Structured Products Research Report

Report Prepared On: 10/25/12

ELKS based upon the common stock of Alcoa, Inc.

Structured Product Details

Name	ELKS based upon the common stock of Alcoa, Inc.
Issue Size	$3.64 million
Issue Price	$10
Term	13 Months
Annualized Coupon	9.00%
Pricing Date	February 19, 2010
Issue Date	February 24, 2010
Valuation Date	March 18, 2011
Maturity Date	March 23, 2011
Issuer	Citigroup
CDS Rate	154.27 bps
Swap Rate	0.90%
Reference Asset	Alcoa, Inc.'s stock
Initial Level	$13.53
Conversion Price	$16.11
Trigger Price	$10.15
Dividend Rate	0.88%
Implied Volatility	42.48%
Delta[1]	0.34
Fair Price at Issue	$9.24
Realized Return	27.17%
CUSIP	17314V619
SEC Link	www.sec.gov/Archives/edgar/data/831001/000119312510037329/d424b2.htm

Description

Citigroup issued $3.64 million of ELKS based upon the common stock of Alcoa, Inc. on February 24, 2010 at $10 per note.

These notes are Citigroup-branded reverse convertibles. These notes pay periodic interest coupons and at maturity convert into shares of Alcoa, Inc.'s stock, if the closing price of Alcoa, Inc.'s stock was ever below $10.15 during the term of the notes. Similar securities are issued by other companies under different brand names.

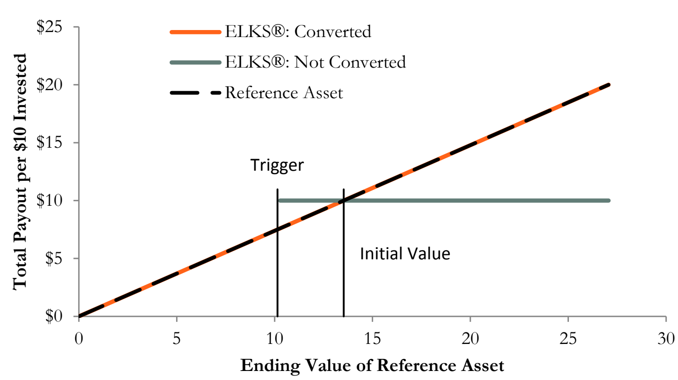
These 13-month notes pay monthly coupons at an annualized rate of 9.00%. In addition to the monthly coupons, at maturity on March 23, 2011 investors will receive the market value of 0.74 share of Alcoa, Inc.'s stock if during the term of the notes Alcoa, Inc.'s stock ever closed at or below $10.15—75% of Alcoa, Inc.'s stock's $13.53 closing price on February 19, 2010. Otherwise, investors will receive the $10 face value per note. In either case, investors receive the final coupon payment at maturity.

Valuation

This Citigroup ELKS based upon the common stock of Alcoa, Inc. can be valued as a combination of a note from Citigroup, a short down-and-in at-the-money put option, and a long down-and-in at-the-money call option on Alcoa, Inc.'s stock. For reasonable valuation inputs this note was worth $9.24 per $10 when issued on February 24, 2010 because investors were effectively being paid only $0.69 for giving Citigroup options which were worth $1.46.

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

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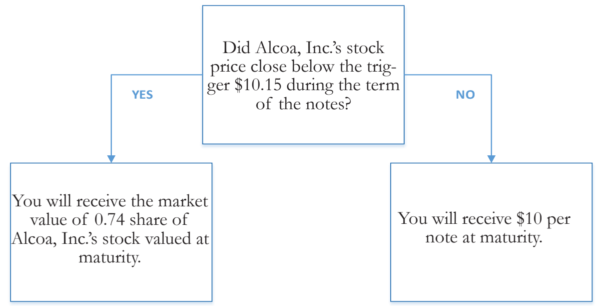
Principal Payback Table

Alcoa, Inc.'s Stock	Converted Note Payoff	Non-Converted Note Payoff
$0.00	$0.00	
$1.35	$1.00	
$2.71	$2.00	
$4.06	$3.00	
$5.41	$4.00	
$6.77	$5.00	
$8.12	$6.00	
$9.47	$7.00	
$10.82	$8.00	$10.00
$12.18	$9.00	$10.00
$13.53	**$10.00**	**$10.00**
$14.88	$11.00	$10.00
$16.24	$12.00	$10.00
$17.59	$13.00	$10.00
$18.94	$14.00	$10.00
$20.30	$15.00	$10.00

Maturity Payoff Diagram



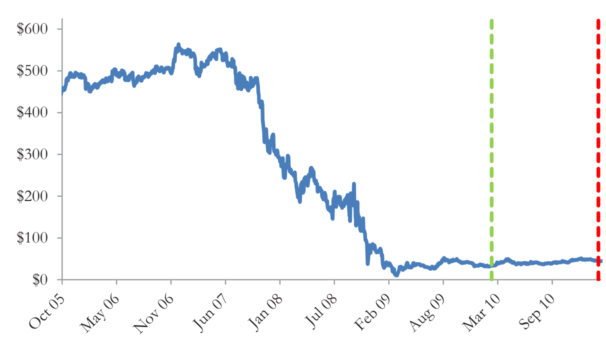
The contingent payoffs of this ELKS.

Analysis

The 9.00% annualized coupon rate is higher than the yield Citigroup paid on its straight debt but, in addition to Citigroup's credit risk, investors bear the risk that, at maturity, they will receive shares of Alcoa, Inc.'s stock at precisely the time when these shares are worth substantially less than the face value of the note.

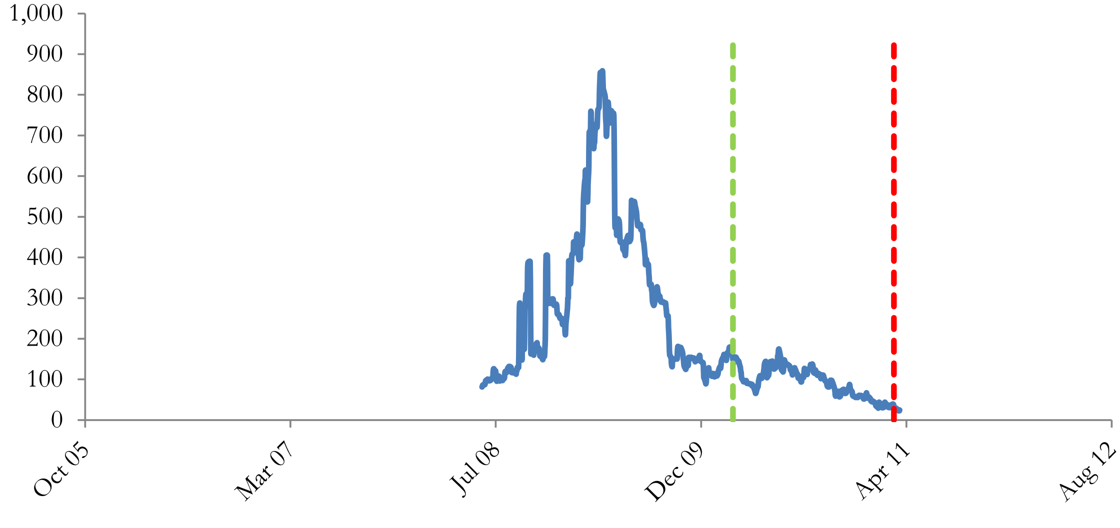
Investors purchasing ELKS effectively sell down-and-in put options to Citigroup, buy down-and-in call option, and post the note's issue price as collateral to secure satisfaction of the investors' obligations under the option contracts. Investors are compensated by Citigroup through "coupon" payments that represent partial payment for the premium difference of put and call options as well as interest on the investors' posted collateral. This ELKS is fairly priced if and only if the excess of the reverse convertible's "coupon rate" above the interest Citigroup pays on its straight debt equals the net value of the put and call options investors are exchanging with Citigroup. Whether the purchase of this ELKS is suitable or not is identically equivalent to whether selling put options on the reference asset at the option premium being paid by the brokerage firm was suitable for the investor in question.

Citigroup's Stock Price



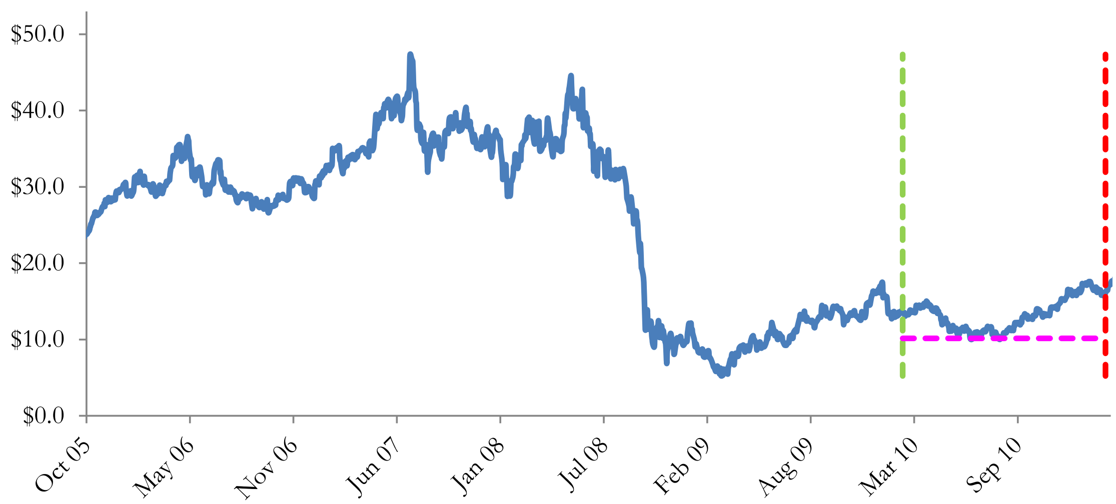
The graph above shows the adjusted closing price of the issuer Citigroup for the past several years. The stock price of the issuer is an indication of the financial strength of Citigroup. The adjusted price shown above incorporates any stock split, reverse stock split, etc.

Citigroup's CDS Rate



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

Alcoa, Inc.'s Stock Price

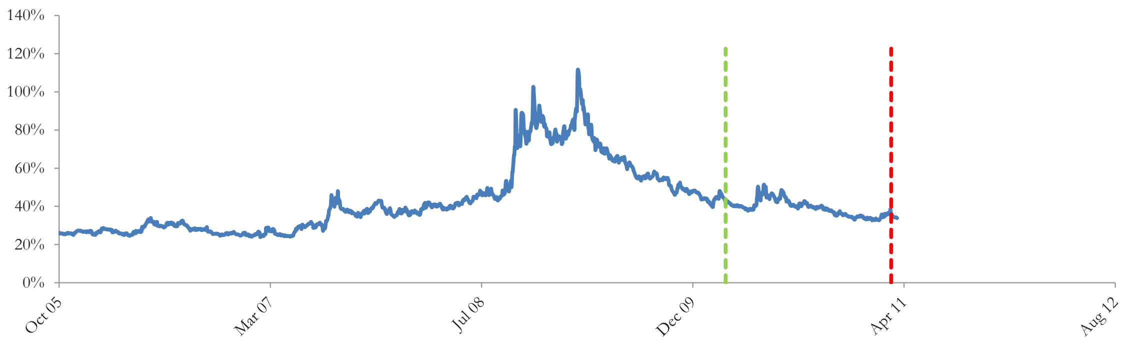


The graph above shows the historical levels of Alcoa, Inc.'s stock for the past several years. The final payoff of this note is determined by Alcoa, Inc.'s stock price at maturity. Higher fluctuations in Alcoa, Inc.'s stock price correspond to a greater uncertainty in the final payout of this ELKS.

Realized Payoff

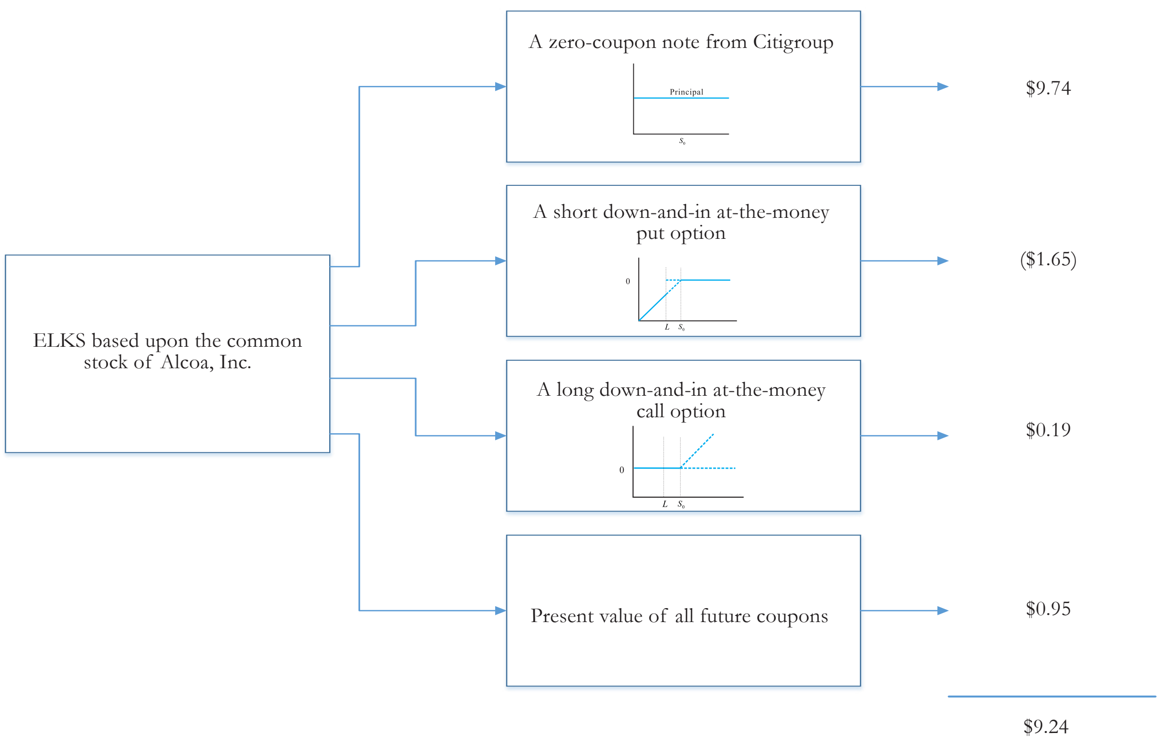
This note matured on March 23, 2011 and investors received $11.91 per note (or equal to the value of 0.74 share of Alcoa, Inc. stock's closing price on March 18, 2011).

Reference Asset Alcoa, Inc.'s Stock's Implied Volatility



The annualized implied volatility of Alcoa, Inc.'s stock on February 19, 2010 was 42.48%, meaning that options contracts on Alcoa, Inc.'s stock were trading at prices that reflect an expected annual volatility of 42.48%. The higher the implied volatility, the larger the expected fluctuations of Alcoa, Inc.'s stock price and of the Note's market value during the life of the Notes.

Decomposition of this ELKS



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 ELKS.

1. Delta measures the sensitivity of the price of the note to the Alcoa, Inc.'s stock price on February 19, 2010.
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 Alcoa, Inc.'s stock on February 19, 2010.
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.