

Risk-Based Capital for Direct Credit Substitutes

By Donna Thompson, CFA, FRM

Financial institutions that invested in certain mortgage-backed and asset-backed securities, or MBS and ABS, have seen another aspect of the financial crisis emerge — rapidly increasing risk-based capital requirements. Given the pre-crisis mortgage landscape filled with innovative mortgage products, historically low delinquency and loss levels, and a relatively flat yield curve, the issuance of private-label (or non-agency) mortgage-backed debt experienced significant growth. According to UBS data, issuance of non-agency mortgage-backed securities increased to 55 percent of gross mortgage-backed issuance in 2005 and 2006, up from 21 percent in 2003. Institutions perceived compelling investment opportunities in these securities as yields exceeded those of comparable agency debt and risk-based capital treatment was favorable for highly rated tranches. However, as the current mortgage crisis unfolded, the rating agencies began to downgrade many of these securities, oftentimes by multiple rating grades. The downgrades surprised many institutions and had negative implications for their risk-based capital ratios and capital allocation strategies.

On November 29, 2001, the federal banking agencies adopted a final rule regarding the risk-based capital treatment for recourse obligations, direct credit substitutes, and other asset- and mortgage backed securities. A direct credit substitute¹ is similar to a recourse obligation in that the institution assumes credit risk that exceeds the pro rata share of its interest in an asset; however, it differs from a recourse obligation in that the underlying asset was *not previously owned by the bank* (i.e., the risk position was purchased or assumed). Under the risk-based capital rules, the definition of a direct credit substitute explicitly includes items such as purchased subordinated asset- and mortgage-backed securities. Each subordinated tranche of a securitization functions as a credit enhancement for the more senior tranches — losses are therefore not allocated in a *pro rata* fashion. It is important to note, however, that senior positions in ABS and MBS structures do not meet the definition of a direct credit substitute.

The risk-based capital rules permit a banking organization to use credit ratings from nationally recognized statistical rating organizations to determine the

risk-based capital requirements for certain recourse obligations, direct credit substitutes, and other asset- and mortgage-backed securities. Under this 'ratings-based approach,' which a bank may apply to both senior and subordinated ABS and MBS, the amount of capital required for a rated position increases as the rating of the position decreases. If multiple ratings have been assigned to a position, the lowest rating must be used to determine its risk-based capital requirement. The capital requirement for a rated position is computed by multiplying the position's face value² by the appropriate risk-weight in accordance with the tables set forth in the rule (see Table A).

However, recourse obligations and direct credit substitutes that are unrated or that are rated more than one grade below investment grade (e.g., below BB) are subject to a different methodology for calculating risk-based capital requirements³. A bank must sum the amount of its position plus its pro rata share of the more senior positions in the securitization, and risk weight the resulting amount based on the risk weight of the assets underlying the securitization. This methodology is sometimes called the "gross-up" approach because the amount of the bank's position is "grossed up" to include the more senior positions it supports. The guidelines also contain a low level recourse rule, meaning that if a bank's maximum contractual exposure to loss is less than the capital requirement calculated under this methodology, the dollar amount of risk-based capital required is limited to the bank's maximum contractual exposure to loss. In other words, if the *pro rata* calculation results in a capital charge that is greater than the bank's exposure, then the low level exposure rule is applicable and a dollar-for-dollar capital charge applies to the instrument⁴.

Example of capital charge using the ratings-based approach — Appendix A Section III (B)(3)(c)

Example:

- A bank has a \$10 investment designated as available-for-sale in a subordinated tranche of a MBS

- The investment is rated AAA by a nationally recognized statistical rating organization (e.g., Moodys)
- Calculation: Risk-weighted assets = $\$10 * 20\% = \2

Minimum total risk-based capital held for this position = $\$2 * 8\% = \$.16$

Example of capital charge using the 'gross up' methodology — Appendix A Section III (B)(3)(b):

For on-balance sheet direct credit substitutes (i.e., purchased subordinated mortgage-backed security or trust preferred collateralized debt obligation) that do not qualify for the ratings-based approach, a bank must calculate risk-weighted assets using the amount of the direct credit substitute and the full amount of the assets it supports (i.e., all the more senior positions in the structure). In effect, the bank's pro rata share of the tranche containing its direct credit substitute is multiplied by the full amount of the assets that are more senior to it and therefore supported by the direct credit substitute.

Risk-weighted assets = [amortized cost of bank's position + (% of subordinate tranche owned * senior positions)] * risk weight of underlying assets

Example:

- The credit rating on the bank's \$10 security is downgraded to below BB- (e.g., CCC)
- The bank's \$10 investment represents 50% of a total subordinated tranche that equals \$20
- Must use pro rata 'gross up' method
- The outstanding tranches ahead of our security total \$90
- Calculation: Risk-weighted assets = $[\$10 + (50\% * \$90)] * 100\% = \$55$ (550% risk-weighting)
- Minimum total risk-based capital held for this position = $\$55 * 8\% = \4.4

Conclusion:

Capital required against \$10 security increased from \$.16 to \$4.4 resulting from rating downgrade.

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Summary:

Although the current attractive yields (i.e., depreciated values) of some MBS and ABS may appear to be attractive investment opportunities, it is imperative that bank management thoroughly understand the risks embedded in these securities prior to making investment decisions. These risks include but are not limited to understanding the nature and performance of the underlying collateral pool, inherent structural characteristics such as the institution's senior or subordination position, the prioritization of cash flows and distributions, underlying credit dynamics, and capital requirements. Institutions should ensure that they have robust risk management processes in place and demonstrate a thorough understanding of the embedded risks in these structured securities. In particular, bank management should ensure compliance with the key principals discussed in SR 98-12, "Supervisory Policy Statement on Investment Securities and End-User Derivatives Activities" and SR 04-9, "Uniform Agreement on the Classification of Assets and Appraisal of Securities Held by Banks and Thrifts." The following section lists a number of sound practices that financial institutions are expected to follow with regards to investments in these type(s) of instruments. Generally, all institutions should:

- Be able to identify, measure and manage credit-risk exposure(s) from positions in asset or mortgage-related securitization structures on an ongoing basis, whether these positions are retained or acquired;
- Thoroughly understand the structure of these investments regarding the prioritization of cash flows, capital consequences when external ratings deteriorate, credit dynamics and model assumptions used to provide valuations;
- Incorporate the risks involved in purchasing subordinated tranches of asset securitizations into an overall risk management framework;
- Include risk exposures in reports to senior management and directors to ensure proper oversight (at a minimum, management information systems should include underlying collateral type and performance, default rates and delinquencies, credit-enhancement and subordination features);
- Adopt appropriate policies, procedures and guidelines to manage the risks involved. Policies

should ensure that the economic substance of the risk exposures generated by these activities is fully recognized and appropriately managed;

- Assure that appropriate internal controls exist to verify the integrity of the risk management process with respect to these activities. The formality and sophistication of an institution's risk management system should be commensurate with the nature and volume of its activities.

FOOTNOTES:

¹ The term "direct credit substitute" refers to an arrangement in which a banking organization assumes, in form or in substance, credit risk associated with an on- or off-balance sheet asset or exposure that was not previously owned by the banking organization (third-party asset) and the risk assumed by the banking organization exceeds the *pro rata* share of the banking organization's interest in the third-party asset. It explicitly includes items such as purchased subordinated interests.

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² For risk based capital purposes, the "face amount" of an available-for-sale security and a held-to-maturity security is its amortized cost; the "face amount" of a trading security is its fair value.

³ This methodology does not apply to ABS or MBS that do not meet the definition of a recourse obligation or a direct credit substitute.

⁴ The March 2009 Call Report instructions were updated to provide detailed examples and tables to assist in the calculation. See "Treatment of Purchased Subordinated Securities That Are Direct Credit Substitutes Not Eligible for the Ratings-Based Approach" beginning on page RC-R-17. Corresponding information will also be added to the June 30, 2009 FRY-9C instructions.

A complete list of the report changes and supplemental instructions with detailed instructions for these items is available at http://www.richmondfed.org/banking/reporting_forms/ or the following link: http://www.ffiec.gov/PDF/FFIEC_forms/FFIEC031_FFIEC041_200903_i.pdf

TABLE A:

Long-term Rating category	Examples	Risk Weight
Highest or second-highest investment grade	AAA or AA	20 percent
Third-highest investment grade	A	50 percent
Lowest investment grade	BBB	100 percent
One category below investment grade	BB	200 percent
More than one category below investment grade, or unrated	B or unrated	Not eligible for ratings-based approach

Short-term Rating category	Examples	Risk Weight
High investment grade	A-1, P-1	20 percent
Second highest investment grade	A-2, P-2	50 percent
Lowest investment grade	A-3, P-3	100 percent
Below investment grade	Not prime	Not eligible for ratings-based approach

REFERENCES:

Regulation H - Appendix A to Part 208—Capital Adequacy Guidelines for State Member Banks: Risk-Based Measure

<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=6dccc7b484ff0ae5d8ab18b4e0771a73&rgn=div5&view=text&node=12:2.0.1.1.9&idno=12#12:2.0.1.1.9.3.3.16>

Regulation Y - Appendix A to Part 225—Capital Adequacy Guidelines for Bank Holding Companies: Risk-Based Measure

<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=6dccc7b484ff0ae5d8ab18b4e0771a73&rgn=div5&view=text&node=12:3.0.1.1.6&idno=12#12:3.0.1.1.6.10.8.10.6>

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