

Report Prepared On: 02/01/13

## Structured Product Details

**Name** Equity-Linked Notes linked to the Dow Jones Industrial Average

**Issue Size** \$677,000  
**Issue Price** \$1,000  
**Term** 72 Months  
**Annualized Coupon** 0.00%

**Pricing Date** January 25, 2011  
**Issue Date** January 28, 2011  
**Valuation Date** January 24, 2017  
**Maturity Date** January 27, 2017

**Issuer** Morgan Stanley  
**CDS Rate** 164.08 bps  
**Swap Rate** 2.52%

**Reference Asset** the Dow Jones Industrial Average Index  
**Initial Level** 11,977.19  
**Dividend Rate** 2.37%  
**Implied Volatility** 17.70%  
**Delta<sup>1</sup>** 0.45

**Fair Price at Issue** \$911.33

**CUSIP** 617482QH0  
**SEC Link** [www.sec.gov/Archives/edgar/data/895421/000095010311000417/dp20992\\_424b2-ps623a.htm](http://www.sec.gov/Archives/edgar/data/895421/000095010311000417/dp20992_424b2-ps623a.htm)

## 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.

**Tim Dulaney, Ph.D.,**  
Senior Financial Economist, SLCG  
(+1) 703.539.6777  
[TimDulaney@slcg.com](mailto:TimDulaney@slcg.com)

## Equity-Linked Notes linked to the Dow Jones Industrial Average

### Description

Morgan Stanley issued \$677,000 of Equity-Linked Notes linked to the Dow Jones Industrial Average on January 28, 2011 at \$1,000 per note.

This Principal Protected Note (PPN) does not pay periodic coupons, but instead pays a single amount at maturity depending on the final level of the Dow Jones Industrial Average Index. It is called 'principal protected' because the minimum payout of the note at maturity is the initial issue price, so long as Morgan Stanley does not default.

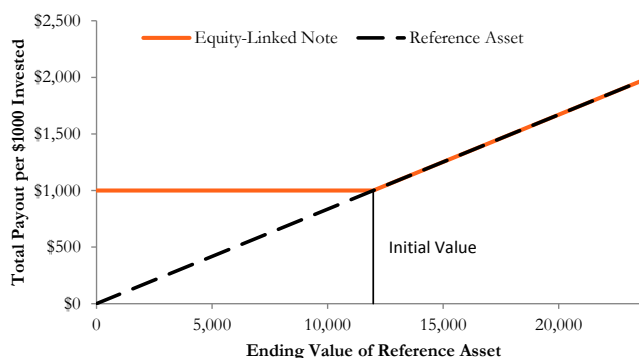
If the Dow Jones Industrial Average Index on January 24, 2017 is lower than or equal to 11,977.19, investors receive the principal of the notes, \$1,000. If the Dow Jones Industrial Average Index on January 24, 2017 is higher than 11,977.19, in addition to the \$1,000 principal, investors will receive a return equal to the percentage increase, above 11,977.19, in the Dow Jones Industrial Average Index.

### Valuation

This PPN linked to the Dow Jones Industrial Average Index can be valued as a combination of a zero-coupon note from Morgan Stanley and one long at-the-money call option on the the Dow Jones Industrial Average Index. For reasonable valuation inputs this note was worth \$911.33 when it was issued on January 28, 2011, because the value of the options investors gave Morgan Stanley plus the interest investors would have received on Morgan Stanley's par debt was worth \$88.67 more than the 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

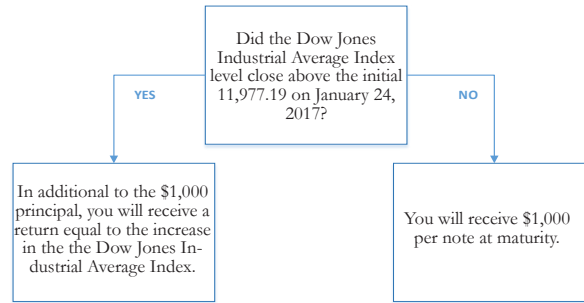


The payoff diagram shows the final payoff of this note given the Dow Jones Industrial Average Index level (horizontal axis). For comparison, the dashed line shows the payoff if you invested in the Dow Jones Industrial Average Index directly.

## Principal Payback Table

The Dow Jones Industrial Average Index	Note Payoff
0.00	\$1,000.00
1,197.72	\$1,000.00
2,395.44	\$1,000.00
3,593.16	\$1,000.00
4,790.88	\$1,000.00
5,988.60	\$1,000.00
7,186.31	\$1,000.00
8,384.03	\$1,000.00
9,581.75	\$1,000.00
10,779.47	\$1,000.00
<b>11,977.19</b>	<b>\$1,000.00</b>
13,174.91	\$1,100.00
14,372.63	\$1,200.00
15,570.35	\$1,300.00
16,768.07	\$1,400.00
17,965.79	\$1,500.00

## Maturity Payoff Diagram

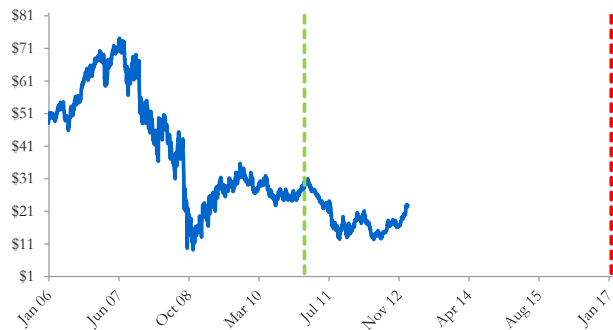


*The contingent payoffs of this Equity-Linked Note.*

## Analysis

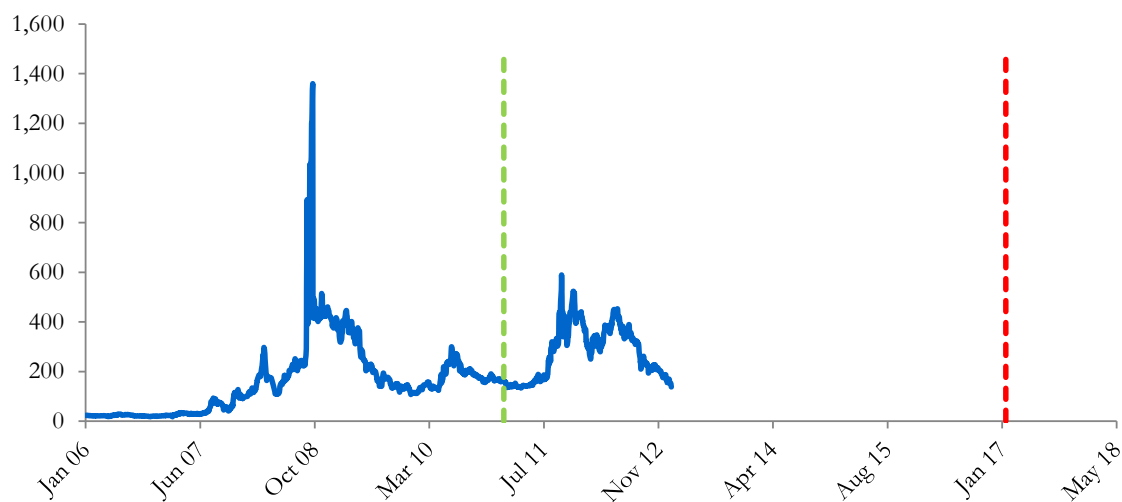
“Principal protected” is a misleading label previously used to refer to structured products that pay at least the note’s face value at maturity if the issuer does not default. Investors purchasing these PPN notes effectively purchase zero-coupon notes and at-the-money call options. That is, investors in these notes receive the payoffs to call options in lieu of interest coupon payments. This PPN note is fairly priced if and only if the value of the call options investors received from Morgan Stanley equals the value of interest Morgan Stanley pays on its straight debt.

## Morgan Stanley’s Stock Price



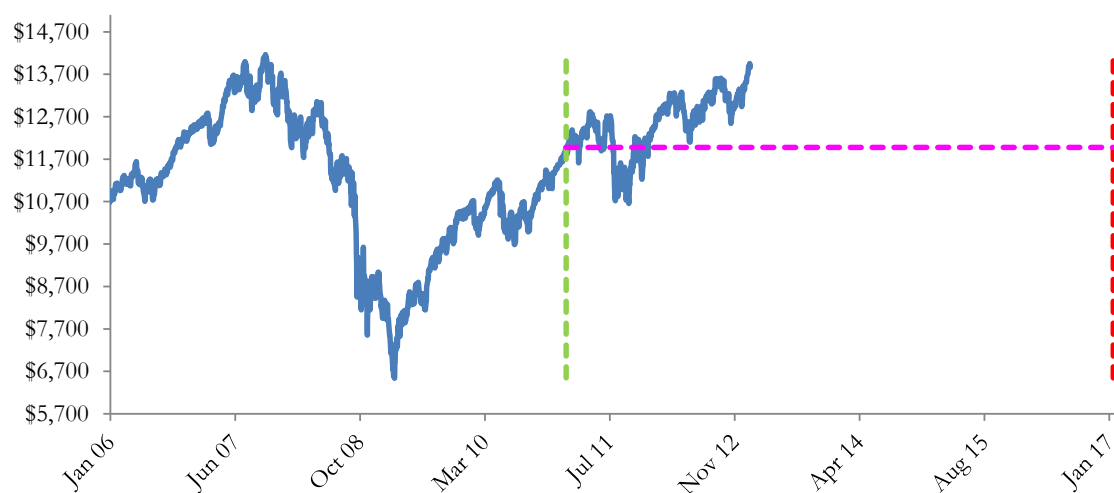
*The graph above shows the adjusted closing price of the issuer Morgan Stanley for the past several years. The stock price of the issuer is an indication of the financial strength of Morgan Stanley. The adjusted price shown above incorporates any stock split, reverse stock split, etc.*

## 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 Equity-Linked Note. Fluctuations in Morgan Stanley's CDS rate impact the market value of the notes in the secondary market.

## The Dow Jones Industrial Average Index Level

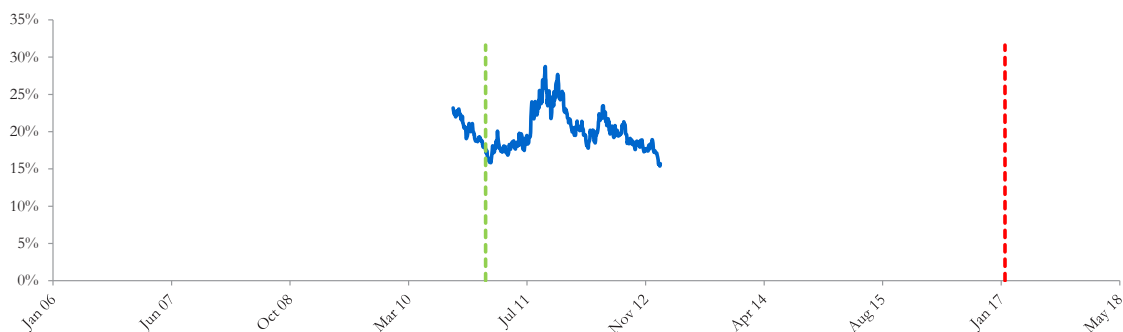


The graph above shows the historical levels of the Dow Jones Industrial Average Index for the past several years. The final payoff of this note is determined by the Dow Jones Industrial Average Index level at maturity. Higher fluctuations in the Dow Jones Industrial Average Index level correspond to a greater uncertainty in the final payout of this Equity-Linked Note.

## Realized Payoff

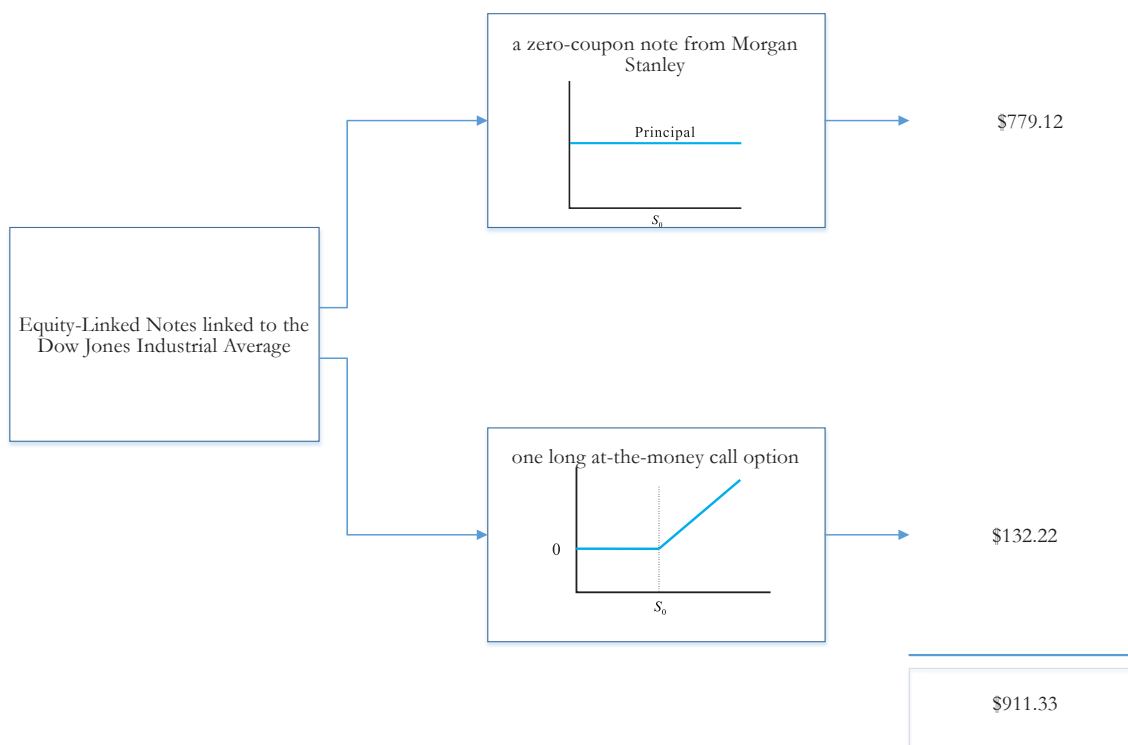
This product will mature on January 27, 2017.

## Reference Asset The Dow Jones Industrial Average Index's Implied Volatility



The annualized implied volatility of the Dow Jones Industrial Average Index on January 25, 2011 was 17.70%, meaning that options contracts on the Dow Jones Industrial Average Index were trading at prices that reflect an expected annual volatility of 17.70%. The higher the implied volatility, the larger the expected fluctuations of the Dow Jones Industrial Average Index level and of the Note's market value during the life of the Notes.

## Decomposition of this Equity-Linked 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 Equity-Linked Note.

1. Delta measures the sensitivity of the price of the note to the Dow Jones Industrial Average Index level on January 25, 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 Dow Jones Industrial Average Index on January 25, 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.