

# Opacity, Credit Default Swap, and Financial Crisis

Daniel Pu Liu – Walton College of Business  
Yingying Shao – Towson University, CFA

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# Does Transparency (or the Lack of it) Matter?

- Does opacity of a company have an impact on its securities prices?

# Opacity

- Opacity refers to the **ambiguity** in assessing the true value of assets.
- Possibly due to
  - Insufficient disclosure
  - Inefficient information processing
  - Complexity in the fundamentals

# How to Measure Opacity

- Three Measures of Opacity: - Based on disagreement among information producers or market participants
  1. Dispersion on earnings forecast
  2. Bid-ask spread
  3. Split ratings

# Studies on Opacity

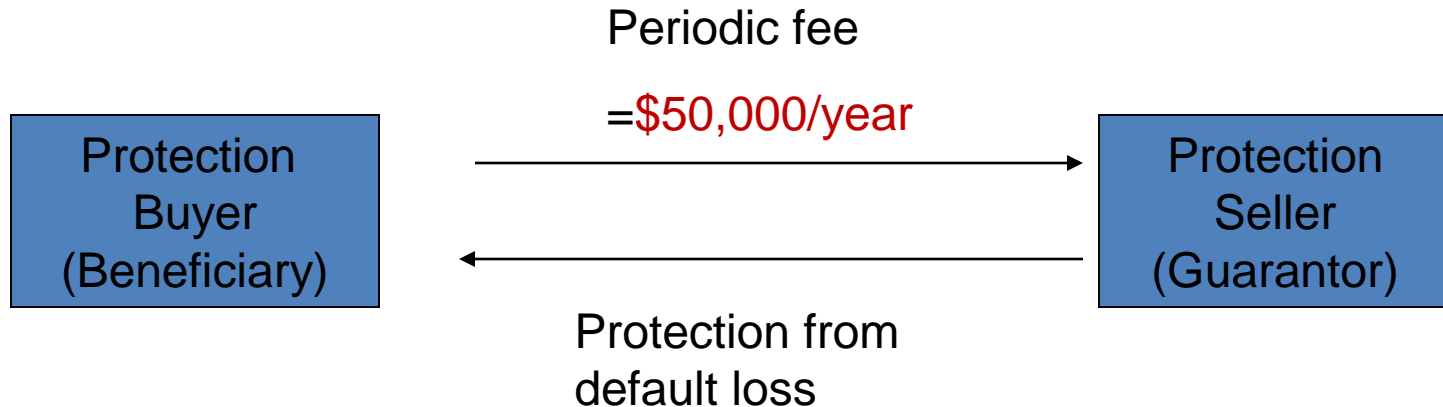
- Morgan(2002)
  - Opacity across industries
  - Financial institutions tends to be opaque
  - Financial institutions tends to have split ratings
- Livingston, Naranjo and Zhou(2007), Livingston, Wei, and Zhou(2010)
  - Opacity within the industries
  - Opaque firms in the same industry tend to receive split ratings

# Opacity and Securities Prices

- **Split ratings** are good proxies for firm **opacity**.
- Firms having split ratings tends to have lower bond prices.
- What about other credit markets?

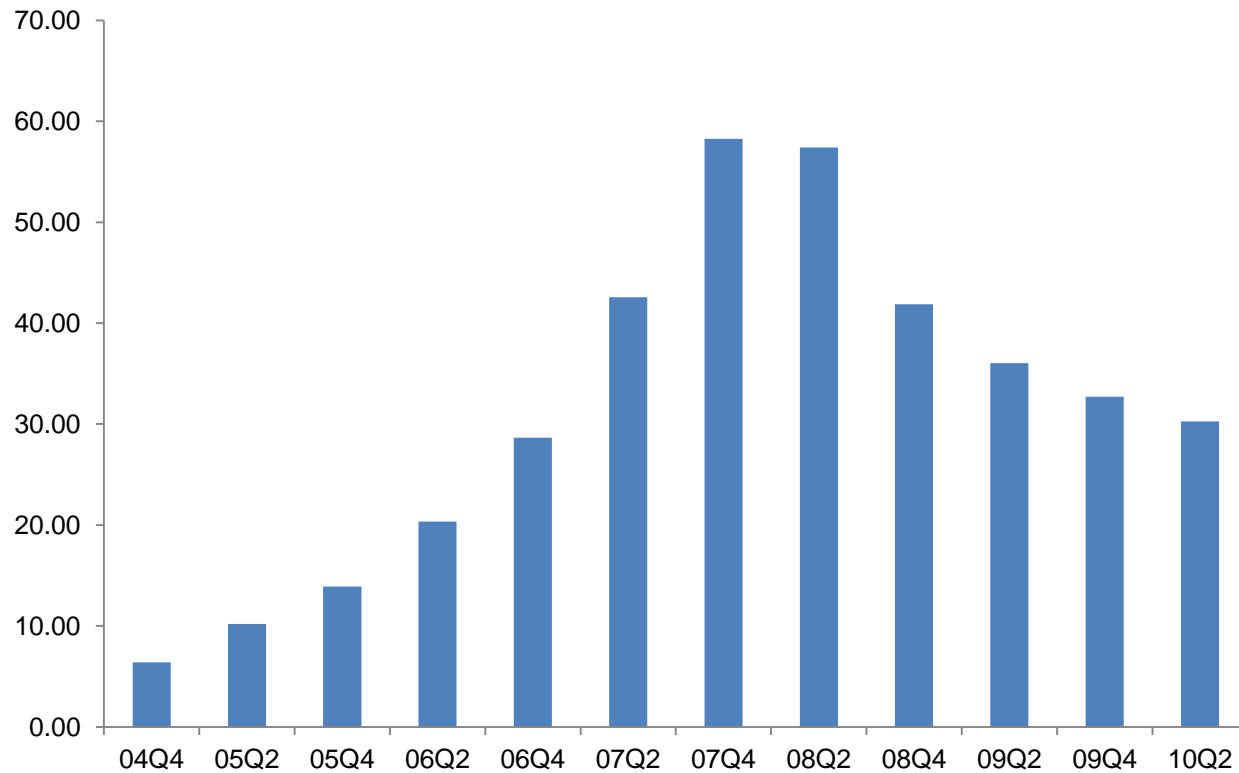
# Credit Default Swap

- ISDA: A credit default swap (CDS) is a bilateral agreement designed to transfer risk from one party to another.
- e.g. CDS spread=**50** bps, notional amount of contract=**\$10** millions



# CDS Markets Overview

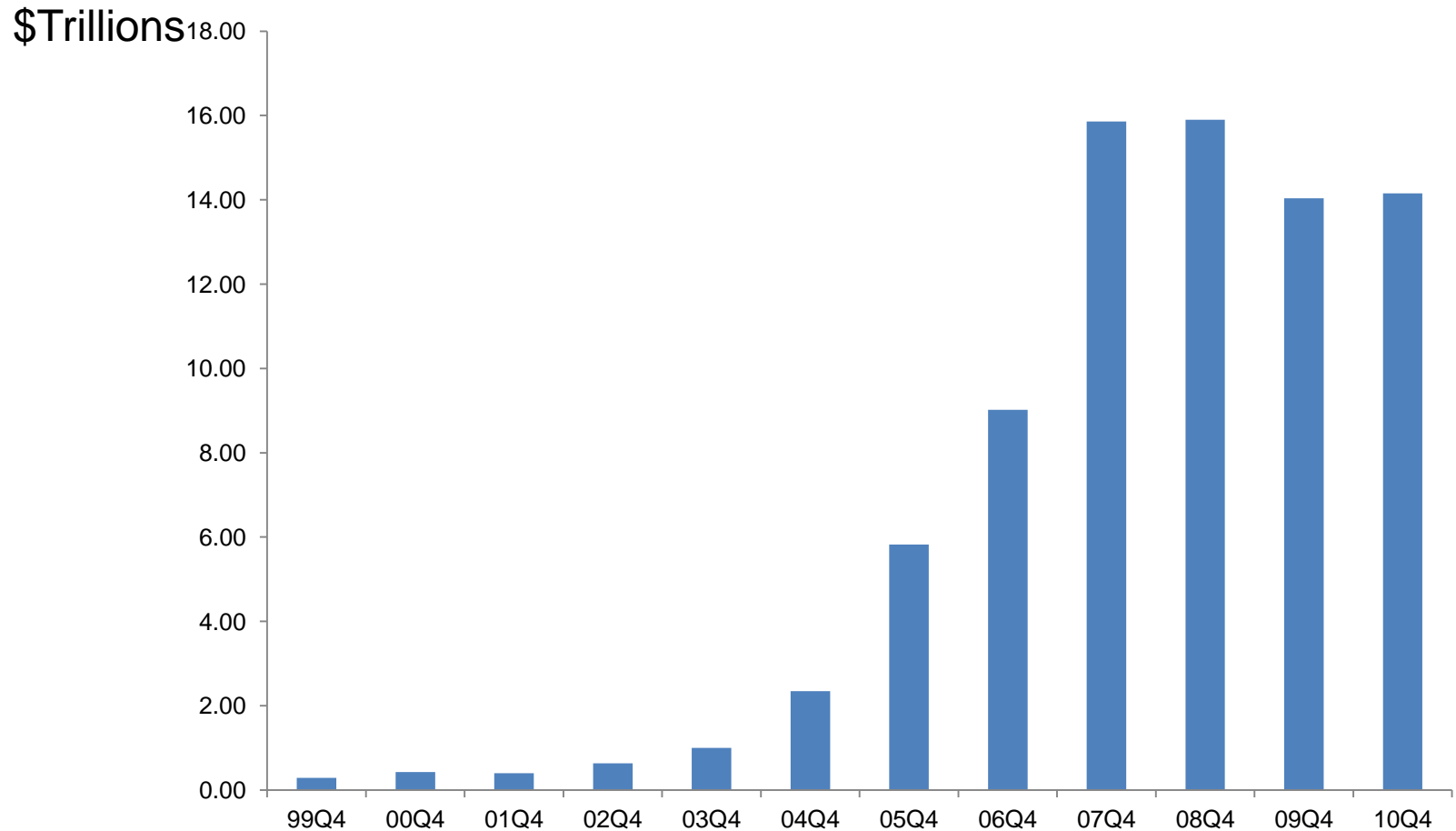
\$Trillions



Data Source: Bank for International Settlements



# The Use of CDS by US Banks



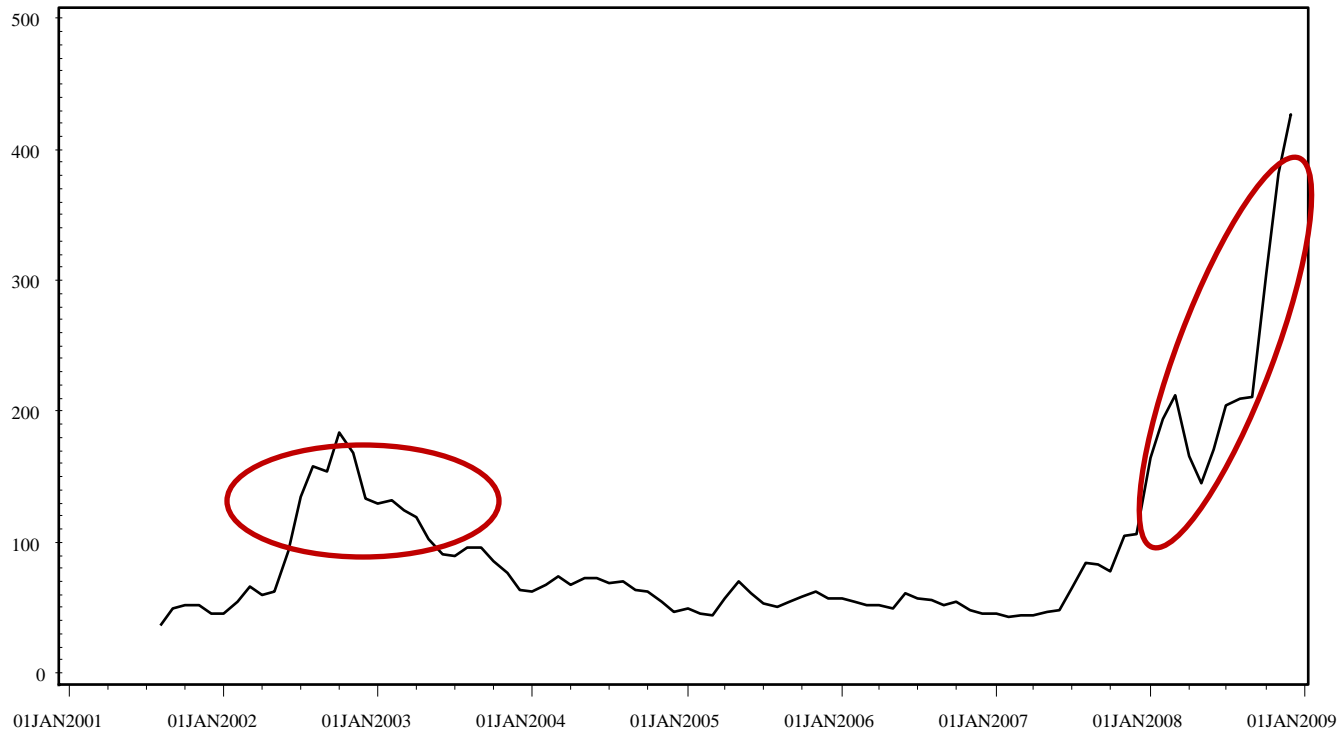
Data Source: Office of the Comptroller of the Currency

# Our Study

- Collected from Bloomberg
- From 2002-2008
- About 440 US firms

# A glance at the sample

CDS spread (bps)



# CDS Spread Across Rating Categories

Rating Class	# of Observations	Mean CDS spreads
AAA, AA+, AA, AA-	1,202	47.98
A+, A, A-	5,071	56.79
BBB+, BBB, BBB-	5,794	101.55
BB+, BB, BB-	1,128	271.89
B+, B, B- and below	398	631.87

# CDS for Selected Companies

## -Wal-Mart



Moody's S&P

Ratings Aa2 AA

# CDS for Selected Companies

## -JP Morgan Chase



Moody's S&P

Ratings Aa3 A+

# CDS for Selected Companies - Bank of America



Moody's S&P

Ratings A2 A

# CDS for Selected Companies - Merrill Lynch



Moody's S&P

Ratings A2 A



# CDS for Selected Companies

## -Tyson Foods



Moody's S&P

Ratings Ba1 BBB-

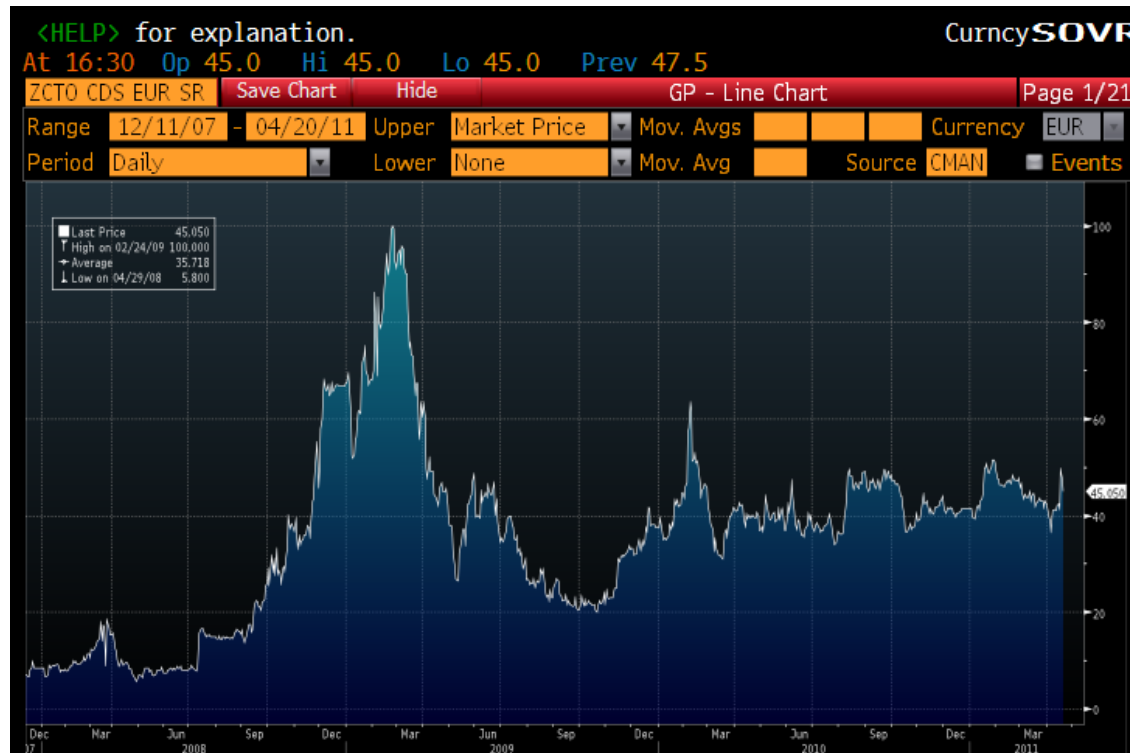
# CDS for Selected Companies -American International Group



Moody's S&P

Ratings Baa1 A-

# CDS for Selected Countries -U.S.



Moody's    S&P

Ratings    Aaa    AAA

# CDS for Selected Countries -U.K.



Moody's S&P

Ratings Aaa AAA

# CDS for Selected Countries - Ireland



Moody's    S&P

Ratings    Baa3    BBB+

# CDS for Selected Countries - Portugal



Moody's S&P

Ratings Baa1 BBB-

# CDS for Selected Countries - Greece



Moody's S&P

Ratings B1 BB-



# What Other Factors Have an Impact on CDS Spread?

- Credit Ratings
- Leverages
- Volatility of the Market (VIX)
- Consumer Confidence (Conference Board Consumer Confidence Index)
- Treasury Yield (5-Yield)
- Yield Slope between 10-Year and 2-Yield Treasury



## CDS Spread and Rating Split, Bid-Ask Spread, and Earning Forecast Dispersion

- Does **rating split** have an impact on CDS spread?
- Does **bid-ask spread** have an impact on CDS spread?
- Does **earnings forecast dispersion** have an impact on CDS spread?
- Yes to all three questions.

## CDS Spread and Rating Split, Bid-Ask Spread, and Earning Forecast Dispersion

- Are rating split, bid-ask, earning forecast dispersion a substitute of each other in terms of their impact on CDS spread?
- Each of the three factors has an independent impact on the CDS spread over and above the other two.

# How Does Rating Split Play Its Role in CDS Spread?

- How much basis points was added to a company that has a split rating?
- 35 basis points.

# Does the Magnitude of Rating Split Play a Role in CDS Spread?

- Yes.
- How much was added to CDS spread without considering bid-ask spread and earnings forecast dispersion?
  - 26 basis points if split by one notch.
  - 51 basis points if split by two notches.
  - 156 basis points if split by three notches.

## Does Market Require Higher CDS Spread for Split Rated Firms During Crisis?

- Yes!
- During **non-crisis period**, the market requires **6 basis points** for rating split.
- During **crisis period**, the market requires additional **62 basis points** for rating split.

## How Much Does Market Charge for Different Magnitude of Split During Crisis?

- For **one** notch split, the market charges **2 basis points** during non-crisis, and additional **8 basis points** during crisis.
- For **two** notch split, the market charges **17 basis points** during non-crisis, and additional **30 basis points** during crisis.
- For **three** notch split, the market charges **53 basis points** during non-crisis, and additional **12 basis points** during crisis.

## Does How Ratings Split Across Rating Categories Matter?

- When both ratings are **investment grade**, the market charges **6 basis points**
- When one rating is **investment grade** while the other is **speculative**, the market charges additional **14 basis points**.
- When both ratings are **speculative grades**, market charges additional **56 basis points**.
- Also true when break up by magnitude of split.

# Does it Matter if Moody or S&P is Superior?

- Livingston, Wei, and Zhou(2010):
- Moody's tends to be more **conservative** in assigning ratings comparing to S&P. If so, then
- Will opacity premium be **smaller** if the rating from Moody's is superior?



## Does it Matter if Moody or S&P is Superior?

- If Moody's rating is **superior**, the opacity premium is reduced by **7 basis points**.
- For **one** notch split, when Moody's rating is superior, the opacity is also reduced by **7 basis points**.
- For **two** notch split and when Moody's rating is superior, the opacity is reduced by **15 basis points**.
- For **three** notch split and when Moody's rating is superior, the opacity is **increased** by **30 basis points**.

# Conclusions

- Transparency does matter.
- Transparency is more important during crisis.
- Opacity has a significant pricing effect in determining CDS spreads.

Thank you!