



## Structured Investments

JPMorgan Chase & Co.

\$8,425,000

Buffered Return Enhanced Notes Linked to a Basket Consisting of the AMEX Hong Kong 30 Index, the FTSE/Xinhua China 25 Index, the Korea Stock Price Index 200, the MSCI Singapore Index and the MSCI Taiwan Index due August 27, 2009

### General

- The notes are designed for investors who seek a return of two times the appreciation of a diversified basket of Asian indices up to a maximum total return on the notes of 20.44% at maturity. Investors should be willing to forgo interest and dividend payments and, if the Basket declines by more than 10%, be willing to lose some or all of their principal.
- Senior unsecured obligations of JPMorgan Chase & Co. maturing August 27, 2009<sup>†</sup>.
- Minimum denominations of \$20,000 and integral multiples of \$1,000 in excess thereof.
- The notes priced on August 8, 2008 and are expected to settle on or about August 13, 2008.

### Key Terms

|                                       |  |
|---------------------------------------|--|
| Basket:                               | The notes are linked to a basket consisting of the AMEX Hong Kong 30 Index ("HKX"), the FTSE/Xinhua China 25 Index ("XIN"), the Korea Stock Price Index 200 ("KOSPI2"), the MSCI Singapore Index ("SGY") and the MSCI Taiwan Index ("TWY") (each a "Basket Index," and together, the "Basket Indices").  |
| Component Weightings:                 | The AMEX Hong Kong Weighting is 16.50%, the FTSE/Xinhua Weighting is 28.00%, the KOSPI 200 Weighting is 26.50%, the MSCI Singapore Weighting is 8.00% and the MSCI Taiwan Weighting is 21.00% (each a "Component Weighting," and collectively, the "Component Weightings").  |
| Upside Leverage Factor:               | 2  |
| Payment at Maturity:                  | If the Ending Basket Level is greater than the Starting Basket Level, you will receive a cash payment that provides you with a return per \$1,000 principal amount note equal to the Basket Return multiplied by two, subject to a Maximum Total Return on the notes of 20.44%. For example, if the Basket Return is more than 10.22%, you will receive the Maximum Total Return on the notes of 20.44%, which entitles you to the maximum payment of \$1,204.40 at maturity for every \$1,000 principal amount note that you hold. Accordingly, if the Basket Return is positive, your payment per \$1,000 principal amount note will be calculated as follows, subject to the Maximum Total Return:<br>$\$1,000 + [\$1,000 \times (\text{Basket Return} \times 2)]$ Your principal is protected against up to a 10% decline in the Basket at maturity. If the Ending Basket Level declines from the Starting Basket Level by up to 10%, you will receive the principal amount of your notes at maturity. If the Ending Basket Level declines from the Starting Basket Level by more than 10%, you will lose 1.111% of the principal amount of your notes for every 1% that the Basket declines beyond 10% and your final payment per \$1,000 principal amount note will be calculated as follows:<br>$\$1,000 + [\$1,000 \times (\text{Basket Return} + 10\%) \times 1.1111]$ <i>You will lose some or all of your investment at maturity if the Ending Basket Level declines from the Starting Basket Level by more than 10%.</i> |
| Buffer Amount:                        | 10%  |
| Downside Leverage Factor:             | 1.1111   |
| Basket Return:                        | The performance of the Basket from the Starting Basket Level to the Ending Basket Level, calculated as follows:<br>$\frac{\text{Ending Basket Level} - \text{Starting Basket Level}}{\text{Starting Basket Level}}$  |
| Starting Basket Level:                | Set equal to 100 on the pricing date, which was August 8, 2008.  |
| Ending Basket Level:                  | The arithmetic average of the Basket Closing Levels on the five Ending Averaging Dates.  |
| Basket Closing Level:                 | For each of the Ending Averaging Dates, the Basket Closing Level will be calculated as follows:<br>$100 \times [1 + ((\text{AMEX Hong Kong Return} \times \text{AMEX Hong Kong Weighting}) + (\text{FTSE/Xinhua Return} \times \text{FTSE/Xinhua Weighting}) + (\text{KOSPI 200 Return} \times \text{KOSPI 200 Weighting}) + (\text{MSCI Singapore Return} \times \text{MSCI Singapore Weighting}) + (\text{MSCI Taiwan Return} \times \text{MSCI Taiwan Weighting}))]$ Each of the returns set forth in the formula above reflects the performance of the relevant Basket Index, expressed as a percentage, from the closing level of that Basket Index on the pricing date to the closing level of that Basket Index on the relevant Ending Averaging Date.  |
| Ending Averaging Dates <sup>†</sup> : | August 18, 2009, August 19, 2009, August 20, 2009, August 21, 2009 and August 24, 2009.  |
| Maturity Date <sup>†</sup> :          | August 27, 2009  |
| CUSIP:                                | 48123LJZ8  |

<sup>†</sup> Subject to postponement in the event of a market disruption event and as described under "Description of Notes — Payment at Maturity" in the accompanying product supplement no. 54-IV.

Investing in the Buffered Return Enhanced Notes involves a number of risks. See "Risk Factors" beginning on page PS-11 of the accompanying product supplement no. 54-IV and "Selected Risk Considerations" beginning on page PS-3 of this pricing supplement.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the notes or passed upon the accuracy or the adequacy of this pricing supplement or the accompanying prospectus supplements and prospectus. Any representation to the contrary is a criminal offense.

|          | Price to Public | Fees and Commissions (1) | Proceeds to Us |
|----------|-----------------|--------------------------|----------------|
| Per note | \$1,000         | \$13                     | \$987          |
| Total    | \$8,425,000     | \$109,525                | \$8,315,475    |

(1) J.P. Morgan Securities Inc., which we refer to as JPMSI, acting as agent for JPMorgan Chase & Co., will receive a commission of \$13.00 per \$1,000 principal amount note and will use a portion of that commission to pay selling concessions to other affiliated dealers of \$6.50 per \$1,000 principal amount note. See "Underwriting" beginning on page PS-125 of the accompanying product supplement no. 54-IV.

For a different portion of the notes to be sold in this offering, an affiliated bank will receive a fee and another affiliate of ours will receive a structuring and development fee. The aggregate amount of these fees will be \$13.00 per \$1,000 principal amount note.

The notes are not bank deposits and are not insured by the Federal Deposit Insurance Corporation or any other governmental agency, nor are they obligations of, or guaranteed by, a bank.

JPMorgan

August 8, 2008

## Additional Terms Specific to the Notes

You should read this pricing supplement together with the prospectus dated December 1, 2005, as supplemented by the prospectus supplement dated October 12, 2006 relating to our Series E medium-term notes of which these notes are a part, and the more detailed information contained in product supplement no. 54-IV dated May 4, 2007. **This pricing supplement, together with the documents listed below, contains the terms of the notes, supplements the term sheet related hereto dated August 5, 2008 and supersedes all other prior or contemporaneous oral statements as well as any other written materials including preliminary or indicative pricing terms, correspondence, trade ideas, structures for implementation, sample structures, fact sheets, brochures or other educational materials of ours.** You should carefully consider, among other things, the matters set forth in “Risk Factors” in the accompanying product supplement no. 54-IV, as the notes involve risks not associated with conventional debt securities. We urge you to consult your investment, legal, tax, accounting and other advisers before you invest in the notes.

You may access these documents on the SEC website at [www.sec.gov](http://www.sec.gov) as follows (or if such address has changed, by reviewing our filings for the relevant date on the SEC website):

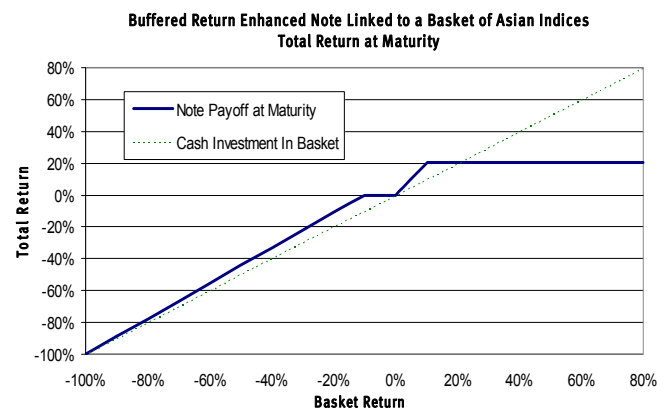
- Product supplement no. 54-IV dated May 4, 2007:  
[http://www.sec.gov/Archives/edgar/data/19617/000089109207001766/e27198\\_424b2.pdf](http://www.sec.gov/Archives/edgar/data/19617/000089109207001766/e27198_424b2.pdf)
- Prospectus supplement dated October 12, 2006:  
[http://www.sec.gov/Archives/edgar/data/19617/000089109206003117/e25276\\_424b2.pdf](http://www.sec.gov/Archives/edgar/data/19617/000089109206003117/e25276_424b2.pdf)
- Prospectus dated December 1, 2005:  
[http://www.sec.gov/Archives/edgar/data/19617/000089109205002389/e22923\\_base.txt](http://www.sec.gov/Archives/edgar/data/19617/000089109205002389/e22923_base.txt)

Our Central Index Key, or CIK, on the SEC website is 19617. As used in this pricing supplement, the “Company,” “we,” “us” or “our” refers to JPMorgan Chase & Co.

## What Is the Total Return on the Notes at Maturity Assuming a Range of Performance for the Basket?

The following table and graph illustrate the hypothetical total return at maturity on the notes. The “total return” as used in this pricing supplement is the number, expressed as a percentage, that results from comparing the payment at maturity per \$1,000 principal amount note to \$1,000. The hypothetical total returns set forth below reflect the Maximum Total Return on the notes of 20.44%. The hypothetical total returns set forth below are for illustrative purposes only and may not be the actual total returns applicable to a purchaser of the notes. The numbers appearing in the following table, graph and examples have been rounded for ease of analysis

| Ending Basket Level | Basket Return | Total Return |
|---------------------|---------------|--------------|
| 180.00              | 80.00%        | 20.44%       |
| 165.00              | 65.00%        | 20.44%       |
| 150.00              | 50.00%        | 20.44%       |
| 140.00              | 40.00%        | 20.44%       |
| 130.00              | 30.00%        | 20.44%       |
| 120.00              | 20.00%        | 20.44%       |
| 110.22              | 10.22%        | 20.44%       |
| 110.00              | 10.00%        | 20.00%       |
| 105.00              | 5.00%         | 10.00%       |
| 102.50              | 2.50%         | 5.00%        |
| 101.00              | 1.00%         | 2.00%        |
| <b>100.00</b>       | <b>0.00%</b>  | <b>0.00%</b> |
| 95.00               | -5.00%        | <b>0.00%</b> |
| 90.00               | -10.00%       | <b>0.00%</b> |
| 80.00               | -20.00%       | -11.11%      |
| 70.00               | -30.00%       | -22.22%      |
| 60.00               | -40.00%       | -33.33%      |
| 50.00               | -50.00%       | -44.44%      |
| 40.00               | -60.00%       | -55.56%      |
| 30.00               | -70.00%       | -66.67%      |
| 20.00               | -80.00%       | -77.78%      |
| 10.00               | -90.00%       | -88.89%      |
| 0.00                | -100.00%      | -100.00%     |



### Hypothetical Examples of Amounts Payable at Maturity

The following examples illustrate how the total returns set forth in the table on the previous page and the graph above are calculated.

**Example 1: The level of the Basket increases from a Starting Basket Level of 100 to an Ending Basket Level of 105.**

Because the Ending Basket Level of 105 is greater than the Starting Basket Level of 100 and the Basket Return of 5% multiplied by 2 does not exceed the Maximum Total Return of 20.44%, the investor receives a payment at maturity of \$1,100 per \$1,000 principal amount note, calculated as follows:

$$\$1,000 + [\$1,000 \times (5\% \times 2)] = \$1,100$$

**Example 2: The level of the Basket decreases from a Starting Basket Level of 100 to an Ending Basket Level of 90.**

Although the Basket Return is negative, because the Ending Basket Level of 90 is less than the Starting Basket Level of 100 by not more than the Buffer Amount of 10%, the investor receives a payment at maturity of \$1,000 per \$1,000 principal amount note.

**Example 3: The level of the Basket increases from a Starting Basket Level of 100 to an Ending Basket Level of 120.**

Because the Ending Basket Level of 120 is greater than the Starting Basket Level of 100 and the Basket Return of 20% multiplied by 2 exceeds the Maximum Total Return of 20.44%, the investor receives a payment at maturity of \$1,204.40 per \$1,000 principal amount note, the maximum payment on the notes.

**Example 4: The level of the Basket decreases from a Starting Basket Level of 100 to an Ending Basket Level of 80.**

Because the Basket Return is negative and the Ending Basket Level of 80 is less than the Starting Basket Level of 100 by more than the Buffer Amount of 10%, the investor receives a payment at maturity of \$888.89 per \$1,000 principal amount note, calculated as follows:

$$\$1,000 + [\$1,000 \times (-20\% + 10\%) \times 1.1111] = \$888.89$$

### Selected Purchase Considerations

- **APPRECIATION POTENTIAL** — The notes provide the opportunity to enhance equity returns by multiplying a positive Basket Return by two, up to the Maximum Total Return on the notes of 20.44%, or \$1,204.40 for every \$1,000 principal amount note. Because the notes are our senior unsecured obligations, payment of any amount at maturity is subject to our ability to pay our obligations as they become due.
- **LIMITED PROTECTION AGAINST LOSS** — Payment at maturity of the principal amount of the notes is protected against a decline in the Ending Basket Level, as compared to the Starting Basket Level, of up to 10%. If the Ending Basket Level declines by more than 10%, for every 1% decline of the Basket beyond 10%, you will lose an amount equal to 1.1111% of the principal amount of your notes.
- **DIVERSIFICATION AMONG THE BASKET INDICES** — The return on the notes is linked to a basket consisting of the AMEX Hong Kong 30 Index, the FTSE/Xinhua China 25 Index, the Korea Stock Price Index 200, the MSCI Singapore Index and the MSCI Taiwan Index. The AMEX Hong Kong 30 Index is based on the capitalization of 30 stocks actively traded on The Stock Exchange of Hong Kong Ltd. and is designed to represent a substantial segment of the Hong Kong stock market. The FTSE/Xinhua China 25 Index is a stock index calculated and published by FTSE/Xinhua Index Limited, and is designed to represent the performance of the mainland Chinese market available to international investors. It is currently based on the largest and the most liquid Chinese stocks listed and trading on The Stock Exchange of Hong Kong Ltd. The Korea Stock Price Index 200 is a capitalization-weighted index of 200 Korean blue-chip stocks which make up a large majority of the total market value of the Korea Stock Exchange. The MSCI Singapore Index is a free float-adjusted market capitalization index that is calculated by MSCI Inc. (“MSCI”) and designed to measure equity market performance in Singapore. The MSCI Taiwan Index, which is calculated by MSCI, is a free float-adjusted market capitalization index of securities listed on the Taiwan Stock Exchange. For additional information about each Basket Index, see the information set forth under “The AMEX Hong Kong 30 Index,” “The FTSE/Xinhua China 25 Index,” “The Korea Stock Price Index 200,” “The MSCI Singapore Index” and “The MSCI Taiwan Index” on PS-31, PS-48, PS-53, PS-61 and PS-65, respectively, of the accompanying product supplement no. 54-IV, as supplemented, with respect to the MSCI Singapore Index and the MSCI Taiwan Index, by the information set forth under “Supplemental Information — Transition of the MSCI Singapore Index and the MSCI Taiwan Index to a New Index Methodology” in this pricing supplement.

- **CAPITAL GAINS TAX TREATMENT** — You should review carefully the section entitled “Certain U.S. Federal Income Tax Consequences” in the accompanying product supplement no. 54 -IV. Subject to the limitations described therein, and based on certain factual representations received from us, in the opinion of our special tax counsel, Davis Polk & Wardwell, it is reasonable to treat your notes as “open transactions” for U.S. federal income tax purposes. Assuming this characterization is respected, your gain or loss on the notes should be treated as long-term capital gain or loss if you hold the notes for more than a year, whether or not you are an initial purchaser of notes at the issue price. However, the Internal Revenue Service (the “IRS”) or a court may not respect this characterization or treatment of the notes, in which case the timing and character of any income or loss on the notes could be significantly and adversely affected. In addition, on December 7, 2007, Treasury and the IRS released a notice requesting comments on the U.S. federal income tax treatment of “prepaid forward contracts” and similar instruments, such as the notes. The notice focuses in particular on whether to require holders of these instruments to accrue income over the term of their investment. It also asks for comments on a number of related topics, including the character of income or loss with respect to these instruments; the relevance of factors such as the nature of the underlying property to which the instruments are linked; the degree, if any, to which income (including any mandated accruals) realized by Non-U.S. Holders should be subject to withholding tax; and whether these instruments are or should be subject to the “constructive ownership” regime, which very generally can operate to recharacterize certain long-term capital gain as ordinary income that is subject to an interest charge. While the notice requests comments on appropriate transition rules and effective dates, any Treasury regulations or other guidance promulgated after consideration of these issues could materially and adversely affect the tax consequences of an investment in the notes, possibly with retroactive effect. Both U.S. and Non-U.S. Holders should consult their tax advisers regarding the U.S. federal income tax consequences of an investment in the notes, including possible alternative treatments and the issues presented by this notice.

### Selected Risk Considerations

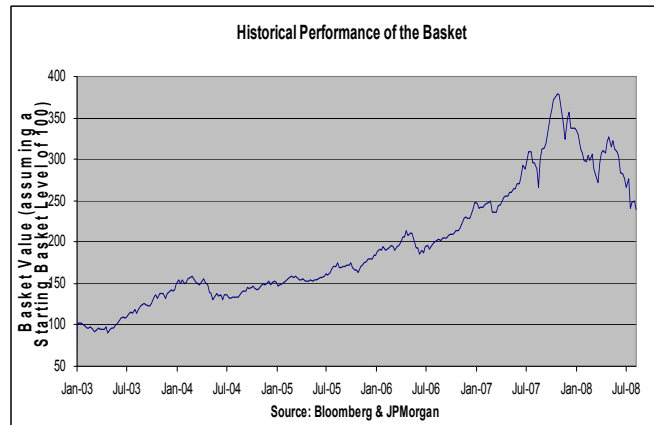
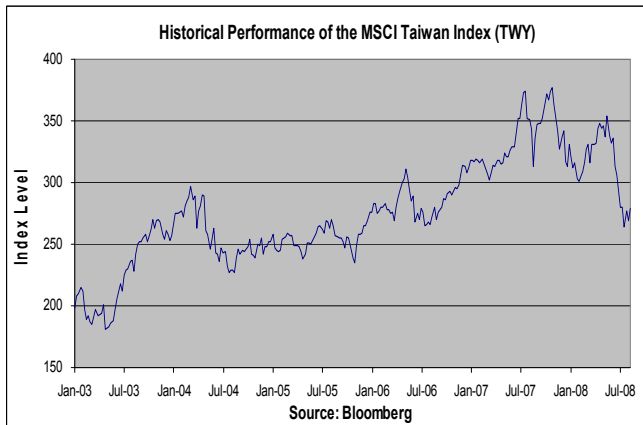
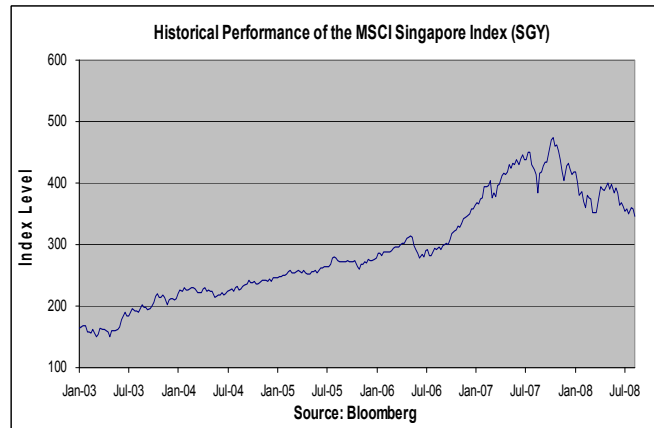
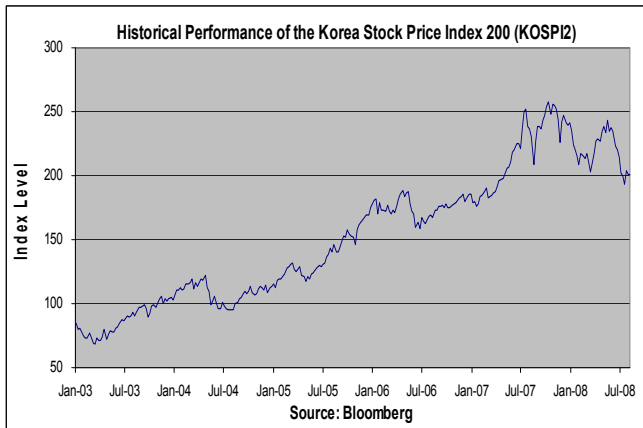
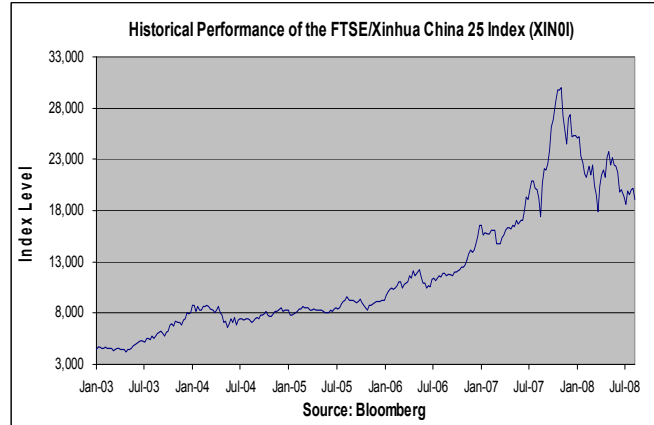
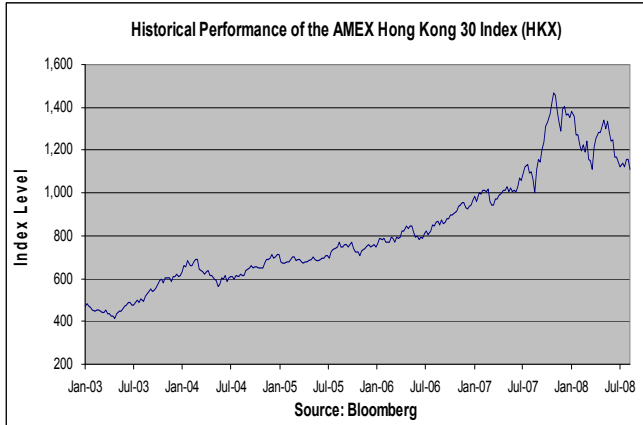
An investment in the notes involves significant risks. Investing in the notes is not equivalent to investing directly in the Basket, the Basket Indices or any of the component stocks of the Basket Indices. These risks are explained in more detail in the “Risk Factors” section of the accompanying product supplement no. 54-IV dated May 4, 2007.

- **YOUR INVESTMENT IN THE NOTES MAY RESULT IN A LOSS** — The notes do not guarantee any return of principal. The return on the notes at maturity is linked to the performance of the Basket and will depend on whether, and the extent to which, the Basket Return is positive or negative. Your investment will be exposed on a leveraged basis to any decline in the Ending Basket Level beyond the 10% buffer as compared to the Starting Basket Level.
- **YOUR MAXIMUM GAIN ON THE NOTES IS LIMITED TO THE MAXIMUM TOTAL RETURN** — If the Ending Basket Level is greater than the Starting Basket Level, for each \$1,000 principal amount note, you will receive at maturity \$1,000 plus an additional amount that will not exceed the Maximum Total Return of 20.44%, regardless of the appreciation in the Basket, which may be significant.
- **CERTAIN BUILT-IN COSTS ARE LIKELY TO ADVERSELY AFFECT THE VALUE OF THE NOTES PRIOR TO MATURITY** — While the payment at maturity described in this pricing supplement is based on the full principal amount of your notes, the original issue price of the notes includes the agent’s commission and the estimated cost of hedging our obligations under the notes through one or more of our affiliates. As a result, the price, if any, at which JPMSI will be willing to purchase notes from you in secondary market transactions, if at all, will likely be lower than the original issue price, and any sale prior to the maturity date could result in a substantial loss to you. The notes are not designed to be short-term trading instruments. Accordingly, you should be able and willing to hold your notes to maturity.
- **NO INTEREST OR DIVIDEND PAYMENTS OR VOTING RIGHTS** — As a holder of the notes, you will not receive interest payments, and you will not have voting rights or rights to receive cash dividends or other distributions or other rights that holders of securities composing any of the Basket Indices would have.
- **NO DIRECT EXPOSURE TO FLUCTUATIONS IN FOREIGN EXCHANGE RATES** — The value of your notes will not be adjusted for exchange rate fluctuations between the U.S. dollar and the currencies upon which the stocks underlying each Basket Index are based, although any currency fluctuations could affect the performance of the Basket. Therefore, if the applicable currencies appreciate or depreciate relative to the U.S. dollar over the term of the notes, you will not receive any additional payment or incur any reduction in your payment at maturity.
- **LACK OF LIQUIDITY** — The notes will not be listed on any securities exchange. JPMSI intends to offer to purchase the notes in the secondary market but is not required to do so. Even if there is a secondary market, it may not provide enough liquidity to allow you to trade or sell the notes easily. Because other dealers are not likely to make a secondary market for the notes, the price at which you may be able to trade your notes is likely to depend on the price, if any, at which JPMSI is willing to buy the notes.
- **POTENTIAL CONFLICTS** — We and our affiliates play a variety of roles in connection with the issuance of the notes, including acting as calculation agent and hedging our obligations under the notes. In performing these duties, the economic interests of the calculation agent and other affiliates of ours are potentially adverse to your interests as an investor in the notes.
- **MANY ECONOMIC AND MARKET FACTORS WILL IMPACT THE VALUE OF THE NOTES** — In addition to the level of the Basket on any day, the value of the notes will be affected by a number of economic and market factors that may either offset or magnify each other, including:
  - the expected volatility of the Basket Indices;
  - the time to maturity of the notes;
  - the dividend rate on the common stocks underlying the Basket Indices;
  - interest and yield rates in the market generally;
  - a variety of economic, financial, political, regulatory or judicial events;
  - the exchange rate and volatility of the exchange rate between the U.S. dollar, the Hong Kong dollar, the Chinese renminbi, the Korean won, the Singapore dollar and the new Taiwan dollar; and
  - our creditworthiness, including actual or anticipated downgrades in our credit ratings.

## Historical Information

The following graphs show the historical weekly performance of each Basket Index as well as the Basket as a whole from January 3, 2003 through August 8, 2008. The graph of the historical Basket performance assumes the Basket level on January 3, 2003 was 100 and the Component Weightings specified on the cover of this pricing supplement on that date. The closing level of the AMEX Hong Kong 30 Index on August 8, 2008, was 1112.66. The closing level of the FTSE/Xinhua China 25 Index on August 8, 2008 was 19033.91. The closing level of the Korea Stock Price Index 200 on August 8, 2008 was 200.76. The closing level of the MSCI Singapore Index on August 8, 2008 was 346.59. The closing level of the MSCI Taiwan Index on August 8, 2008 was 279.10.

We obtained the various Basket Index closing levels below from Bloomberg Financial Markets. We make no representation or warranty as to the accuracy or completeness of information obtained from Bloomberg Financial Markets. The historical levels of each Basket Index and of the Basket should not be taken as an indication of future performance, and no assurance can be given as to the closing level of any Basket Index on any of the Ending Averaging Dates. We cannot give you assurance that the performance of the Basket Indices will result in the return of any of your initial investment.





The information contained in this section supplements the information set forth under “The MSCI Singapore Index” and “The MSCI Taiwan Index” in the accompanying product supplement no. 54-IV. We have derived all information regarding the MSCI Singapore Index and the MSCI Taiwan Index (the “MSCI Indices”) contained in this section from the MSCI Global Investable Market Indices Methodology published by MSCI and other publicly available information. We make no representation or warranty as to the accuracy or completeness of such information. Additional information concerning the transition of the MSCI Indices may be obtained from the MSCI website (www.mscibarra.com). Information contained in the MSCI website is not incorporated by reference in, and should not be considered part of, this pricing supplement or the accompanying product supplement no. 54-IV.

### ***Transition***

MSCI recently announced changes to the methodology used to calculate its MSCI Standard Indices, including the MSCI Indices. The MSCI Standard and MSCI Small Cap Indices, along with the other MSCI equity indices based on them, have transitioned to the Global Investable Market Indices methodology described below. The first phase of the transition of the MSCI Standard Indices, which include the MSCI Indices, was completed on November 30, 2007.

The second phase of the transition of the MSCI Standard and the MSCI Small Cap Indices to the MSCI Global Investable Market Indices methodology was completed on May 30, 2008. All indices derived from the MSCI Standard Indices followed the two-phase transition, except for the MSCI Euro and Pan Euro Indices which were transitioned in one phase on November 30, 2007. The transition was synchronized for all markets and composites.

At the end of the transition period (May 30, 2008), the MSCI Standard Indices was composed of the MSCI Large Cap and Mid Cap Indices. The original MSCI Small Cap Index was transitioned to the MSCI Small Cap Index resulting from the new methodology. Together, the relevant MSCI Large Cap, Mid Cap and Small Cap Indices make up the MSCI Investable Market Index for each country, composite, sector and style index that MSCI offers.

### ***Constructing the MSCI Global Investable Market Indices***

MSCI undertakes an index construction process, which involves: (i) defining the Equity Universe; (ii) determining the Market Investable Equity Universe for each market; (iii) determining market capitalization size segments for each market; (iv) applying Index Continuity Rules for the MSCI Standard Index; (v) creating style segments within each size segment within each market; and (vi) classifying securities under the Global Industry Classification Standard (the “GICS”).

#### ***Defining the Equity Universe***

- (i) **Identifying Eligible Equity Securities:** The Equity Universe initially looks at securities listed in any of the countries in the MSCI Global Index Series, which will be classified as either Developed Markets (“DM”) or Emerging Markets (“EM”). All listed equity securities, or listed securities that exhibit characteristics of equity securities, except mutual funds, ETFs, equity derivatives, limited partnerships, and most investment trusts, are eligible for inclusion in the Equity Universe. Real Estate Investment Trusts (“REITs”) in some countries and certain income trusts in Canada are also eligible for inclusion.
- (ii) **Country Classification of Eligible Securities:** Each company and its securities (i.e., share classes) are classified in one and only one country, which allows for a distinctive sorting of each company by its respective country.

#### ***Determining the Market Investable Equity Universes***

A Market Investable Equity Universe for a market is derived by applying investability screens to individual companies and securities in the Equity Universe that are classified in that market. A market is equivalent to a single country, except in DM Europe, where all DM countries in Europe are aggregated into a single market for index construction purposes. Subsequently, individual DM Europe country indices within the MSCI Europe Index are derived from the constituents of the MSCI Europe Index under the Global Investable Market Indices methodology.

The investability screens used to determine the Investable Equity Universe in each market are as follows:

- (i) **Equity Universe Minimum Size Requirement:** This investability screen is applied at the company level. In order to be included in a Market Investable Equity Universe, a company must have the required minimum full market capitalization.
- (ii) **Equity Universe Minimum Float-Adjusted Market Capitalization Requirement:** This investability screen is applied at the individual security level. To be eligible for inclusion in a Market Investable Equity Universe, a security must have a free float-adjusted market capitalization equal to or higher than 50% of the Equity Universe Minimum Size Requirement.
- (iii) **DM and EM Minimum Liquidity Requirement:** This investability screen is applied at the individual security level. To be eligible for inclusion in a Market Investable Equity Universe, a security must have adequate liquidity. The Annualized Traded Value Ratio (“ATVR”), a measure that offers the advantage of screening out extreme daily trading volumes and taking into account the free float-adjusted market capitalization size of securities, is used to measure liquidity. In the calculation of the ATVR, the trading volumes in depository receipts associated with that security, such as ADRs or GDRs, are also considered. A minimum liquidity level of 20% ATVR is required for inclusion of a security in a Market Investable Equity Universe of a Developed Market, and a minimum liquidity level of 15% ATVR is required for inclusion of a security in a Market Investable Equity Universe of an Emerging Market.

- (iv) **Global Minimum Foreign Inclusion Factor Requirement:** This investability screen is applied at the individual security level. To be eligible for inclusion in a Market Investable Equity Universe, a security's Foreign Inclusion Factor ("FIF") must reach a certain threshold. The FIF of a security is defined as the proportion of shares outstanding that is available for purchase in the public equity markets by international investors. This proportion accounts for the available free float of and/or the foreign ownership limits applicable to a specific security (or company). In general, a security must have an FIF equal to or larger than 0.15 to be eligible for inclusion in a Market Investable Equity Universe.
- (v) **Minimum Length of Trading Requirement:** This investability screen is applied at the individual security level. For an initial public offering ("IPO") to be eligible for inclusion in a Market Investable Equity Universe, the new issue must have started trading at least four months before the implementation of the initial construction of the index or at least three months before the implementation of a Semi-Annual Index Review. This requirement is applicable to small new issues in all markets. Large IPOs are not subject to the Minimum Length of Trading Requirement and may be included in a Market Investable Equity Universe and the Standard Index outside of a Quarterly or Semi-Annual Index Review.

#### *Defining Market Capitalization Size Segments for Each Market*

Once a Market Investable Equity Universe is defined, it is segmented into the following size-based indices:

- Investable Market Index (Large + Mid + Small)
- Standard Index (Large + Mid)
- Large Cap Index
- Mid Cap Index
- Small Cap Index

Creating the Size Segment Indices in each market involves the following steps: (i) defining the Market Coverage Target Range for each size segment; (ii) determining the Global Minimum Size Range for each size segment; (iii) determining the Market Size-Segment Cutoffs and associated Segment Number of Companies; (iv) assigning companies to the size segments; and (v) applying final size-segment investability requirements.

#### *Index Continuity Rules for the Standard Indices*

In order to achieve index continuity, as well as provide some basic level of diversification within a market index, notwithstanding the effect of other index construction rules, a minimum number of five constituents will be maintained for a DM Standard Index and a minimum number of three constituents will be maintained for an EM Standard Index.

If after the application of the index construction methodology, a Standard Index contains fewer than five securities in a Developed Market or three securities in an Emerging Market, then the largest securities by free float-adjusted market capitalization are added to the Standard Index in order to reach five constituents in that Developed Market or three in that Emerging Market. At subsequent Index Reviews, if the free float-adjusted market capitalization of a non-index constituent is at least 1.50 times the free float-adjusted market capitalization of the smallest existing constituent after rebalancing, the larger free float-adjusted market capitalization security replaces the smaller one.

#### *Creating Style Indices within Each Size Segment*

All securities in the investable equity universe are classified into Value or Growth segments using the MSCI Global Value and Growth methodology.

#### *Classifying Securities under the Global Industry Classification Standard*

All securities in the Global Investable Equity Universe are assigned to the industry that best describes their business activities. To this end, MSCI has designed, in conjunction with Standard & Poor's, the Global Industry Classification Standard. Under the GICS, each company is assigned uniquely to one sub-industry according to its principal business activity. Therefore, a company can belong to only one industry grouping at each of the four levels of the GICS.

#### **Index Maintenance**

The MSCI Global Investable Market Indices are maintained with the objective of reflecting the evolution of the underlying equity markets and segments on a timely basis, while seeking to achieve index continuity, continuous investability of constituents and replicability of the indices, and index stability and low index turnover.

In particular, index maintenance involves:

- (i) **Semi-Annual Index Reviews ("SAIRs")** in May and November of the Size Segment and Global Value and Growth Indices which include:
- Updating the indices on the basis of a fully refreshed Equity Universe.
  - Taking buffer rules into consideration for migration of securities across size and style segments.
  - Updating FIFs and Number of Shares ("NOS").

The objective of the SAIRs is to systematically reassess the various dimensions of the Equity Universe for all markets on a fixed semi-annual timetable. A SAIR involves a comprehensive review of the Size Segment and Global Value and Growth Indices.

- (ii) Quarterly Index Reviews (“QIRs”) in February and August of the Size Segment Indices aimed at:
  - Including significant new eligible securities (such as IPOs that were not eligible for earlier inclusion) in the index.
  - Allowing for significant moves of companies within the Size Segment Indices, using wider buffers than in the SAIR.
  - Reflecting the impact of significant market events on FIFs and updating NOS.

QIRs are designed to ensure that the indices continue to be an accurate reflection of the evolving equity marketplace. This is achieved by a timely reflection of significant market driven changes that were not captured in the index at the time of their actual occurrence but are significant enough to be reflected before the next SAIR. QIRs may result in additions or deletions due to migration to another Size Segment Index, and changes in FIFs and in NOS. Only additions of significant new investable companies are considered, and only for the Standard Index. The buffer zones used to manage the migration of companies from one segment to another are wider than those used in the SAIR. The style classification is reviewed only for companies that are reassigned to a different size segment.

- (iii) Ongoing event-related changes. Ongoing event-related changes to the indices are the result of mergers, acquisitions, spin-offs, bankruptcies, reorganizations and other similar corporate events. They can also result from capital reorganizations in the form of rights issues, bonus issues, public placements and other similar corporate actions that take place on a continuing basis. These changes generally are reflected in the indices at the time of the event. Significantly large IPOs are included in the indices after the close of the company’s tenth day of trading.

### ***Announcement Policy***

The results of the SAIRs are announced at least two weeks in advance of their effective implementation dates as of the close of the last business day of May and November.

The results of the QIRs are announced at least two weeks in advance of their effective implementation dates as of the close of the last business day of February and August.

All changes resulting from corporate events are announced prior to their implementation.

The changes are typically announced at least ten business days prior to the changes becoming effective in the indices as an “expected” announcement, or as an “undetermined” announcement, when the effective dates are not known yet or when aspects of the event are uncertain. MSCI sends “confirmed” announcements at least two business days prior to events becoming effective in the indices, provided that all necessary public information concerning the event is available. The full list of all new and pending changes is delivered to clients on a daily basis, at 5:30 p.m., US Eastern Time.

In exceptional cases, events are announced during market hours for same or next day implementation. Announcements made by MSCI during market hours are usually linked to late company disclosure of corporate events or unexpected changes to previously announced corporate events.

In the case of secondary offerings representing more than 5% of a security’s number of shares for existing constituents, these changes will be announced prior to the end of the subscription period when possible and a subsequent announcement confirming the details of the event (including the date of implementation) will be made as soon as the results are available.

Both primary equity offerings and secondary offerings for U.S. securities, representing at least 5% of the security’s number of shares, will be confirmed through an announcement during market hours for next day or shortly after implementation, as the completion of the events cannot be confirmed prior to the notification of the pricing.

Early deletions of constituents due to bankruptcy or other significant cases are announced as soon as practicable prior to their implementation.