

Landesbank Hessen-Thuringen GZ - Public-Sector Covered Bonds

Covered Bonds / Germany

Contacts	Martin Lenhard (MIS - Ratings) - +49 (697) 073-0743 - Martin.Lenhard@moodys.com Elisabeth Zeidler (MIS) - +44 (207) 772-5283 - elisabeth.zeidler@moodys.com	
Monitoring	Monitor.CB@moodys.com	Click on the icon to download data into Excel & to see Glossary of terms used
Client Service Desk	London: +44 20 7772-5454, csdlondon@moodys.com	Click here to access the covered bond programme webpage on moodys.com

Reporting as of: 30/06/2023 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)

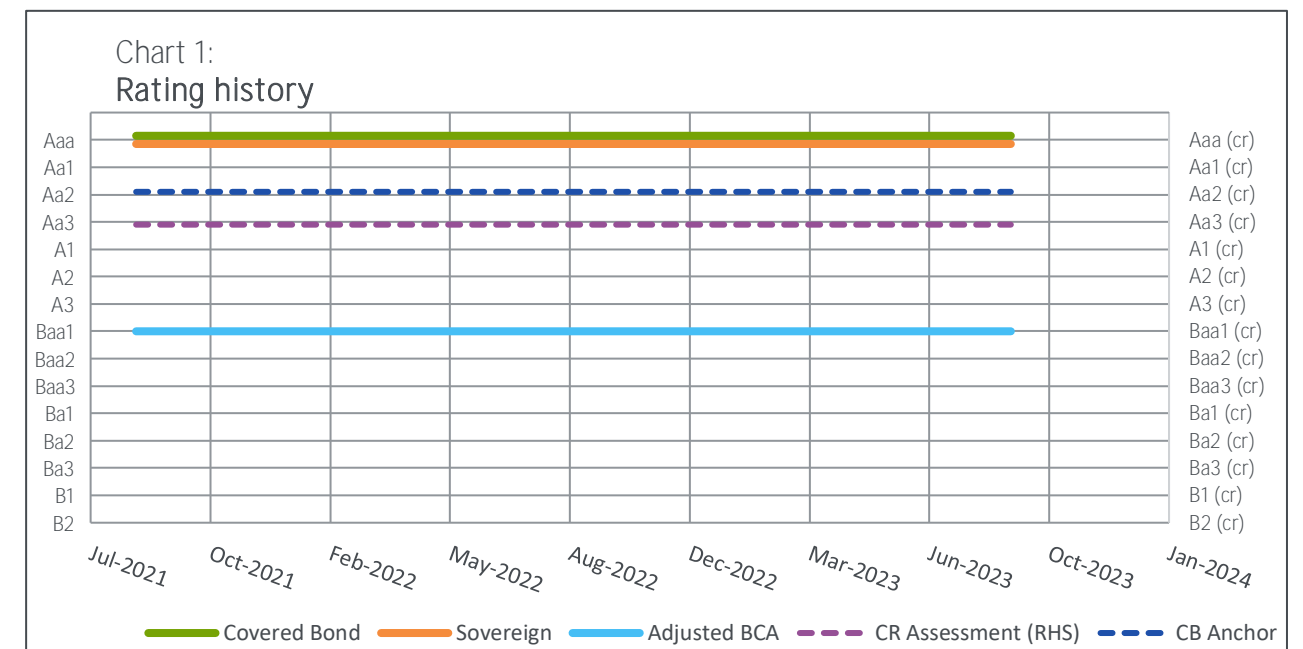
I. Programme Overview

Overview

Year of initial rating assignment:		1995
Total outstanding liabilities:	EUR	22,081,241,818
Total assets in the Cover Pool:	EUR	32,849,679,941
Issuer name / CR Assessment:	Landesbank Hessen-Thuringen GZ / Aa3(cr)	
Group or parent name / CR Assessment:	n/a	
Main collateral type:	Public Sector	

Ratings

Covered bonds rating:	Aaa	
Entity used in Moody's EL & TPI analysis:	Landesbank Hessen-Thuringen Girozentrale	
CB anchor:	Aa2	
CR Assessment:	Aa3(cr)	
Adjusted BCA / SUR:	baa1 / Aa3	
Unsecured claim used for Moody's EL analysis:	Yes	



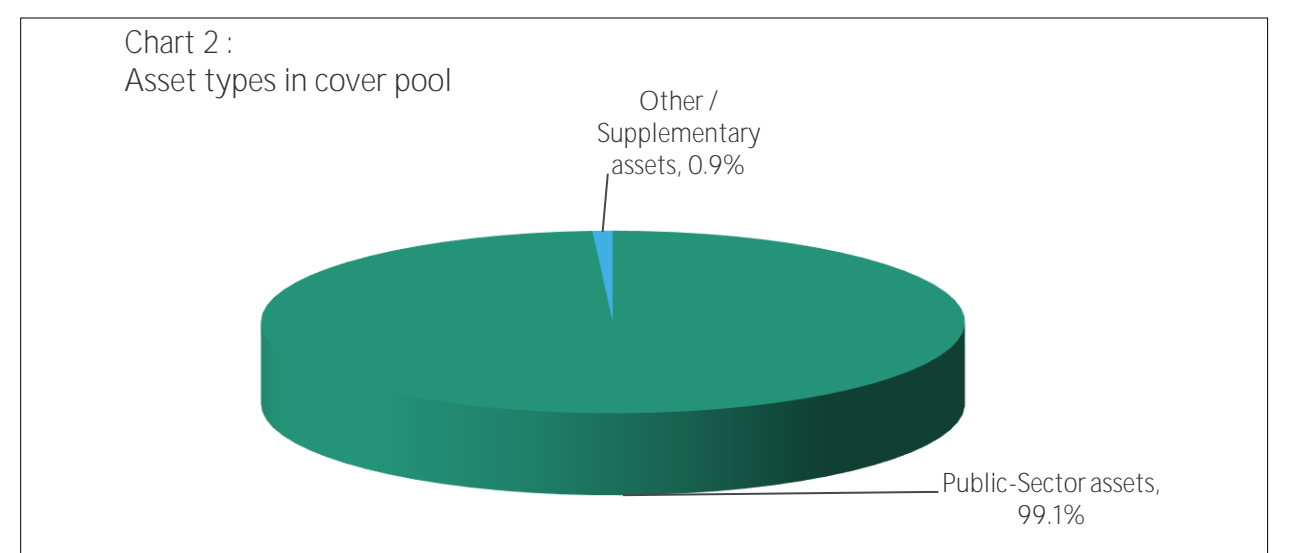
II. Value of the Cover Pool

Collateral quality

Collateral Score:	3.1%	
Collateral Score excl. systemic risk:	n/a	

Cover Pool losses

Collateral Risk (Collateral Score post-haircut):	1.7%	19%
Market Risk:	7.6%	81%
	9.3%	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):	51.8%
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	2.0%

IV. Timely Payment Indicator & TPI Leeway

Timely Payment Indicator (TPI):	High
TPI Leeway:	5

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, Pfandbrief Act
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 anytime 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 anytime at Moody's discretion.

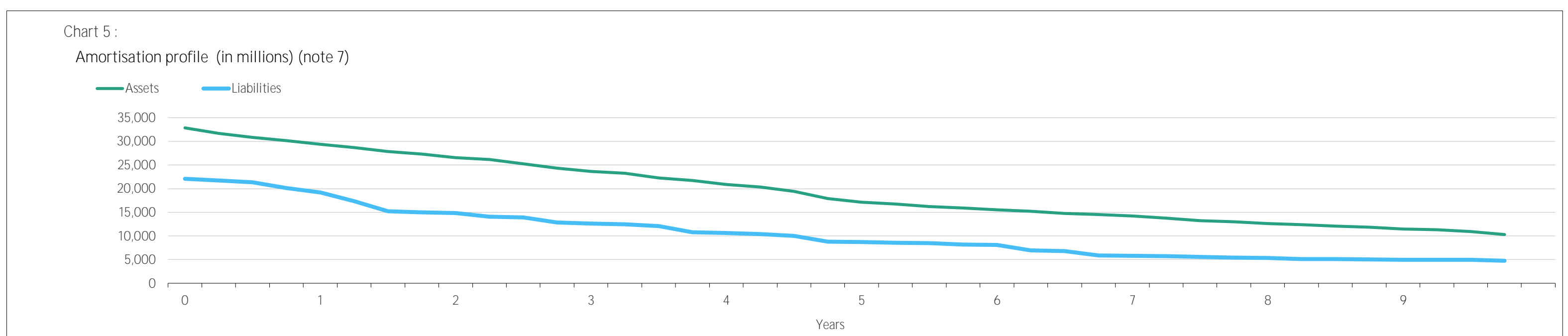
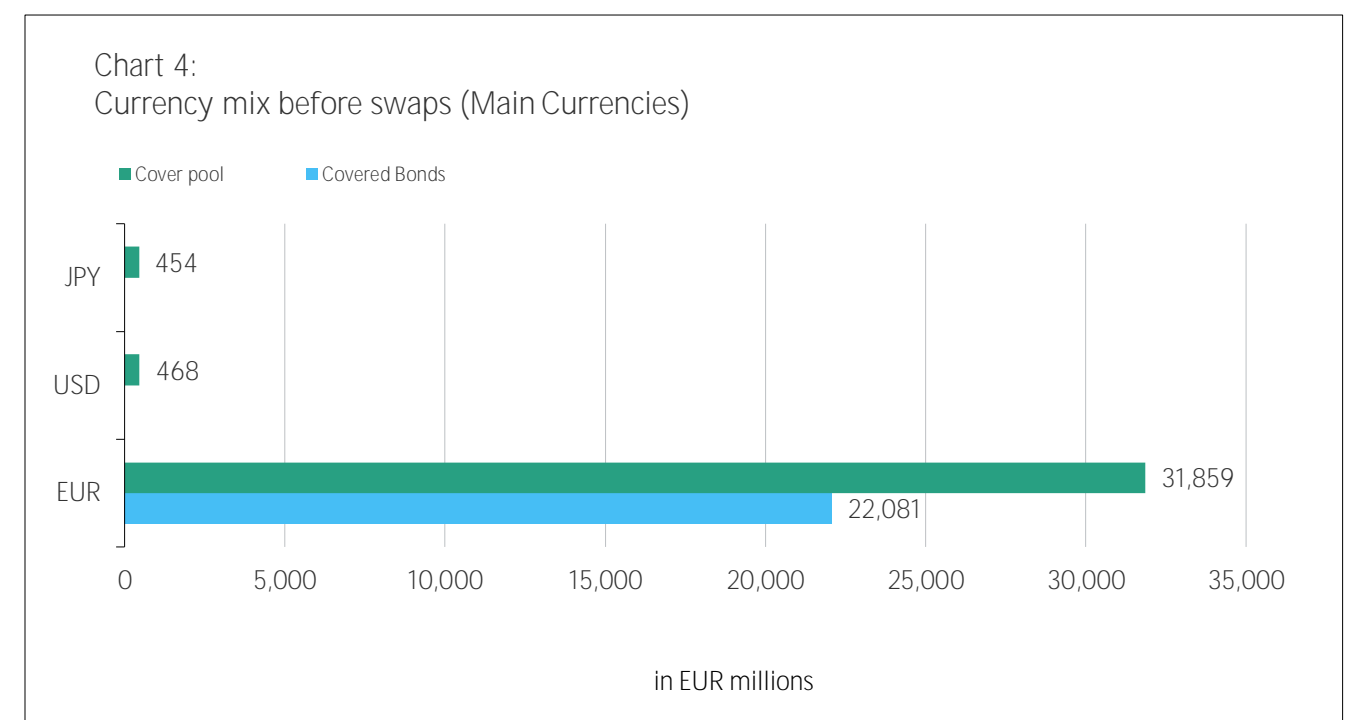
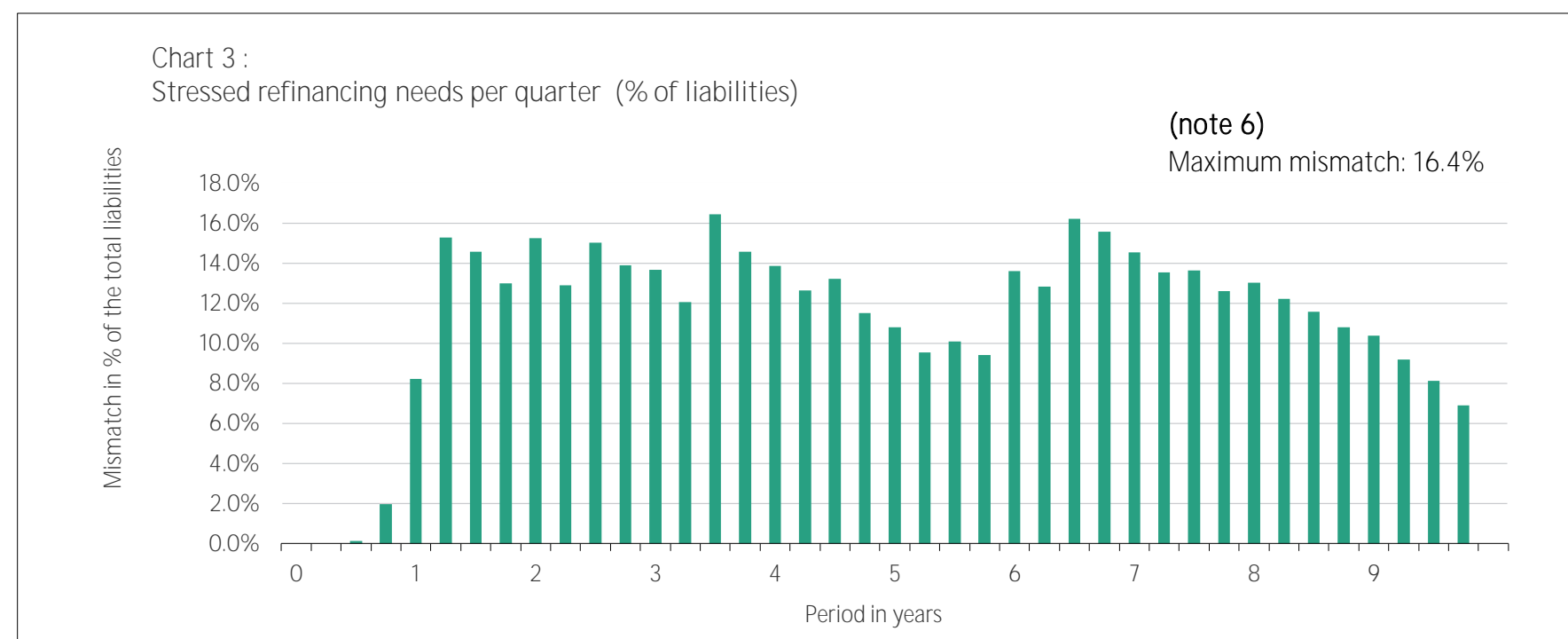
V. Asset Liability Profile

Interest Rate & Duration Mismatch (note 5)

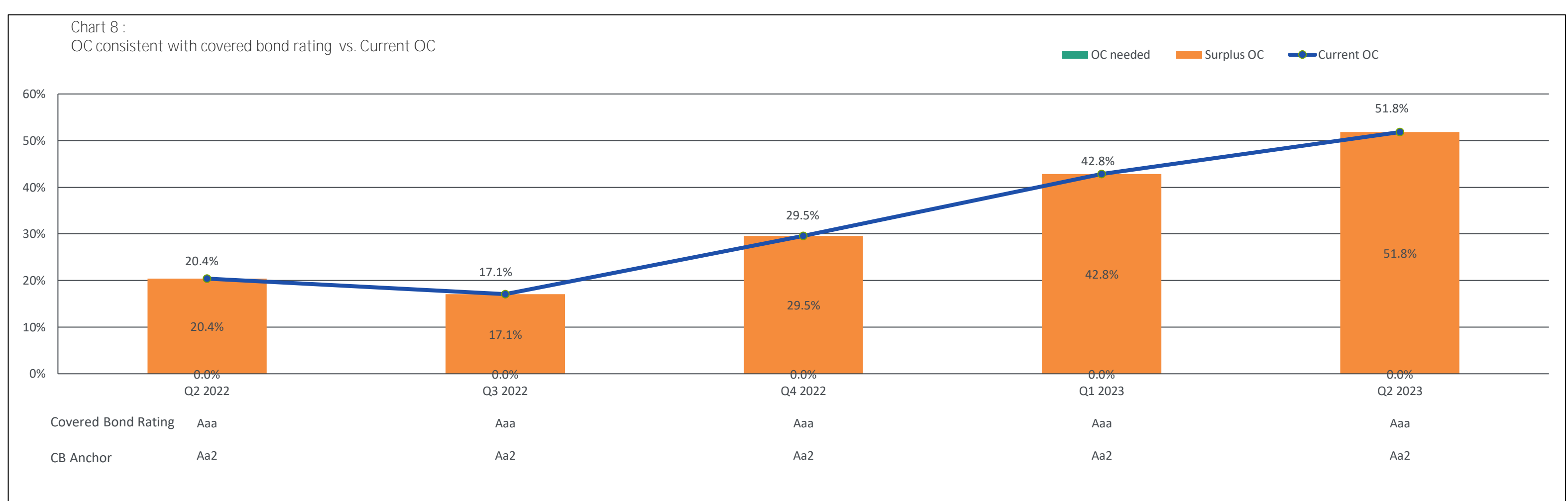
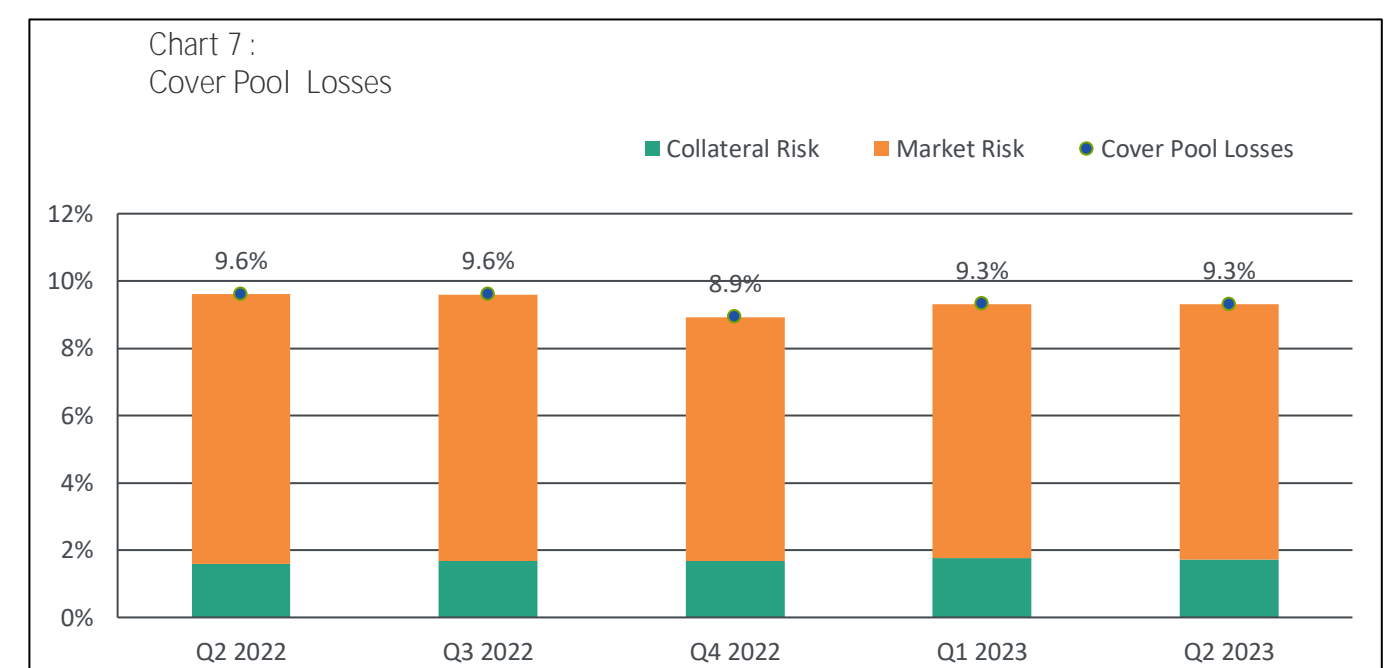
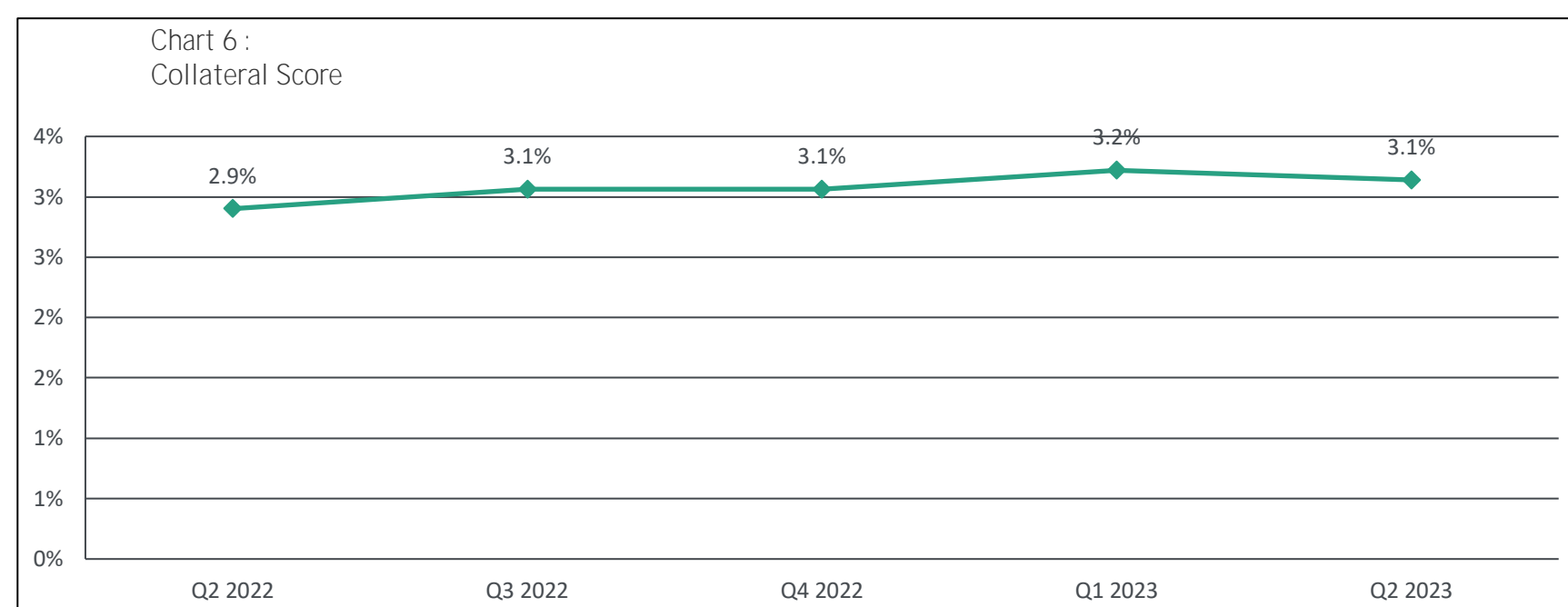
Fixed rate assets in the cover pool:	83.8%
Fixed rate covered bonds outstanding:	70.7%
WAL of outstanding covered bonds:	5.9 years
WAL of the cover pool:	8.6 years

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.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 - Public Sector Assets

Overview

Asset type:	Public Sector
Asset balance:	32,547,179,940
WA remaining Term (in months):	171
Number of borrowers:	4,744
Number of loans / bonds:	19,550
Exposure to the 10 largest borrowers:	27.3%
Average exposure to borrowers:	6,860,704

Specific Loan and Borrower characteristics

Repo eligible loans / bonds:	3.2%
Percentage of fixed rate loans / bonds:	92.9%
Percentage of bullet loans/ bonds:	33.4%
Loans / bonds in non-domestic currency:	3.0%
Performance	
Loans / bonds in arrears (≥ 2months - < 6months):	0.0%
Loans / bonds in arrears (≥ 6months - < 12months):	0.0%
Loans / bonds in arrears (≥ 12months):	0.0%
Loans / bonds in a foreclosure procedure:	0.0%

	Germany	Belgium	Austria	Other	Totals
Direct claim against supranational	0.0%	0.0%	0.0%	0.0%	0.0%
Direct claim against sovereign	0.2%	0.0%	0.2%	0.0%	0.3%
Loan with guarantee of sovereign	0.2%	0.1%	0.0%	4.4%	4.7%
Direct claim against region/federal state	30.4%	0.0%	0.0%	0.6%	31.0%
Loan with guarantee of region/federal state	4.4%	0.0%	1.8%	0.0%	6.3%
Direct claim against municipality	51.7%	0.0%	0.0%	0.5%	52.1%
Loan with guarantee of municipality	2.5%	2.1%	0.0%	0.0%	4.6%
Others	1.0%	0.0%	0.0%	0.1%	1.1%
	90.3%	2.2%	2.0%	5.5%	

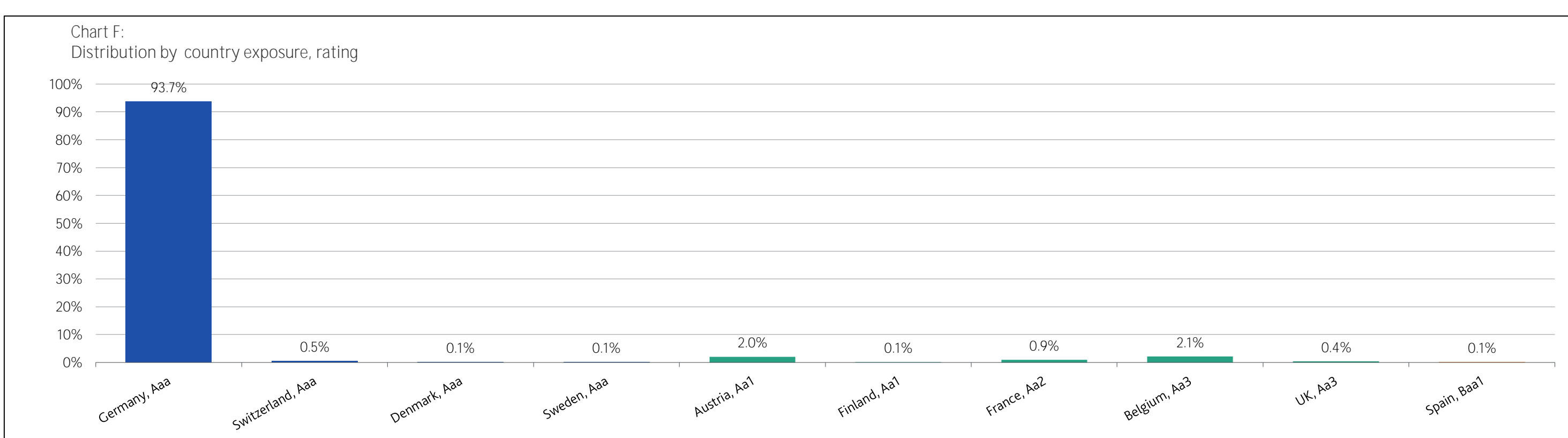
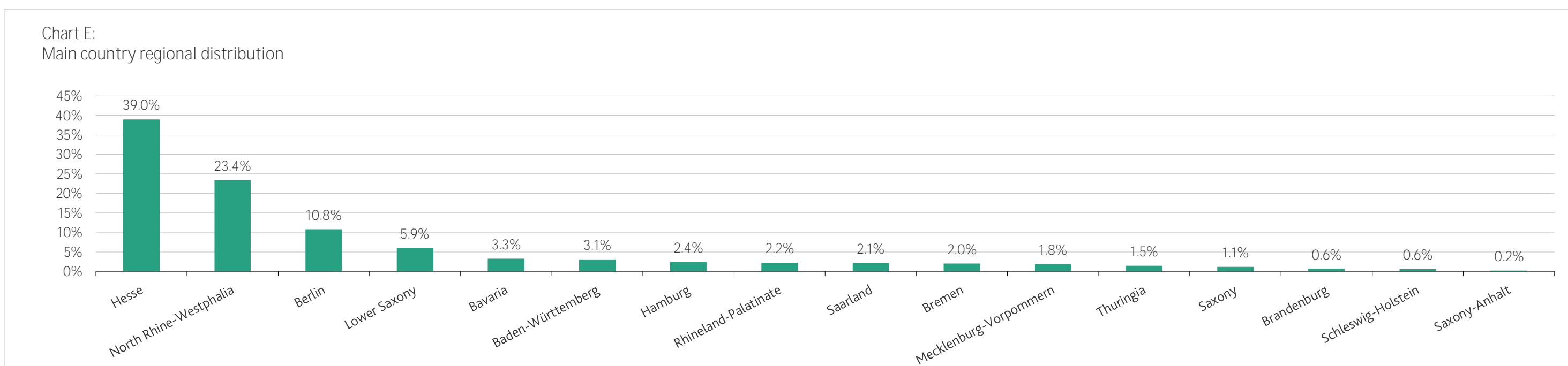
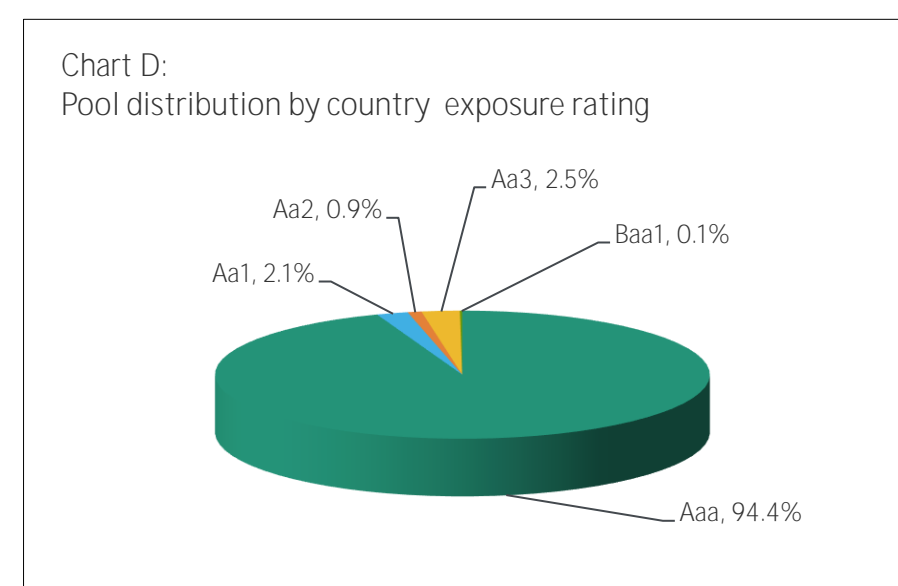
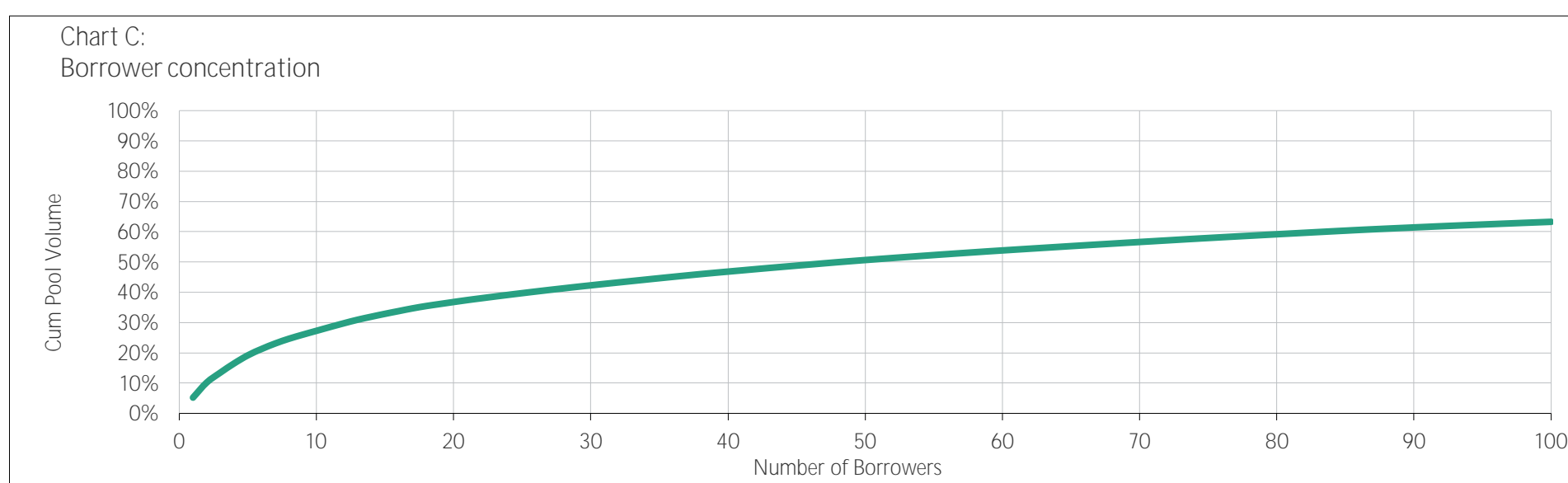
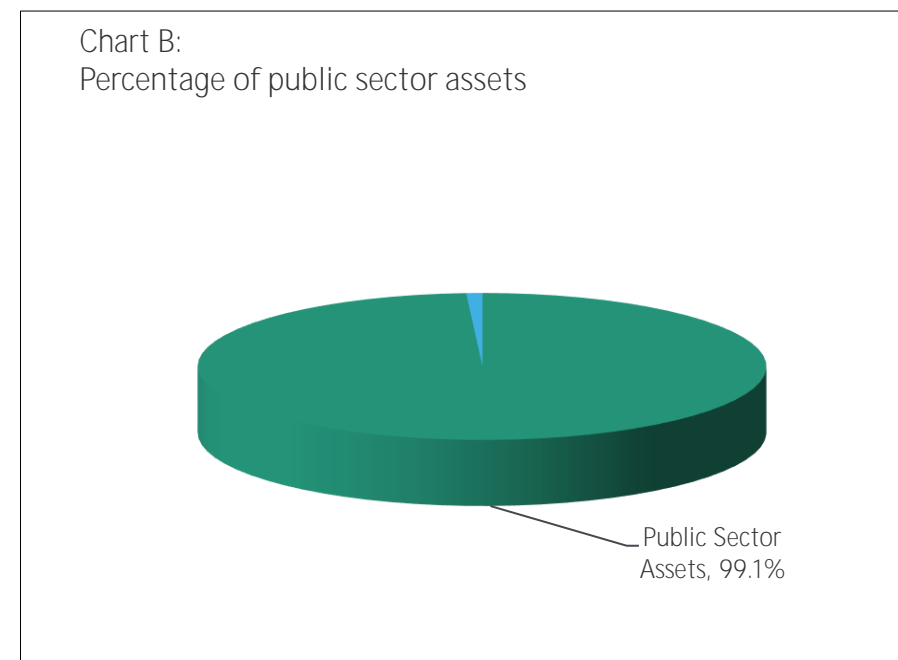


Table A and Chart C are based on debtor data. Charts D, E and F are based on guarantor data or, on unavailability of such information, on debtor data, as reported by the issuer. Landesbank Hessen-Thüringen GZ - Public-Sector Covered Bonds

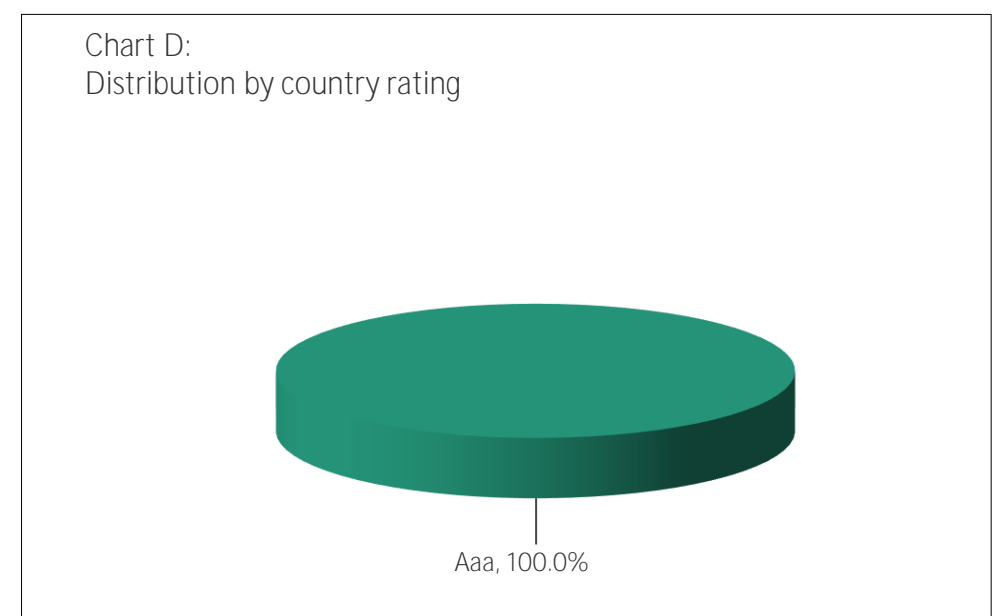
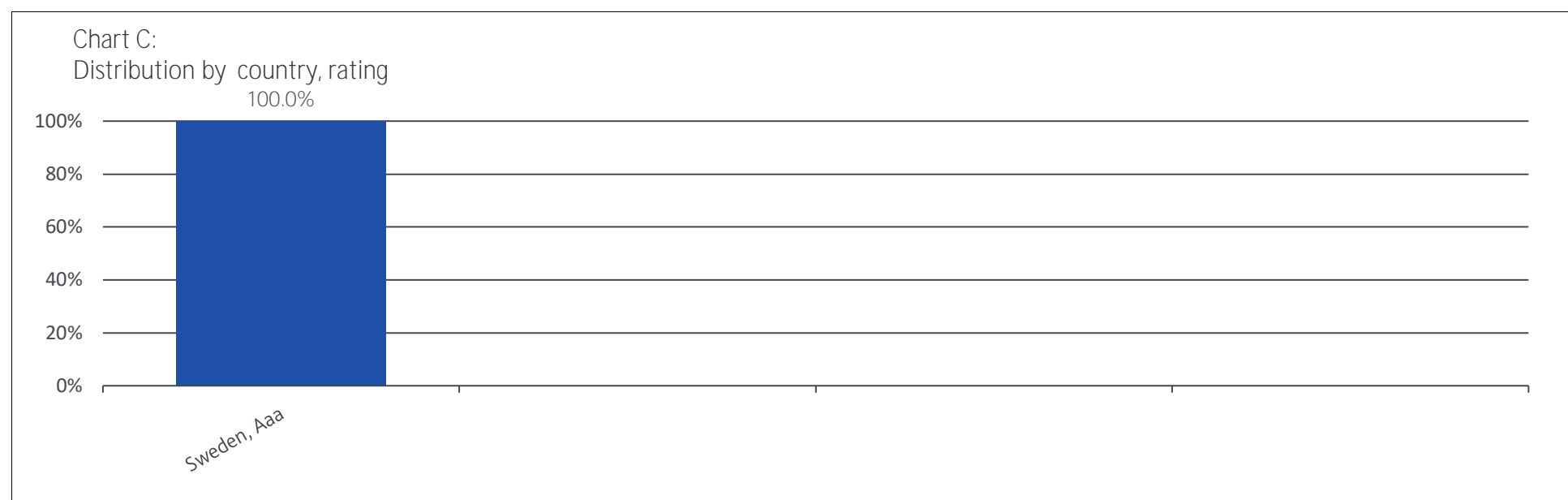
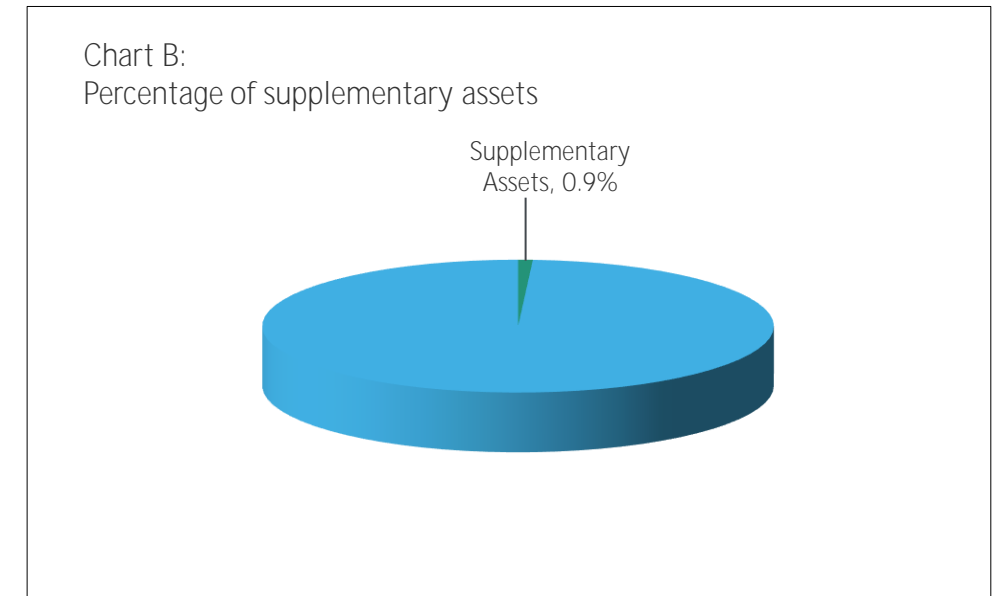
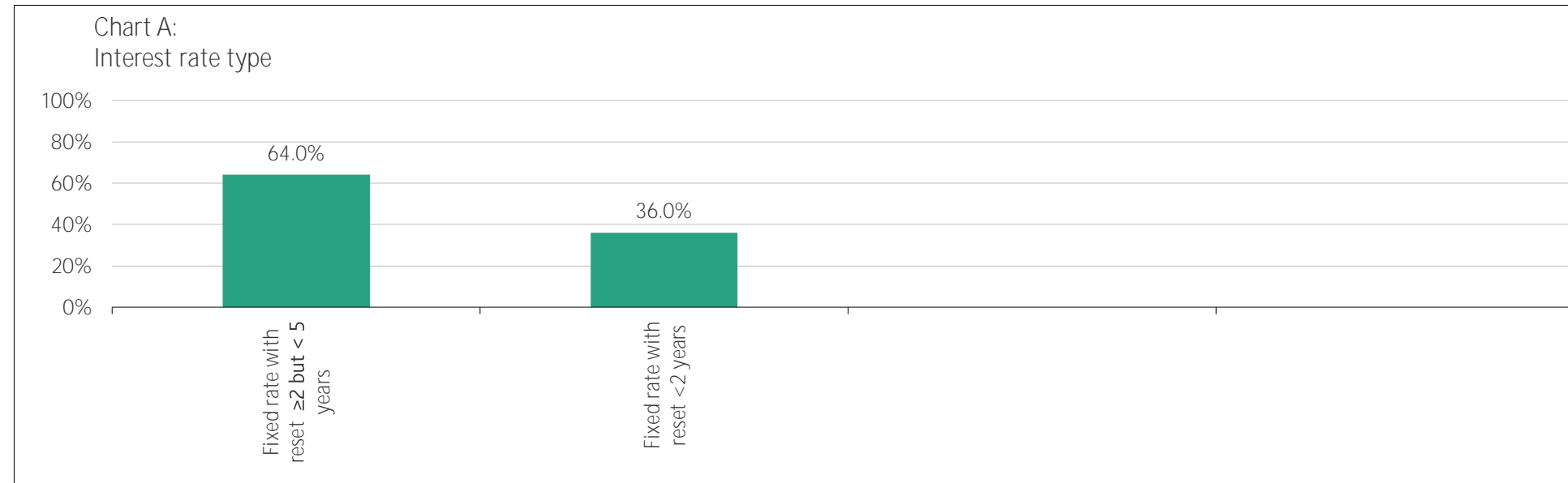
VIII. Cover Pool Information - Supplementary Assets

Overview

Asset type:	Supplementary Assets
Asset balance:	302,500,000
WA remaining Term (in months):	31
Number of assets:	3
Number of borrowers:	2
Average assets size:	100,833,333
Average exposure to borrowers:	151,250,000

Specific Loan and Borrower characteristics

Repo eligible assets:	100.0%
Percentage of fixed rate assets:	100.0%
Percentage of bullet assets:	100.0%
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
XF0000HEZ7M7	n/d	EUR	15,000,000	30/06/2023	30/06/2043	30/06/2044	Fixed rate	3.670%	Soft Bullet
XF0000HEZ7F1	n/d	EUR	10,000,000	06/06/2023	06/06/2039	06/06/2040	Fixed rate	3.137%	Soft Bullet
XF0000HEZ7G9	n/d	EUR	5,000,000	06/06/2023	06/06/2039	06/06/2040	Fixed rate	3.137%	Soft Bullet
XF0000HEZHJ4	n/d	EUR	10,000,000	04/04/2023	07/04/2037	07/04/2038	Fixed rate	3.182%	Soft Bullet
DE000HLB4249	n/d	EUR	15,000,000	02/03/2023	02/03/2035	02/03/2036	Fixed rate	3.235%	Soft Bullet
XF0000HEZFC3	n/d	EUR	30,000,000	28/02/2023	28/02/2035	28/02/2036	Fixed rate	3.240%	Soft Bullet
XS2590759044	n/d	EUR	50,000,000	23/02/2023	23/02/2028	23/02/2029	Floating rate	3-Monats-EURIBOR + 3 bps	Soft Bullet
XF0000HEZE77	n/d	EUR	20,000,000	16/02/2023	16/02/2035	16/02/2036	Fixed rate	3.080%	Soft Bullet
XF0000HEZE10	n/d	EUR	5,000,000	07/02/2023	07/02/2039	07/02/2040	Fixed rate	3.000%	Soft Bullet
DE000HLB42X9	n/d	EUR	975,000,000	09/12/2022	09/12/2024	09/12/2025	Floating rate	6-Monats-EURIBOR + 3 bps	Soft Bullet
XF0000HEZDL9	n/d	EUR	6,000,000	22/11/2022	22/11/2047	22/11/2048	Fixed rate	3.260%	Soft Bullet
DE000HLB42R1	n/d	EUR	13,000,000	26/10/2022	30/09/2027	30/09/2028	Fixed rate	3.090%	Soft Bullet
XF0000HEZCY4	n/d	EUR	50,000,000	06/10/2022	08/10/2040	08/10/2041	Fixed rate	4.175%	Soft Bullet
XF0000HEZCX6	n/d	EUR	10,000,000	04/10/2022	04/10/2044	04/10/2045	Fixed rate	3.740%	Soft Bullet
XF0000HEZL78	n/d	EUR	3,000,000	30/09/2022	30/09/2028	30/09/2029	Floating rate	12-Monats-EURIBOR + 0 bps	Soft Bullet
DE000HLB42Q3	n/d	EUR	975,000,000	29/09/2022	27/09/2024	27/09/2025	Floating rate	6-Monats-EURIBOR - 3 bps	Soft Bullet
XF0000HEY9D3	n/d	EUR	3,000,000	12/05/2022	12/05/2037	12/05/2038	Fixed rate	2.130%	Soft Bullet
XF0000HEY9E1	n/d	EUR	3,000,000	12/05/2022	12/05/2037	12/05/2038	Fixed rate	2.130%	Soft Bullet
XF0000HEY9F8	n/d	EUR	5,000,000	12/05/2022	12/05/2037	12/05/2038	Fixed rate	2.130%	Soft Bullet
XF0000HEY9G6	n/d	EUR	2,000,000	12/05/2022	12/05/2037	12/05/2038	Fixed rate	2.130%	Soft Bullet
XF0000HEY854	n/d	EUR	10,000,000	06/05/2022	06/05/2052	06/05/2053	Fixed rate	2.700%	Soft Bullet
XF0000HEY862	n/d	EUR	5,000,000	06/05/2022	06/05/2052	06/05/2053	Fixed rate	2.700%	Soft Bullet
XF0000HEY8Y1	n/d	EUR	20,000,000	05/05/2022	05/05/2042	05/05/2043	Fixed rate	2.260%	Soft Bullet
XF0000HEY8Z8	n/d	EUR	5,000,000	05/05/2022	05/05/2042	05/05/2043	Fixed rate	2.260%	Soft Bullet
XF0000HEY748	n/d	EUR	10,000,000	23/03/2022	23/03/2037	23/03/2038	Fixed rate	1.571%	Soft Bullet
XF0000HEY755	n/d	EUR	3,000,000	23/03/2022	23/03/2037	23/03/2038	Fixed rate	1.571%	Soft Bullet
XS2461137189	n/d	EUR	50,000,000	22/03/2022	22/03/2027	22/03/2028	Fixed rate	0.724%	Soft Bullet
XF0000HEY7Y3	n/d	EUR	10,000,000	11/03/2022	11/03/2052	11/03/2053	Fixed rate	1.510%	Soft Bullet
XS2445172187	n/d	EUR	100,000,000	16/02/2022	16/02/2027	16/02/2028	Fixed rate	0.500%	Soft Bullet
DE000HLB41Z6	n/d	EUR	3,000,000	09/02/2022	09/02/2052	09/02/2053	Fixed rate	1.200%	Soft Bullet
XF0000HEY656	n/d	EUR	25,000,000	07/02/2022	07/02/2052	07/02/2053	Fixed rate	1.430%	Soft Bullet
XF0000HEY664	n/d	EUR	10,000,000	07/02/2022	07/02/2052	07/02/2053	Fixed rate	1.430%	Soft Bullet
XF0000HEY672	n/d	EUR	10,000,000	07/02/2022	07/02/2052	07/02/2053	Fixed rate	1.430%	Soft Bullet
XF0000HEY680	n/d	EUR	5,000,000	07/02/2022	07/02/2052	07/02/2053	Fixed rate	1.430%	Soft Bullet
XS2433240764	n/d	EUR	1,000,000,000	19/01/2022	19/01/2037	19/01/2038	Fixed rate	0.500%	Soft Bullet
XF0000HEY6Q1	n/d	EUR	10,000,000	18/01/2022	18/01/2044	18/01/2045	Fixed rate	1.115%	Soft Bullet
XF0000HEY6R9	n/d	EUR	2,000,000	18/01/2022	18/01/2044	18/01/2045	Fixed rate	1.115%	Soft Bullet
XF0000HEZL60	n/d	EUR	3,082,500	30/09/2021	30/09/2028	30/09/2029	Floating rate	12-Monats-EURIBOR + 0 bps	Soft Bullet
DE000HLB41M4	n/d	EUR	750,000,000	06/09/2021	06/09/2024	06/09/2025	Floating rate	6-Monats-EURIBOR + 100 bps	Soft Bullet
DE000HLB41D3	n/d	EUR	750,000,000	08/04/2021	08/10/2024	08/10/2025	Floating rate	6-Monats-EURIBOR + 125 bps	Soft Bullet
DE000HLB41C5	n/d	EUR	750,000,000	26/03/2021	26/03/2024	26/03/2025	Floating rate	6-Monats-EURIBOR + 105 bps	Soft Bullet
DE000HLB40Y1	n/d	EUR	20,000,000	17/11/2020	17/11/2060	17/11/2061	Fixed rate	1.050%	Soft Bullet
DE000HLB2YN4	n/d	EUR	20,000,000	09/11/2020	09/11/2060	09/11/2061	Fixed rate	0.980%	Soft Bullet
XF0000HEZL52	n/d	EUR	3,167,269	30/09/2020	30/09/2028	30/09/2029	Floating rate	12-Monats-EURIBOR + 0 bps	Soft Bullet
DE000HLB4Z68	n/d	EUR	20,000,000	15/07/2020	15/07/2060	15/07/2061	Fixed rate	1.000%	Soft Bullet
DE000HLB4ZG1	n/d	EUR	750,000,000	29/04/2020	29/04/2024	29/04/2025	Floating rate	6-Monats-EURIBOR + 150 bps	Soft Bullet
XF0000HEYVJ8	n/d	EUR	3,000,000	26/03/2020	26/03/2060	26/03/2061	Fixed rate	1.220%	Soft Bullet
XF0000HEYVA7	n/d	EUR	5,000,000	09/03/2020	09/03/2040	09/03/2041	Fixed rate	0.645%	Soft Bullet
XF0000HEYUQ5	n/d	EUR	20,000,000	28/01/2020	28/01/2060	28/01/2061	Fixed rate	1.210%	Soft Bullet
XS2106579670	n/d	EUR	750,000,000	22/01/2020	22/01/2030	22/01/2031	Fixed rate	0.125%	Soft Bullet

© 2023 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 BY MOODY'S (COLLECTIVELY, "PUBLICATIONS") 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 PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S PUBLICATIONS 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 PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS 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 ITS PUBLICATIONS 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 PUBLICATIONS 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 PUBLICATIONS 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.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS 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 Publications.

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 fees ranging from \$1,000 to approximately \$5,000,000. 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."

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 Japan only: Moody's Japan K.K. ("MJKK") is a wholly-owned credit rating agency subsidiary of Moody's Group Japan G.K., which is wholly-owned by Moody's Overseas Holdings Inc., a wholly-owned subsidiary of MCO. Moody's SF Japan K.K. ("MSFJ") is a wholly-owned credit rating agency subsidiary of MJKK. MSFJ is not a Nationally Recognized Statistical Rating Organization ("NRSRO"). Therefore, credit ratings assigned by MSFJ are Non-NRSRO Credit Ratings. Non-NRSRO Credit Ratings are assigned by an entity that is not a NRSRO and, consequently, the rated obligation will not qualify for certain types of treatment under U.S. laws. MJKK and MSFJ are credit rating agencies registered with the Japan Financial Services Agency and their registration numbers are FSA Commissioner (Ratings) No. 2 and 3 respectively.

MJKK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJKK or MSFJ (as applicable) have, prior to assignment of any credit rating, agreed to pay to MJKK or MSFJ (as applicable) for credit ratings opinions and services rendered by it fees ranging from JPY100,000 to approximately JPY550,000,000.

MJKK and MSFJ also maintain policies and procedures to address Japanese regulatory requirements.