

Special Comment



February 2009

Calibrating Bank Ratings in the Context of the Global Financial Crisis

Summary Opinion

The calibration of bank credit ratings is increasingly challenged by the persistence and depth of the economic crisis, during which the financial markets are failing to sustain the normal flow of liquidity and capital. Yet, throughout the unfolding of the crisis, deposit and senior debt ratings of most banks in the advanced economies have remained well within investment grade owing to a combination of supporting factors, including the intrinsic financial strength of individual banks, system-wide support programs, and bank-specific support.

In establishing our ratings during this tumultuous period, we have and will continue to apply our existing methodologies to provide a rank ordering of bank credit risks, including the Joint Default Analysis methodology for assessing external support. However, in the context of the sobering realization that the market turmoil is deeper and more enduring than was anticipated only months ago - and because of the increased dependence of banks on government support - we have determined that some refinements of the weights and relative importance attached to certain rating factors within our methodologies was warranted. In recognition of our responsibility to provide market participants with clarity on the meaning of Moody's bank ratings, this report provides guidance on this recalibration and our opinion on expected rating implications.

In our opinion, most major banks in advanced economies with very high sovereign ratings will remain investment grade, from both a short-term and a long-term perspective. Over the short run, government support is highly probable for all the major banks. Over the long run, we believe that banks will continue to receive government support until they either achieve investment-grade strength on a stand-alone basis or are otherwise resolved in a manner that is likely to protect the interests of depositors and senior debt holders. Since, in many cases, a bank's investment-grade status depends almost entirely upon an expectation of government support, there remains the risk, however slight, that such support will be withdrawn and its rating would rapidly transition down. In turn, how far down a bank's deposit and senior debt ratings may fall will depend on its intrinsic financial strength rating.

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In addition to our discussion of senior debt and deposit ratings, we describe in this report the actions we are taking to refine our assessment of the relative intrinsic financial strength of banks. Among other actions, we are placing an increased focus on rating factors that address the near-term threats to sustainability; more specifically, this focus centers on capital and future earnings. We anticipate that capital adequacy will serve as a considerable constraint and introduce some volatility on the intrinsic financial strength ratings for a number of banks. Further, given major banking regulators' stated policy intent to build counter-cyclical capital buffers in good times, we expect capital levels to remain a critical factor for our ratings in the long term.

At the same time, demonstrated or anticipated systemic support continues to argue for high relative deposit and senior debt ratings for most banks in the advanced economies, albeit not to the same levels as today in all cases. Therefore, a widening of the gap between Bank Financial Strength Ratings and deposit and senior debt ratings is expected. In this environment, the senior debt and deposit ratings of systemically important banks are naturally less sensitive than they would otherwise be to changes in their intrinsic financial strength. Nevertheless, changes in financial strength can affect long-term debt and deposit ratings because a severe deterioration may, over the long run, lead the government to dismember, rather than to preserve, a bank's franchise.

Additional issues relating to the capacity and willingness of a sovereign to provide support - in local or foreign currency terms- become important ratings drivers, especially for banks in emerging economies; and these issues will be the focus of a separate paper to be published soon. Also in a separate report, we will provide commentary on foreign currency rating drivers, elaborating on the principles embodied in a comment published earlier this month entitled, "Banks Dependent on Government Foreign Currency Resources for Support: Korea, — A Case in Point." In addition, we will provide further details on our ratings roadmap for bank hybrid securities, as described in our comment on this subject which we published last December.

Moody's Deposit and Senior Debt Ratings

Deposit and senior debt ratings are intended to be opinions of the relative credit risk of obligations. They address the probability that a financial obligation will not be honored. Such ratings reflect both the likelihood of default and any financial loss suffered in the event of default. Our ratings are intended to reflect the medium- to long-term risk of these obligations. As such, they need to take into account the current high level of support that exists, but they also must express an opinion of the risk to the creditors once stability returns to the market. Our expectation is that these ratings should be more stable than those reflecting underlying financial strength.

Support in many countries has been higher than what had been anticipated in our ratings leading into the crisis, and we expect that our support assumptions will continue to increase accordingly for systemically important institutions during this crisis period (either due to support that has already been expressed or that is anticipated). Therefore, senior debt ratings may or may not be affected by further BFSR downgrades, depending on the importance of the rated bank to the system and the support forthcoming or made available.

It is particularly challenging to assess relative default risk in this environment, when support has been so encompassing due to the confidence sensitivity of the markets and the need for governments to restore financial stability. To aid in the calibration of ratings, where support otherwise is indiscriminate, and in an attempt to look through the immediate crisis to the potential franchise characteristics of banks coming out of this environment, the following rating categorizations can provide some clarity about the ratings levels achievable by banks receiving, or expected to receive, systemic support and operating in countries with highly rated governments.

- Banks rated at the **lower end of the "Aa" or high "A" range**, despite weak BFSRs, are those that are systemically important and necessary for the functioning of a financial system. Our ongoing assumption is that these banks remain "too important to fail". Further, the franchise profiles of such banks should allow for their return to strong financial fundamentals and sustainable profitability within a reasonable period.
- Banks rated **single "A"**, despite weak BFSRs, are likely to remain important today but may be subject to a transforming event (for example, a potential sale or break-up) and diminished relevance upon the

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restoration of normal financial market conditions. A return to previous levels of profitability is less certain because of franchise characteristics or the nature of the bank's lending operations. Examples of such characteristics would include a focus on lending sectors that are negatively transformed because of the crisis, or a wholesale funding profile for which market access at economic levels is likely to remain challenged.

- Banks rated **below single "A"** have weak BFSRs and, in our opinion, less significant systemic importance because of their size or role in the market, viability of the business model, or chosen specialization.

These categorizations will be most relevant for banks subject to weak BFSRs, whereby the durability of the franchise coming out of the crisis is most at issue. These categorizations are particularly intended for banks with weak or weakened financial strength. Banks with higher BFSRs, which imply stronger deposit and senior debt ratings without the need for support, will continue to obtain higher ratings. Further, there will continue to be instances of ratings exceeding low "Aa" where the combination of the BFSR and the current support assumptions, utilizing the JDA methodology, imply a higher rating outcome.

Once the magnitude of the crisis subsides, BFSRs are expected to strengthen as banks improve their financial metrics and as weaknesses in the business model are addressed. At the same time, support assumptions are likely to be reduced to the pre-crisis expected levels, with the result that senior debt ratings, through a combination of these offsetting influences, would be expected to remain relatively stable. However, for institutions that do not sufficiently address weaknesses in their business model, negative rating actions may be needed because the probability of default would increase when support assumptions revert to a pre-crisis level.

Short-term Ratings

The above commentary focuses on long-term ratings. We should comment as well on our application of short-term ratings in this environment. Arguably, under conditions of strong systemic support, short-term ratings are the most predictable and assurance of payment of short-term obligations is the highest. For this reason, we fully expect that short-term ratings of important financial institutions, despite weak underlying fundamentals, will remain Prime-1. This could include ratings of A3-rated institutions where we believe that short-term liquidity support is strongly demonstrated. However, we will continue to maintain our general linkage between short- and long-term ratings. A Prime-1 rating, at the top of the Prime short-term rating categories, implies very low ratings transition risk and is inconsistent with issuers rated below single "A".

Challenges to Assessing Support

As a further note, it should be emphasized that the ratings categorizations discussed above are intended to be similarly predictive for a large number of banks across different banking systems, employing a probability assessment that is consistently applied within the assigned ratings levels. Under financial crisis conditions, ratings are more-than-usually dependent on support, and the support decision for any sovereign entity is ultimately binary. We have seen instances, perhaps most notably Lehman Brothers, where this support expectation did not occur, and the result was a large rating transition and default. With the increase in political sensitivity from using large amounts of government funds to support weak banks, governments may choose to select additional firms, including those which Moody's predicts will receive support, to be dissolved or sold, resulting in potential losses to different classes of creditors.

The heightened challenge to setting rating levels for intrinsically weak institutions will persist throughout this crisis. When the predicted support does not occur, we will respond by adjusting rating levels for issuers with common characteristics. Following Lehman's failure, for example, we have continued identifying the heightened challenges of the wholesale-funded investment banking model and have adjusted certain ratings in response. However, we will continue to set ratings to levels that reflect the expected default experience across institutions. The alternative would be to set ratings at far more conservative levels, which would imply the prospect of later ratings reversals following the restoration of market stability – an approach we seek to avoid.

Also, the rating categorizations above address the most senior obligations of banks. The ratings down the seniority scale are subject to additional risks that are system-dependent and also a more direct function of the

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underlying financial strength of the issuer. Most at risk are the hybrid capital instruments. (We published a Special Comment on this issue in December and will be following up with further ratings guidance.)

Finally, the capacity or willingness of a supported bank to provide support to other members of its group becomes an additional ratings consideration, particularly when the group entity is outside the jurisdiction of the support provider.

Moody's Bank Financial Strength Ratings

The intrinsic credit risk of banks is communicated through our Bank Financial Strength Ratings (BFSRs), as opposed to our deposit and senior debt ratings, which address the probability that a financial obligation will not be honored, with the difference between the two stemming from support. In other words, BFSRs are intended to reflect the likelihood that a bank's financial position will require exceptional assistance from third parties such as its owners, industry groups, or official institutions. As a measure of intrinsic financial strength, the BFSR should, thus, reflect the relative 'distance' to a problematic situation for which the bank will need to rely on external support.

It is important to understand that BFSRs incorporate any existing system-wide and/or bank-specific support measures that already have been provided by a government. Here, the BFSRs incorporate these measures as elements supportive of the rating factors, most typically relating to liquidity (for central bank programs and debt-guarantee schemes, for example) and capital (where governments have already injected capital into banks).

Calibration of the BFSR, while seemingly straight-forward, is complicated by environmental conditions that make it vulnerable to credit cycles, for which today's crisis is an extreme case. In the credit cycle leading up to the current financial crisis, during which capital and liquidity were readily available to the banking system, banks often were able to establish capital cushions and access liquidity freely from a variety of sources. The result was a positive distortion of the financial strength of banks operating in that environment. By contrast, in the current environment, normal capital and liquidity sources are not available to most institutions, and market confidence is so sensitive that perceived weakness easily escalates to crisis proportions.

Our scorecard framework for assessing financial strength is challenged to cope with the current extreme market conditions. In the past few months, we have observed a number of institutions receiving external support even though their BFSRs remained investment grade (as implied by the Baseline Credit Assessment, or BCA, into which the BFSRs are mapped – see table in Appendix).

Two factors contributed to this. First, our BFSR methodology incorporates a long term, through-the-cycle approach, which has a dampened responsiveness to current conditions. The methodology draws on historical performance as the baseline for assessing ongoing franchise strength. This approach is not able to respond adequately to the dramatic reversal of market conditions, and in many cases, it has not sufficiently captured the vulnerability and need for immediate support for numerous banks. Second, the combination of qualitative and financial factors resulted in rating outputs that did not sufficiently reflect the financial stress that some of these banks were facing. Because of current capital market conditions, the traditional industry solutions for addressing financial needs (i.e., raising new capital or utilizing strong earnings to replenish capital) are not available to the majority of issuers, and therefore the magnitude of the problem has quickly increased to levels whereby external support is immediately required.

Rating Constraints

In response to these conditions, we are doing two things. First, we are applying a more forward-looking approach to the financial strength factors in our methodology. This involves a disciplined use of scenario analysis to determine expected losses in banks' risk assets, which will provide a key input to the determination of capital adequacy. Second, we will be placing an increased emphasis on specific drivers of banks' intrinsic safety and soundness – such as capital adequacy and core earnings – that best reflect the current realities of this enduring crisis. In doing this, the weakest component of these ratings factors will act to constrain the level that a bank's BFSR can attain.

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Moody's assessment of capital, in particular, is expected to be the constraining factor for numerous banks. Moody's will assess capital by incorporating expected losses after giving credit for a 12- to 18-month view of earnings, net of dividends. After applying the resulting capital ratios to our standard scorecard, Moody's would expect that the assigned BFSR for a bank would not be more than two rating notches above the adjusted capital-factor rating. The emphasis placed on capital is due to the fact that this factor is perhaps the most predictive of the need for support in the future.

Liquidity was a greater driver prior to the imposition of the numerous liquidity programs across the major banking systems; it will likely regain importance as an institution-specific driver when more normal funding conditions are restored.

A further complexity in the current volatile environment is the issue of the time horizon -- one that is reasonable for assessing and anticipating financial strength. In a more stable environment, financial performance is reasonably predictable, both in terms of asset quality and operating performance. The horizon for reliable forecasting now is significantly shortened. However, in response, we have developed much more refined applications of scenario testing for a wide range of asset categories. These scenarios are used to identify institutions that may be more exposed to future volatility because of the composition of their balance sheets and to assess their vulnerability if these scenarios were to materialize. Such scenarios and testing approaches are being applied in a consistent manner across banks with similar portfolio characteristics.

Support Assumptions

The link between the BFSR and the debt ratings is the support assumptions. Under Moody's bank rating methodology, support can come from four distinct areas: (i) parent companies or owners, (ii) cooperative and / or mutualist groups, (iii) regional governments, and (iv) national governments. In the current crisis, national government support has been stronger than Moody's originally anticipated because of the global nature of the crisis. A failure of an institution in the current environment could induce contagion and jeopardize the viability of the banking system in many advanced economies. However, as the crisis unfolds, Moody's is further reviewing its support assumptions, and some adjustments are expected.

- **Parental support:** As banks face liquidity and capital constraints, support to subsidiaries or other investments may diminish. Banks will need to reexamine their long-term objectives and, together with potential constraints that governments may impose on supporting entities outside of a home country, may decide to limit support to some of their subsidiaries. This issue is most relevant to non-core operations and subsidiaries outside of the primary geographic and country markets. Moody's will be closely monitoring any changes in long-term objectives and will adjust subsidiary support assumptions as needed.
- **Government support:** Government support has been extremely high during this crisis. At the same time, because of the severity and term of this crisis, the capacity of a central bank to support its banking system becomes an issue. Currently, we anchor our assessment of this capacity to the Local Currency Deposit Ceiling, which typically is above the level of the sovereign debt rating for non-Aaa countries. The severity of this crisis may require a re-examination of the capacity of governments to provide support. (Moody's will be publishing a separate report addressing this issue in the coming days.)

Additionally, if this crisis persists, the risk of forced bank-debt restructurings may increase as governments take additional steps to protect depositors (and, at the same time, their sovereign creditworthiness). Even though this concern is currently limited, affecting primarily certain emerging countries, Moody's will closely monitor developments and will take rating actions as needed.

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Other Rating Considerations

Over the coming weeks and months, we will continue to provide commentary on additional initiatives that may affect the calibration of our ratings. Included will be a further discussion on foreign currency ratings levels, following on a comment published earlier this month entitled "Banks Dependent on Government Foreign Currency Resources for Support: Korea, — A Case in Point".

Given the severity of this global crisis, the connection between sovereign analysis and bank credit risk increases, and there will be ongoing commentary produced jointly by Sovereign Risk and Banking analysts concerning the implications of these developments on our established ratings approaches.

Related to this, as noted above, will be further commentary on parental support to subsidiaries, which has particular relevance to subsidiaries outside of banks' home markets, owing to the political sensitivity of such support in the cases of banks that have received government funding. Further, we will be providing updated commentary on our developing ratings roadmap for bank hybrid securities, following the comment published last December. Finally, we will refine our methodology for rating complex, wholesale-funded investment banks, following our special comment published in October 2008, titled "Impact of the Credit Crisis on Moody's Rating Methodology and the Credit Profiles of Investment Banks".

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Moody's Related Research

Special Comments

- Banks Dependent on Government Foreign Currency Resources for Support: Korea, — A Case in Point, February 2009 (114127)
- Moody's Assesses Bank Hybrid Securities in the Context of the Credit Crisis, December 2008 (112358)
- Assessing the Rating Implications for Banks of the Current Market Turmoil and Governmental Interventions to Support Their Banking Systems, October 2008 (111854)
- Impact of the Credit Crisis on Moody's Rating Methodology and the Credit Profiles of Investment Banks, October 2008 (111713)

Rating Methodologies

- Bank Financial Strength Ratings: Global Methodology, February 2007 (102151)
- Incorporation of Joint-Default Analysis into Moody's Bank Ratings: A Refined Methodology, March 2007 (102639)

Government Guarantee Programs

- Index of Comments and Announcements: [moodys.com > The Credit Crisis > Related Topics > Index of Government Guarantee-related comments and announcements](#)

To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.

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Appendix: Rating Definitions

Bank Financial Strength Ratings

Moody's Bank Financial Strength Ratings (BFSRs) represent Moody's opinion of a bank's intrinsic safety and soundness and, as such, exclude certain external credit risks and credit support elements that are addressed by Moody's Bank Deposit Ratings. In addition to commercial banks, Moody's BFSRs may also be assigned to other types of financial institutions such as multilateral development banks, government-sponsored financial institutions and national development financial institutions.

Unlike Moody's Bank Deposit Ratings, Bank Financial Strength Ratings do not address the probability of timely payment. Instead, Bank Financial Strength Ratings are a measure of the likelihood that a bank will require assistance from third parties such as its owners, its industry group, or official institutions.

Bank Financial Strength Ratings do not take into account the probability that the bank will receive such external support, nor do they address risks arising from sovereign actions that may interfere with a bank's ability to honor its domestic or foreign currency obligations.

Factors considered in the assignment of Bank Financial Strength Ratings include bank-specific elements such as financial fundamentals, franchise value, and business and asset diversification. Although Bank Financial Strength Ratings exclude the external factors specified above, they do take into account other risk factors in the bank's operating environment, including the strength and prospective performance of the economy, as well as the structure and relative fragility of the financial system, and the quality of banking regulation and supervision.

Bank Financial Strength Rating Definitions

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|----------|---|
| A | Banks rated A possess superior intrinsic financial strength. Typically, they will be institutions with highly valuable and defensible business franchises, strong financial fundamentals, and a very predictable and stable operating environment. |
| B | Banks rated B possess strong intrinsic financial strength. Typically, they will be institutions with valuable and defensible business franchises, good financial fundamentals, and a predictable and stable operating environment. |
| C | Banks rated C possess adequate intrinsic financial strength. Typically, they will be institutions with more limited but still valuable business franchises. These banks will display either acceptable financial fundamentals within a predictable and stable operating environment, or good financial fundamentals within a less predictable and stable operating environment. |
| D | Banks rated D display modest intrinsic financial strength, potentially requiring some outside support at times. Such institutions may be limited by one or more of the following factors: a weak business franchise; financial fundamentals that are deficient in one or more respects; or an unpredictable and unstable operating environment. |
| E | Banks rated E display very modest intrinsic financial strength, with a higher likelihood of periodic outside support or an eventual need for outside assistance. Such institutions may be limited by one or more of the following factors: a weak and limited business franchise; financial fundamentals that are materially deficient in one or more respects; or a highly unpredictable or unstable operating environment. |

Note: Where appropriate, a "+" modifier will be appended to ratings below the "A" category and a "-" modifier will be appended to ratings above the "E" category to distinguish those banks that fall in the higher and lower ends, respectively, of the generic rating category.

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BFSR/Baseline Credit Assessment Mapping

BFSR	Baseline Credit Assessment
A	Aaa
A-	Aa1
B+	Aa2
B	Aa3
B-	A1
C+	A2
C	A3
C-	Baa1
C-	Baa2
D+	Baa3
D+	Ba1
D	Ba2
D-	Ba3
E+	B1
E+	B2
E+	B3
E	Caa1
E	Caa2
E	Caa3

Bank Deposit Ratings

Moody's Bank Deposit Ratings are opinions of a bank's ability to repay punctually its foreign and/or domestic currency deposit obligations. Foreign currency deposit ratings are subject to Moody's country ceilings for foreign currency deposits. This may result in the assignment of a different (and typically lower) rating for the foreign currency deposits relative to the bank's rating for domestic currency deposits.

Moody's Bank Deposit Ratings are intended to incorporate those aspects of credit risk that are relevant to the prospective payment performance of the rated bank with respect to its foreign and/or domestic currency deposit obligations. Included are factors such as intrinsic financial strength, sovereign transfer risk (for foreign currency deposits), and both implicit and explicit external support elements.

Moody's Bank Deposit Ratings do not reflect the benefit of deposit insurance schemes that make payments to depositors, but they do incorporate the potential support from schemes that may provide direct assistance to banks.

In addition to its Bank Deposit Ratings, Moody's also publishes Bank Financial Strength Ratings, which exclude certain of these external risk and support elements (i.e., sovereign risk and external support). Such ratings are intended to elaborate and explain Moody's Bank Deposit Ratings, which incorporate and reflect such elements of credit risk.

Moody's employs the general long-term and short-term rating scales for bank deposits.

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Aaa	Obligations rated Aaa are judged to be of the highest quality, with minimal credit risk.
Aa	Obligations rated Aa are judged to be of high quality and are subject to very low credit risk.
A	Obligations rated A are considered upper-medium grade and are subject to low credit risk.
Baa	Obligations rated Baa are subject to moderate credit risk. They are considered medium-grade and as such may possess certain speculative characteristics.
Ba	Obligations rated Ba are judged to have speculative elements and are subject to substantial credit risk.
B	Obligations rated B are considered speculative and are subject to high credit risk.
Caa	Obligations rated Caa are judged to be of poor standing and are subject to very high credit risk.
Ca	Obligations rated Ca are highly speculative and are likely in, or very near, default, with some prospect of recovery of principal and interest.
C	Obligations rated C are the lowest rated class of bonds and are typically in default, with little prospect for recovery of principal or interest.

Note: Moody's appends numerical modifiers 1, 2, and 3 to each generic rating classification from Aa through Caa. The modifier 1 indicates that the obligation ranks in the higher end of its generic rating category; the modifier 2 indicates a mid-range ranking; and the modifier 3 indicates a ranking in the lower end of that generic rating category.

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