

Report Prepared On: 02/01/13

## Structured Product Details

**Name** PLUS linked to McDonald's Corp.

**Issue Size** \$2.75 million  
**Issue Price** \$1,000  
**Term** 24 Months  
**Annualized Coupon** 0.00%

**Pricing Date** July 22, 2011  
**Issue Date** July 26, 2011  
**Valuation Date** July 23, 2013  
**Maturity Date** July 26, 2013

**Issuer** Morgan Stanley  
**CDS Rate** 93.81 bps  
**Swap Rate** 0.62%

**Reference Asset** McDonald's Corp.'s stock

**Initial Level** \$88.56  
**Dividend Rate** 2.65%  
**Implied Volatility** 17.28%  
**Delta<sup>1</sup>** 1.01

**Fair Price at Issue** \$956.85

**CUSIP** 617482WQ3  
**SEC Link** [www.sec.gov/Archives/edgar/data/895421/000095010311002968/dp25381\\_424b2-ps887.htm](http://www.sec.gov/Archives/edgar/data/895421/000095010311002968/dp25381_424b2-ps887.htm)

## PLUS linked to McDonald's Corp.

### Description

Morgan Stanley issued \$2.75 million of PLUS linked to McDonald's Corp. on July 26, 2011 at \$1,000 per note.

These notes are Morgan Stanley-branded PLUS securities that do not pay periodic coupons, but instead pay a single amount at maturity depending on McDonald's Corp.'s stock price at maturity.

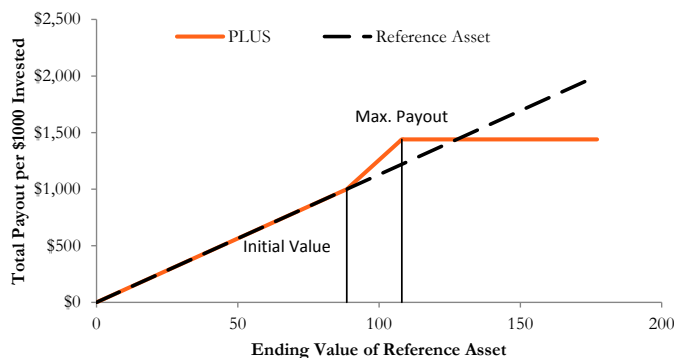
If McDonald's Corp.'s stock price on July 23, 2013 is higher than \$88.56, but lower than \$108.04, the notes pay a return equal to the percentage increase in McDonald's Corp.'s stock multiplied by 2.0. If on July 23, 2013 McDonald's Corp.'s stock price is above the \$108.04, the notes pay the maximum payout of \$1,440.00. If on July 23, 2013 McDonald's Corp.'s stock price is below \$88.56, investors receive the face value per note reduced by the percentage decline in the reference asset. The notes will pay nothing at maturity if the reference asset declines to zero.

### Valuation

This note can be valued as a combination of a note from Morgan Stanley, a short at-the-money put option, two long at-the-money call options, and two short out-of-the-money call options. The short at-the-money put option exposes investors to any decline in McDonald's Corp.'s stock. The two short out-of-the-money call options has the strike price of \$108.04, and limits the maximum return of the notes beyond the cap level. For reasonable valuation inputs this note was worth \$956.85 when it was issued on July 26, 2011 because the value of the options investors gave Morgan Stanley plus the interest investors would have received on Morgan Stanley's straight debt was worth \$43.15 more than the call options investors received from Morgan Stanley.

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 McDonald's Corp.'s stock price (horizontal axis). For comparison, the dashed line shows the payoff if you invested in McDonald's Corp.'s stock directly.*

## Related Research

### Research Papers:

[www.slcg.com/research.php](http://www.slcg.com/research.php)

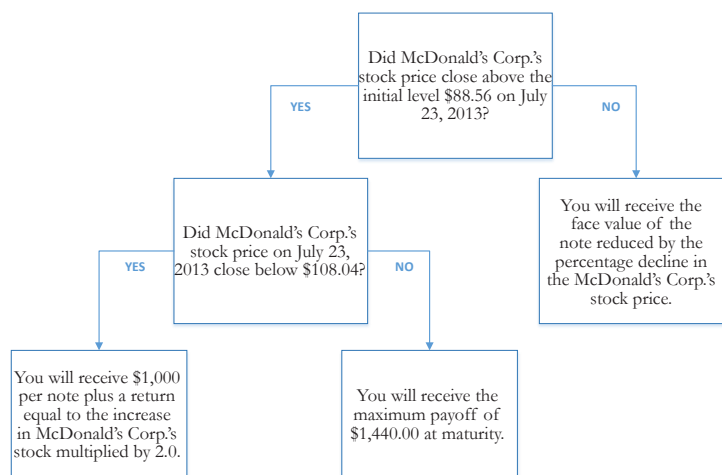
- "Are Structured Products Suitable for Retail Investors?" December 2006.
- "Structured Products in the Aftermath of Lehman Brothers," November 2009.
- "What TiVo and JP Morgan Teach Us about Reverse Convertibles," June 2010.

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## Principal Payback Table

| McDonald's Corp.'s Stock | Note Payoff       |
|--------------------------|-------------------|
| \$0.00                   | \$0.00            |
| \$8.86                   | \$100.00          |
| \$17.71                  | \$200.00          |
| \$26.57                  | \$300.00          |
| \$35.42                  | \$400.00          |
| \$44.28                  | \$500.00          |
| \$53.14                  | \$600.00          |
| \$61.99                  | \$700.00          |
| \$70.85                  | \$800.00          |
| \$79.70                  | \$900.00          |
| <b>\$88.56</b>           | <b>\$1,000.00</b> |
| \$97.42                  | \$1,200.00        |
| \$106.27                 | \$1,400.00        |
| \$115.13                 | \$1,440.00        |
| \$123.98                 | \$1,440.00        |
| \$132.84                 | \$1,440.00        |

## Maturity Payoff Diagram

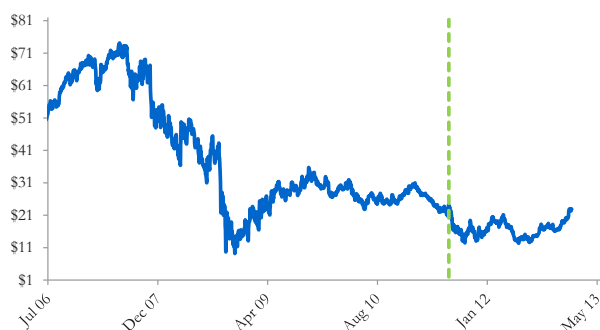


*The contingent payoffs of this PLUS.*

## Analysis

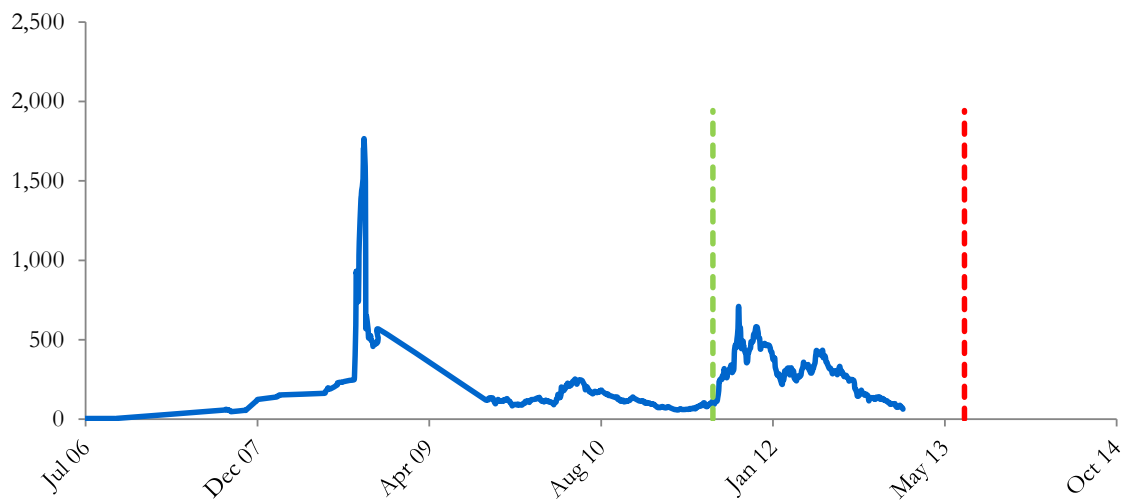
This PLUS pays investors the increase in McDonald's Corp.'s stock multiplied by 2.0 capped at 44.00%, but if McDonald's Corp.'s stock declines over the term of the note, investors will suffer losses equal to the percentage decline in McDonald's Corp.'s stock. In addition, investors bear the credit risk of Morgan Stanley. Investors purchasing this PLUS effectively sell at-the-money put and out-of-the-money call options to Morgan Stanley, buy at-the-money call options, and a zero-coupon note from Morgan Stanley. This PLUS is fairly priced if and only if the market value of the options investors received from Morgan Stanley equals the market value of the options investors gave Morgan Stanley plus the interest investors would have received on Morgan Stanley's straight debt.

## Morgan Stanley's Stock Price



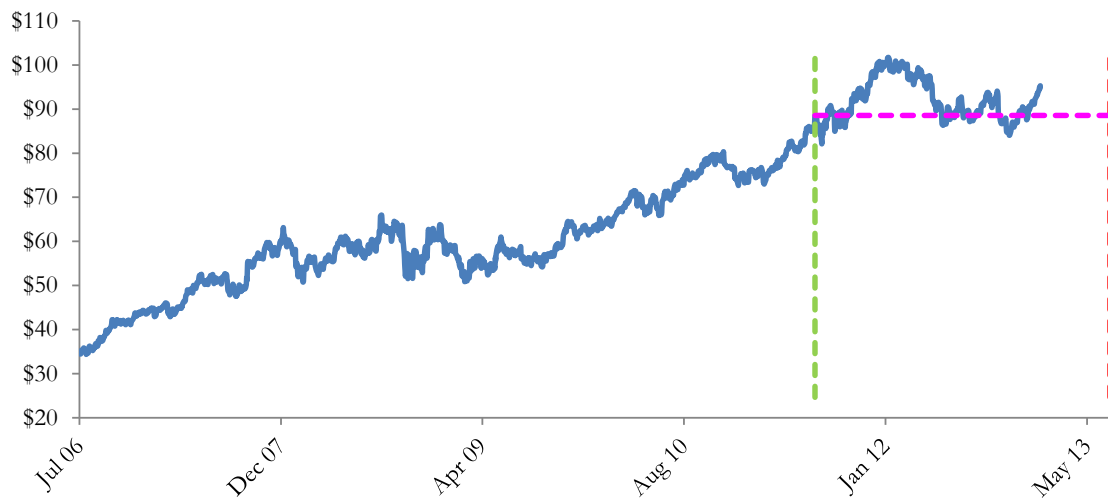
*The graph above shows the adjusted closing price of the issuer Morgan Stanley for the past several years. The stock price of the issuer is an indication of the financial strength of Morgan Stanley. The adjusted price shown above incorporates any stock split, reverse stock split, etc.*

## Morgan Stanley's CDS Rate



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

## McDonald's Corp.'s Stock Price

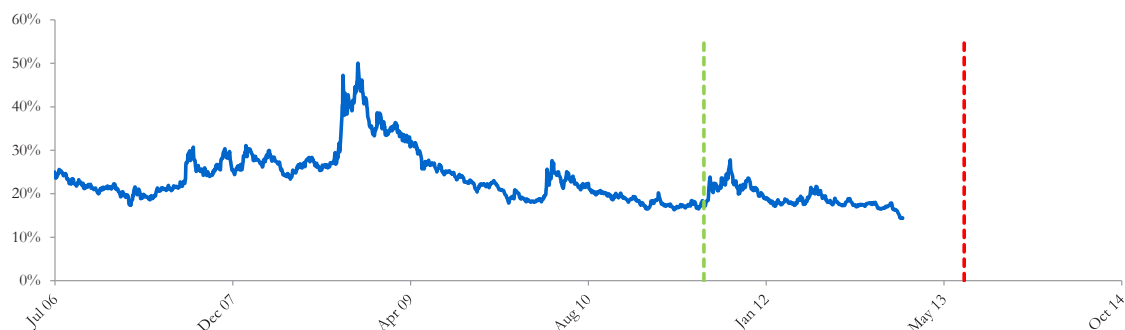


The graph above shows the historical levels of McDonald's Corp.'s stock for the past several years. The final payoff of this note is determined by McDonald's Corp.'s stock price at maturity. Higher fluctuations in McDonald's Corp.'s stock price correspond to a greater uncertainty in the final payout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

## Realized Payoff

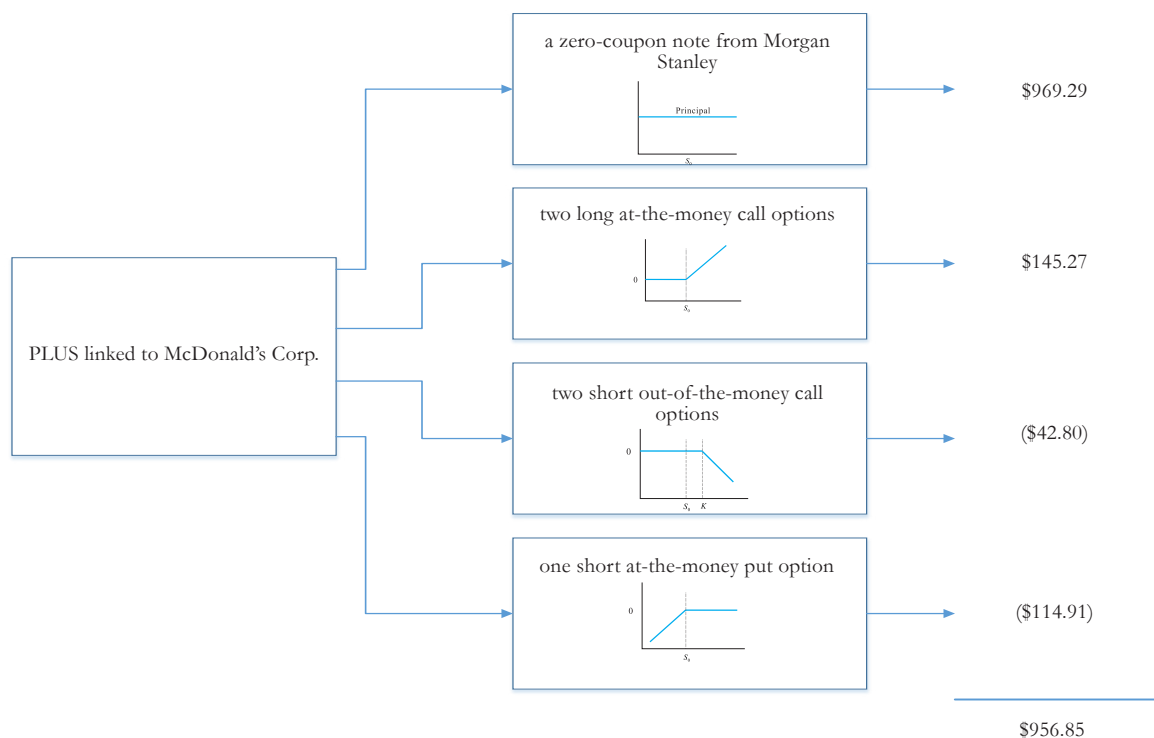
This product will mature on July 26, 2013.

## Reference Asset McDonald's Corp.'s Stock's Implied Volatility



The annualized implied volatility of McDonald's Corp.'s stock on July 22, 2011 was 17.28%, meaning that options contracts on McDonald's Corp.'s stock were trading at prices that reflect an expected annual volatility of 17.28%. The higher the implied volatility, the larger the expected fluctuations of McDonald's Corp.'s stock price and of the Note's market value during the life of the Notes.

## Decomposition of this PLUS



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 PLUS.

1. Delta measures the sensitivity of the price of the note to the McDonald's Corp.'s stock price on July 22, 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 McDonald's Corp.'s stock on July 22, 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.