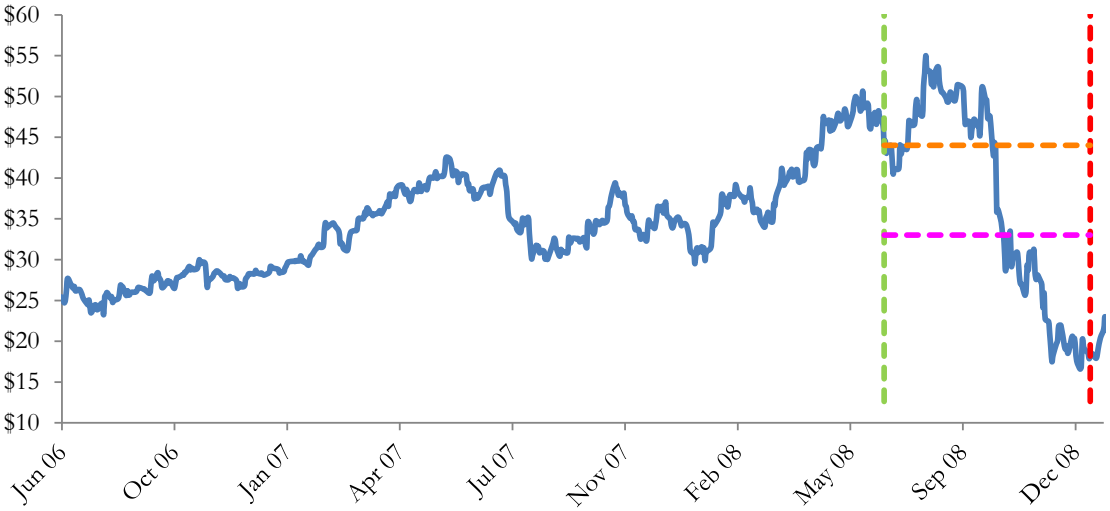
The graph above shows the adjusted closing price of the issuer Royal Bank of Canada for the past several years. The stock price of the issuer is an indication of the financial strength of Royal Bank of Canada. The adjusted price shown above incorporates any stock split, reverse stock split, etc.

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 Reverse Convertible Note. Fluctuations in Royal Bank of Canada's CDS rate impact the market value of the notes in the secondary market.

Kansas City's Stock Price

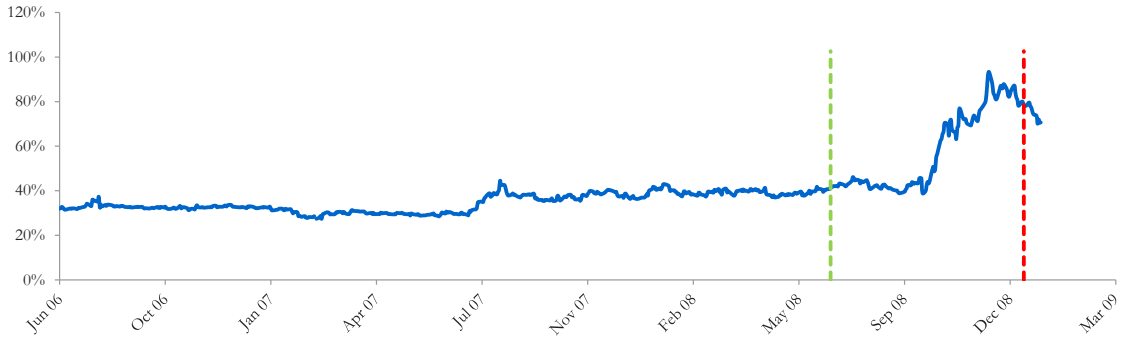


The graph above shows the historical levels of Kansas City's stock for the past several years. The final payoff of this note is determined by Kansas City's stock price at maturity. Higher fluctuations in Kansas City's stock price correspond to a greater uncertainty in the final payout of this Reverse Convertible Note.

Realized Payoff

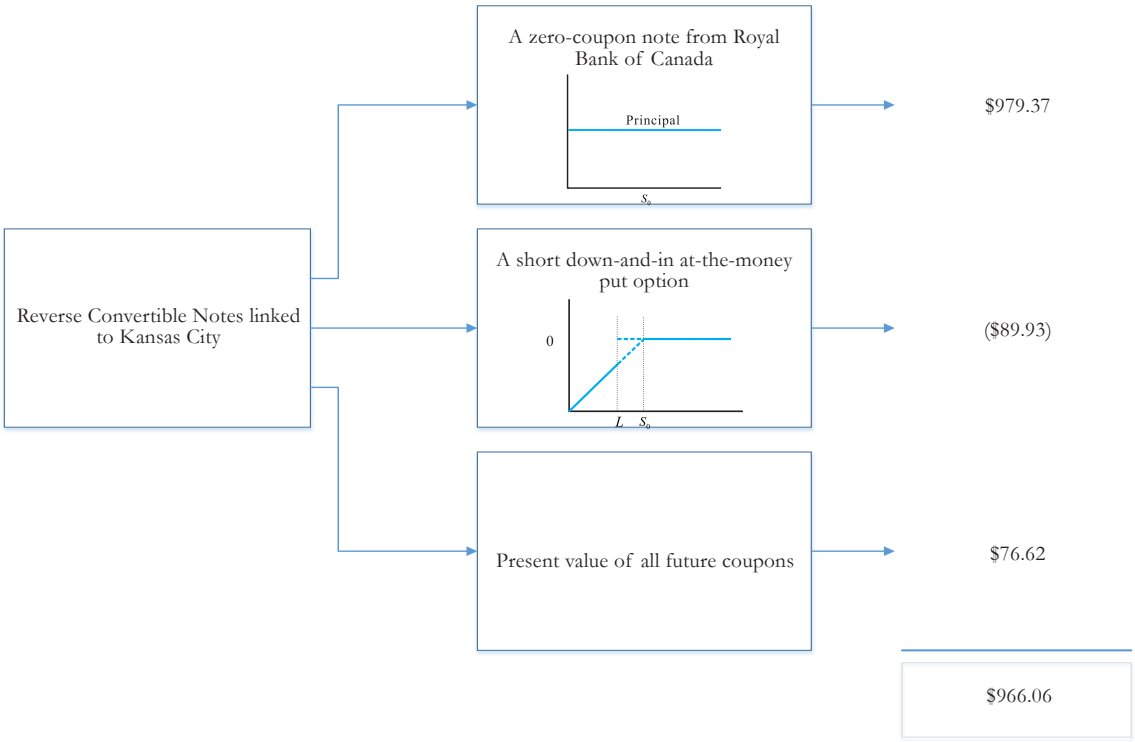
This note matured on December 31, 2008 and investors received $412.41 per note (or equal to the value of 22.72 shares of Kansas City stock's closing price on December 24, 2008).

Reference Asset Kansas City's Stock's Implied Volatility



The annualized implied volatility of Kansas City's stock on June 24, 2008 was 41.41%, meaning that options contracts on Kansas City's stock were trading at prices that reflect an expected annual volatility of 41.41%. The higher the implied volatility, the larger the expected fluctuations of Kansas City's stock price and of the Note's market value during the life of the Notes.

Decomposition of this Reverse Convertible 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 Reverse Convertible Note.

1. Delta measures the sensitivity of the price of the note to the Kansas City's stock price on June 24, 2008.
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 Kansas City's stock on June 24, 2008.
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.