

# Structured Product Details

Name	Reverse Convertible Notes linked to First Solar, Inc.		
Issue Size Issue Price Term Annualized C	oupon	\$1.00 million \$1,000 12 Months 17.00%	
Pricing Date Issue Date Valuation Dat Maturity Date		September 25, 2009 September 30, 2009 September 24, 2010 September 30, 2010	
Issuer CDS Rate Swap Rate		UBS 72.49 bps 1.23%	
Reference As	set	First Solar, Inc.'s stock	
Initial Leve Trigger Pri Conversior Dividend F Implied Vo Delta <sup>1</sup>	ce Price Rate	\$152.87 \$107.01 \$147.09 0.00% 56.79% 0.4	
Fair Price at l Realized Retu		\$940.46 14.32%	
CUSIP SEC Link <sub>data</sub>	/1114446/000	90261JDV2 www.sec.gov/Archives/edgar/ 119312509205679/d424b2.htm	

Structured Products Research Report

Report Prepared On: 12/05/12

# Reverse Convertible Notes linked to First Solar, Inc.

# Description

UBS issued \$1.00 million of Reverse Convertible Notes linked to First Solar, Inc. on September 30, 2009 at \$1,000 per note.

These notes are UBS-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.

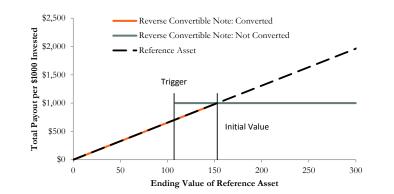
These 12-month notes pay monthly coupons at an annualized rate of 17.00%. In addition to the monthly coupons, at maturity on September 30, 2010 investors will receive the market value of 6.54 shares of First Solar, Inc.'s stock if on September 24, 2010 First Solar, Inc.'s stock price closes below \$152.87 (First Solar, Inc.'s stock price on September 25, 2009) and had ever closed at or below \$107.01 during the term of the notes. Otherwise, investors will receive the \$1,000 face value per note.

# Valuation

This UBS reverse convertible linked to First Solar, Inc.'s stock can be valued as a combination of a note from UBS and a short down-and-in, at-the-money put option on First Solar, Inc.'s stock. For reasonable valuation inputs this note was worth \$940.46 per \$1,000 when it was issued on September 30, 2009 because investors were effectively being paid only \$149.23 for giving UBS an option which was worth \$208.77.

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 First Solar, Inc.'s stock price (borizontal axis). For comparison, the dashed line shows the payoff if you invested in First Solar, Inc.'s stock directly.

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## **Related Research**

#### **Research Papers:**

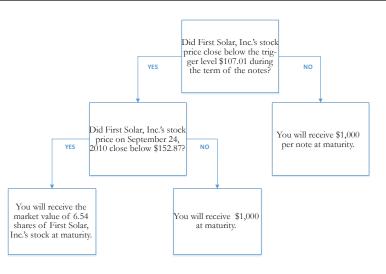
www.slcg.com/research.php

- "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.

## Principal Payback Table

First Solar, Inc.'s Stock	Converted Note Payoff	Non-Con- verted Note Payoff
\$0.00	\$0.00	
\$15.29	\$100.00	
\$30.57	\$200.00	
\$45.86	\$300.00	
\$61.15	\$400.00	
\$76.44	\$500.00	
\$91.72	\$600.00	
\$107.01	\$700.00	
\$122.30	\$800.00	\$1,000.00
\$137.58	\$900.00	\$1,000.00
\$152.87	\$1,000.00	\$1,000.00
\$168.16	\$1,000.00	\$1,000.00
\$183.44	\$1,000.00	\$1,000.00
\$198.73	\$1,000.00	\$1,000.00
\$214.02	\$1,000.00	\$1,000.00
\$229.31	\$1,000.00	\$1,000.00

#### Maturity Payoff Diagram



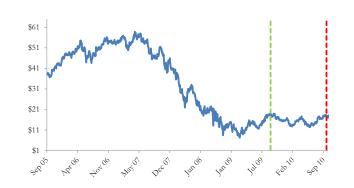
The contingent payoffs of this Reverse Convertible Note.

# Analysis

This reverse convertible's 17.00% coupon rate is higher than the yield UBS paid on its straight debt but, in addition to UBS's credit risk, investors bear the risk that they will receive shares of First Solar, Inc.'s stock when they are worth substantially less than the face value of the note at maturity.

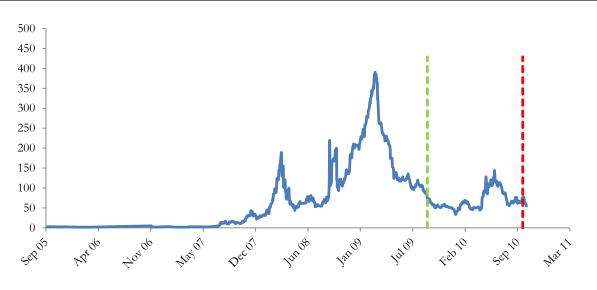
Investors purchasing reverse convertibles effectively sell put options to UBS and post the note's issue price as collateral to secure satisfaction of the investors' obligations under the option contracts. UBS pays investors a "coupon" that is part payment for the put options and part interest on the 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 UBS pays on its straight debt equals the value of the put option investors are giving to UBS. 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 UBS was suitable for the investor.

#### **UBS's Stock Price**

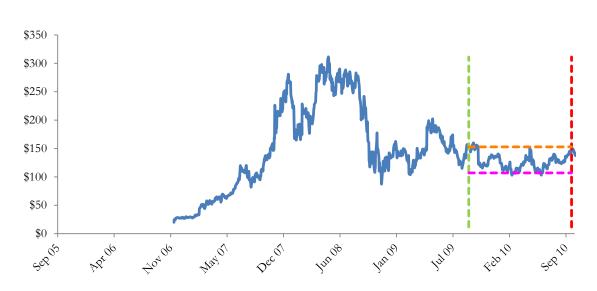


The graph above shows the adjusted closing price of the issuer UBS for the past several years. The stock price of the issuer is an indication of the financial strength of UBS. The adjusted price shown above incorporates any stock split, reverse stock split, etc.





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



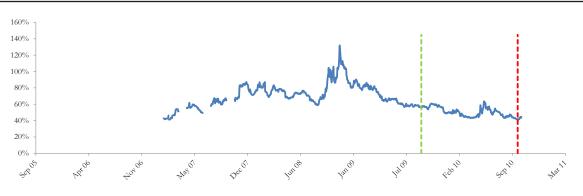
## First Solar, Inc.'s Stock Price

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

#### **Realized Payoff**

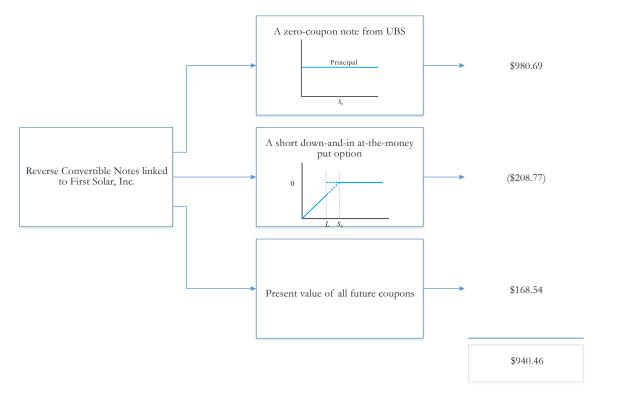
This note matured on September 30, 2010 and investors received \$962.19 per note (or equal to the value of 6.54 shares of First Solar, Inc. stock's closing price on September 24, 2010).

## Reference Asset First Solar, Inc.'s Stock's Implied Volatility



The annualized implied volatility of First Solar, Inc.'s stock on September 25, 2009 was 56.79%, meaning that options contracts on First Solar, Inc.'s stock were trading at prices that reflect an expected annual volatility of 56.79%. The higher the implied volatility, the larger the expected fluctuations of First Solar, Inc.'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.

- Delta measures the sensitivity of the price of the note to the First Solar, Inc's stock price on September 25, 2009.
  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 First Solar, Inc's stock on September 25, 2009.
  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.

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