

Europe 2020 Project Bond Initiative

Roundtable 3: Expected impact of the project bond initiative on the capital markets funding of projects

Content

1. About Moody's Investors Service
2. Why are ratings important?
3. Overview of rating's process
4. Rating drivers for project finance
5. Commentary on proposed support mechanisms
6. Q&A

About Moody's Investors Service

- » Moody's Investors Service ("Moody's") is a leading provider of credit ratings, research, and risk analysis.

- » The firm's ratings and analysis track debt covering more than
 - 110 countries
 - 12,000 corporate issuers
 - 25,000 public finance issuers
 - 106,000 structured finance obligations

- » Moody's Investors Service is a subsidiary of Moody's Corporation (NYSE: MCO), which reported revenue of \$2.0 billion in 2010, employs approximately 4,500 people worldwide and maintains a presence in 26 countries.

Additional information is available at www.moodys.com.

Why are credit ratings important?

- » Moody's credit ratings are opinions of the relative credit risk of financial obligations.
 - Ratings are expressed on a 21-category rating scale, ranging from Aaa to C
 - Transparency of ratings supported by clear rating methodologies, timely communication and relevant research
- » Importance for investors:
 - Well-understood categorisation of credit quality across debt sectors and regions
 - Anchored in rigorous analysis
 - Independent perspective on credit risk
- » Importance for issuers:
 - Facilitate borrowers' access to global capital markets
- » Relevant to other stakeholders
 - Including regulators, legislators and academic researchers

Credit ratings play a significant role in financial markets and are relevant to a broad range of market participants.

Overview of ratings process

- » Gathering information
 - Lead analyst assigned to a particular issuer or debt obligation ("Lead Analyst") assembles relevant information
- » Credit analysis
 - Analysis of the issuer or debt obligation based on relevant rating methodologies
 - Lead Analyst formulates his/her views for consideration by Rating Committee
- » Rating Committee
 - Lead Analyst presents his/her credit analysis and rating recommendation to Rating Committee
 - Members of Rating Committee reflect relevant expertise.
 - Diversity of opinion is encouraged and discussed openly
 - Credit ratings are determined by majority vote
- » Dissemination of Credit Rating Announcement
- » On-going monitoring

Regulatory oversight of ratings process has increased

Rating Drivers for Project Finance

- » Rating methodologies published by Moody's set out relevant rating approach
- » Sector rating methodologies include:
 - PFI/PPP/P3 projects (Separate methodologies for construction phase and operations phase)
 - Power Generation Projects
 - Operational Toll Roads
 - Operational Airports (Concession-based framework)
 - General project finance rating methodology
- » Rating methodologies include scorecards
 - Scorecards provide a broad prediction of credit quality to within 1-2 notches of rating
 - Scorecards inform Rating Committee deliberations but do not determine rating
- » Published research provides additional insight into key considerations for rated precedents

Moody's methodologies and scorecards available free to the market

Illustration: PPP Projects - Construction Phase

www.moody.com

Rating Methodology

Moody's Global Project Finance

December 2007

Construction Risk in Privately-Financed Public Infrastructure (PFI/PPP/P3) Projects

Summary

- Moody's is implementing this methodology in order to improve the transparency of its approach to evaluating construction risk in privately financed, public infrastructure projects ("PFI/PPP"). The methodology incorporates a broad range of market comments received by Moody's as part of a review process initiated by the publication of our August 2006 Request for Comment on this topic.
- Moody's will apply this methodology globally when assigning ratings to this class of project financings. The methodology augments our existing analytical framework with a quantitative model designed to explicitly incorporate Moody's assumptions about the likelihood of construction over-runs, the value of parent guarantees from construction contractors as well as the benefit of various types of financial supports including performance bonds and letters of credit and the interactions between them.
- The quantitative model uses Monte Carlo simulations to model PFI/PPP projects on an expected loss basis. The model results are an input to a rating framework that incorporates those aspects of construction programs that are less suited to modeling but that Moody's feels are critical to the analysis of PFI/PPP infrastructure financings. The model is available to market participants at no cost upon execution of a usage agreement. For further information on how to obtain the model, please contact Moody's at pppmodels@moody.com.
- Moody's is concurrently publishing a rating methodology for the analysis of operating risk in PFI/PPP projects. Consistent with existing practice, we plan to consider separately risks in the construction and operations phases of PFI/PPP projects. Should projects be structured with a significantly higher risk profile in construction than in operations, Moody's would normally expect to adjust a project's rating for the operations phase to reflect successful construction and transition to project operations. Moody's will comment on the relative risk of the construction and operations phases of new PFI/PPP projects as ratings are assigned.

Table of Contents:

Summary	1
Rating Methodology Scope	2
Introduction to PFI/PPP	2
A Typical PFI/PPP Issuer	3
Rating Methodology Framework	3
1. Construction Risk in a PFI/PPP Concession Transaction	5
2. Modeling Construction & the Risk Mitigation Package	10
3. Qualitative Considerations	17
4. Liquidity	25
5. The Transition from Construction to Operations	26
Appendix A: Glossary	28
Appendix B: Project Complexity Definitions	30
Appendix C: Typical Performance Supports	32
Appendix D: Interpretation of Expected Loss Outcomes from the Model	34
Appendix E: Technical Information about the Model	35
Moody's Related Research	42

Analyst Contacts:

New York +1.212.553.7914
Bart Oosterveld
Senior Vice President

London +44.20.7772.8799
William Coley
Vice President/Senior Analyst

Toronto +1.416.214.3854
Grant Headrick
Associate Analyst

Sydney +612.9270.8115
Paul Ovarnud-Pottier
Vice President/Senior Analyst


Moody's Investors Service

Key inputs:

- » Contract size
- » Debt amount
- » Complexity of scope
- » Contractor support
 - Rating
 - Liability exposure
- » Third party support(s) - for each support:
 - Rating
 - Support level
 - LCs/ adjudication bond
- » Grant funding

Construction phase risk modelled as a financial exposure supported by a portfolio of financial assets.

Illustration: PPP Projects - Operating Phase

The image shows the cover and table of contents of a report titled "Moody's Global Project Finance" from December 2007. The cover features the title in large blue letters and a background image of a bridge. The table of contents lists sections such as Summary, Rating Methodology Scope, Introduction to PFI/PPP, and a 4-stage assessment framework. The 4-stage assessment is detailed as follows:

Stage	Description
1	Project Risk Assessment
2	Capital Structure
3	Recovery on Concession Termination
4	Off-taker Credit Quality

Below the table of contents, there is a "Summary" section with three bullet points:

- Moody's is implementing this methodology in order to improve the transparency of its approach to evaluating operating period risk in privately financed, public infrastructure projects ("PFI/PPP"). The methodology incorporates the market comments received by Moody's as part of a review process initiated by the publication of our September 2007 Request for Comment on this topic.
- Moody's will apply this methodology globally when assigning ratings to this class of project financings. The methodology standardizes the analysis and relative weighting of quantitative and qualitative considerations considered in our analysis.
- Moody's has developed a scorecard model to accompany this rating methodology. The model is available to market participants at no cost upon the execution of a usage agreement. To obtain the model or for further information please contact Moody's at pppmodels@moody.com.

At the bottom of the page, there is a logo for "Moody's Investors Service".

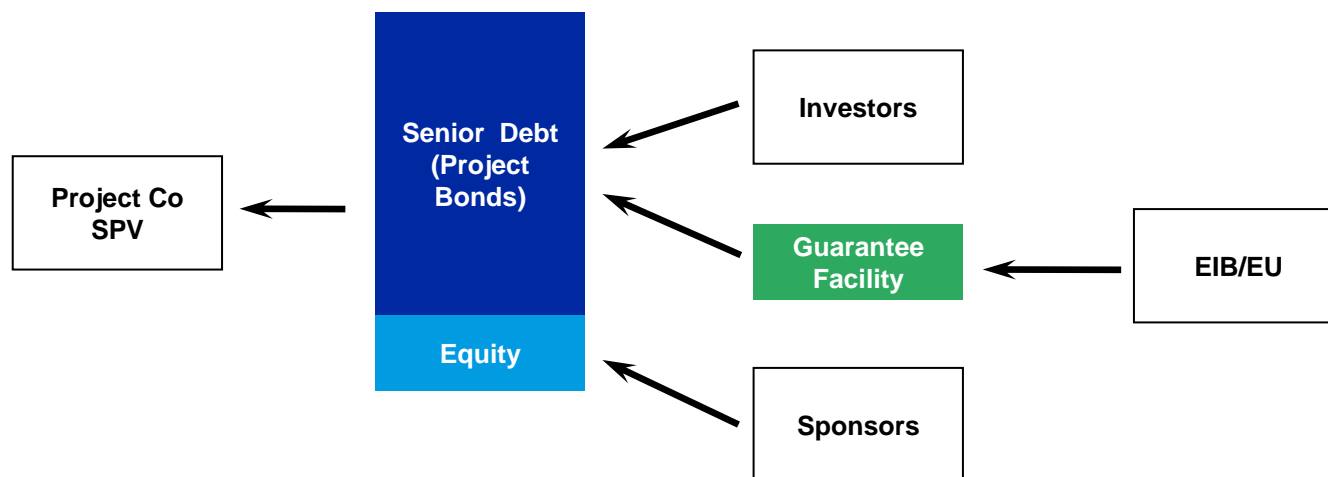
A simpler scoresheet, but with more inputs

4-stage assessment

- » Project Risk Assessment
- » Capital Structure
- » Loss Given Default
- » Offtaker Rating

Scoresheet incorporates 40 different drivers of credit strength

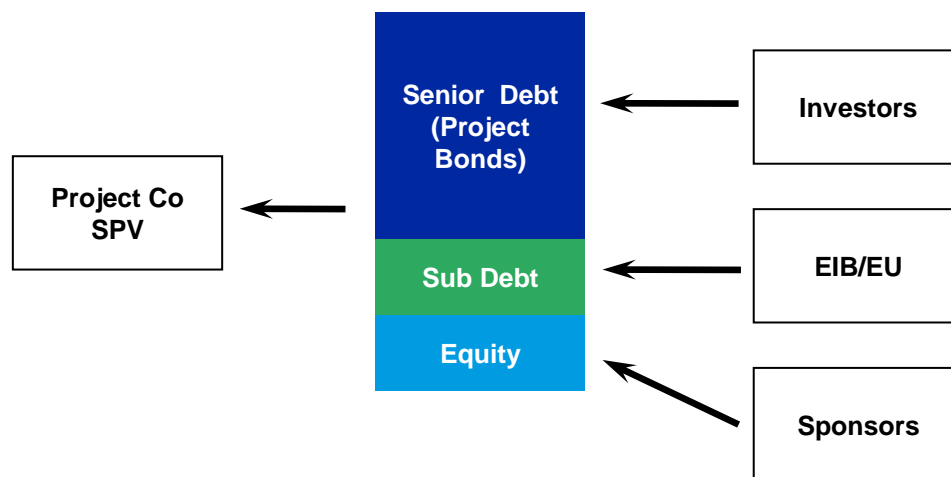
Commentary on proposed support: Guarantee



- » Partial guarantee likely to be credit positive for senior debt
 - Reduced probability of default
 - Mitigation of loss given default
- » Methodology scorecards and models recognise benefits of increased liquidity, but are not currently structured for "fine tuning"
- » Similarly, mitigation of loss given default would be beneficial, but difficult to calibrate impact under current methodologies.

***Moody's to comment in further detail in written submission to Consultation
(to be published)***

Commentary on proposed support: Sub debt



- » Subordinated debt specifically contemplated in Moody's rating methodologies
- » Methodology scorecards and models available to assess likely impact of proposed support on credit quality of senior debt
- » Differential impact vs Guarantee arises from funded vs contingent support
 - Sub debt funds assumed spent in base case
 - Incremental cost of carry likely for sub debt

***Moody's to comment in further detail in written submission to Consultation
(to be published)***

Q&A



Appendix: Relevant Research

Default and Recovery Study Published in October 2010

OCTOBER 20, 2010 GLOBAL PROJECT FINANCE

Moody's
INVESTORS SERVICE

SPECIAL COMMENT Default and Recovery Rates for Project Finance Bank Loans, 1983-2008

Table of Contents:	
1. INTRODUCTION	1
2. SUMMARY	2
3. OVERVIEW OF THE PROJECT FINANCE INDUSTRY	3
4. DATA AND METHODOLOGY	7
5. DISTRIBUTION OF PROJECTS	10
6. DISTRIBUTION OF DEFAULTS	12
7. DEFAULT RATE ANALYSIS	19
8. RECOVERY ANALYSIS	22
9. FURTHER ANALYSIS OF TIME TO DEFAULT AND TIME TO EMERGENCE BY INDUSTRY	31
10. EXPOSURE AT DEFAULT	35
APPENDIX A: SUMMARY AND LIST OF ULTIMATE RECOVERIES	37
APPENDIX B: GLOSSARY	41
APPENDIX C: OVERVIEW OF PROJECT FINANCE CHARACTERISTICS	43
APPENDIX D: COMPARISON OF LCD BEHAVIOR OF PROJECT FINANCE AND CORPORATE LOANS	45
APPENDIX E: COMMENTS ON CERTAIN ASPECTS OF MOODY'S RESEARCH	50
APPENDIX F: POTENTIAL SCOPE OF WORK FOR FOLLOW-ON RESEARCH	53
MOODY'S RELATED RESEARCH	54
ACKNOWLEDGMENT	54

Analyst Contacts:

LONDON 44.20.777.2.5454
Andrew Devison 44.20.777.2.5552
Senior Vice President
Andrew.Devison@moodys.com

* contacts continued on the last page

1 "International Convergence of Capital Measurement and Capital Standards: A Revised Framework (Comprehensive Version: June 2006)" published by the Basel Committee on Banking Supervisors at <http://www.bis.org/publ/bcbs138.htm> (the "Basel II Framework", or "Basel II")

- » Study data based on PF Bank Loans
- » Includes 2,639 projects representing almost 45% of all project finance transactions originated worldwide 1 Jan 1983 to 31 Dec 2008
- » Substantially representative of worldwide project finance activity
- » Includes 213 defaulted projects
 - 116 Ultimate Recoveries
 - 34 Distressed Sales
 - 63 Defaults in Work Out

***This research is freely available to the market (<http://v3.moodys.com/Pages/PFSplashPage.aspx>)
The Study provides a significant body of information to industry stakeholders about the credit characteristics of the Project Finance asset class***

Key Findings

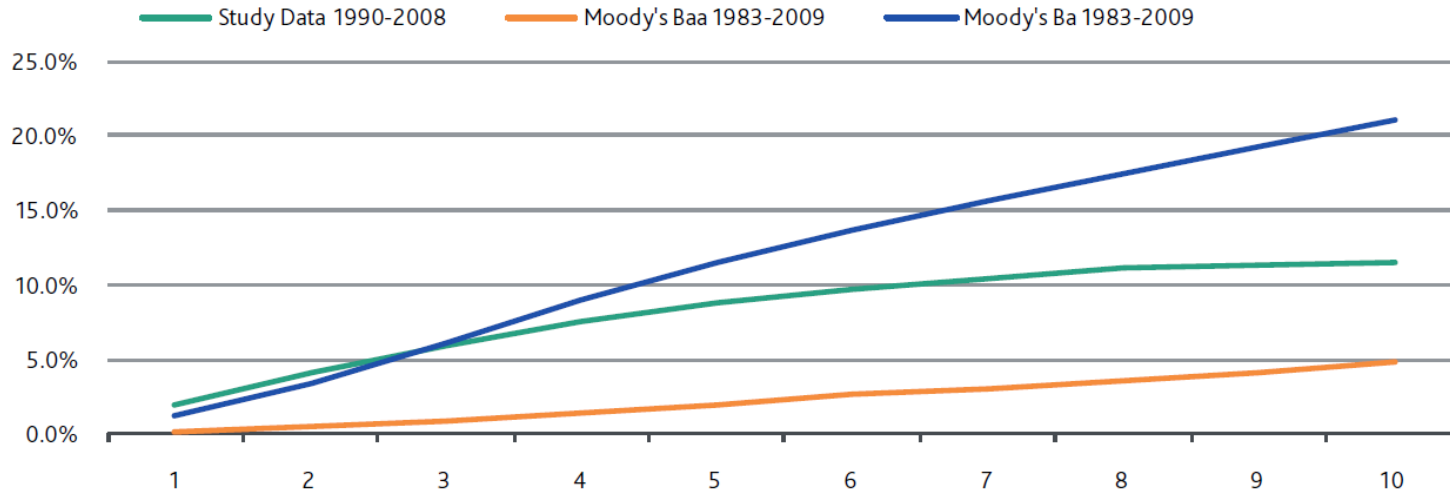
- » Cumulative default rates are consistent with ratings in the Baa/Ba rating categories;
- » Average ultimate recovery rates are high;
- » Ultimate recovery rates are substantially independent of economic cycle;
- » Average recovery rates for work outs exceed those for distressed sale exits
- » Projects face material incremental risk during the construction phase; and
- » Key points of comparison between the project finance Study Data Set and corporate bank loans

***Project Finance is a resilient class of specialised corporate lending.
Risk allocation, structural features and underwriting disciplines have proved effective***

Cumulative Default Rates

EXHIBIT 12

Chart of data presented in Exhibit 11

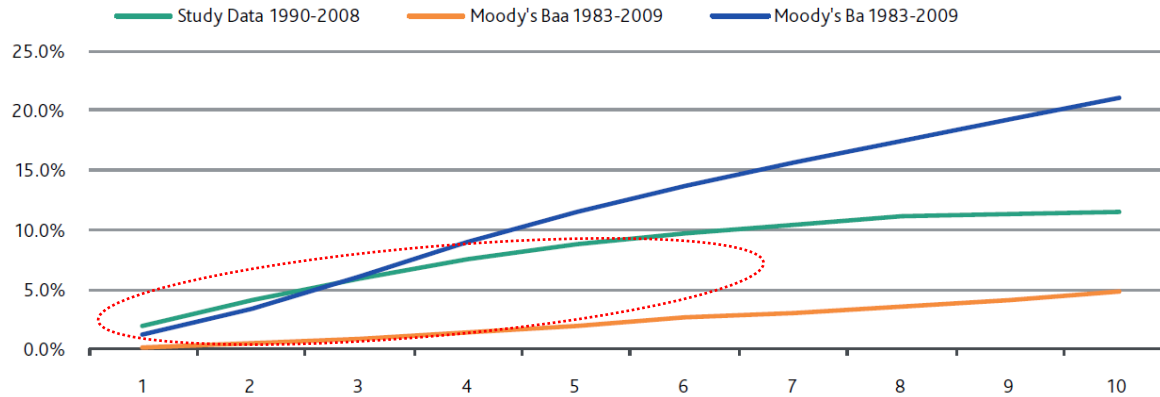


- » Cumulative default rates consistent with Baa/Ba rating categories
- » Rate of increase (i.e. annual default rate) reduces approx 4-5 yrs post origination
- » Higher annual default rates during construction vs operations

Long-term lending does not necessarily mean higher-risk.

Incremental Risk During Construction Phase

EXHIBIT 12
Chart of data presented in Exhibit 11



- » Annual default risk is materially higher for projects during construction.
- » Recoveries are materially lower for projects during construction.

EXHIBIT 31
Distribution of Defaults and Ultimate Recoveries by project phase

Project Phase	Count (Note 1)	Average Years to Default (Note 1)	Count (Note 2)	Average ultimate Recovery Rate (Note 2)	Average Years To Emergence (Note 2)
Construction	40	3.1	30	67.5%	2.9
Operations	96	3.8	73	80.1%	2.0
Total	136	3.6	103	76.4%	2.3

Significant incremental risk during construction phase

Andrew Davison
Senior Vice President
Team Leader, EMEA Project Finance
Infrastructure Finance Group
Direct: +44 20 7772 5552
Email: andrew.davison@moodys.com

Johan Verhaeghe
Vice President - Senior Credit Officer
Infrastructure Finance Group
Direct: +44 20 7772 8652
Email: johan.verhaeghe@moodys.com



© 2010 Moody's Investors Service, Inc. and/or its licensors and affiliates (collectively, "MOODY'S"). All rights reserved.

CREDIT RATINGS ARE MOODY'S INVESTORS SERVICE, INC.'S ("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 ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. CREDIT RATINGS DO NOT CONSTITUTE INVESTMENT OR FINANCIAL ADVICE, AND CREDIT RATINGS ARE NOT RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. CREDIT RATINGS DO NOT COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MIS ISSUES ITS CREDIT RATINGS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.

ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT. All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. Except as expressly stated otherwise, MOODY'S has not verified, audited or validated independently any information received in the rating process, nor will it do so. Under no circumstances shall MOODY'S have any liability to any person or entity for (a) any loss or damage in whole or in part caused by, resulting from, or relating to, any error (negligent or otherwise) or other circumstance or contingency within or outside the control of MOODY'S or any of its directors, officers, employees or agents in connection with the procurement, collection, compilation, analysis, interpretation, communication, publication or delivery of any such information, or (b) any direct, indirect, special, consequential, compensatory or incidental damages whatsoever (including without limitation, lost profits), even if MOODY'S is advised in advance of the possibility of such damages, resulting from the use of or inability to use, any such information. The ratings, financial reporting analysis, projections, and other observations, if any, constituting part of the information contained herein are, and must be construed solely as, statements of opinion and not statements of fact or recommendations to purchase, sell or hold any securities. Each user of the information contained herein must make its own study and evaluation of each security it may consider purchasing, holding or selling. 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 MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

MIS, a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MIS have, prior to assignment of any rating, agreed to pay to MIS for appraisal and rating services rendered by it fees ranging from \$1,500 to approximately \$2,500,000. MCO and MIS also maintain policies and procedures to address the independence of MIS's ratings and rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold ratings from MIS and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at www.moody.com under the heading "Shareholder Relations — Corporate Governance — Director and Shareholder Affiliation Policy."

Any publication into Australia of this document is by MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657, which holds Australian Financial Services License no. 336969. This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001.