Daiwa Securities

A different approach to assessing government agency credit

A stable financial position is more important than the its policy importance

- The usual approach to evaluating creditworthiness in the public sector is to look at both the importance of the agency's policies and its financial position
- There are limits to policy importance, including the difficulty in quantitatively analyzing it
- If its policies are important but its financial position is weak, spreads are going to widen until government subsidies arrive
- It is important that it maintain a sustainable financial position and a workable earnings structure
- The financial position must be assessed based on both the overall agency and the bond issuing account

Credit Memorandum JCRE432
FICC Research Dept.

Senior Credit Analyst
Kouji Hamada
(81) 3 5555-8791
kouji.hamada@daiwa.co.jp

Daiwa Securities Co. Ltd.

The importance of, and limits to, distance from the government

A proprietary approach to assessing the credit of government agencies

We are already coming up on the 18th year since the issuance of flip agency bonds began in FY01. The methods for assessing the creditworthiness of government agencies were decided long ago, but there are slight differences in thinking, including among the credit rating agencies. There is no single right answer. In this report, we reveal our own thinking, based on past examples from the birth of the Fiscal Investment and Loan Program (FILP) agency bonds until the present.

The usual assessment method is to look at both the importance of the agency's policies and its financial position

The credit rating agencies' normal approach to assessing credit in the public sector is to evaluate both the distance from government and the issuing agency. Another way to look at an agency's distance from government is to look at its policy importance, while assessments of the agency itself come down to financial position and business risk. We think this all makes sense, but the hard part is deciding on what to emphasize.

The tendency has been to emphasize the importance of policy

Credit rating agencies tend to place more importance on distance from government. There are limits to assessing the agency's policy importance, however.

It is difficult to quantitatively assess the importance of an agency's policies

To begin with, although we think the relative importance of different policies can be roughly determined, it is difficult to make a quantitative assessment that produces a finely tuned rank-ordering of importance. It always winds up being a subjective and qualitative assessment. In that sense, Moody's approach of assuming the market can expect government support for all government agencies, and thus it is okay to give them all the same credit rating, is a clean solution to the problem. The market is also implementing Moody's approach by reasoning that government agencies with the same BIS risk weights should basically have the same issuance terms.

Is there really a correlation between policy importance and certainty of government support?

Secondly, nobody knows whether there is really a correlation between policy importance and certainty of government support. Even if an agency's policies are deemed unimportant and not worth continuing, the government is unlikely to simply withdraw support and let the agency fail. Once a failure is allowed to occur, the market will start looking for the next candidate for failure, and trust in government agencies will collapse. Historically, even businesses that have been decided to cease operations have continued to repay their debt.

If its policies are important but its financial position is weak, bond spreads are going to widen

Thirdly, however important an agency's policies may be, spreads will widen significantly if its financial position deteriorates. As we noted in our 21 August 2017 report, *View on investment in gov't agency bonds with spreads above 200bp (JCRE394)*, prior to its privatization, the net worth of Honshu-Shikoku Bridge Authority turned negative because of low traffic volumes, and its spreads in the secondary market rose above 200bp in the early 2000's. Secondary market spreads for bonds issued by Japan National Oil Corporation (JNOC) and Kansai International Airport also rose above 200bp at the same time, but that was caused by concerns about their business on accumulated losses.

Government support can be expected, but financial position must be looked at

As we noted in our report JCRE394, precedent suggests there is ample reason to expect support from the government, including in the form of additional investments and subsidies and the transfer of some debt to the government. It is difficult to quantify the likelihood of support and make a detailed ranking of government agencies, however, and between the time that the business runs into trouble and support from the government arrives, market spreads are going to widen. It is also necessary to look at the agency's financial position.

Assessments of financial position and business risk should be moderated

Should get a passing grade as long as losses do not become a regular occurrence

When assessing an agency's financial position, it is of course reassuring when it has a large positive free cash flow and high equity capital ratio. Low business risk is also a good thing. Because government support can be expected in the end, however, it is good enough for now that the agency's business is sustainable. As long as it is generating a surplus, its losses are not accumulating, and it does not fall into negative net worth, it should get a passing grade. We know that as of now, there are no agencies with losses large enough to put their survival in doubt.

Confirmation of the earnings structure is critical

When looking at government agencies, we think it is more important to confirm a solid earnings structure than to make quantitative balance sheet comparisons. Key questions to ask are whether it has systems in place to ensure profitability, whether it has ways to eliminate losses if it starts losing money, and what criteria are used to determine whether it will receive subsidies and/or supplemental payments from the government. For example, even an agency with an equity capital ratio close to zero can stabilize its financial position if there is a mechanism for offsetting its losses with subsidies. Because each agency has different systems and mechanisms in place, they need to be looked at on a case-by-case basis. It is difficult to judge using AI.

The financial position must be assessed based on looking at both the agency overall and the bond issuing account

Both the overall agency and the bond issuing account must be looked at

Many government agencies operate multiple businesses and have multiple accounts. When they do, the financial position must be assessed based on both the overall agency and the bond issuing account.

JNOC's bond issuing account was sound

In our previous report JCRE394, we noted that Japan National Oil's general account covered new oilfield development, while its oil stockpile account covered the country's oil stockpile. Its bonds are issued under the oil stockpile account, and bond proceeds are used to fund oil purchases. When a tightening of oil supply-demand caused oil prices to rise sharply, it sold its oil holdings to increase supply and stabilize prices. Because it buys when oil is cheap and sells when it is expensive, it is unlikely to incur a loss on sale. The financial position of its oil stockpile account was sound.

Japan National Oil bond spreads widened on business mistakes in non-issuing account

The oilfield development done under its general account did not go well, however, causing it to accumulate large losses. It was widely reported by the media that the then Minister of International Trade and Industry saw this as a problem, and spreads on JNOC bonds rose above 200bp at one point. This was a case of problems with one account spreading to another account. This is why it is necessary to look at the financial position of the agency overall.

Japan Bank for International Cooperation was integrated into the Japan Finance Corporation then spun off again

Meanwhile, JNOC was ultimately shut down in 2005 as part of the drive to reform Japan's special corporations. The general account was taken over by the Japan Oil, Gas and Metals National Corporation, while the oil stockpile account was taken over by the government's special account for advancing the oil and energy supply-demand structure, and thus the JNOC's two accounts were spun off. The JNOC bonds whose spreads had risen above 200bp became JGBs. There are other examples of accounts being spun off into separate entities. For example, the Japan Bank for International Cooperation's international finance operations were integrated into and made a division of the Japan Finance Corporation in 2008, then spun off again in 2012. This is why it is necessary to look at the financial position of the account that issues the bonds.

Daiwa Securities

Explanatory Document of Unregistered Credit Ratings

In order to ensure the fairness and transparency in the markets, Credit Rating Agencies became subject to the Credit Rating Agencies' registration system based on the Financial Instruments and Exchange Act. In accordance with this Act, in soliciting customers, Financial Instruments Business Operators, etc. shall not use the credit ratings provided by unregistered Credit Rating Agencies without informing customers of the fact that those Credit Rating Agencies are not registered, and shall also inform customers of the significance and limitations of credit ratings, etc.

■ The Significance of Registration

Registered Credit Rating Agencies are subject to the following regulations:
1) Duty of good faith.
2) Establishment of control systems (fairness of the rating process, and prevention of conflicts of interest, etc.).
3) Prohibition of the ratings in cases where Credit Rating Agencies have a close relationship with the issuers of the financial instruments to be rated, etc.
4) Duty to disclose information (preparation and publication of rating policies, etc. and public disclosure of explanatory documents).

In addition to the above, Registered Credit Rating Agencies are subject to the supervision of the Financial Services Agency ("FSA"), and as such may be ordered to produce reports, be subject to on-site inspection, and be ordered to improve business operations, whereas unregistered Credit Rating Agencies are free from such regulations and supervision.

■ Credit Rating Agencies

[Standard & Poor's]

The Name of the Credit Rating Agencies group, etc

The name of the Credit Rating Agencies group: S&P Global Ratings ("Standard & Poor's")
The name and registration number of the Registered Credit Rating Agency in the group: S&P Global Ratings Japan Inc. (FSA commissioner (Rating) No.5)

How to acquire information related to an outline of the rating policies and methods adopted by the person who determines Credit Ratings

The information is posted under "Unregistered Rating Information" (http://www.standardandpoors.co.jp/unregistered) in the "Library and Regulations" section on the website of S&P Global Ratings Japan Inc. (http://www.standardandpoors.co.jp)

Assumptions, Significance and Limitations of Credit Ratings

Credit ratings assigned by Standard & Poor's are statements of opinion on the future credit quality of specific issuers or issues as of the date they are expressed and they are not indexes which show the probability of the occurrence of the failure to pay by the issuer or a specific debt and do not guarantee creditworthiness. Credit ratings are not a recommendation to purchase, sell or hold any securities, or a statement of market liquidity or prices in the secondary market of any issues.

Credit ratings may change depending on various factors, including issuers' performance, changes in external environment, performance of underlying assets, creditworthiness of counterparties and others. Standard & Poor's conducts rating analysis based on information it believes to be provided by the reliable source and assigns credit ratings only when it believes there is enough information in terms of quality and quantity to make a conclusion. However, Standard & Poor's does not perform an audit, due diligence or independent verification of any information it receives from the issuer or a third party, or guarantee its accuracy, completeness or timeliness of the results by using the information. Moreover, it needs to be noted that it may incur a potential risk due to the limitation of the historical data that are available for use depending on the rating.

This information is based on information Daiwa Securities Co. Ltd. has received from sources it believes to be reliable as of March 7th, 2017, but it does not guarantee accuracy or completeness of this information. For details, please refer to the website of S&P Global Ratings Japan Inc. (http://www.standardandpoors.co.jp)

[Moody's]

The Name of the Credit Rating Agencies Group, etc

The name of the Credit Rating Agencies group: Moody's Investors Service ("MIS")
The name and registration number of the Registered Credit Rating Agency in the group: Moody's Japan K.K. (FSA commissioner (Rating) No.2)

How to acquire information related to an outline of the rating policies and methods adopted by the person who determines Credit Ratings

The information is posted under "Unregistered Rating explanation" in the section on "The use of Ratings of Unregistered Agencies" on the website of Moody's Japan K.K. (The website can be viewed after clicking on "Credit Rating Business" on the Japanese version of Moody's website (https://www.moodys.com/pages/default_ja.aspx)

Assumptions, Significance and Limitations of Credit Ratings

Credit ratings are Moody's Investors Service ("MIS") current opinions of the relative future credit risk of entities, credit commitments, or debt or debt-like securities. MIS defines credit risk as the risk that an entity may not meet its contractual, financial obligations as they come due and any estimated financial loss in the event of default. Credit ratings do not address any other risk, including but not limited to: liquidity risk, market value risk, or price volatility. Credit ratings do not constitute investment or financial advice, and credit ratings are not recommendations to purchase, sell, or hold particular securities. No warranty, express or implied, as to the accuracy, timeliness, completeness, merchantability or fitness for any particular purpose of any such rating or other opinion or information, is given or made by MIS in any form or manner whatsoever.

Based on the information received from issuers or from public sources, the credit risks of the issuers or obligations are assessed. MIS adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MIS considers to be reliable. However, MIS is not an auditor and cannot in every instance independently verify or validate information received in the rating process.

This information is based on information Daiwa Securities Co. Ltd. has received from sources it believes to be reliable as of April 16th, 2018, but it does not guarantee accuracy or completeness of this information. For details, please refer to the website of Moody's Japan K.K. (https://www.moodys.com/pages/default_ja.aspx)

[Fitch]

The Name of the Credit Rating Agencies group, etc

The name of the Credit Rating Agencies group: Fitch Ratings ("Fitch")
The name and registration number of the Registered Credit Rating Agency in the group: Fitch Ratings Japan Limited (FSA commissioner (Rating) No.7)

How to acquire information related to an outline of the rating policies and methods adopted by the person who determines Credit Ratings

The information is posted under "Outline of Rating Policies" in the section of "Regulatory Affairs" on the website of Fitch Ratings Japan Limited (https://www.fitchratings.co.jp/web/)

Assumptions, Significance and Limitations of Credit Ratings

Ratings assigned by Fitch are opinions based on established criteria and methodologies. Ratings are not facts, and therefore cannot be described as being "accurate" or "inaccurate". Credit ratings do not directly address any risk other than credit risk. Credit ratings do not comment on the adequacy of market price or market liquidity for rated instruments. Ratings are relative measures of risk; as a result, the assignment of ratings in the same category to entities and obligations may not fully reflect small differences in the degrees of risk. Credit ratings, as opinions on relative ranking of vulnerability to default, do not imply or convey a specific statistical probability of default.

In issuing and maintaining its ratings, Fitch relies on factual information it receives from issuers and underwriters and from other sources Fitch believes to be credible. Fitch conducts a reasonable investigation of the factual information relied upon by it in accordance with its ratings methodology, and obtains reasonable verification of that information from independent sources, to the extent such sources are available for a given security or in a given jurisdiction. The assignment of a rating to any issuer or any security should not be viewed as a guarantee of the accuracy, completeness, or timeliness of the information relied on in connection with the rating or the results obtained from the use of such information. If any such information should turn out to contain misrepresentations or to be otherwise misleading, the rating associated with that information may not be appropriate. Despite any verification of current facts, ratings can be affected by future events or conditions that were not anticipated at the time a rating was issued or affirmed.

For the details of assumption, purpose and restriction of credit ratings, please refer to "Definitions of ratings and other forms of opinion" on the website of Fitch Rating Japan Limited.

This information is based on information Daiwa Securities Co. Ltd. has received from sources it believes to be reliable as of May 13th, 2016, but it does not guarantee accuracy or completeness of this information. For details, please refer to the website of Fitch Rating Japan Limited (https://www.fitchratings.co.jp/web/)

May 2018

IMPORTANT

Notification items pursuant to Article 37 of the Financial Instruments and Exchange Law

If you decide to enter into a business arrangement with our company based on the information described in materials presented along with this cover letter, we ask you to pay close attention to the following items.

• In addition to the purchase price of a financial instrument, our company will collect a trading commission* for each transaction as agreed beforehand with you. Since commissions may be included in the purchase price or may not be charged for certain transactions, we recommend that you confirm the commission for each transaction.
In some cases, our company also may charge a maximum of ¥ 2 million (including tax) per year as a standing proxy fee for our deposit of your securities, if you are a non-resident.
• For derivative and margin transactions etc., our company may require collateral or margin requirements in accordance with an agreement made beforehand with you. Ordinarily in such cases, the amount of the transaction will be in excess of the required collateral or margin requirements.
• There is a risk that you will incur losses on your transactions due to changes in the market price of financial instruments based on fluctuations in interest rates, exchange rates, stock prices, real estate prices, commodity prices, and others. In addition, depending on the content of the transaction, the loss could exceed the amount of the collateral or margin requirements.
• There may be a difference between bid price etc. and ask price etc. of OTC derivatives handled by our company.
• Before engaging in any trading, please thoroughly confirm accounting and tax treatments regarding your trading in financial instruments with such experts as certified public accountants.

* The amount of the trading commission cannot be stated here in advance because it will be determined between our company and you based on current market conditions and the content of each transaction etc.

When making an actual transaction, please be sure to carefully read the materials presented to you prior to the execution of agreement, and to take responsibility for your own decisions regarding the signing of the agreement with our company.

Corporate Name:Daiwa Securities Co. Ltd.
Financial instruments firm:chief of Kanto Local Finance Bureau (Kin-sho) No.108
Memberships: Japan Securities Dealers Association
The Financial Futures Association of Japan
Japan Investment Advisers Association
Type II Financial Instruments Firms Association