



PF2 SECURITIES EVALUATIONS, INC.

Credit Ratings: The Need and Means for Measuring Ratings Performance



NYSSA's Derivatives Committee
December 3, 2010

PF2 Securities Evaluations, Inc.
48 Wall Street, Suite 1100
New York, NY 10005
www.pf2se.com

Agenda

Credit Ratings

- ▶ The Need for Measuring Performance
- ▶ The Means for Measuring Performance
- ▶ Q&A
- ▶ Ratings Research Resources
- ▶ Addendum on Regulatory Pressure

The Need for Measuring Performance

The Need for Measuring Performance

Regulatory Pressure -- Financial Institutions

- ▶ Reduce (remove) reliance on ratings
- ▶ To the extent reliant on ratings, need to demonstrate in-depth appreciation of what rating describes; how it is constructed; what it takes into account; and what its limitations are; etc.
- ▶ Indeed, whether due diligence is performed internally or externally, we're seeing increased regulatory pressure on institutions to be able to explain/justify to auditors/supervisors whatever analysis was done, whether by CRAs or Third-Party Providers, etc.

~ examples provided in addendum to presentation ~

The Need for Measuring Performance

Regulatory Pressure -- Financial Institutions

- ▶ Financial Institutions: Heavier pressure in Europe to remove ratings from all due diligence mandates / guidelines; U.S. not far behind
- ▶ Realization that movement away from ratings reliance is a long-term process and is to be implemented gradually, even for smaller institutions
- ▶ No longer an IOSCO-like “best practices” suggestion – now a requirement to understand rating methodology to the extent relying on ratings

The Need for Measuring Performance

Usage of Credit Ratings -- Financial Institutions (Examples)

▶ Corporate Governance

1. Debt issuance / credit facility considerations

▶ Enterprise Risk Management

1. Regulatory capital reserves (banks, insurance companies)
2. Collateral margin (hedge funds)

▶ Asset Level Investment Due Diligence

1. Eligibility Criteria (portfolio- or asset-level)
2. Reliance on insurer's rating for wrapped securities, etc.
3. Decision of which rating agency to rely on: which CRA has greatest level of expertise (reliability, accuracy) in asset-class?

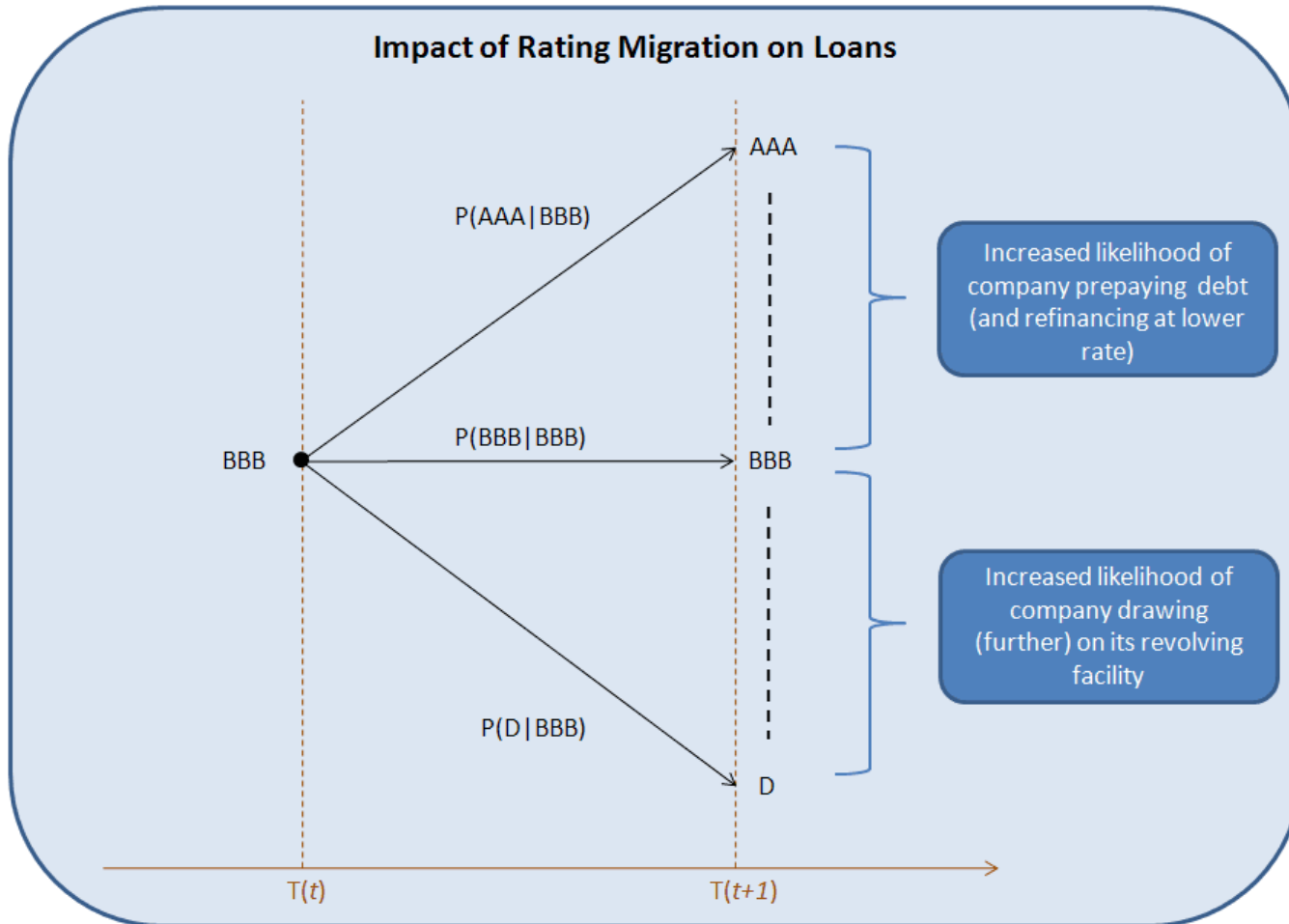
The Need for Measuring Performance

Usage of Credit Ratings -- Financial Institutions (Examples)

| Example Loan Facility Rating Grid | | |
|---------------------------------------|--|-------------------------|
| Rating of Borrower | Applicable Margin for LIBOR Loans (% p.a.) | Commitment Fee (% p.a.) |
| BB+ (S&P) and Ba1 (Moody's) or higher | 2.00% | 0.75% |
| BB+ and Ba2 or BB and Ba1 | 2.25% | 0.84% |
| BB or Ba2 | 2.50% | 0.94% |
| BB- or Ba3 | 3.25% | 1.22% |
| B+ or B1 or below or unrated | 4.50% | 1.69% |

The Need for Measuring Performance

Usage of Credit Ratings -- Financial Institutions (Examples)



Note: $P(x|y)$ is the probability of transitioning to state x at time $t+1$ given that we are at state y at time t

The Need for Measuring Performance

Usage of Credit Ratings -- Regulators (Examples)

- ▶ Regulators searching for most accurate / reliable CRAs or external parties on which to base reg. cap requirements
- ▶ SEC has ability to suspend or revoke NRSRO license for particular classes of securities to extent CRA “does not have adequate financial and managerial resources to consistently produce credit ratings with integrity” (Dodd-Frank Act, Title IX, Subtitle C)
- ▶ NAIC has chosen to apply risk measurements as determined by PIMCO (for RMBS securities) and BlackRock (for CMBS) as alternatives to the CRAs in these product sectors

The Need for Measuring Performance

Not All Ratings, or CRAs, are Equal

<HELP> for explanation. Mtge **RCHG**
 25<GO>Setup Rating Change Alert
RATING CHANGES
 STAK 2006-1A P

CUSIP: 85233YAE5 0% 10/06/2043
 ABS: EXCHANGEABLE Issued: 7/27/2006

Include historical ratings

Agencies

Standard & Poors Moody's
 Fitch DBRS
 Other

| Agency | Rating Type | Rating | Effective Date ↑ |
|-------------------|-------------|--------|------------------|
| Moody's | Long Term | WR | 6/11/2010 |
| Standard & Poor's | Long Term | D | 5/18/2010 |
| Standard & Poor's | Long Term | CC | 8/10/2009 |
| Standard & Poor's | Long Term | B-* | 8/21/2008 |
| Standard & Poor's | Long Term | B- | 7/24/2008 |
| Standard & Poor's | Long Term | BBB-* | 6/17/2008 |
| Standard & Poor's | Long Term | BBB- | 2/22/2008 |
| Standard & Poor's | Long Term | AAA* | 1/30/2008 |
| Standard & Poor's | Long Term | AAA | 4/27/2007 |
| Moody's | Long Term | Aaa | 8/31/2006 |

Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000
 Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2010 Bloomberg Finance L.P.
 SN 627636 6814-1065-2 14-Jul-10 14:00:34

Screenshot
 courtesy of
 Bloomberg
 LP.

The Need for Measuring Performance

Not All Ratings, or CRAs, are Equal

<HELP> for explanation. Mtge **RCHG**
 25<GO>Setup Rating Change Alert
RATING CHANGES
 JPMCC 2005-LDP4 C

CUSIP: 46625YUH4 5.24975% 10/15/2042
 CMO: SUB,CSTR Issued: 9/29/2005

Include historical ratings

Agencies

Standard & Poors Moody's
 Fitch DBRS
 Other

| Agency | Rating Type | Rating | Effective Date ↑ |
|---------|-------------|--------|------------------|
| DBRS | Long Term | BBBH | 4/07/2010 |
| Fitch | Long Term | BB | 12/30/2009 |
| Fitch | Long Term | AA-* | 10/22/2009 |
| Moody's | Long Term | Aa3 | 10/21/2005 |
| Fitch | Long Term | AA- | 9/29/2005 |
| DBRS | Long Term | AAL | 9/29/2005 |
| Moody's | Long Term | (P)Aa3 | 9/26/2005 |

Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000
 Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2010 Bloomberg Finance L.P.
 SN 627636 6814-1065-2 14-Jul-10 14:52:39

Screenshot
 courtesy of
 Bloomberg
 LP.

The Need for Measuring Performance

Not All Ratings, or CRAs, are Equal

<HELP> for explanation. Mtge **RCHG**
 25<GO>Setup Rating Change Alert
RATING CHANGES
 TROPC 2003-1A A1L

CUSIP: 89707QAA9 1.08906% 10/15/2033
 ABS: FLOATING RATE BOND Issued: 4/23/2003

Include historical ratings

Agencies
 Standard & Poors Moody's
 Fitch DBRS
 Other

| Agency | Rating Type | Rating | Effective Date |
|-------------------|-------------|------------|----------------|
| Moody's | Long Term | Aa3 (sf) | 11/23/2010 |
| Standard & Poor's | Long Term | A+ (sf) | 10/15/2010 |
| Standard & Poor's | Long Term | AA (sf) | 8/25/2010 |
| Moody's | Long Term | Baa3 (sf) | 10/30/2009 |
| Moody's | Long Term | A3 | 3/27/2009 |
| Standard & Poor's | Long Term | AAA*- (sf) | 7/16/2008 |
| Moody's | Long Term | Aaa | 4/23/2003 |
| Standard & Poor's | Long Term | AAA | 4/23/2003 |
| Fitch | Long Term | AAAsf | 4/23/2003 |

Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000
 Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2010 Bloomberg Finance L.P.
 SN 627636 6385-1065-3 26-Nov-10 12:30:50

Screenshot
courtesy of
Bloomberg
LP.

The Need for Measuring Performance

Not All Ratings, or CRAs, are Equal

“PIF” =
paid in
full (no
loss)

Allmerica CBO I Ltd/Allmerica CBO I Corp

Page 1/ 1

ACBO 0 06/11/10 -FITCH

| RATING | WATCH | EFFECTIVE |
|--------|-------|-----------|
| PIFsf | | 10/ 4/10 |
| CCC | | 5/15/09 |
| B | | 9/21/07 |
| BB | | 7/ 5/05 |
| B+ | | 7/20/04 |
| BB- | | 9/23/02 |
| A- | *- | 7/22/02 |
| A- | | 11/27/01 |
| AA | *- | 6/26/01 |
| AA | | 6/ 1/00 |

UP / DOWN / NEUTRAL
MENU to return to credit profile

Screenshot
courtesy of
Bloomberg
LP.

The Means for Measuring Performance

The Means for Measuring Performance

(In)Ability to Measure Ratings Performance

Difficult to decipher which rating agencies are more accurate:

- ▶ They have separate rating methodologies
- ▶ They define differently their ratings scales
- ▶ Their ratings may mean different things (expected loss v. default probability)
- ▶ They may have different focuses (ratings stability v. ratings accuracy)
- ▶ They may rate to different return objectives (principal v. principal & interest)

- ▶ Due to lack of ratings transparency, it may be difficult to test:
 - i. the accuracy of their application of their methodology
 - ii. their responsiveness level to changing environments / data (too fast or too slow to adjust)

The Means for Measuring Performance

Measure Performance (Transition Matrices, Accuracy Ratios, etc.)

- ▶ The historical performance of their ratings (upgrades, downgrades, extent of each)
- ▶ Their asset class-level responsiveness to changing environments (too fast or too slow to adjust)
- ▶ The stability of their ratings
- ▶ The accuracy of their ratings (how predictive are their lower ratings of defaults in the near future?; how likely are their higher ratings to avoid losses?)

The Means for Measuring Performance

Transition Matrices (for estimating triggers, margin, etc.)

| % | AAA | AA+ | AA | AA- | A+ | A | A- | BBB+ | BBB | BBB- | BB+ | BB | BB- | B+ | B | B- | CCC | CC | C | RD/D | WR | Total Percent | Ratings Drift | Up/Down Ratio | Rating Actions | Securities Analyzed |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|---------------|---------------|---------------|----------------|---------------------|
| AAA | 48.02 | 3.37 | 19.49 | 6.39 | 4.24 | 3.19 | 0.96 | 0.14 | 1.75 | 0.05 | 0.02 | 0.85 | 0.01 | | 0.88 | | 3.27 | 4.78 | 2.50 | 0.05 | 0.01 | 100.00 | 3.18 | 0.00 | 5,083 | 9,742 |
| AA+ | 0.46 | 58.32 | 2.87 | 25.69 | 2.96 | 0.83 | 0.18 | 0.09 | 0.92 | 0.28 | | 0.46 | | | 0.46 | 0.09 | 1.20 | 1.94 | 3.05 | 0.18 | | 100.00 | 1.92 | 0.01 | 451 | 1,082 |
| AA | 0.51 | 2.78 | 54.59 | 4.30 | 12.72 | 2.53 | 0.59 | 0.08 | 3.79 | 0.17 | | 1.94 | | 0.34 | 2.44 | | 2.53 | 2.86 | 6.82 | 1.01 | | 100.00 | 3.15 | 0.08 | 563 | 1,187 |
| AA- | 0.10 | | 1.37 | 67.32 | 6.75 | 12.23 | 2.94 | 1.17 | 1.37 | | | 1.57 | 0.39 | | 0.78 | 0.10 | 0.88 | 0.59 | 1.96 | 0.49 | | 100.00 | 1.33 | 0.05 | 372 | 1,022 |
| A+ | | | 0.78 | 6.46 | 62.13 | 10.96 | 4.70 | 1.37 | 1.66 | 0.98 | 0.29 | 2.54 | | | 1.08 | | 1.08 | 1.66 | 3.13 | 1.17 | | 100.00 | 1.54 | 0.24 | 415 | 1,022 |
| A | 1.14 | 0.13 | 3.05 | 0.38 | 2.66 | 47.08 | 7.49 | 2.79 | 4.70 | 0.76 | | 4.19 | 0.38 | | 3.30 | 0.51 | 4.06 | 5.58 | 8.63 | 3.17 | | 100.00 | 3.42 | 0.16 | 422 | 788 |
| A- | 1.42 | | | 3.31 | 0.71 | 4.49 | 42.79 | 11.11 | 7.57 | 1.42 | 0.24 | 2.13 | 0.24 | 0.24 | 3.31 | 1.18 | 2.60 | 4.49 | 6.38 | 6.38 | | 100.00 | 2.93 | 0.21 | 243 | 423 |
| BBB+ | | | | 0.24 | 1.18 | 0.94 | 2.59 | 48.11 | 14.62 | 3.30 | 1.18 | 2.12 | 0.47 | | 2.12 | 0.71 | 3.54 | 4.72 | 7.08 | 7.08 | | 100.00 | 2.89 | 0.11 | 221 | 424 |
| BBB | | | | | 0.16 | 0.47 | 0.16 | 5.53 | 33.02 | 17.06 | 3.32 | 4.11 | 2.21 | 0.95 | 2.53 | 0.63 | 3.16 | 5.85 | 11.69 | 9.16 | | 100.00 | 3.57 | 0.10 | 428 | 633 |
| BBB- | | | | 0.37 | 0.37 | 0.37 | | | 9.70 | 42.16 | 2.99 | 5.22 | 2.24 | 1.49 | 1.12 | 3.73 | 3.73 | 4.48 | 8.96 | 13.06 | | 100.00 | 3.12 | 0.23 | 159 | 268 |
| BB+ | | | | | | | | | 0.64 | 7.37 | 15.71 | 1.60 | 36.86 | 0.96 | 1.28 | 1.60 | 1.28 | 19.23 | 8.97 | 4.49 | | 100.00 | 3.37 | 0.11 | 263 | 312 |
| BB | | | | | | | | | | 0.38 | 0.77 | 22.69 | 2.31 | 2.31 | 4.23 | 3.08 | 5.77 | 6.92 | 26.15 | 25.38 | | 100.00 | 4.87 | 0.02 | 202 | 260 |
| BB- | | | | | | | 0.78 | | | | 6.98 | 6.20 | 24.81 | 6.20 | 21.71 | 6.20 | 3.10 | 4.65 | 6.98 | 12.40 | | 100.00 | 2.08 | 0.23 | 97 | 129 |
| B+ | | | | | | | | | | | | 1.19 | 10.71 | 21.43 | 11.90 | 10.71 | 5.95 | 5.95 | 10.71 | 21.43 | | 100.00 | 2.44 | 0.18 | 66 | 84 |
| B | | | | | | | | | | | | | 0.72 | 2.17 | 7.25 | 7.97 | 12.32 | 10.87 | 33.33 | 24.64 | | 100.00 | 3.12 | 0.04 | 128 | 138 |
| B- | | | | | | | | | | | | | | | 2.13 | 42.55 | 21.28 | 14.89 | 14.89 | 4.26 | | 100.00 | 1.11 | 0.04 | 28 | 47 |
| CCC | | | | | | 1.28 | | | | | | | | | 1.28 | 3.85 | 26.92 | 15.38 | 23.08 | 28.21 | | 100.00 | 1.26 | 0.10 | 61 | 78 |
| CC | | | | | | | | | | | | | | 3.23 | | | 9.68 | 19.35 | 32.26 | 35.48 | | 100.00 | 0.81 | 0.19 | 25 | 31 |
| C | | | | | | | | | | | | | | | | | | | 36.52 | 63.48 | | 100.00 | 0.63 | 0.00 | 73 | 115 |
| RD/D | | | | | | | | | | | | | | | | | | | | | | 0.00 | 0.00 | und. | | 0 |

1. How regular are rating actions?
2. How stable or volatile can they be (magnitude, frequency) per asset class or per sector/industry?
3. Analysis can be performed over recent period (to estimate near future) or over historical stressed periods to gauge how quickly portfolios could have moved over recessions, etc.

The Means for Measuring Performance

Rating Before Default (for measuring relative predictive content)

| Datapoints | 1 Day | 1 Week | 1 Month | 3 Months | 6 Months | 1 Year | 2 Years |
|----------------|--------|--------|---------|----------|----------|--------|---------|
| AAA | | | | | | | 6 |
| AA+ | | | | | | | 2 |
| AA | | | | | 1 | 1 | 17 |
| AA- | | | | | | | 10 |
| A+ | | | | | | | 15 |
| A | | | | | 2 | 5 | 39 |
| A- | | | | | | 1 | 34 |
| BBB+ | | | | | | 1 | 46 |
| BBB | 1 | 1 | 2 | 2 | 2 | 8 | 80 |
| BBB- | 1 | 1 | 1 | 1 | 1 | 2 | 39 |
| BB+ | | | | | | 2 | 39 |
| BB | | | | | 2 | 15 | 58 |
| BB- | | | | | 1 | 3 | 10 |
| B+ | | | | | | 1 | 4 |
| B | | | | | 7 | 35 | 14 |
| B- | | | | 1 | 2 | 3 | 2 |
| CCC | 12 | 12 | 12 | 15 | 21 | 75 | 4 |
| CC | 52 | 52 | 51 | 56 | 107 | 135 | 5 |
| C | 405 | 405 | 405 | 396 | 325 | 184 | 38 |
| Total | 471 | 471 | 471 | 471 | 471 | 471 | 462 |
| Average | CC | CC | CC | CC | CC | CCC | BBB |
| Median | C | C | C | C | C | CC | BBB |
| Accuracy Ratio | 92.61% | 92.61% | 92.41% | 92.10% | 88.61% | 77.30% | -1.39% |

Investment Grade

Speculative Grade

High accuracy ratio (close to 100%) shows defaulting securities were (correctly) lowly rated before default

The Means for Measuring Performance

Final Thoughts on Investor Due Diligence...

Measure Methodology:

1. Does it capture the real risks?
2. Is it transparent?
3. Is it highly qualitative?
4. Are the CRAs chosen experienced enough to be making the qualitative judgments that their methodologies entail?

Measure Application of Model:

1. Does it capture the real risks?
2. Is it transparent, reproducible? (are we trusting or verifying?)
3. Are there superior models?

Measure Data and Assumptions:

1. Are they relying unduly on optimistic assumptions? Do they have a plethora of data to support their analysis?
2. What *other* assumptions would have been reasonable?

Q & A

Ratings Resources

PF2 Research and Postings on CRAs

Research Papers: <http://www.pf2se.com/Content.aspx?Type=Research>

Blog Postings on Ratings Reform: www.ratingsreform.wordpress.com

Relevant Regulatory Proposals and Submissions

Comments to SEC on Improvements vis-à-vis Dodd-Frank Act:

<http://www.sec.gov/comments/df-title-ix/credit-rating-agencies/credit-rating-agencies.shtml>

FDIC, FRB, OCC, OTS: “Advanced Notice of Proposed Rules (ANPR) on Alternatives to Use of External Credit Ratings”:

<http://www.regulations.gov/search/Regs/home.html#searchResults?N=0&Ne=11+8+8053+8098+8074+8066+8084+1&Ntk=All&Ntx=mode+matchall&Ntt=occ-2010-0016>

European Commission’s “Public Consultation on Credit Rating Agencies”:

http://ec.europa.eu/internal_market/consultations/docs/2010/cra/cpaper_en.pdf

Addendum

Regulatory Pressure

Financial Stability Board (Oct. 2010) advocates (i) increased disclosure as to usage of ratings and (ii) responsibility and accountability to senior management and the board:

“ ... banks should publicly disclose information about their credit assessment approach, and the proportion of their portfolio ... for which they have not conducted an internal credit assessment.”

“Banks using the standardised Basel II approach currently have minimum capital requirements based on CRA credit ratings ... supervisory processes should be put in place [to check the understanding of the appropriate uses and limitations of CRA ratings by these banks' risk managers.](#)”

“Senior management and boards of institutional investors have a responsibility to ensure that internal assessments of credit and other risks associated with their investments are being made, and that the investment managers they use have the skills to understand the instruments that they are investing in and exposures they face, and do not mechanistically rely on CRA ratings. [Senior management, boards and trustees should ensure adequate public disclosure of how CRA ratings are used in risk assessment processes.](#)”

Addendum

Regulatory Pressure

International Organization of Securities Commissions (“IOSCO”) [Best Practices When Investing in Structured Finance Instruments](#) (July 2009) explains:

“A good practice is for the investment manager to understand the methodology, parameters and the basis on which the opinion of the third party (e.g., the credit rating agency) was produced, and to have the adequate means and expertise to challenge that methodology and the parameters (notably, to identify their limits).”

Addendum

Regulatory Pressure

“Investors’ ability to better understand the credit rating agency inputs and methodology will allow investors to incorporate ratings appropriately in their own internal risk assessments and investment decision analytics.”

– SIFMA (2008)

“I think the best that can be done to make the ratings process more effective is to require more disclosure by the agencies, not only of their ratings methods, but also the time periods of data used to assess default probabilities. Perhaps a big red star (or equivalent) should be posted on ratings backed by less than ten years of data.”

– Robert E. Litan (2008)

Addendum

Regulatory Pressure

“If [rating agencies] were penalized for systematically underestimating risk over a significant period of time -- say, with a six-month "sit out" from having their ratings used for regulatory purposes -- they would have a strong self-interest in correctly estimating risk.”

– Charles Calomiris (2009)

Disclaimer

This presentation has been prepared by PF2 Securities Evaluations, Inc. (PF2). It is published solely for informational purposes, it does not constitute an advertisement and it should not be construed to constitute a solicitation or offer to buy or sell securities or financial instruments in any jurisdiction. No representation or warranty, expressed or implied, is provided with regard to the accuracy, completeness or reliability of the information contained in this presentation, except with respect to information about PF2, nor is this presentation intended to be a complete statement about or summary description concerning the securities, markets or developments referenced in this presentation. Investments involve risks and investors should exercise their own reasonable business judgment in making investment decisions. Nothing in this presentation should be regarded as a substitute for the conduct of independent analysis. Any opinions expressed in this presentation are subject to change without notice and may differ or be contrary to opinions expressed by PF2 on account of the use of different assumptions and criteria in a different context. The analysis contained herein is based on numerous assumptions. Different assumptions could result in materially different outcomes. Those responsible for the preparation of this presentation may interact with trading desk personnel, sales personnel and other parties in gathering and interpreting market information. PF2 is under no obligation to update or keep current the information contained herein.

PF2 prohibits the redistribution of this material in whole or in part without the written permission of PF2 and PF2 accepts no liability whatsoever for the actions of third parties in this respect. Copyright © 2010 PF2 Securities Evaluations, Inc. All Rights Reserved.