

FEBRUARY 26, 2009

DERIVATIVES

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# Agenda

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■ Questions we will try to answer	
■ How important are derivatives to JPM?	
■ How does JPM manage risks associated with our derivative activities?	
■ What key themes are emerging in the changing derivatives landscape?	
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# Derivatives are widely used by 90% of large companies

What do we mean when we say derivatives?

- "A contract whose value is based upon the performance of an underlying financial asset, index, or other investment." ~ Barron's Dictionary of Finance and Investment Terms
- Derivatives are commonplace and generally standardized products referencing major markets like USD interest rates, FX rates, corporate credit indexes or commodity prices

Who uses derivatives?

- Large corporations (>\$2B in sales) are highly dependent on OTC FX and interest rate derivatives. 66% used FX hedges and 45% used rate hedges<sup>1</sup>. Mid-size corporations are similarly active
- Extensive use by Governments, Agencies and Supranationals both to manage risk and lower the cost of capital
- Derivative dealers and asset managers use derivatives as risk hedging tools and as part of market making activity

What are derivatives used for?

- Allow companies to mitigate volatility in non-core activities, such as changes in FX rates and interest rates
- Allow companies to reduce their cost of capital
- Allow investors to gain specific exposure profiles to suit their investment objectives and risk tolerances
- Client problems range from simple to complex; derivative solutions can come in many forms: flow or exotic in various asset classes

<sup>1</sup> Per 2009 Greenwich Associates survey

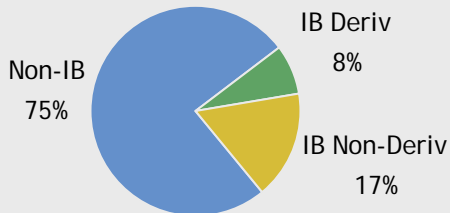
# Derivatives have many uses but we can simplify down to four categories

	Risk Management	Defensive Investing	Leveraged Investing	Professional / Liquidity
Overview	Derivatives mitigate or transform clients' exposures to interest rates, currencies, etc.	Derivatives are used to make investments which provide the opportunity for gains while protecting from loss (e.g., capital protection)	Derivatives are used to provide leveraged returns on invested capital - both upside and downside	Trading between dealers and other dealers or other professionals to distribute risk to the market
Typical clients	<ul style="list-style-type: none"> <li>■ Clients with specific business need                             <ul style="list-style-type: none"> <li>■ Corporations</li> <li>■ Financial institutions</li> <li>■ Governments</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ Investor clients                             <ul style="list-style-type: none"> <li>■ Asset managers</li> <li>■ Pension funds</li> </ul> </li> <li>■ High Net Worth investors (via distributors)</li> </ul>	<ul style="list-style-type: none"> <li>■ Investor clients                             <ul style="list-style-type: none"> <li>■ Hedge funds</li> <li>■ Asset managers</li> <li>■ Prop traders</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ Other broker/dealers</li> </ul>
Example products	<ul style="list-style-type: none"> <li>■ FX forwards</li> <li>■ Interest Rate Swaps</li> <li>■ Credit Default Swaps</li> <li>■ Deal contingent customized payouts</li> </ul>	<ul style="list-style-type: none"> <li>■ Collars</li> <li>■ Principal protected structured notes</li> </ul>	<ul style="list-style-type: none"> <li>■ Options (uncovered)</li> <li>■ Swaps</li> <li>■ Binary payouts</li> <li>■ Correlation trades</li> </ul>	<ul style="list-style-type: none"> <li>■ All flow products</li> <li>■ Structured products</li> </ul>
Demand outlook <sup>1</sup>	●	◐	◑	◐

<sup>1</sup> ● = highest, ○ = lowest

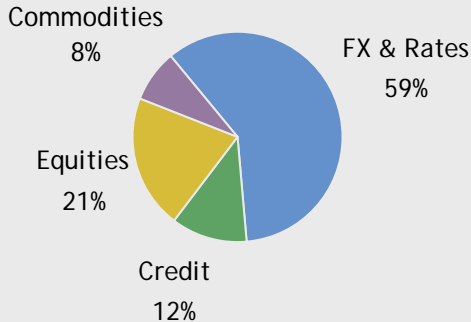
# Derivative products generate a meaningful part of JPM's revenue and profits

2006-2008 JPM Firmwide Revenue



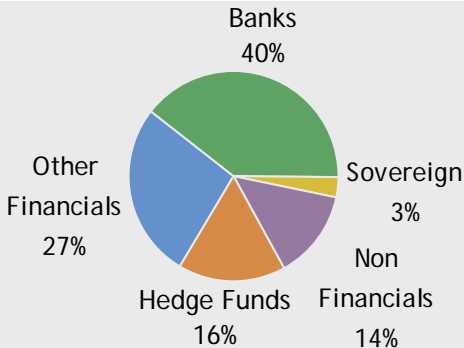
Source: Average revenue 2006-2008

2006-2008 Derivative Revenue by Asset Class



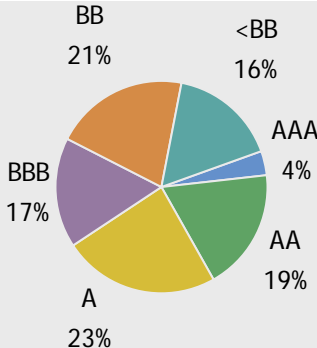
Source: Average revenue 2006-2008:

2006-2008 Derivative Revenue by Client Sector



Source: Average client revenue 2006-2008

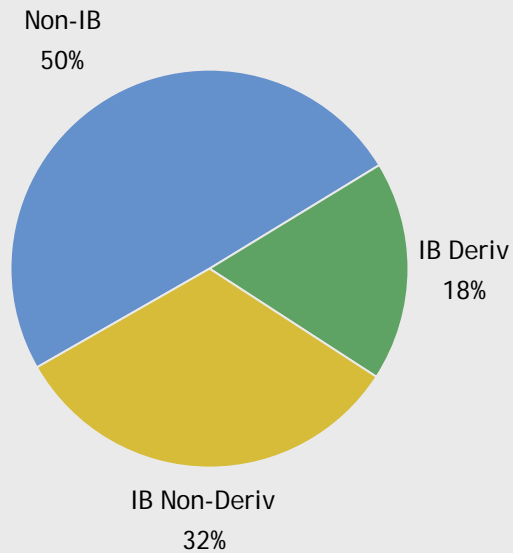
2006-2008 Derivative Revenue by Client Credit Rating



Source: Average client revenue 2006-2008

# Derivatives are also a core component of JPM's RWA, economic capital and balance sheet

FY 2008 JPM Firmwide Risk Weighted Assets

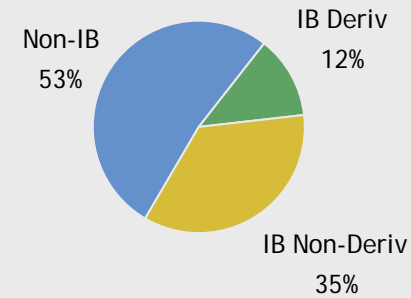


Top drivers:

- IB Deriv: Credit derivatives, interest rate swaps
- IB Non-Deriv: Loans and funding commitments
- Non-IB: Mortgages, credit card receivables and commercial loans

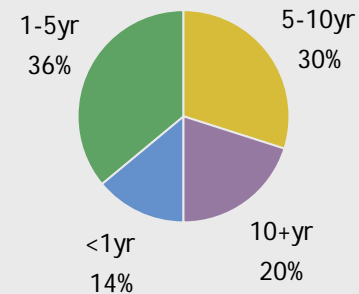
Source: Average quarterly RWA

FY 2008 JPM Firmwide Assets



Source: Average daily 3<sup>rd</sup> party assets

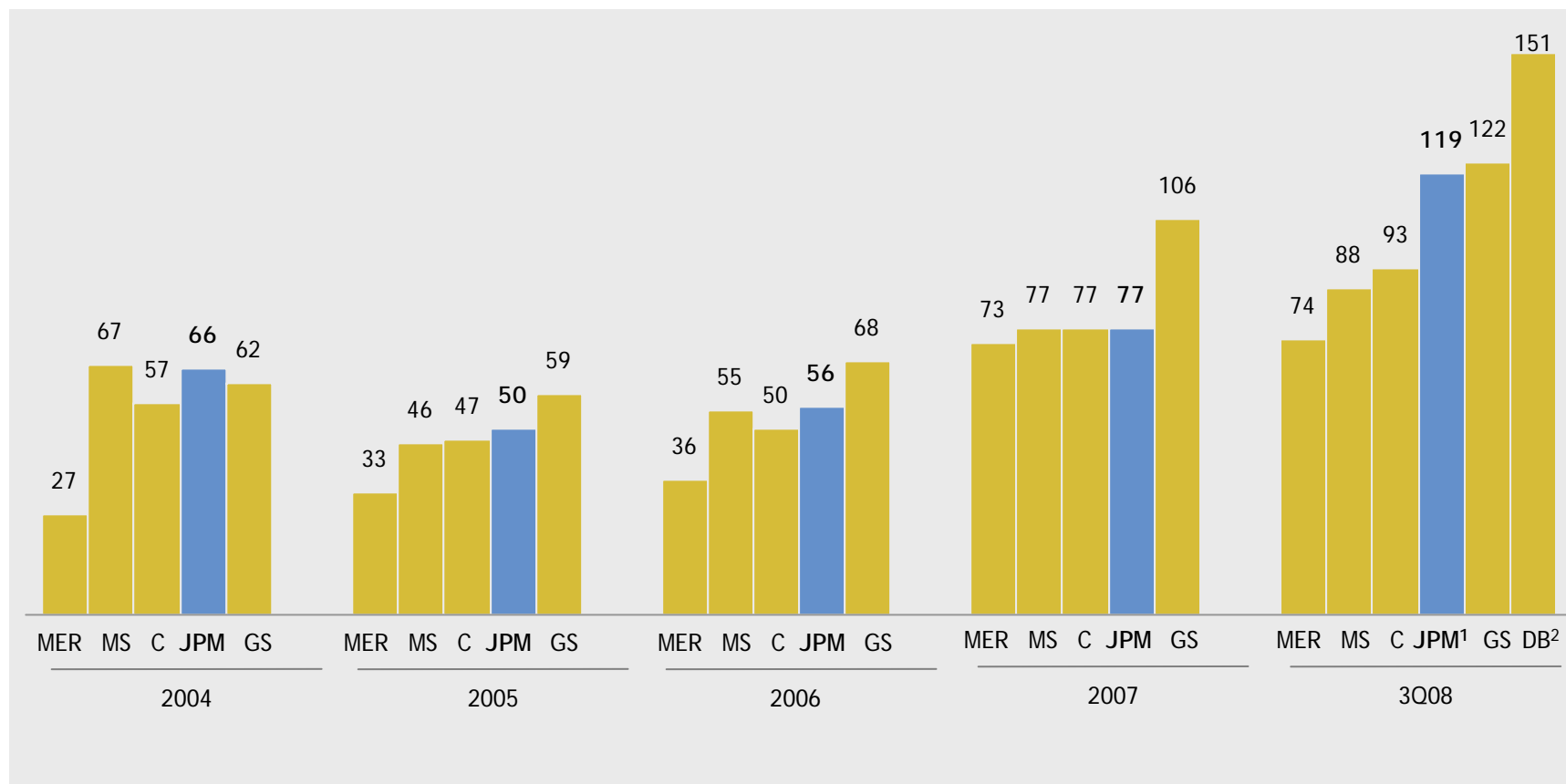
FY 2008 Derivative Receivables by Duration



Source: Average quarterly gross receivables

# JPM is one of the significant dealers in derivatives

Trading Assets - Derivatives Net Receivables (\$ in billions)



	MER	MS	C	JPM <sup>1</sup>	GS	DB <sup>2</sup>
Period Ending	Aug 31, 2008	Aug 31, 2008	Sept 30, 2008	Sept 30, 2008	Aug 31, 2008	Sept 30, 2008
Ratio Deriv Rec/TCE	2.99x	2.86x	2.12x	1.38x	3.26x	4.47x

Source: Firms 10-Q/10-K/6-K; DB 4Q Investor presentation US GAAP equivalent

Note: Net of Fin 39 netting and cash collateral; End of period balances

<sup>1</sup> Significant 2008 increase due to impact of BSC, \$18B at the end of May 2008

<sup>2</sup> DB derivatives net receivables on US GAAP pro forma - €107B for 3Q08

# JPM manages the risks associated with derivatives along six dimensions

1 Market	Exposure to an adverse change in the market value of financial instruments caused by a change in market prices or rates
2 Counterparty Credit	A counterparty's inability to make payments or otherwise perform under its contracts with JPM leading to direct credit exposure as well as open market risk positions
3 Operational	Operational errors, omissions and processing backlogs, resulting in financial loss
4 Liquidity	Liquidity calls arising from a credit downgrade, counterparty defaults or through mismatched cash flows
5 Legal	Risk that contractual terms will be unenforceable, including due to suitability issues or other claims by the counterparty
6 Reputational	Risk to JPM's reputation because of its association with a transaction that is perceived to reflect inappropriate accounting, tax positions or regulatory arbitrage by our counterparty or mis-selling on the part of JPM

# JPM uses six core tools to measure and manage market risk

## Stress testing

- Large number of stresses across all asset classes
- Combined in many ways to search for vulnerabilities
- Useful for understanding non-linear exposures

## VaR

- Potential loss from simulated historical market moves based on worst days over the last year
- Useful for understanding risks within a range

## Sensitivities to market variables

- Sensitivities to a wide spectrum of risk parameters
- Aggregation of key sensitivities enables early identification of concentrated positions
- Useful complement to VaR and stress testing

## Risk Identification for Large Exposures (RIFLEs)

- Identification of potential losses arising from idiosyncratic events (e.g. unexpected tax legislation, change in law)
- Scenarios developed by independent risk functions as well as business - self assessment

## P&L drawdown

- Losses from P&L drawdowns by business and sub-business monitored daily and subjected to limits
- Useful in early identification of problems

## Risk-adjusted return

- New and existing products or trade opportunities reviewed to understand risk-adjusted returns to ensure they meet appropriate hurdles
- Many of the problems we avoided were caught by these analyses

# Stress Testing Deeper Dive: focus on JPM's dealer exit scenario

- We have deliberately constrained our trading books to reduce the potential financial risk identified by our Dealer Exit scenario
- This estimates the impact on the market price of certain derivatives following the exit of a large market participant (e.g. dealer or hedge fund)
- Focused historically on the structured and exotic risk books where dealers tend to share position concentrations. Extended to include other less liquid positions thought to be commonly held
- These market risk scenarios are incorporated within firmwide stress analyses and measured against limits
- We have an additional process for measuring contingent market risks to potential counterparty failure. Quantifies re-hedging needs by asset class and business, highlighting concentrated exposures that are likely to move against us in the event of a dealer exit (Wrong-Way Risk)
- Connected process to ensure operational risk from counterparty default is appropriately managed

# JPM's risk management has proven to be robust and critical to avoiding the largest issues to date

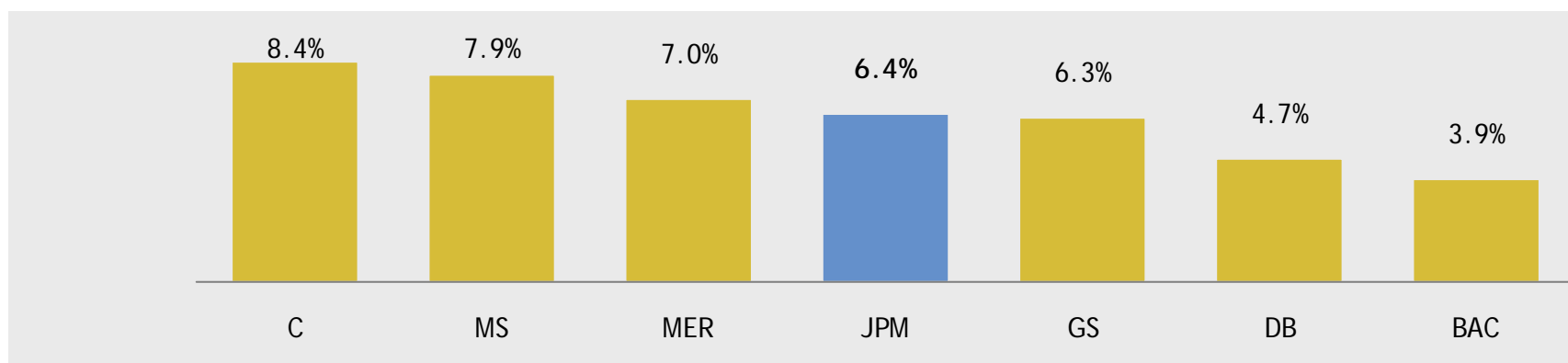
<b>Issues</b>	<b>Structured Investment Vehicles (SIV)</b> <ul style="list-style-type: none"><li>■ SIV sponsor banks provided liquidity back-stops to their SIV's, effectively transferring the risk back to the bank in falling markets</li><li>■ Fees for back-stops were not sufficient to compensate for risks</li><li>■ Sponsoring SIV's carried reputation risks that induced banks to consolidate and bail out their funds</li></ul>	<b>ABS Super Senior</b> <ul style="list-style-type: none"><li>■ ABS Super Senior structures presented true tail risk</li><li>■ Such risks are difficult to hedge and losses can ramp up very quickly</li><li>■ Market initially under-priced risks inherent in the structures</li><li>■ High volume of deal flow created potential for concentrated risk positions</li></ul>
<b>Lessons / Actions</b>	<ul style="list-style-type: none"><li>■ Detailed due diligence to avoid transactions with low returns and potential of outsize losses (low return/fat tail)</li><li>■ Appropriate limits set to avoid risk concentrations</li><li>■ Avoided material loss as a result of limits, diligence and return discipline</li><li>■ Treat sponsored funds and products as if they remain on our own balance sheet</li></ul>	

# However, smaller losses did occur in specific areas

	Worst-Of Basket Options	Muni/Libor Spreads	Corporate Currency Hedges
Issues	<ul style="list-style-type: none"> <li>Options with payout based on the worst performing stock from a pre-selected basket</li> <li>High exposure to correlation of price movements of stocks within the basket</li> <li>Crowded trades - many dealers had similar positions, increasing hedge costs and exacerbating market movements</li> </ul>	<ul style="list-style-type: none"> <li>Exposure to the ratio of Muni to Libor rates through client-related transactions</li> <li>Relationship of Muni and Libor spreads changed and unexpectedly traded through natural arbitrage levels</li> <li>Counterparties to hedges had concentrated positions to Muni/Libor ratio leading to defaults and losses for JPM</li> </ul>	<ul style="list-style-type: none"> <li>Corporate clients undertaking sophisticated FX hedging strategies</li> <li>High volatility in underlying currencies resulting in large P&amp;L swings</li> <li>Incomplete understanding of client motivation for trading strategy</li> <li>Incomplete understanding of full size of client positions with other dealers</li> </ul>
Lessons	<ul style="list-style-type: none"> <li>Reset limits to be more in line with risk characteristics of structures</li> <li>Pricing changed to fully reflect all risks</li> </ul>	<ul style="list-style-type: none"> <li>Do not assume that natural price boundaries cannot be breached</li> <li>Improve scenario analyses to capture potential for counterparty concentration</li> </ul>	<ul style="list-style-type: none"> <li>Insist on full understanding of client's trading motivations and positions</li> <li>Improve stress testing to capture breakdown of historically stable price relationships</li> </ul>

## Some derivatives can be complex to value; these are disclosed as Level 3 assets in our financial statements

3Q08 Level 3 Assets as a Percentage of Total Assets



(\$ in billions)

	C	MS	MER	JPM	GS	DB <sup>1</sup>	BAC
Level 3 Assets	173	78	61	145	68	130	71
Level 3/TCE	3.93x	2.56x	2.46x	1.68x	1.82x	3.84x	1.54x

- Valuations are typically derived using financial models or require illiquid/difficult to observe market data
- Inherent uncertainties in such processes are managed through the use of Fair Value Adjustments (FVA)
- Model review is also a key part of the overall risk and control framework for these products

Source: Company 3Q 10-Q/6-K

<sup>1</sup> Deutsche Bank reports under IFRS, and is not directly comparable to the other US GAAP reporting firm; Level 3 assets are "held at fair value which are measured using valuation techniques with unobservable parameters"

## Measurement and mitigation of counterparty credit risk at JPM

### Measure

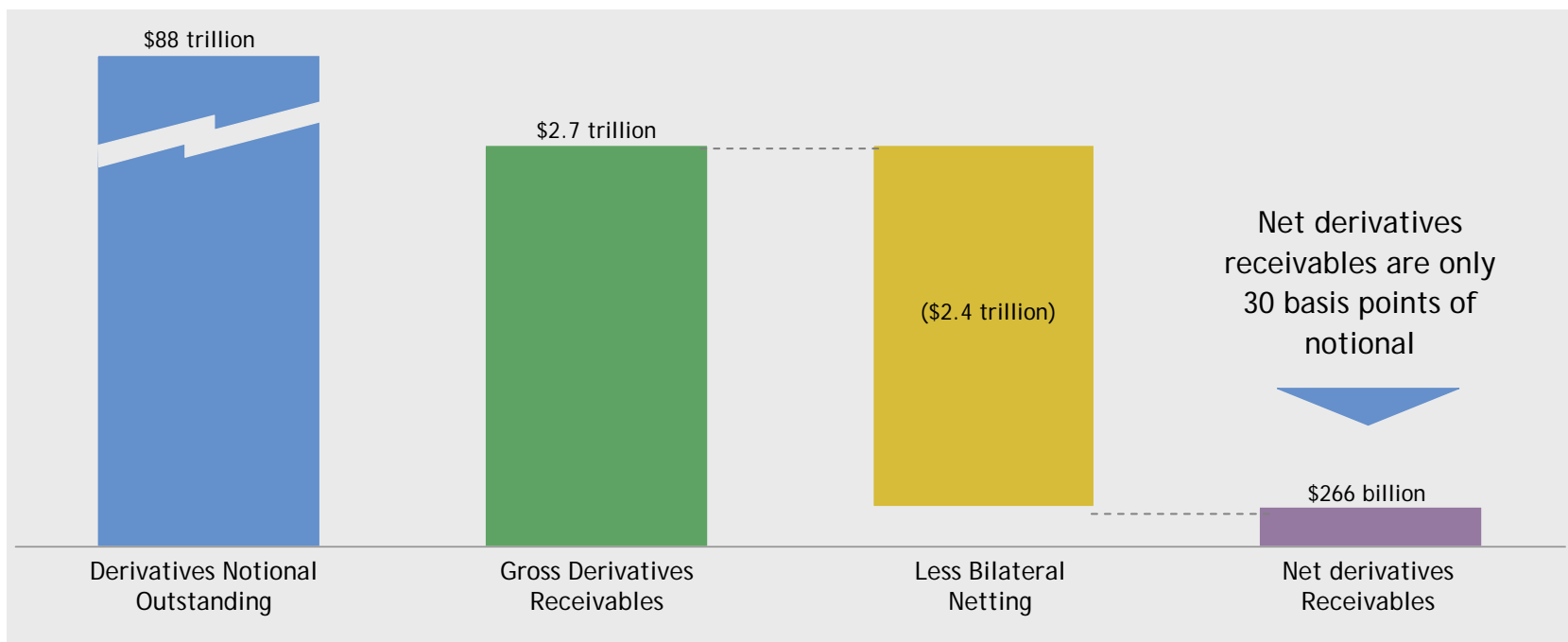
- Notional is a reference amount and not a good gauge of risk exposure
- Mark-to-market exposure is the current value of a derivative contract and is a key measure
- Other measures estimate future changes in exposure such as loan equivalent and near-worst-case exposure

### Mitigate

- Establish global counterparty-specific credit lines
- Transactions with a single counterparty under a Master Netting Agreement are netted in case of default
- Require counterparties to post collateral in most cases, offsetting losses if a counterparty defaults
- Mark exposures to market and 'reserve' against possible credit losses based on expected exposure (Credit Valuation Adjustment or CVA)
- Purchase hedges (CDS) from high quality counterparties to reduce risk where appropriate
- In some cases, JPM has the ability to terminate early or call additional collateral should a counterparty's credit deteriorate

# Notional outstanding measures gives a misleading picture of counterparty exposure

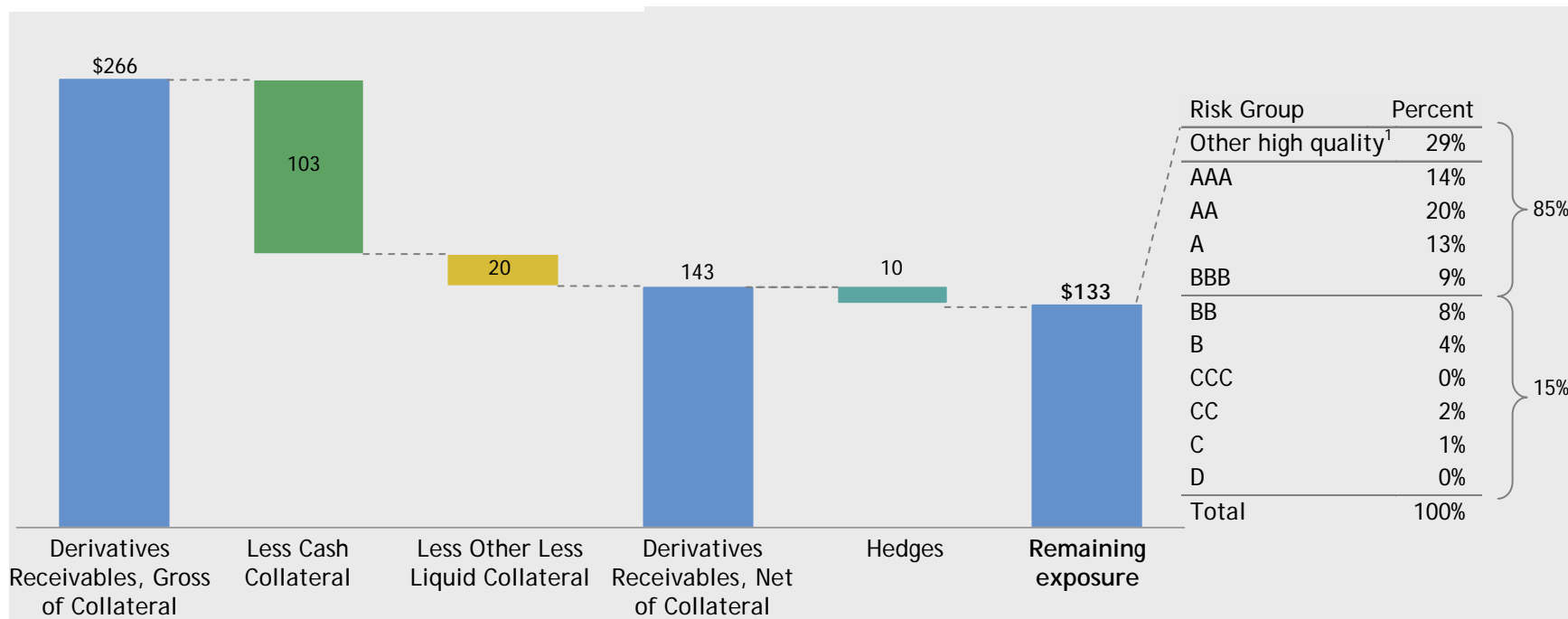
JPM Gross Derivative Counterparty Exposure in 4Q08



- Gross receivables measures current value of all transactions before taking account of netting
- JPM can net its derivatives payables and receivables with a given counterparty, reducing the assets on its balance sheet and its counterparty credit exposure. We only assume netting works where we are highly confident based on law and precedent

# Through effective use of collateral, JPM reduces its counterparty exposure by almost half

JPM Net Derivative Counterparty Exposure in 4Q08 (\$ in billions)

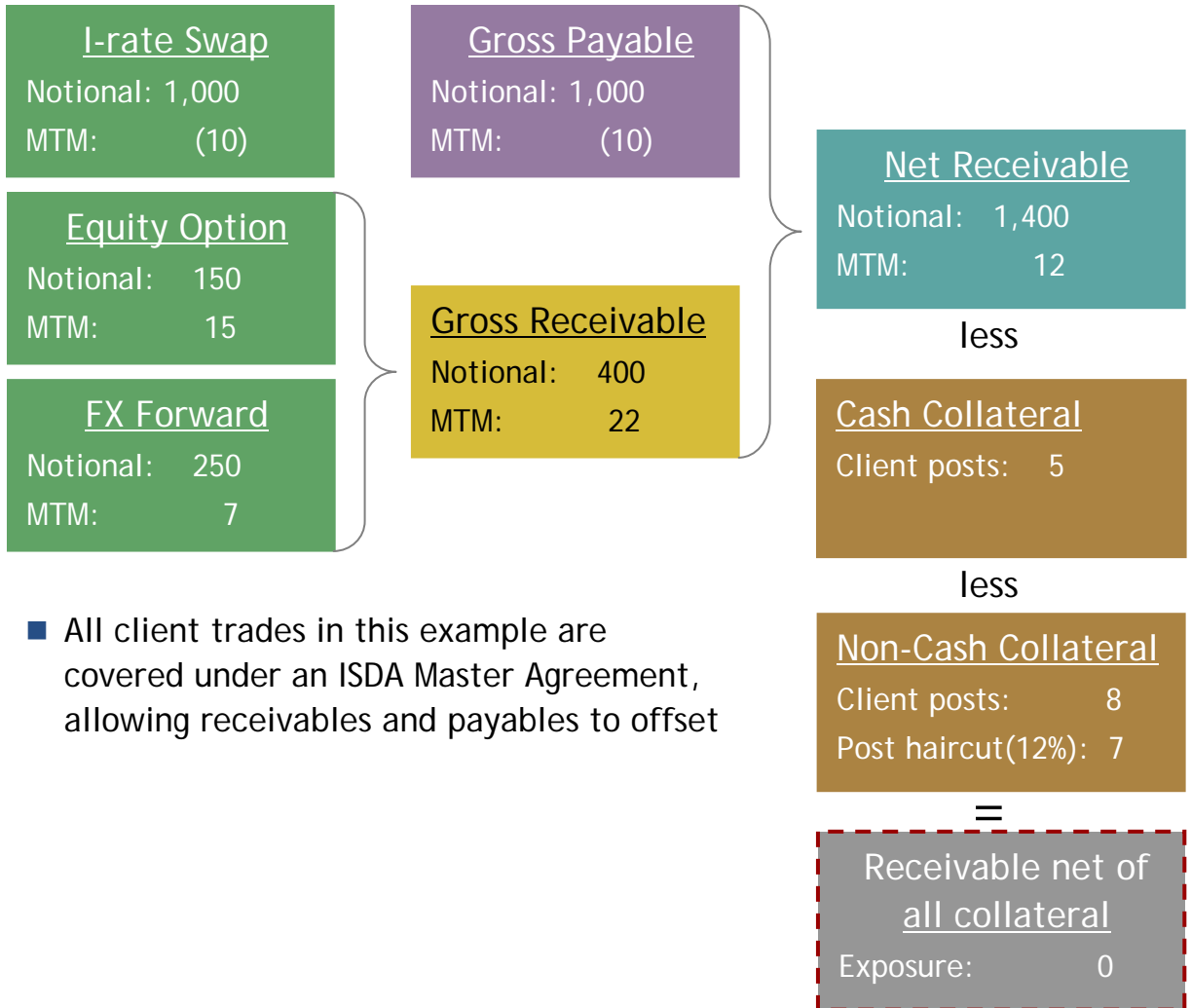


- 85%+ of counterparties (including most financial institutions) are required to post collateral daily, reducing JPM's credit risk, even in times of market volatility. We remain exposed to "gap risk" (i.e. sudden change in market value without ability to re-hedge) which we monitor and limit
- Governments, Supranationals and some corporations are not typically collateralized

<sup>1</sup> Other high quality includes low risk counterparties, including senior or preferred positions in special purpose entities

# Generic example of counterparty netting and collateral

## Client Trades to Receivables Net of Cash Collateral

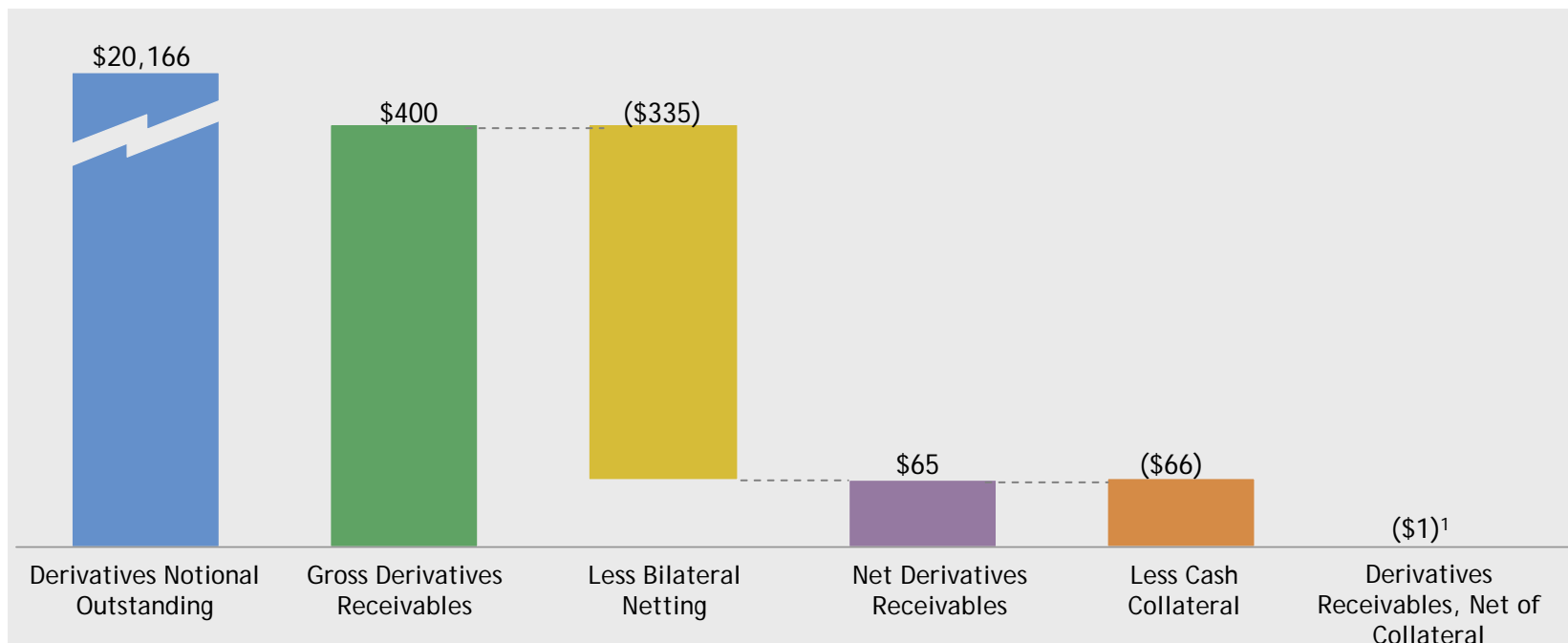


- All client trades in this example are covered under an ISDA Master Agreement, allowing receivables and payables to offset

- Cash collateral
  - Cash balances held at JPM
  - No haircut applied to cash
    - \$100 of cash collateral reduces net receivables by \$100
- Non-cash collateral
  - Highly liquid, marketable securities
    - Almost exclusively G7 Government securities and Agency securities
  - Haircut applied (1-25%+)
    - A 10% haircut means that \$100 of collateral reduces net receivables by \$90

# Specific example client netting and collateral

Example Client JPM Gross Derivative Counterparty Exposure in 4Q08 (\$ in millions)

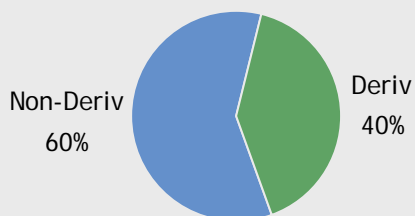


- Large, very high quality counterparty with diverse trade profile
- Fully collateralized with significant netting benefits
- Additional CVA reserve \$1.3mm (zero current exposure but reserve protects against changes before new collateral is posted)

<sup>1</sup> Derivatives receivables cannot be less than \$0; (\$1mm) reflects over collateralization from client

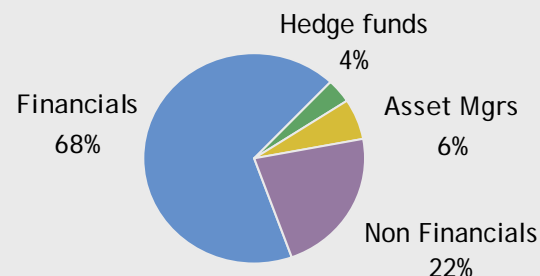
# JPM's counterparty credit risk is concentrated with investment grade clients and hedge fund exposure is more than fully collateralized

## JPM Investment Bank Credit Exposure



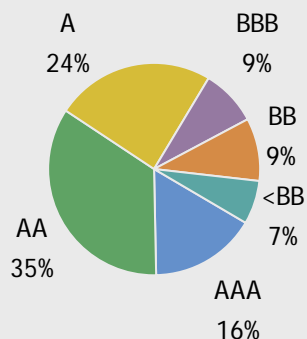
Source: Non Deriv = Total Traditional Credit Product, Deriv = Gross MTM as of Dec 31, 2008

## Derivative Exposure by Client Sector



Source: Gross MTM as of Dec 31, 2008

## Derivative Exposure by Client Credit Rating



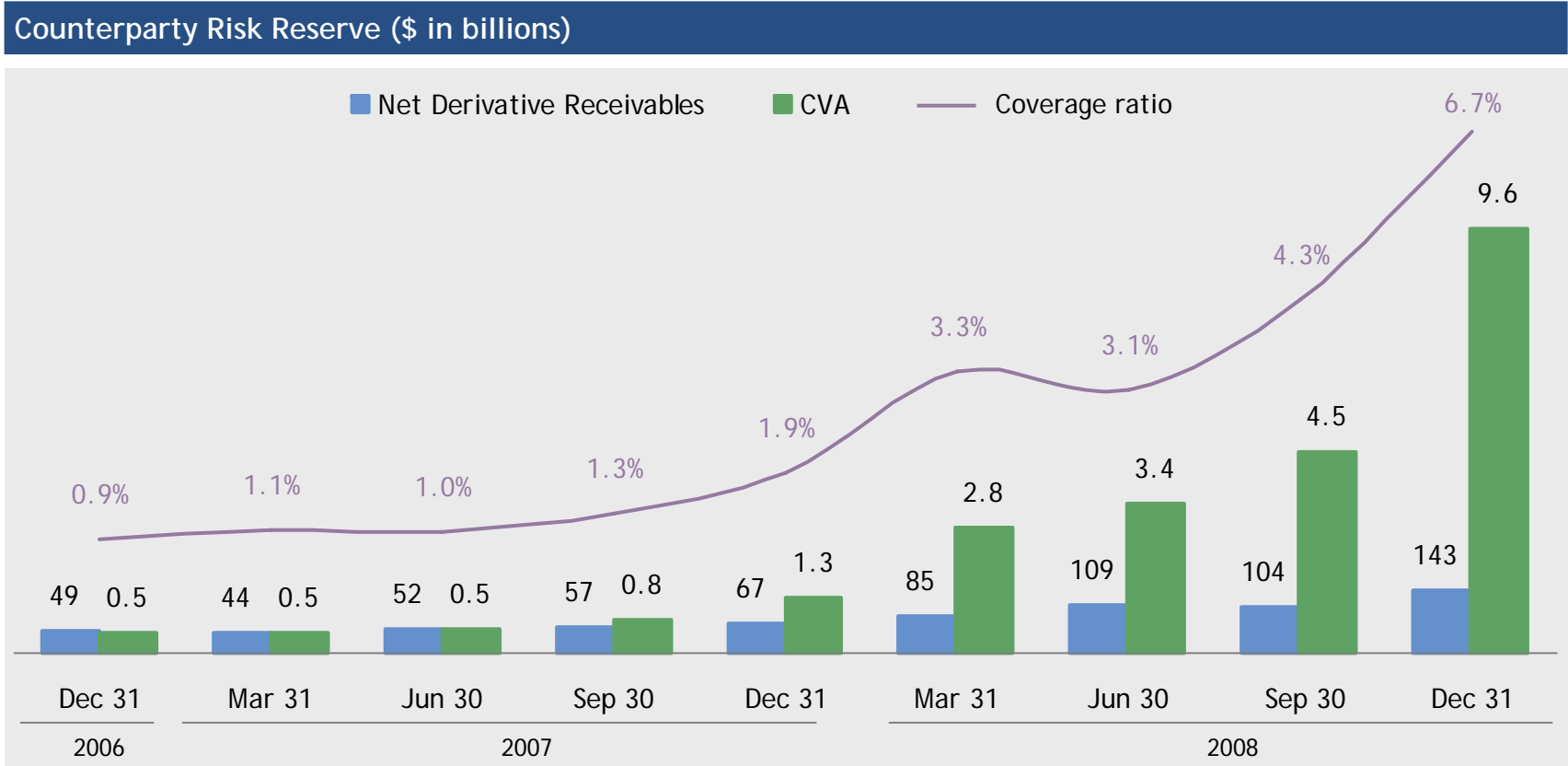
Source: Gross MTM as of Dec 31, 2008

## Top Hedge Fund Clients by Derivative Receivables (\$mm)

Client	Net receivables	Collateral posted	Net exposure
Hedge fund A	\$1,408	\$2,503	(\$1,095)
Hedge fund B	245	333	(88)
Hedge fund C	180	251	(71)
Hedge fund D	155	221	(66)
Hedge fund E	\$150	\$358	(\$208)
<b>Total</b>	<b>\$2,138</b>	<b>\$3,666</b>	<b>(\$1,528)</b>
<b>All Hedge funds</b>	<b>\$9,555</b>	<b>\$15,776</b>	<b>(\$6,221)</b>

Note: Negative net exposure reflects over-collateralized counterparties  
Source: As of Dec 31, 2008

# JPM utilizes credit valuation adjustment (CVA) to 'reserve' against counterparty credit losses from derivatives, with significant strengthening of 'reserves' in 2008

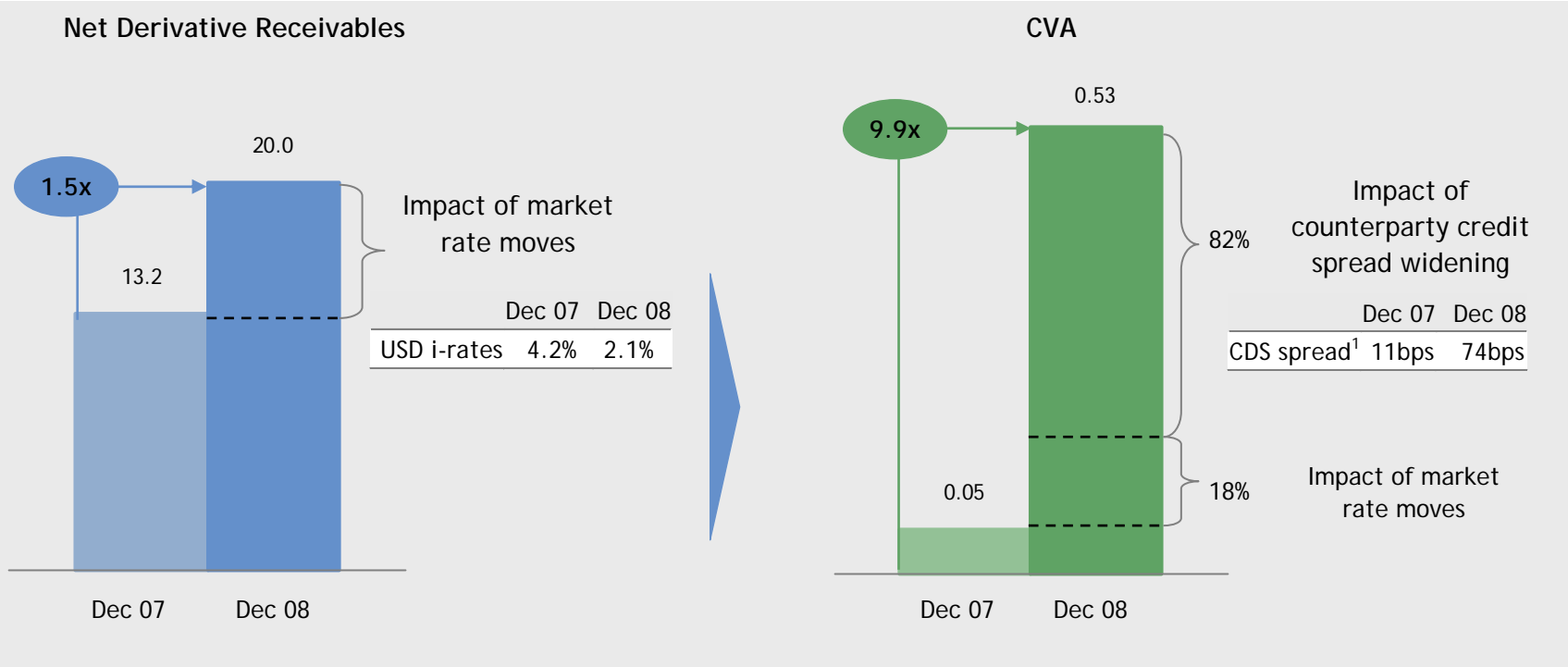


■ CVA increased because:

- Large increases in transaction mark-to-market values resulting in more counterparty credit exposure
- Counterparty credit spreads widened
- Underlying volatility increased, increasing expected future credit exposure

# CVA sensitivities: CVA increases as deals become more in the money and as counterparty credit spreads widen

## CVA Example with an A+ Rated Counterparty (\$ in millions)

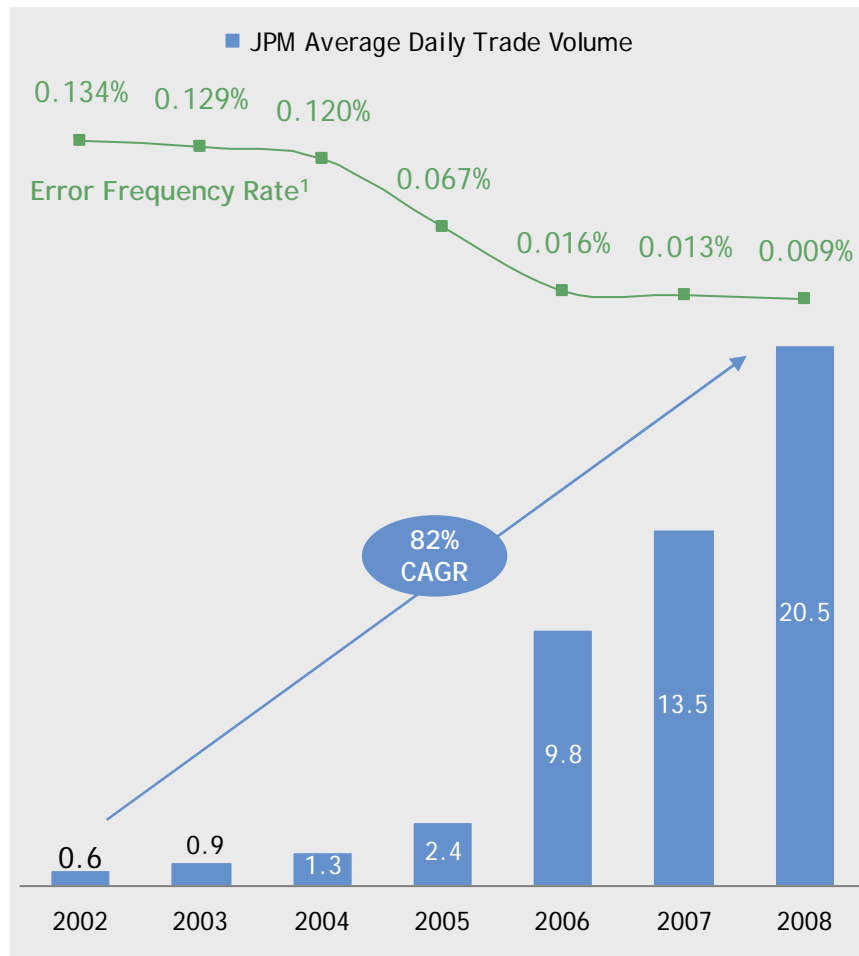


- Client positions
  - Client trades did not change Dec 07 to Dec 08
  - 2 USD interest rate swaps, one 5 yr and one 8 yr
- The large increase in CVA, in this case, is mostly driven by the large credit spread widening

<sup>1</sup> 5 year CDS spread

## JPM maintains robust operational risk management to cope with increasing volumes

### Key Operational Metrics (\$ in thousands)



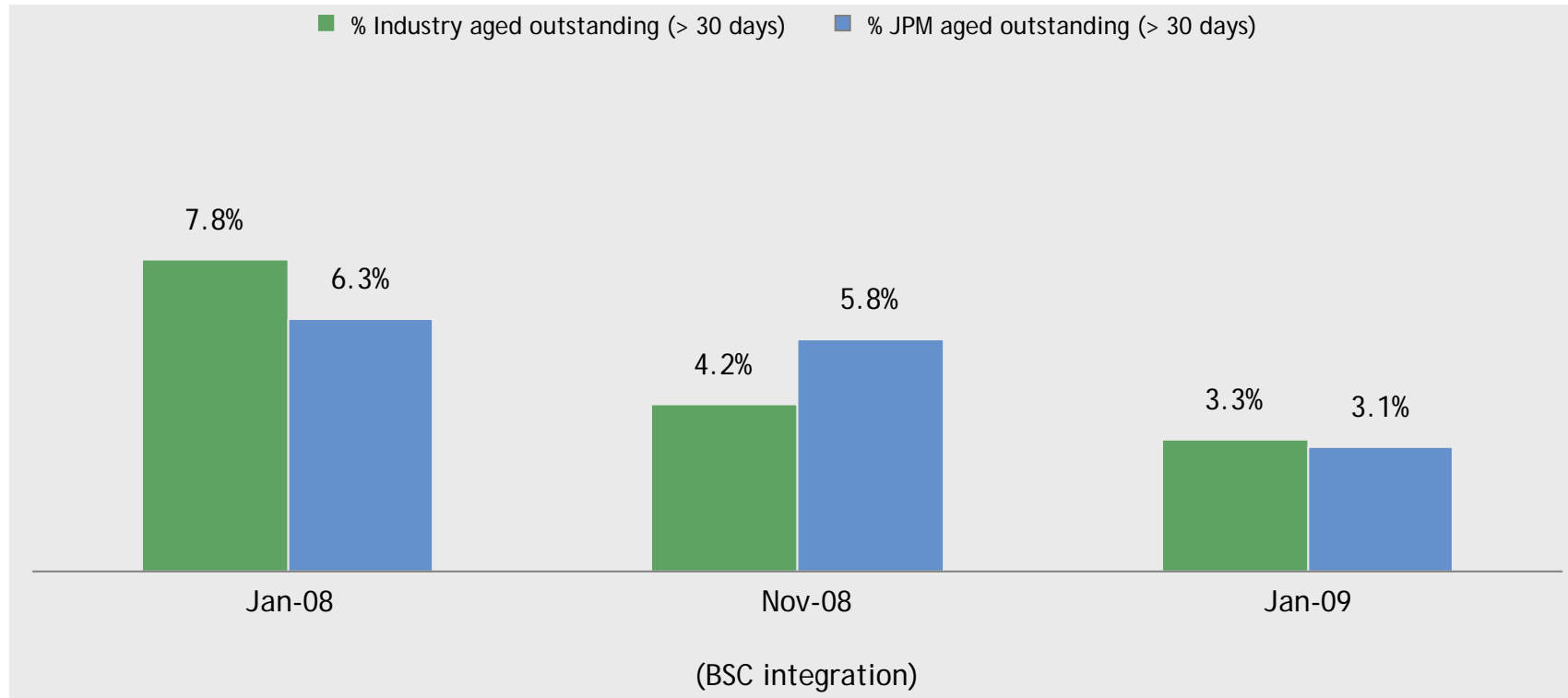
Source: 2002-2006 Zyen survey, 2007-2008 JPM internal reporting  
<sup>1</sup> Assumes recorded errors reference trades processed in given year

### Operational Risk Management

- Rapid growth in trade volumes has outpaced industry investment in operational infrastructure, driving:
  - Confirmation backlogs
  - Operational errors
- Increased pressure on JPM operational environment
  - Credit events and bankruptcies
  - Volatile market conditions
  - Bear Stearns integration
- Error levels improved from 2002 to 2008 on a relative basis from 0.13% to 0.009% of total trade volumes
- Significant number of credit events (12) in 2008
  - 221,977 additional cash flows processed through JPM systems
  - Already 7 credit events in the first two months of 2009, well within JPM's processing capacity
- BSC integration added approximately 300k (external) transactions to JPM's books (30% increase to JPM's external book) as of March 2008

# JPM continues to be a leader in processing OTC confirmations

## Total Industry Monthly Confirmable Trade Volume



- From Jan 2008 to Jan 2009:
  - Total industry confirmation volume ↓ 7%
  - JPM confirmation volume ↑ 46%
- Despite increased market share and the Bear Stearns integration, JPM is again outperforming

Source: Markit monthly data

# Liquidity risk

## Derivative Liquidity Risk: Two Common Examples

### Credit Rating Downgrade

- The impact of a single-notch ratings downgrade to JPMorgan Chase Bank, N.A., from its rating of “AA-” to “A+” at December 31, 2008, would have required \$2.2 billion of additional collateral to be posted by the Firm. A downgrade to BBB- would increase the collateral callable to \$6.4B

### Mismatched cash flows

- Some contracts have receipts and payments of cash occurring at different points over the life of the trade, with the potential to cause liquidity drains at key times. This is tracked

## Legal and reputational risk

### Legal Risk

In-depth internal legal review of new or non-standard contracts or counterparties

- Due diligence performed on counterparties' power and authority to enter into the derivative contract
- Normally governed under New York or English law and submitted to relevant courts for disputes

### Reputational Risk

Robust Reputation Risk Management process

- Transactions may be triggered for further review for several reasons:
  - Nature of transaction - complex, risky, tax or accounting motivation etc.
  - Profitability - overly high or low
  - Unusual legal jurisdiction
  - Other relevant factors
- Such reviews are conducted by our Reputation Risk Committee
  - Comprised of senior risk and control officers of the firm along with senior business leaders (providing a peer review)
  - Final approval for such transactions is provided by this group

# The derivatives landscape is changing; several key themes are emerging (1 of 2)

Proposition	Thesis	JPM View
<p>All derivatives should be traded on exchanges</p>	<ul style="list-style-type: none"> <li>■ Exchanges improve the transparency of prices, open interest and operational ease of processing contracts</li> <li>■ Exchanges are more easily regulated and impose mechanisms to ensure orderly trading (e.g. circuit breakers)</li> </ul>	<ul style="list-style-type: none"> <li>■ Most liquid and transparent markets are not on exchanges (FX, US Treasuries, etc.)</li> <li>■ OTC markets allow precise transfer of risk tailored to clients' requirements, unachievable through standardized exchanges</li> <li>■ Exchange margin requirements are not appropriate for some clients—set to lowest-quality participant</li> <li>■ Existing OTC products on exchanges are rarely used by clients (e.g. interest rates swaps on CME)</li> <li>■ OTC markets provide an effective “incubator” function for developing new markets and products</li> <li>■ OTC markets often offer lower execution cost</li> </ul>
<p>All derivatives should settle through a clearing house</p>	<ul style="list-style-type: none"> <li>■ A clearing house decreases the systemic risk from a counterparty failure</li> </ul>	<ul style="list-style-type: none"> <li>■ JPM and other key derivative market players strongly support a clearing house for highly standardized and highly liquid derivatives</li> <li>■ Automates trade confirmation and current process of netting between largest derivatives dealers</li> <li>■ Counterparty risk becomes an extremely unlikely (but possible) event - default of the clearing house</li> <li>■ Bilateral clearing works very well for non-standard contracts that clearing houses cannot accommodate</li> </ul>

# The derivatives landscape is changing; several key themes are emerging (2 of 2)

Proposition / Issue	Thesis	JPM View
<p>Growing volume of derivatives has become too large to manage and should be limited</p>	<ul style="list-style-type: none"> <li>■ The OTC Derivatives market has grown rapidly in recent years                             <ul style="list-style-type: none"> <li>■ Each contract requires bilateral negotiation and confirmation</li> <li>■ Greatly increased cash flow processing, particularly on key payment dates (e.g. quarterly settlement of CDS contracts)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ Continuing efforts to reduce number of outstanding trades:                             <ul style="list-style-type: none"> <li>■ Industry CDS notional reduced from \$60T to \$28T in 2008</li> <li>■ Bilateral unwinds or multilateral tear-ups</li> </ul> </li> <li>■ Industry aged outstanding confirmations down 61% over the last 12 months</li> <li>■ Progress towards automation of confirmation process</li> </ul>
<p>Credit event processing operationally overwhelmed the derivatives industry</p>	<ul style="list-style-type: none"> <li>■ Prior to 2008 there had been few significant credit events, while the volumes of CDS contracts grew exponentially</li> <li>■ Investment in operational infrastructure did not keep pace with this growth</li> </ul>	<ul style="list-style-type: none"> <li>■ 12 major credit events in 2008; 7 in the first two months of 2009, with more likely</li> <li>■ The recent large upswing in credit events has shown that the industry has coped well</li> <li>■ ISDA auction mechanism worked in all cases and the industry and regulators are working together to drive down processing times and other backlogs</li> </ul>
<p>Short CDS selling should be banned</p>	<ul style="list-style-type: none"> <li>■ Aggressively shorting certain names through CDS can rapidly increase the funding cost of the underlying borrower and increase the chance of financial distress or bankruptcy</li> </ul>	<ul style="list-style-type: none"> <li>■ 'Shorting' in the CDS market is the only way to hedge counterparty credit risk though a liquid financial instrument in an efficiently priced market</li> <li>■ CDS market provides valuable price discovery function for the credit markets</li> <li>■ Market manipulation should be prevented in every market, including CDS</li> </ul>

# Agenda

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<b>Some detail on current myths and misconceptions</b>	<b>27</b>
■ Could the CDS market withstand a credit event on major dealers?: Case study of the Lehman Brothers Holdings Inc. (“LEH”) default	
■ Were credit derivatives responsible for the fate of American International Group, Inc. (“AIG”)?	
■ What are the benefits of derivatives?	

# Could the CDS market withstand a credit event on a major dealer?

## *Case study of the LEH default*

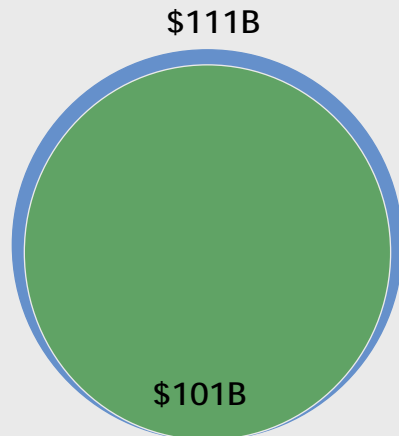
SOME DETAIL ON CURRENT MYTHS AND MISCONCEPTIONS

### Details Around CDS Referencing LEH

- Pre-auction market speculation on the outstanding CDS referencing LEH grossly overestimated net payments by sellers of CDS protection
- Payments from sellers of CDS protection were a fraction of the estimated \$101B in value destruction for LEH bondholders
- CDS on LEH successfully settled less than 6 weeks after the bankruptcy filing, through the DTCC auction, also helped by the high levels of collateralization in the market

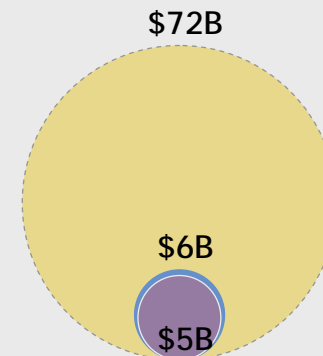
#### LEH senior bonds

- Par outstanding as of Sept 12, 2008
- Estimated loss to long bondholders



#### LEH reference CDS

- Gross notional as of Sept 12, 2008
- Total net notional of CDS contracts as of Sept 12, 2008
- Payments from sellers of CDS protection

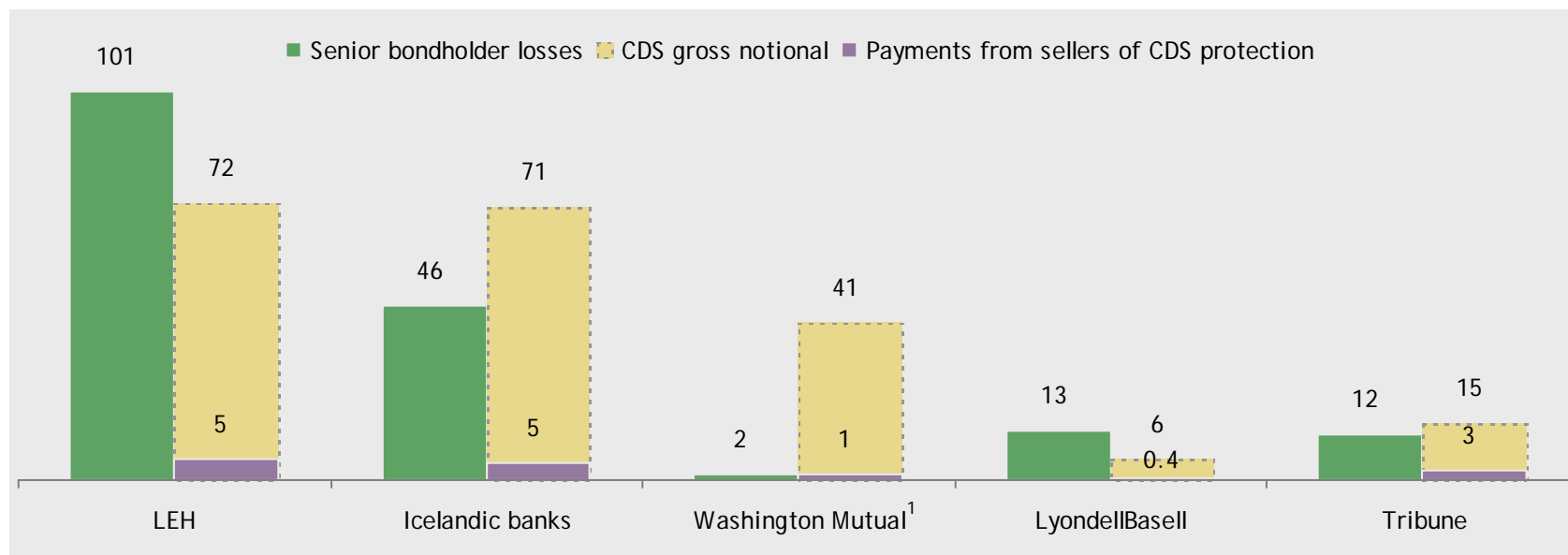


Note: LEH senior bonds assume 8.625% recovery rate; LEH gross CDS notional and CDS losses (91.375% of notional paid) per DTCC summary of CDS auction

# Top five recent bankruptcies show that payments from sellers of CDS protection are far less than bondholder losses

SOME DETAIL ON CURRENT MYTHS AND MISCONCEPTIONS

Recent Bankruptcy Bond Loss Versus Payments from Sellers of CDS Protection (\$ in billions)



- Recent bankruptcies have illustrated that the payments from sellers of CDS protection are far less than the losses to senior bond holders
- Notional outstanding grossly overstates the net market position

Sources: Senior bonds outstanding: J.P. Morgan Research; CDS outstanding: DTCC auction data; Bond/CDS recovery rates: DTCC auction data

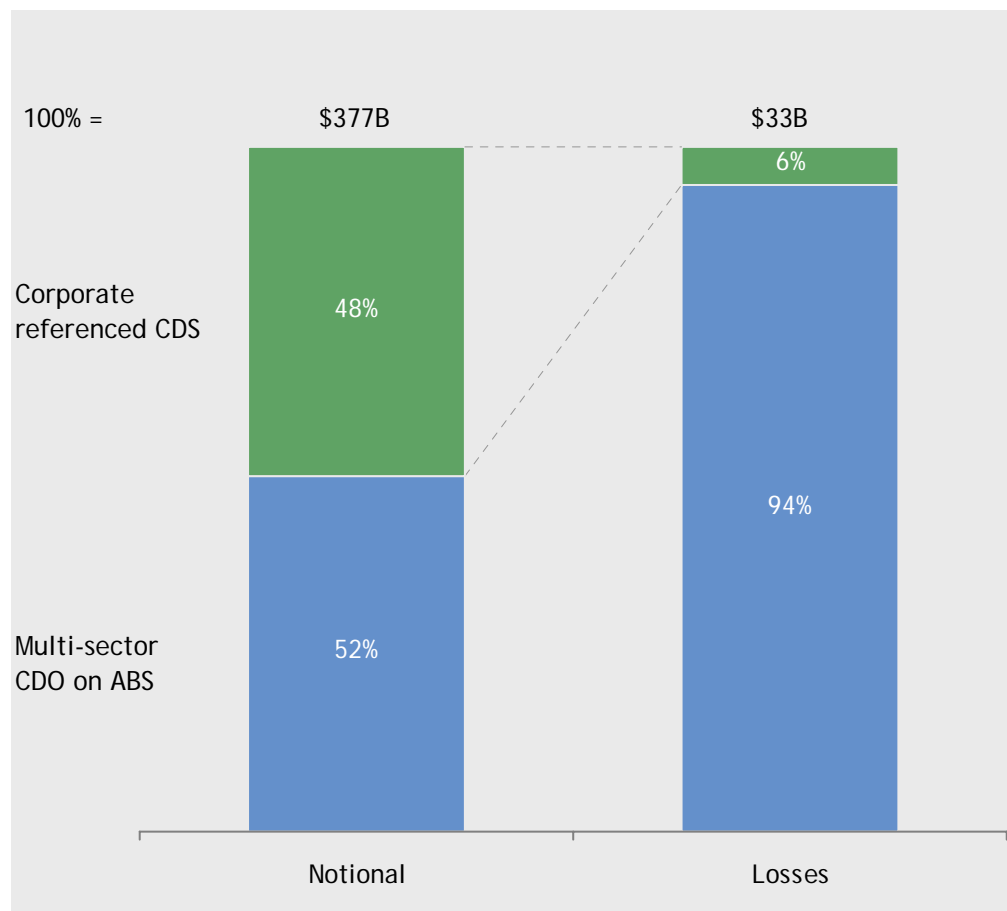
Note: Icelandic banks include Landsbanki, Glitnir and Kaupthing; bondholder losses assume recovery rate achieved in CDS auction; LyondellBasell includes bank loan; Tribune includes all senior unsecured debt, including bridge facility

<sup>1</sup> Washington Mutual refers to Washington Mutual Inc.

# Were credit derivatives responsible for the fate of AIG?

SOME DETAIL ON CURRENT MYTHS AND MISCONCEPTIONS

## AIG Financial Products Notional and Losses from Credit Derivatives



Source: AIG Credit Presentation; AIG Financial Products Super Senior CDS portfolio, data as of September 30, 2008; 10-Q/K

## AIG Loss Drivers

- AIG was a significant seller of protection on sub-prime mortgage-related asset-backed securities, including mortgage related CDOs
- When the mortgage market experienced higher-than-expected losses, these positions experienced significant losses
- This underestimation of mortgage defaults resulted in similar catastrophic losses in many banks through loans rather than derivatives (e.g. WaMu)
- Material losses were incurred in an unregulated entity
- External observers did not note (or were not able to note) increasing exposures
- As losses emerged, the company faced a credit downgrade, triggering additional collateral calls

# Derivatives play a useful and necessary role in financial markets

## Benefits of Derivatives

### Necessary for Risk Management

- The vast majority of large corporations use derivatives to manage non-core business risks (e.g. changes in FX rates, interest rates, changes in commodity prices)
  - Allows management to focus time on key business objectives
  - Reduces uncertainty in financial planning, capital management, and borrowing costs

### Efficient and Cost Effective

- Corporate credit derivatives are particularly efficient, as they are the most liquid instruments available to manage exposure to credit risk
- Corporate credit derivatives enable lenders to hedge corporate credit risk, lowering the cost of capital for borrowers and freeing up greater lending capacity to drive the economy
- The corporate CDS markets have remained more liquid than bond markets in recent stressed periods, providing a valuable price discovery mechanism for corporate credit

### Necessary for effective investing and asset management

- Derivatives allow investors and asset managers to take exposure to particular companies and markets with the ability to quickly change that exposure in a cost-effective way
- Retirement and pension funds use derivatives to manage the risk associated with their liabilities

## In conclusion...

- The derivatives industry continues to play an important role in capital markets and the overall economy for the foreseeable future
  - Clients will still need to manage risk
  - J.P. Morgan remains committed to its derivatives franchise
- J.P. Morgan and the industry will continue their focus on managing the risks from derivatives
  - Continue to develop leading risk management framework and governance structure
  - Incorporate the recent lessons and continue to be a leader in managing risk
- The industry landscape is changing and JPM is committed to help:
  - Improve transparency
  - Maintain discipline
  - Improve operational efficiency