

### Structured Product Details

Name ELK	ELKS based on JPMorgan Chase & Co	
Issue Size	\$84.00 million	
Issue Price	\$10	
Term	6 Months	
Annualized Coupo	9.00%	
Pricing Date	June 24, 2010	
Issue Date	June 29, 2010	
Valuation Date	December 21, 2010	
Maturity Date	December 27, 2010	
Issuer	Morgan Stanley	
CDS Rate	207.68 bps	
Swap Rate	0.74%	
Reference Asset	JPMorgan Chase & Co.'s	
Initial Level Conversion Pric Trigger Price Dividend Rate Implied Volatilit Delta <sup>1</sup>	\$28.52 0.52%	
Fair Price at Issue	\$9.54	
Realized Return	9.35%	
CUSIP SEC Link	61759G810 www.scc.gov/Archives/edgar/ data/895421/000095010310001898/ dp18317_424b2-ps407.htm	

### **Structured Products Research Report**

Report Prepared On: 10/25/12

# ELKS based on JPMorgan Chase & Co

### Description

Morgan Stanley issued \$84.00 million of ELKS based on JPMorgan Chase & Co on June 29, 2010 at \$10 per note.

These notes are Morgan Stanley-branded reverse convertibles. These notes pay periodic interest coupons and at maturity convert into shares of JPMorgan Chase & Co.'s stock, if the closing price of JPMorgan Chase & Co.'s stock was ever below \$28.52 during the term of the notes. Similar securities are issued by other companies under different brand names.

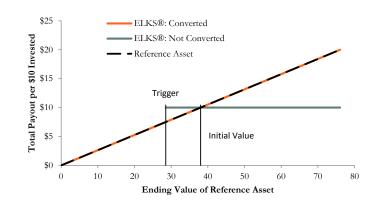
These 6-month notes pay monthly coupons at an annualized rate of 9.00%. In addition to the monthly coupons, at maturity on December 27, 2010 investors will receive the market value of 0.26 share of JPMorgan Chase & Co.'s stock if during the term of the notes JPMorgan Chase & Co.'s stock ever closed at or below \$28.52—75% of JPMorgan Chase & Co.'s stock's \$38.03 closing price on June 24, 2010. Otherwise, investors will receive the \$10 face value per note. In either case, investors receive the final coupon payment at maturity.

### Valuation

This Morgan Stanley ELKS based on JPMorgan Chase & Co can be valued as a combination of a note from Morgan Stanley, a short down-and-in at-the-money put option, and a long down-and-in at-the-money call option on JPMorgan Chase & Co's stock. For reasonable valuation inputs this note was worth \$9.54 per \$10 when issued on June 29, 2010 because investors were effectively being paid only \$0.30 for giving Citigroup options which were worth \$0.76.

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 JPMorgan Chase & Co.'s stock price (hori-zontal axis). For comparison, the dashed line shows the payoff if you invested in JPMorgan Chase & Co.'s stock directly.

## Tim Dulaney, Ph.D.,

**Related Research** 

**Research Papers:** 

www.slcg.com/research.php

tors?" December 2006.

• "Are Structured Products Suitable for Retail Inves-

"Structured Products in the Aftermath of Lehman Brothers," November 2009.

"What TiVo and JP Morgan Teach Us about Re-verse Convertibles," June 2010.

Senior Financial Economist, SLCG (+1) 703.539.6777 TimDulaney@slcg.com

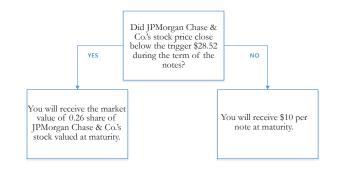
FIND SLCG STRUCTURED PRODUCTS RESEARCH AT

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

JPMorgan Chase & Co.'s Stock	Converted Note Payoff	Non-Con- verted Note Payoff
\$0.00	\$0.00	
\$3.80	\$1.00	
\$7.61	\$2.00	
\$11.41	\$3.00	
\$15.21	\$4.00	
\$19.02	\$5.00	
\$22.82	\$6.00	
\$26.62	\$7.00	
\$30.42	\$8.00	\$10.00
\$34.23	\$9.00	\$10.00
\$38.03	\$10.00	\$10.00
\$41.83	\$11.00	\$10.00
\$45.64	\$12.00	\$10.00
\$49.44	\$13.00	\$10.00
\$53.24	\$14.00	\$10.00
\$57.05	\$15.00	\$10.00

#### Maturity Payoff Diagram



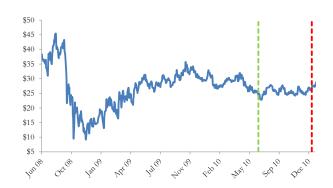
The contingent payoffs of this ELKS.

### Analysis

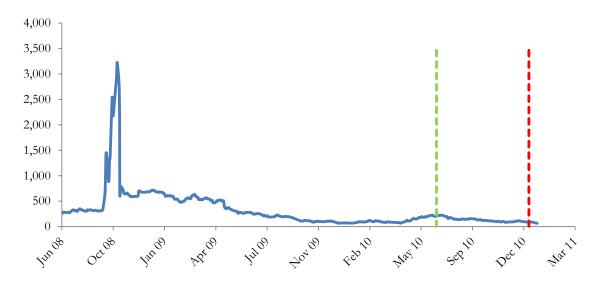
The 9.00% annualized coupon rate is higher than the yield Morgan Stanley paid on its straight debt but, in addition to Morgan Stanley's credit risk, investors bear the risk that, at maturity, they will receive shares of JPMorgan Chase & Co.'s stock at precisely the time when these shares are worth substantially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

Investors purchasing ELKS effectively sell down-and-in put options to Morgan Stanley, 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 Morgan Stanley 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 Morgan Stanley pays on its straight debt equals the net value of the put and call options investors are exchanging with Morgan Stanley. 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.

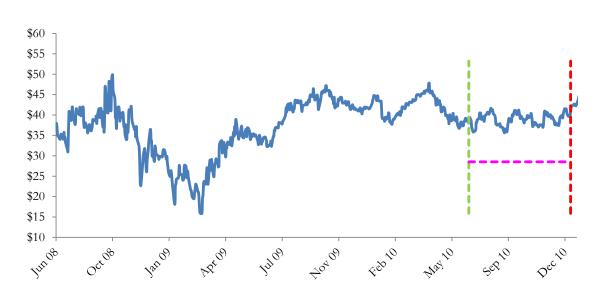
#### Morgan Stanley's Stock Price



The graph above shows the adjucted 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.



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 ELKS. Fluctuations in Morgan Stanley's CDS rate impact the market value of the notes in the secondary market.



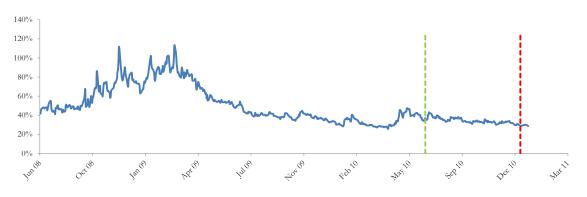
#### JPMorgan Chase & Co.'s Stock Price

The graph above shows the bistorical levels of JPMorgan Chase & Co.'s stock for the past several years. The final payoff of this note is determined by JPMorgan Chase & Co.'s stock price at maturity. Higher fluctuations in JPMorgan Chase & Co.'s stock price correspond to a greater uncertainty in the final payout of this ELKS.

#### **Realized Payoff**

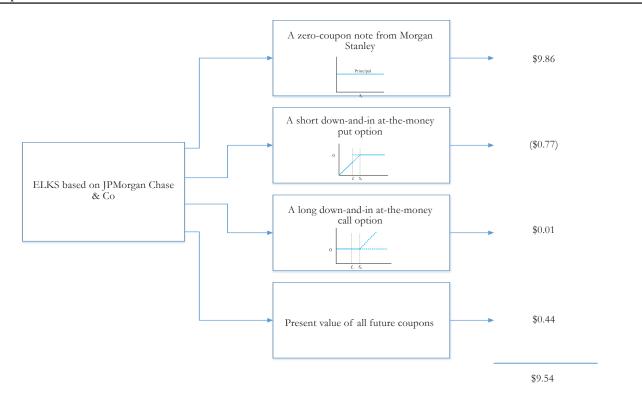
This note matured on December 27, 2010 and investors received \$10.00 per note.

#### Reference Asset JPMorgan Chase & Co.'s Stock's Implied Volatility



The annualized implied volatility of JPMorgan Chase & Co.'s stock on June 24, 2010 was 36.95%, meaning that options contracts on JPMorgan Chase & Co.'s stock were trading at prices that reflect an expected annual volatility of 36.95%. The higher the implied volatility, the larger the expected fluctuations of JPMorgan Chase & Co.'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.

- Delta measures the sensitivity of the price of the note to the JPMorgan Chase & Co's stock price on June 24, 2010.
  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 JPMorgan Chase & Co's stock on June 24, 2010.
  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.

©2012 Securities Litigation and Consulting Group. All Rights Reserved. This research report and its contents are for informational and educational purposes only. The views and opinions on this document are those of the authors and should not be considered investment advice. Decisions based on information obtained from this document are your sole responsibility, and before making any decision on the basis of this information, you should consider whether the information is appropriate in light of your particular investment needs, objectives and financial circumstances. Investors should seek financial advice regarding the suitability of investing in any securities or following any investment strategies.