


Berlin Hyp AG - Mortgage Covered Bonds

Covered Bonds / Germany

Contacts	Stanislav Nastassine - +49 (697) 073-0714 - Stanislav.Nastassine@moody's.com Riya Mathew - +91 (806) 885-8890 - Riya.Mathew@moody's.com	
Monitoring	Monitor: CB@moody's.com	Click on the icon to download data into Excel & to see Glossary of terms used Click here to access the covered bond programme webpage on moody's.com
Client Service Desk	London: +44 20 7772-5454, csdlondon@moody's.com	

Reporting as of: 30/06/2024 All amounts in EUR (unless otherwise specified)

For information on how to read this report, see the latest
Moody's Covered Bonds Sector Update

Data as provided to Moody's Investors Service (note 1)

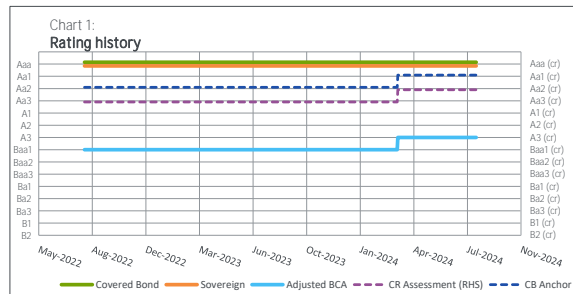
I. Programme Overview

Overview

Year of initial rating assignment:	2006
Total outstanding liabilities:	EUR 17,935,214,585
Total assets in the Cover Pool:	EUR 18,822,992,838
Issuer name / CR Assessment:	Berlin Hyp AG / Aa2(cr)
Group or parent name / CR Assessment:	Landesbank Baden-Wuerttemberg / Aa2(cr)
Main collateral type:	Commercial

Ratings

Covered bonds rating:	Aaa
Entity used in Moody's EL & TPI analysis:	Berlin Hyp AG
CB anchor:	Aa1
CR Assessment:	Aa2(cr)
Adjusted BCA / SUR:	a3 / Aa2
Unsecured claim used for Moody's EL analysis:	Yes



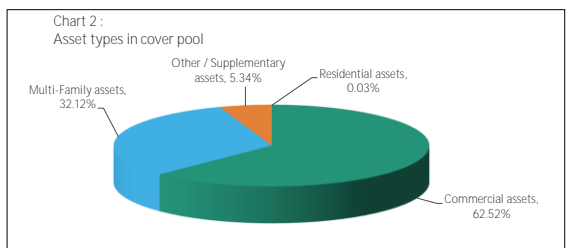
II. Value of the Cover Pool

Collateral quality

Collateral Score:	15.9%
Collateral Score excl. systemic risk:	n/a

Cover Pool losses

Collateral Risk (Collateral Score post-haircut):	10.6%	51%
Market Risk:	10.0%	49%
	20.7%	100%



III. Over-Collateralisation Levels (notes 2 & 3)

Over-Collateralisation (OC) figures presented below include Eligible only collateral.
Over-Collateralisation levels are provided on any of the following: nominal basis or unstressed NPV basis or on stressed NPV basis.
NPV stress assumptions applied as required by the legal framework for German Pfandbriefe.

Current situation

Committed OC (Stressed NPV):	2.0%
Current OC (Unstressed NPV):	8.2%
OC consistent with current rating (note 4)	0.0%

Besides 2% committed OC on NPV basis, in accordance with German Pfandbrief Act, the issuer is also required to hold additional 2% OC calculated on nominal basis.

Sensitivity scenario CB anchor

	OC consistent with current rating	
Scenario 1: CB anchor is lowered by	1 notch	1.5%

IV. Timely Payment Indicator & TPI Leeway

Timely Payment Indicator (TPI):	High
TPI Leeway:	6

Extract from TPI table

CB Anchor	High
Aaa	Aaa
Aa1	Aaa
Aa2	Aaa
Aa3	Aaa
A1	Aaa
A2	Aaa
A3	Aaa
Baa1	Aaa
Baa2	Aa1

Legal framework

Does a specific covered bond law apply for this programme:	Yes
Main country in which collateral is based:	Germany
Country in which issuer is based:	Germany

Timely principal payments

Maturity type:	Soft Bullet
Committed liquidity reserve for principal amount of all hard bullet bonds to be funded at least 180 days before maturity:	n/a
Committed liquidity reserve for principal amount of all soft bullet bonds to be funded at least 180 days before initial maturity:	Yes

(note 1) The data reported in this PO is based on information provided by the issuer and may include certain assumptions made by Moody's. Moody's accepts no responsibility for the information provided to it and, whilst it believes the assumptions it has made are reasonable, cannot guarantee that they are or will remain accurate. Although Moody's encourages all issuers to provide reporting data in a consistent manner, there may be differences in the way that certain data is categorised by issuers. The data reporting template (which issuers are requested to use) is available on request. Credit ratings, TPI and TPI Leeway shown in this PO are as of publication date.

(note 2) This assumes the Covered Bonds rating is not constrained by the TPI. Also to the extent rating assumptions change following a downgrade or an upgrade of the issuer, the necessary OC stated here may also change. This is especially significant in the case of CR assessments of A3(cr) or Baa1(cr), as the necessary OC following a 1 notch downgrade may then be substantially higher than the amount suggested here as market risks are considered more critically by Moody's at this time. In any event, the necessary OC amounts stated here are subject to change at any time at Moody's discretion.

(note 3) This is the minimum OC calculated to be consistent with the current rating under Moody's expected loss model. However, the level of OC consistent with a given rating level may differ from this amount where ratings are capped under the TPI framework and, for example, where committee discretion is applied.

(note 4) The OC consistent with the current rating is the minimum level of over-collateralisation which is necessary to support the covered bond rating at its current level on the basis of the pool as per the cut-off date. The sensitivity run is based on certain assumptions, including that the Covered Bonds rating is not constrained by the TPI. Further, this sensitivity run is a model output only and therefore a simplification as it does not take into account certain assumptions that may change as an issuer is downgraded, and as a result the actual OC number consistent with the current rating may be higher than shown. The OC required may also differ from the model output in situations when committee discretion is applied. In any event, the OC amounts stated here are subject to change at any time at Moody's discretion.

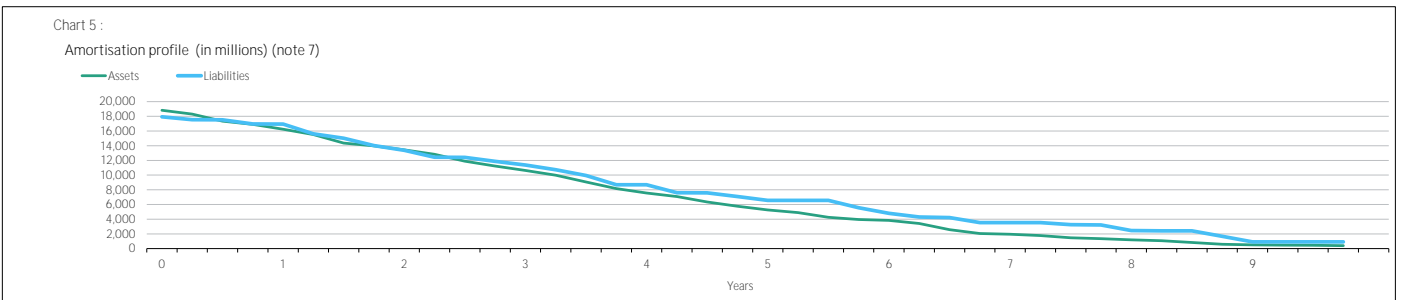
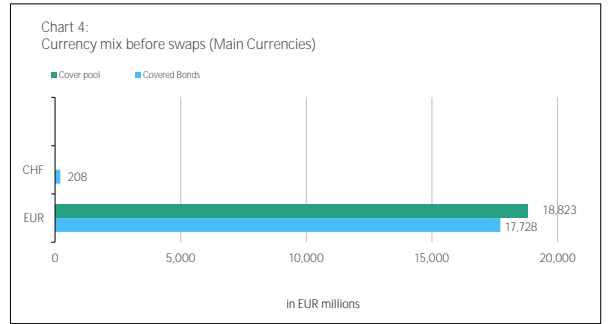
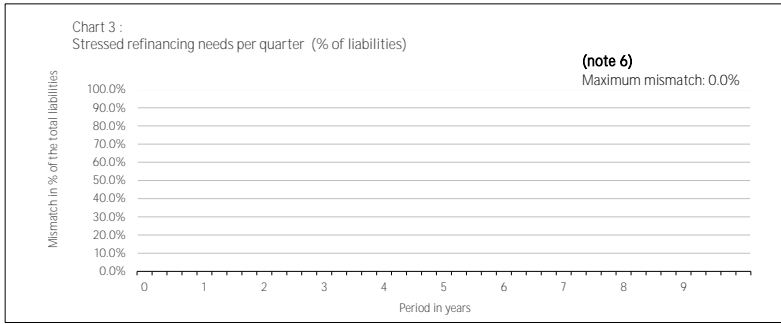
V. Asset Liability Profile

Interest Rate & Duration Mismatch (note 5)

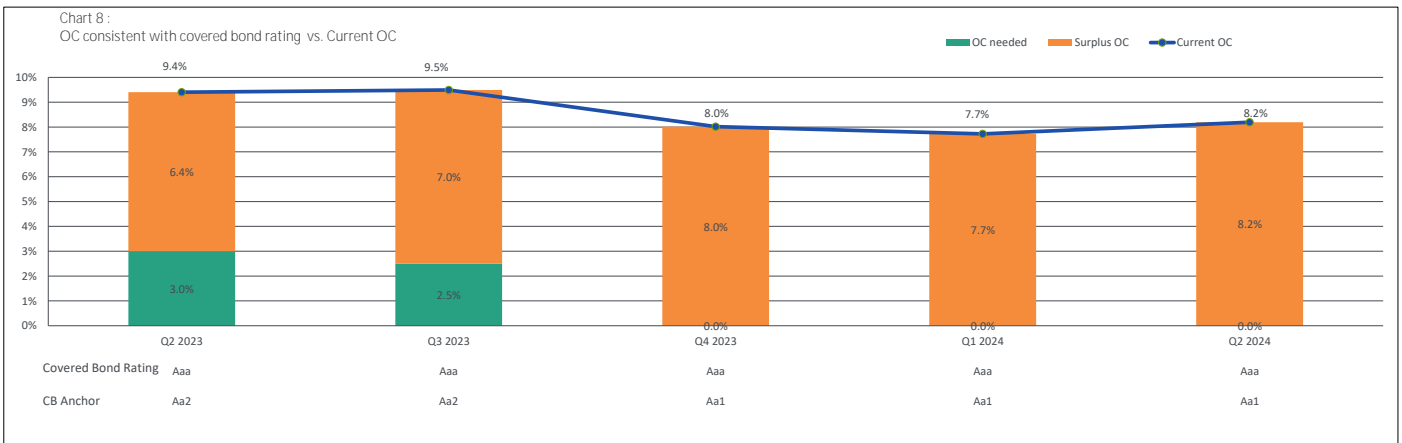
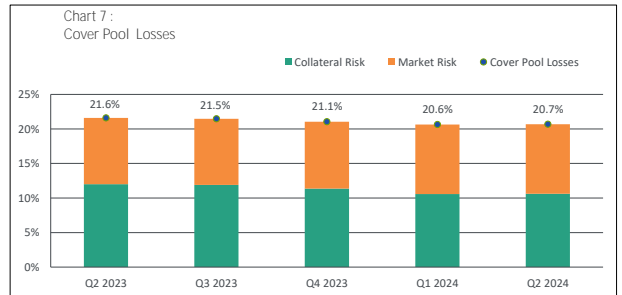
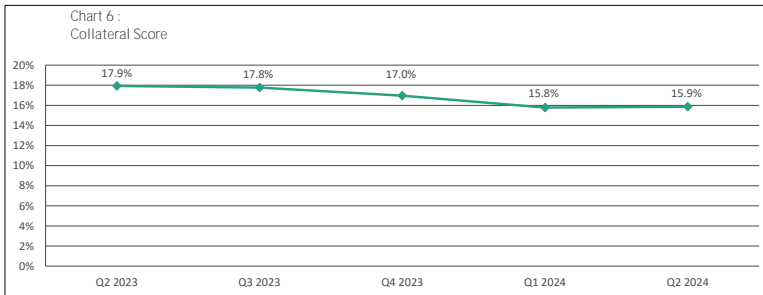
Fixed rate assets in the cover pool:	75.3%
Fixed rate covered bonds outstanding:	97.1%
WAL of outstanding covered bonds:	5.2 years
WAL of the cover pool:	4.0 years

Swap Arrangements

Interest rate swap(s) in the Cover Pool:	No
Intra-group interest rate swap(s) provider(s):	No
Currency swap(s) in the Cover Pool:	No
Intra-group currency swap(s) provider(s):	No



VI. Performance Evolution



This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the Issuer/deal page on <https://ratings.moody's.com> for the most updated credit rating action information and rating history.

(note 5) This assumes no prepayment.

(note 6) Based on principal flows only. Assumptions include no prepayments, principal collections limited to the portion of assets that make up the amount of the liabilities plus committed OC, no further CB issuance and no further assets added to the cover pool.

(note 7) Assumptions include swaps in place in Cover Pool, no prepayment and no further CB issuance.

VII. Cover Pool Information - Commercial Assets

Overview

Asset type:	Commercial
Asset balance:	17,813,089,364
Average loan balance:	14,943,867
Number of loans:	1,192
Number of borrowers:	684
Largest 10 borrowers:	11.3%
Number of properties:	4,817
Main countries:	Germany (65.3%), Netherlands (18.8%), France (8.0%)

Specific Loan and Borrower characteristics

Bullet loans:	58.4%
Main currencies:	EUR (100%)
Fixed rate loans:	75.3%
Non-recourse to sponsor/initiator:	58.8%

Details on Loan Underwriting

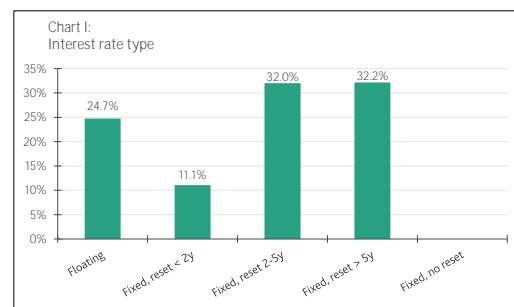
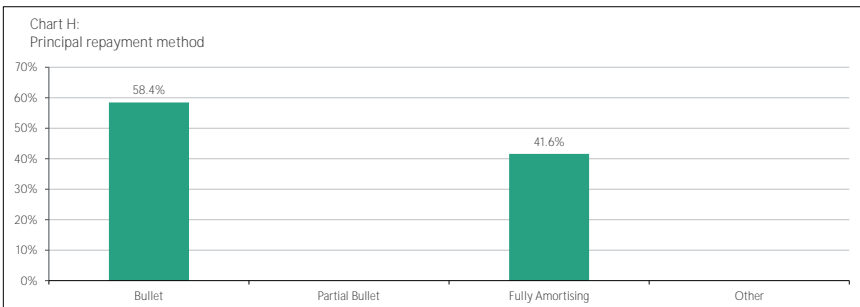
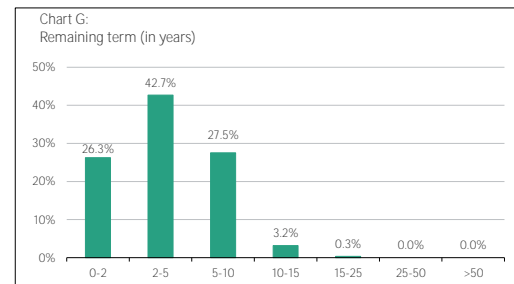
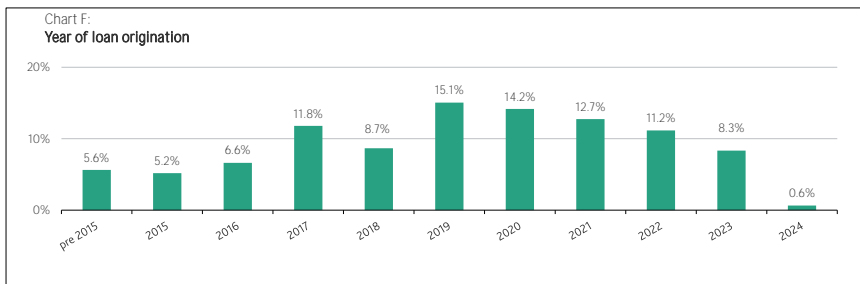
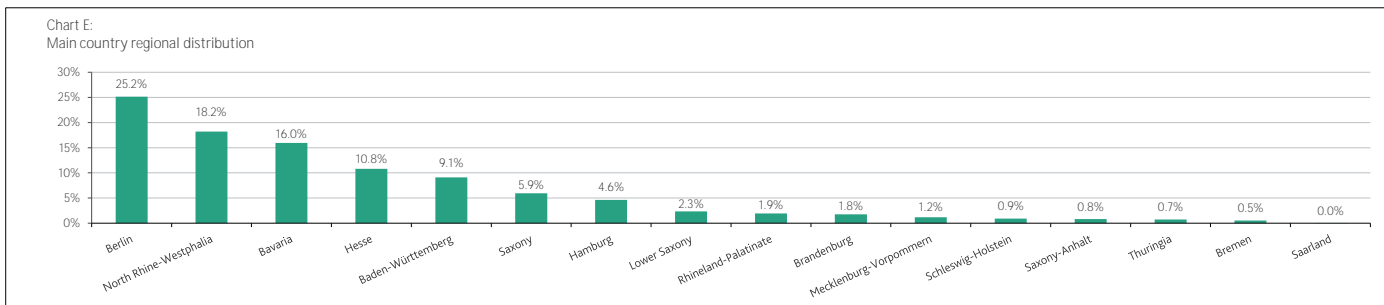
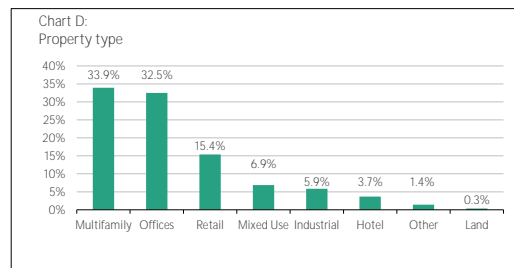
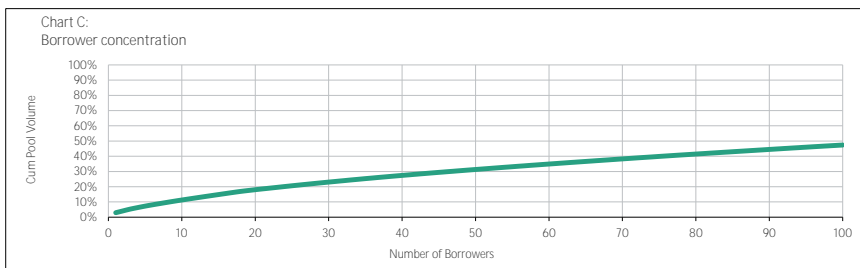
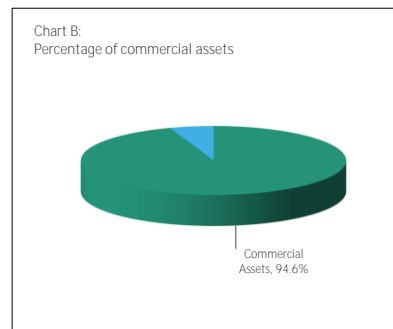
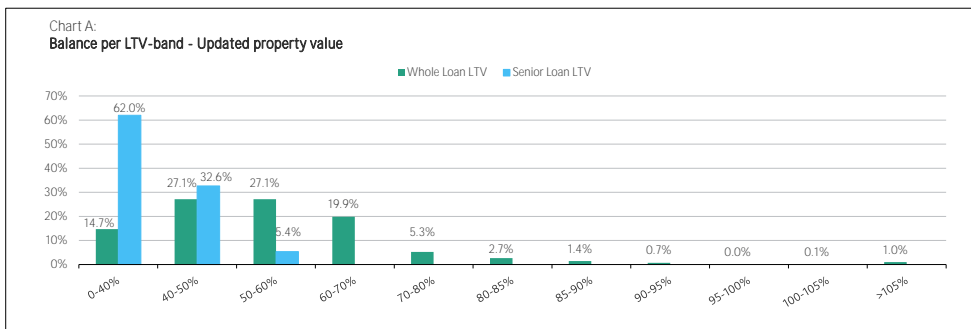
WA DSCR:	n/d
WA loan seasoning (in months):	59
WA remaining term (in months):	49

Details on LTV

WA LTV(*):	n/d
WA Current LTV(**):	54.4%
Valuation type:	Market Value
LTV Threshold:	60.0%

Performance

Loans in arrears ≥ 2 months:	0.3%
Loans in a foreclosure procedure:	0.2%



(note *) Based on whole loan and property value at origination.
 (note **) Based on whole loan and updated property value.

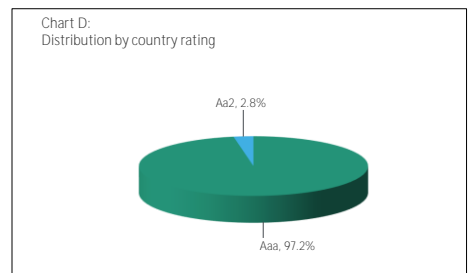
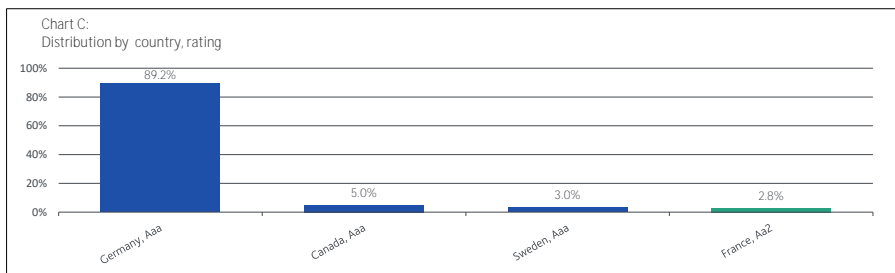
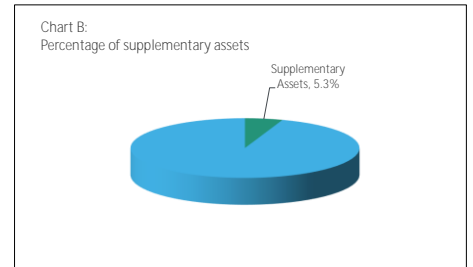
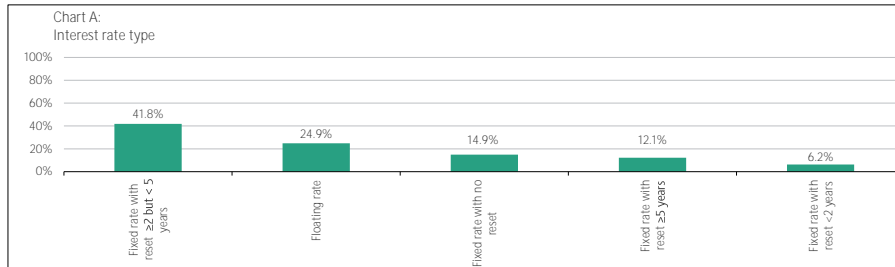
VIII. Cover Pool Information - Supplementary Assets

Overview

Asset type:	Supplementary Assets
Asset balance:	1,004,500,000
WA remaining Term (in months):	34
Number of assets:	35
Number of borrowers:	20
Average assets size:	28,700,000
Average exposure to borrowers:	50,225,000

Specific Loan and Borrower characteristics

Repo eligible assets:	n/d
Percentage of fixed rate assets:	75.1%
Percentage of bullet assets:	85.1%
Assets in non-domestic currency:	0.0%
Performance	
Assets in arrears (≥ 2months - < 6months):	0.0%
Assets in arrears (≥ 6months - < 12months):	0.0%
Assets in arrears (> 12months):	0.0%
Assets in a enforcement procedure:	0.0%



IX. Liabilities Information: Last 50 Issuances

ISIN	Series Number	Currency	Outstanding Amount	Issuance Date	Expected Maturity	Extended Maturity	Interest Rate Type	Coupon	Principal Payment
DE000BHY0J81	n/d	EUR	21,000,000	10/06/2024	10/06/2043	10/06/2044	Fixed rate	3.670%	Soft Bullet
DE000BHY0GZ4	n/d	EUR	500,000,000	04/03/2024	04/03/2026	04/03/2027	Floating rate	EURIBOR 3M + 17 bps	Soft Bullet
701063200	n/d	EUR	5,000,000	26/02/2024	26/02/2036	26/02/2037	Fixed rate	3.080%	Soft Bullet
DE000BHY0GY7	n/d	EUR	500,000,000	07/02/2024	07/05/2027	07/05/2028	Fixed rate	2.750%	Soft Bullet
DE000BHY0SC8	n/d	EUR	500,000,000	23/08/2023	23/08/2028	23/08/2029	Fixed rate	3.375%	Soft Bullet
DE000BHY0J08	n/d	EUR	250,000,000	31/07/2023	30/09/2024	30/09/2025	Fixed rate	3.825%	Soft Bullet
DE000BHY0GT7	n/d	EUR	750,000,000	24/05/2023	24/05/2030	24/05/2031	Fixed rate	2.875%	Soft Bullet
701063100	n/d	EUR	10,000,000	29/03/2023	29/03/2038	29/03/2039	Fixed rate	3.760%	Soft Bullet
DE000BHY0JY1	n/d	EUR	750,000,000	07/03/2023	07/03/2028	07/03/2029	Fixed rate	3.375%	Soft Bullet
701063000	n/d	EUR	7,500,000	16/02/2023	16/02/2026	16/02/2027	Fixed rate	3.050%	Soft Bullet
701062900	n/d	EUR	100,000,000	27/01/2023	27/01/2054	27/01/2055	Fixed rate	3.720%	Soft Bullet
DE000BHY0GQ3	n/d	EUR	15,000,000	19/01/2023	19/01/2038	19/01/2039	Fixed rate	3.475%	Soft Bullet
701062800	n/d	EUR	100,000,000	16/01/2023	16/01/2054	16/01/2055	Fixed rate	3.655%	Soft Bullet
DE000BHY0GM2	n/d	EUR	750,000,000	10/01/2023	10/01/2033	10/01/2034	Fixed rate	3.000%	Soft Bullet
DE000BHY0SP0	n/d	EUR	625,000,000	10/01/2023	11/05/2026	11/05/2027	Fixed rate	3.000%	Soft Bullet
DE000BHY0JX3	n/d	EUR	10,000,000	11/11/2022	11/11/2025	11/11/2026	Fixed rate	2.920%	Soft Bullet
DE000BHY0JW5	n/d	EUR	750,000,000	25/10/2022	25/10/2027	25/10/2028	Fixed rate	3.000%	Soft Bullet
701062700	n/d	EUR	10,000,000	20/10/2022	20/10/2042	20/10/2043	Fixed rate	3.776%	Soft Bullet
701062600	n/d	EUR	25,000,000	06/10/2022	06/10/2039	06/10/2040	Fixed rate	4.125%	Soft Bullet
701062500	n/d	EUR	11,000,000	29/09/2022	29/09/2025	29/09/2026	Fixed rate	3.016%	Soft Bullet
DE000BHY0J09	n/d	EUR	300,000,000	01/09/2022	01/09/2025	01/09/2026	Fixed rate	1.875%	Soft Bullet
DE000BHY0GK6	n/d	EUR	1,000,000,000	25/08/2022	25/08/2025	25/08/2026	Fixed rate	1.250%	Soft Bullet
701062400	n/d	EUR	5,000,000	18/08/2022	18/08/2042	18/08/2043	Fixed rate	2.570%	Soft Bullet
CH1202242249	n/d	CHF	200,000,000	04/08/2022	04/08/2026	04/08/2027	Fixed rate	0.968%	Soft Bullet
DE000BHY0J53	n/d	EUR	10,000,000	25/07/2022	25/07/2025	25/07/2026	Fixed rate	1.150%	Soft Bullet
701062300	n/d	EUR	5,000,000	14/07/2022	14/07/2032	14/07/2033	Fixed rate	2.070%	Soft Bullet
701062200	n/d	EUR	10,000,000	30/05/2022	30/05/2062	30/05/2063	Fixed rate	2.610%	Soft Bullet
DE000BHY0SB0	n/d	EUR	750,000,000	10/05/2022	10/05/2032	10/05/2033	Fixed rate	1.750%	Soft Bullet
701062100	n/d	EUR	5,000,000	06/05/2022	06/05/2039	06/05/2040	Fixed rate	2.090%	Soft Bullet
701062000	n/d	EUR	9,500,000	22/04/2022	22/04/2032	22/04/2033	Fixed rate	1.550%	Soft Bullet
701061800	n/d	EUR	5,000,000	06/04/2022	08/04/2030	08/04/2031	Fixed rate	1.180%	Soft Bullet
701061900	n/d	EUR	5,000,000	06/04/2022	06/04/2032	06/04/2033	Fixed rate	1.116%	Soft Bullet
DE000BHY0J12	n/d	EUR	20,000,000	04/04/2022	04/04/2025	04/04/2026	Fixed rate	0.750%	Soft Bullet
701061700	n/d	EUR	8,000,000	24/03/2022	24/03/2025	24/03/2026	Fixed rate	0.320%	Soft Bullet
701061600	n/d	EUR	15,000,000	08/03/2022	08/03/2032	08/03/2033	Fixed rate	0.704%	Soft Bullet
DE000BHY0JD5	n/d	EUR	500,000,000	24/02/2022	23/02/2029	23/02/2030	Fixed rate	0.625%	Soft Bullet
DE000BHY0JC7	n/d	EUR	25,000,000	17/02/2022	17/02/2025	17/02/2026	Fixed rate	0.290%	Soft Bullet
701061500	n/d	EUR	5,000,000	16/02/2022	16/02/2032	16/02/2033	Fixed rate	0.690%	Soft Bullet
701061400	n/d	EUR	10,000,000	31/01/2022	31/01/2062	31/01/2063	Fixed rate	1.475%	Soft Bullet
701061300	n/d	EUR	5,000,000	27/01/2022	26/01/2029	26/01/2030	Fixed rate	0.180%	Soft Bullet
DE000BHY0JB9	n/d	EUR	20,000,000	19/01/2022	19/01/2032	19/01/2033	Fixed rate	0.335%	Soft Bullet
701061200	n/d	EUR	5,000,000	12/01/2022	12/01/2029	12/01/2030	Fixed rate	0.150%	Soft Bullet
DE000BHY0H34	n/d	EUR	1,000,000,000	18/10/2021	18/01/2030	18/01/2031	Fixed rate	0.125%	Soft Bullet
701061100	n/d	EUR	10,000,000	30/09/2021	30/09/2061	30/09/2062	Fixed rate	1.200%	Soft Bullet
701061000	n/d	EUR	10,000,000	23/09/2021	23/09/2032	23/09/2033	Fixed rate	0.112%	Soft Bullet
DE000BHY0HZ2	n/d	EUR	750,000,000	24/08/2021	24/08/2026	24/08/2027	Fixed rate	0.010%	Soft Bullet
701060900	n/d	EUR	9,000,000	19/07/2021	19/07/2051	19/07/2052	Fixed rate	0.931%	Soft Bullet
701060800	n/d	EUR	5,000,000	24/06/2021	24/06/2033	24/06/2034	Fixed rate	0.190%	Soft Bullet
DE000BHY0HW9	n/d	EUR	750,000,000	19/05/2021	19/05/2033	19/05/2034	Fixed rate	0.250%	Soft Bullet
701060700	n/d	EUR	25,000,000	08/04/2021	08/04/2047	08/04/2048	Fixed rate	1.033%	Soft Bullet

© 2024 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved.

CREDIT RATINGS ISSUED BY MOODY'S CREDIT RATINGS AFFILIATES ARE THEIR CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND MATERIALS, PRODUCTS, SERVICES AND INFORMATION PUBLISHED OR OTHERWISE MADE AVAILABLE BY MOODY'S (COLLECTIVELY, "MATERIALS") MAY INCLUDE SUCH CURRENT OPINIONS. MOODY'S 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 OR IMPAIRMENT. SEE APPLICABLE MOODY'S RATING SYMBOLS AND DEFINITIONS PUBLICATION FOR INFORMATION ON THE TYPES OF CONTRACTUAL FINANCIAL OBLIGATIONS ADDRESSED BY MOODY'S CREDIT RATINGS. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS, NON-CREDIT ASSESSMENTS ("ASSESSMENTS"), AND OTHER OPINIONS INCLUDED IN MOODY'S MATERIALS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S MATERIALS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. AND/OR ITS AFFILIATES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS DO NOT COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS, ASSESSMENTS AND OTHER OPINIONS AND PUBLISHES OR OTHERWISE MAKES AVAILABLE ITS MATERIALS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS, AND MATERIALS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS OR MATERIALS WHEN MAKING AN INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER.

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. FOR CLARITY, NO INFORMATION CONTAINED HEREIN MAY BE USED TO DEVELOP, IMPROVE, TRAIN OR RETRAIN ANY SOFTWARE PROGRAM OR DATABASE, INCLUDING, BUT NOT LIMITED TO, FOR ANY ARTIFICIAL INTELLIGENCE, MACHINE LEARNING OR NATURAL LANGUAGE PROCESSING SOFTWARE, ALGORITHM, METHODOLOGY AND/OR MODEL.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS ARE NOT INTENDED FOR USE BY ANY PERSON AS A BENCHMARK AS THAT TERM IS DEFINED FOR REGULATORY PURPOSES AND MUST NOT BE USED IN ANY WAY THAT COULD RESULT IN THEM BEING CONSIDERED A BENCHMARK.

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. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the credit rating process or in preparing its Materials.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to: (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY CREDIT RATING, ASSESSMENT, OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

Moody's Investors Service, Inc., 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 Moody's Investors Service, Inc. have, prior to assignment of any credit rating, agreed to pay to Moody's Investors Service, Inc. for credit ratings opinions and services rendered by it. MCO and Moody's Investors Service also maintain policies and procedures to address the independence of Moody's Investors Service credit ratings and credit rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold credit ratings from Moody's Investors Service, Inc. and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at www.moody's.com under the heading "Investor Relations — Corporate Governance — Charter Documents - Director and Shareholder Affiliation Policy."

Moody's SF Japan K.K., Moody's Local AR Agente de Calificación de Riesgo S.A., Moody's Local BR Agência de Classificação de Risco LTDA, Moody's Local MX S.A. de C.V., I.C.V., Moody's Local PE Clasificadora de Riesgo S.A., and Moody's Local PA Clasificadora de Riesgo S.A. (collectively, the "Moody's Non-NRSRO CRAs") are all indirectly wholly-owned credit rating agency subsidiaries of MCO. None of the Moody's Non-NRSRO CRAs is a Nationally Recognized Statistical Rating Organization.

Additional terms for Australia only: Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). 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. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors.

Additional terms for India only: Moody's credit ratings, Assessments, other opinions and Materials are not intended to be and shall not be relied upon or used by any users located in India in relation to securities listed or proposed to be listed on Indian stock exchanges.

Additional terms with respect to Second Party Opinions (as defined in Moody's Investors Service Rating Symbols and Definitions): Please note that a Second Party Opinion ("SPO") is not a "credit rating". The issuance of SPOs is not a regulated activity in many jurisdictions, including Singapore, JAPAN. In Japan, development and provision of SPOs fall under the category of "Ancillary Businesses", not "Credit Rating Business", and are not subject to the regulations applicable to "Credit Rating Business" under the Financial Instruments and Exchange Act of Japan and its relevant regulation. PRC: Any SPO: (1) does not constitute a PRC Green Bond Assessment as defined under any relevant PRC laws or regulations; (2) cannot be included in any registration statement, offering circular, prospectus or any other documents submitted to the PRC regulatory authorities or otherwise used to satisfy any PRC regulatory disclosure requirement; and (3) cannot be used within the PRC for any regulatory purpose or for any other purpose which is not permitted under relevant PRC laws or regulations. For the purposes of this disclaimer, "PRC" refers to the mainland of the People's Republic of China, excluding Hong Kong, Macau and Taiwan.