

CREDIT OPINION

31 July 2024

Update



RATINGS

Credit Industriel et Commercial

Domicile	Paris, France
Long Term CRR	Aa2
Type	LT Counterparty Risk Rating - Fgn Curr
Outlook	Not Assigned
Long Term Debt	Aa3
Type	Senior Unsecured - Fgn Curr
Outlook	Stable
Long Term Deposit	Aa3
Type	LT Bank Deposits - Fgn Curr
Outlook	Stable

Please see the [ratings section](#) at the end of this report for more information. The ratings and outlook shown reflect information as of the publication date.

Contacts

Guy Combot +33.1.5330.5981
VP-Senior Analyst
guy.combot@moodys.com

Yana Ruvinskaya +33.1.5330.3393
Lead Ratings Associate
yana.ruvinskaya@moodys.com

Olivier Panis +33.1.5330.5987
Senior Vice President
olivier.panis@moodys.com

CLIENT SERVICES

Americas 1-212-553-1653
Asia Pacific 852-3551-3077
Japan 81-3-5408-4100

Credit Industriel et Commercial

Update to credit analysis

Summary

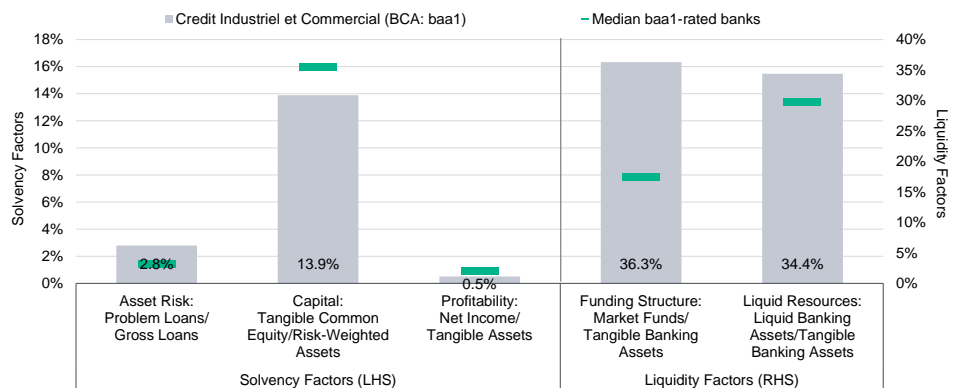
[Credit Industriel et Commercial](#)'s (CIC) Baseline Credit Assessment (BCA) of baa1 reflects the bank's solid franchise and sound liquidity, which is managed by Credit Mutuel Alliance Federale (CMAF), its good solvency, single-name concentration in its corporate banking business and risks stemming from its capital market activities.

CIC benefits from a very high probability of affiliate support from Groupe Credit Mutuel (GCM), resulting in an Adjusted BCA of a3, which is based on our assessment of the standalone creditworthiness of CMAF and GCM.

CIC's long-term senior unsecured debt and deposit ratings of Aa3 with a stable outlook reflect the Adjusted BCA of a3; the application of our Advanced Loss Given Failure (LGF) analysis, resulting in two notches of uplift from the Adjusted BCA that stem from GCM's significant volume of senior debt and junior deposits; and additional support uplift of one notch, reflecting a moderate probability of support from the [Government of France](#) (Aa2 stable) in view of GCM's systemic importance to the domestic economy.

Exhibit 1

Rating scorecard - Key financial ratios



Source: Moody's Ratings

Credit strengths

- » Solid domestic retail and corporate banking franchises.
- » Funding structure and comfortable liquidity buffer, which mitigate some reliance on wholesale funding.
- » Capital aligns with the low-risk profile and is managed by the bank's parent company, which maintains robust solvency

Credit challenges

- » Some earnings volatility arising from CIC's role as a hub for the group's corporate banking and financial market activities.
- » Higher prices and subdued economic growth, which affect French customers' creditworthiness.
- » Low margins on residential mortgage loans in France.

Outlook

The stable outlook on CIC's long-term ratings reflects its parent's outlook which considers our presumption that the liability structure of the overall group (GCM) and the likelihood of government support will remain largely constant.

Factors that could lead to an upgrade

Enhancements in CIC's solvency, through a much higher profitability, could bolster its BCA. Nevertheless, the bank's Adjusted BCA might not see a similar upgrade because it is also influenced by the creditworthiness of the overall group (GCM). Alternatively, it would require a greater issuance of subordinated debt at the GCM's level than currently projected to reduce the loss given failure for deposits and senior unsecured debt.

Moreover, the proximity of CIC's Aa3 long-term deposit and senior unsecured debt ratings with France' sovereign rating of Aa2 could constrain the possibility of an upgrade.

Factors that could lead to a downgrade

The ratings of CIC's long-term deposits and senior unsecured debt could be downgraded because of a deterioration in the standalone financial strength of GCM, resulting in lower Adjusted BCAs. This could happen in the case of a significant weakening in GCM's underlying profitability, mainly as a result of worsening asset quality or a further significant deterioration in its net interest margin; a significant weakening in the group's capitalisation, for example, following major acquisitions; adverse changes in its liquidity or funding profile; or a significant weakening of the operating environment in France.

A downgrade could also come from reduced subordinated debt, resulting in a higher loss-given -failure.

A downgrade of the France' sovereign rating of Aa2 could also lead to a downgrade of CIC's deposit and senior unsecured ratings, given their proximity with the sovereign rating.

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.

Key indicators

Exhibit 2

Credit Industriel et Commercial (Consolidated Financials) [1]

	12-23 ²	12-22 ²	12-21 ²	12-20 ²	12-19 ²	CAGR/Avg. ³
Total Assets (EUR Million)	403,656.0	396,387.0	356,914.0	349,828.0	312,507.0	6.6 ⁴
Total Assets (USD Million)	445,900.6	423,042.9	404,421.4	428,034.1	350,788.6	6.2 ⁴
Tangible Common Equity (EUR Million)	20,211.0	18,134.0	16,643.0	14,920.0	15,349.0	7.1 ⁴
Tangible Common Equity (USD Million)	22,326.2	19,353.5	18,858.3	18,255.5	17,229.2	6.7 ⁴
Problem Loans / Gross Loans (%)	2.8	2.4	2.4	2.5	2.7	2.6 ⁵
Tangible Common Equity / Risk Weighted Assets (%)	13.9	13.4	13.8	13.2	14.5	13.7 ⁶
Problem Loans / (Tangible Common Equity + Loan Loss Reserve) (%)	29.2	27.0	26.3	28.6	28.4	27.9 ⁵
Net Interest Margin (%)	0.8	0.8	0.8	0.8	0.8	0.8 ⁵
PPI / Average RWA (%)	1.9	2.1	2.3	1.7	1.9	2.0 ⁶
Net Income / Tangible Assets (%)	0.5	0.6	0.6	0.2	0.5	0.5 ⁵
Cost / Income Ratio (%)	58.7	56.2	55.8	62.7	62.4	59.2 ⁵
Market Funds / Tangible Banking Assets (%)	36.3	37.3	31.6	31.8	37.6	34.9 ⁵
Liquid Banking Assets / Tangible Banking Assets (%)	34.4	36.2	33.9	36.3	34.3	35.0 ⁵
Gross Loans / Due to Customers (%)	110.5	109.0	102.4	98.9	112.6	106.7 ⁵

[1] All figures and ratios are adjusted using Moody's standard adjustments. [2] Basel III - fully loaded or transitional phase-in; IFRS. [3] May include rounding differences because of the scale of reported amounts. [4] Compound annual growth rate (%) based on the periods for the latest accounting regime. [5] Simple average of periods for the latest accounting regime. [6] Simple average of Basel III periods.

Sources: Moody's Ratings and company filings

Profile

Credit Industriel et Commercial (CIC) is a French universal bank active in retail and private banking, finance and capital markets, specialised businesses, asset management, insurance and private equity. CIC has operations throughout France, and also carries out international operations, notably private banking and financial market activities.

CIC is owned by Banque Federative du Credit Mutuel (BFCM), which itself is owned by 14 regional federations and the local banks of the cooperative GCM. These 14 regional federations, together with BFCM and CIC, make up CMAF — the largest subgroup within the wider GCM, accounting for around 80% of GCM's consolidated total assets. Two federations — Maine Anjou and Ocean — remain independent, while two other federations, namely Bretagne and Sud Ouest, are jointly operating under the same name, that is, [Credit Mutuel Arkea](#) (CMA; Aa3/Aa3 stable, baa1¹).

Refer to [Groupe Credit Mutuel: Mutual support guarantee in a fragmented group drives our ratings approach](#) for a more comprehensive analysis of GCM's structure and rating construction.

Detailed credit considerations

Domestic retail and corporate lending drives low asset risks

The bulk of CIC's activities relates to domestic retail and corporate lending. The asset risk is, on average, moderate. It was reflected by the bank's reported nonperforming loan ratio of 2.7% as of December 2023, slightly up from that as of year-end 2022. The EU nonperforming loan ratio as of year-end 2023 was slightly lower at 1.9%².

Our Asset Risk score, currently at baa1, accounts for several key factors. This includes the bank's significant proportion of low-risk residential housing loans in France, which make up 45% of the bank's total loan portfolio as of December 2023. However, this is balanced by a considerable exposure to the small and medium-sized enterprise (SME) sector, constituting nearly 48% of the bank's loans. Additionally, there is a certain degree of single-name concentration within the corporate banking business, which also affects our Asset Risk score.

CIC's track record on credit risk is sound. The bank reported a cost of risk of 16 basis points (bps) as of December 2023, one of the lowest ratios among French banks. These provisions in retail banking, consumer credit and corporate finance, reflect the weakening macroeconomic environment which is increasing defaults. However, the bank's cost of risk is mitigated by the further release of provisions. A portion of these provision releases were tied to substantial corporations that recovered in 2023, as well as 'management

overlays¹ on performing loans, primarily recorded during the pandemic crisis. This latter event contributed to a reduction in the cost of risk for 2022, resulting in a net gain.

These levels of cost of risk are below the peak of 51 bps reported in 2020. We expect a slight increase in the cost of risk in 2024, although it is projected to remain below the French average.

Capital aligns with the low-risk profile and CMAF's policy

Our a3 Capital score for CIC takes into consideration both good regulatory buffers and a relatively weaker position on a standalone basis than that of its EU peers. However, CIC's capital position is managed by CMAF and is commensurate with its low asset risk profile.

CIC reported a Common Equity Tier 1 (CET1) capital ratio of 12.7% as of year-end 2023, unchanged from year-end 2022. The bank, as a standalone entity of CMAF, has no Supervisory Review and Evaluation Process (SREP) requirement to comply with.

CIC's CET1 capital ratio of 12.7% compares unfavourably with the 15.9% EU average as of year-end 2023³, considering CIC's business activities, namely capital market and exposure to the SME sector. This is also the case for the bank's leverage ratio, which was 4.7% as of year-end 2023 (4.3% as of year-end 2022), weaker than the 5.8% EU average as of year-end 2023⁴.

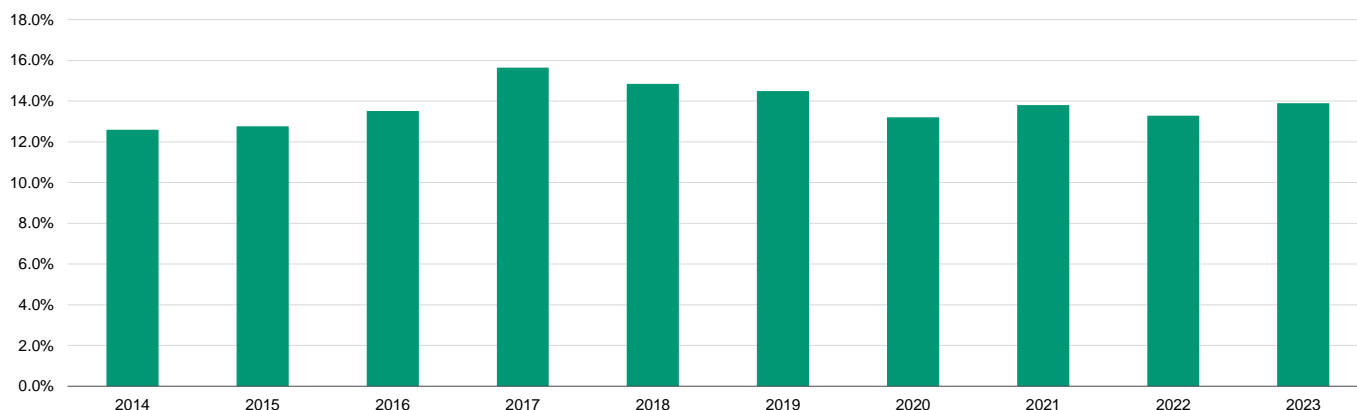
However, CIC's capital, which is managed at the group level, could benefit from parental support in case of need. CMAF's CET1 ratio was 18.5% as of December 2023 (more than 5 percentage points [pps] higher than CIC) and its leverage ratio was 7.1% (around 2.4 pps lower than CIC). CMAF's Moody's-calculated tangible common equity (TCE)/risk-weighted assets (RWA) was 19% as of year-end 2023, while CIC's TCE ratio was 13.9%.

The minimum requirement for own funds and eligible liabilities (MREL) is set by the European Single Resolution Authority at the group level (GCM), which is the single point of entry. Even though CIC is outside of the GCM's solidarity mechanism⁵, the bank is considered a significant entity (referred to as "relevant legal entity") for the group according to the regulation. Hence, it is subject to an internal minimum requirement for own funds and eligible liabilities (I-MREL), which is not disclosed.

Exhibit 3

CIC has consistently maintained good capital adequacy

TCE/RWA (%)



Sources: Bank's report and Moody's Ratings

Corporate banking and financial market activities involve some earnings volatility

CIC has a sound franchise in the domestic retail segment, with estimated market shares in France of around 7% in both loans and deposits (that is, CIC accounts for close to half of CMAF's market shares). CIC's strong franchise in the small and medium-sized enterprises (SME) and corporate segments is a key credit strength, providing the bulk of the bank's revenue.

Our Profitability score of ba1 takes into consideration the above-mentioned factors which entail low risk return in its core businesses (retail and SME lending) but also some volatility because the bank is the hub for the group's capital market activities. These activities are now limited in absolute terms and have been scaled down over time. Capital market activities represented a low 7% of CIC's net banking income in 2023 compared with 13% in 2012.

Net income represented around 0.5% of CIC's assets in 2023, in line with 2022 and 2021. Despite some increase in recurrent and nonrecurrent revenue in 2023, the bank was hit by higher loan loss provision charges and operating costs.

CIC's reported cost-to-income ratio of 58.7% as of December 2023 was much lower than the French average (75%) but higher than the average ratio for EU banks (56% as of year-end 2023⁶).

We expect profitability to progressively further benefit from higher interest rates. CIC's net interest margin, in line with that of many of its French peers, has not fully benefitted from the successive hikes in the European Central Bank's (ECB) interest rates since July 2022. This is mainly because home loans are almost exclusively at fixed rates in France and because of the higher interest rate paid on time deposits. The remuneration of term deposits in France is largely a function of regulated savings rates. The improvement in net interest margin was strained because of two primary factors. First, the phenomenon known as "taux d'usure" led to a delay in the repricing of loans. Second, there has been a decrease in the demand for credit.

Retail deposits and comfortable liquidity buffer mitigate some reliance on wholesale funding

Our analysis focuses on the liquidity and funding of CMAF, which are managed centrally by BFCM, including CIC. The assigned scores for CIC's Funding Structure and Liquid Resources in the bank's scorecard are, therefore, aligned with those of CMAF (both at baa1).

The assigned Liquidity Resources score of baa1 incorporates a negative adjustment for ECB funding and the share of regulated deposits that are not available for business because they are mandatorily centralised at [Caisse des Depots et Consignations](#) (Aa2/Aa2 stable). We expect CMAF's liquidity to decrease in 2024 as a result of the repayment of its Targeted longer-term refinancing operations or TLTRO (€11 billion), but remain at a good level.

CMAF's loan-to-deposit ratio⁷ was 110% as of year-end 2023 versus 107% as of year-end 2021 and 105% in 2019. Significant progress was achieved since 2010 when this ratio was around 144%, mainly through the re-intermediation of off-balance-sheet customers' savings and the adoption of an internal policy requiring loan growth to be funded by new deposits.

In 2023, CMAF increased its deposits by 5%. However, like for its peers, the bank's share of time deposits also increased (7%, close to 56% of the outstanding deposit mix) as interest rates increased.

Nonetheless, wholesale funding will remain a significant funding source for the group in the 12-18-month horizon. As of year-end 2023, the total amount of market funding (including covered bonds) was €155 billion, of which 66% came from medium- to long-term resources.

CMAF's reliance on market funding, which is confidence sensitive, is mitigated by the term structure of its debt, which minimises funding gaps on all maturity buckets from three months up to five years. CMAF had liquidity reserves of €170 billion as of December 2023, which we consider sufficient because they fully covered much more than the wholesale debt maturing within 12 months.

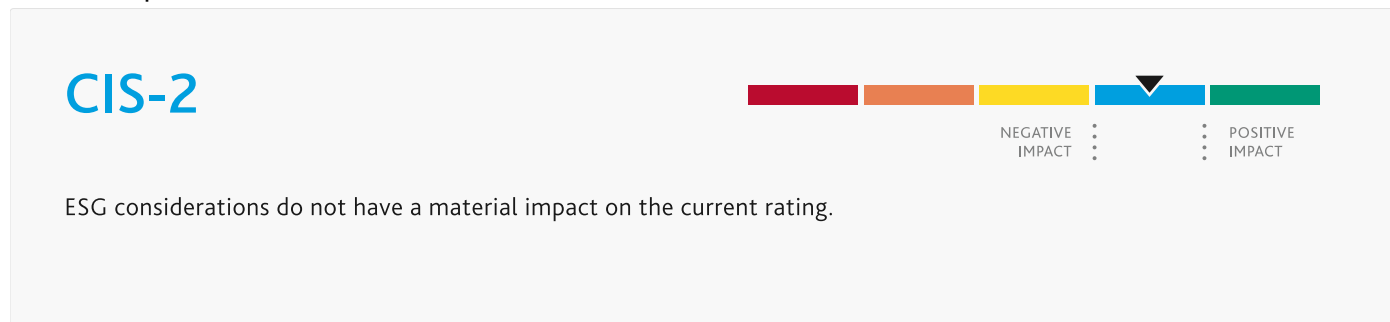
CMAF reported a good liquidity coverage ratio (LCR) of 163% on average in 2023. The average high-quality liquid asset (HQLA) portfolio during the same period was high and amounted to €126 billion, 80% of which were deposits with the central banks (mainly the ECB).

ESG considerations

Credit Industriel et Commercial's ESG credit impact score is CIS-2

Exhibit 4

ESG credit impact score

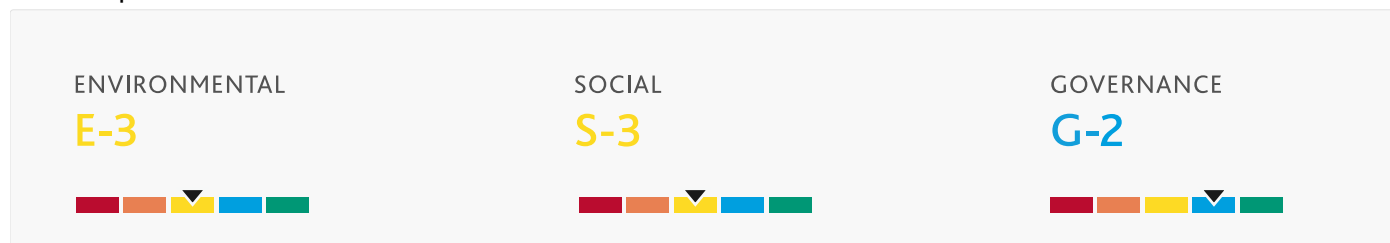


Source: Moody's Ratings

Credit Industriel et Commercial (CIC)'s **CIS-2** reflects that ESG considerations are not material to the rating.

Exhibit 5

ESG issuer profile scores



Source: Moody's Ratings

Environmental

CIC faces moderate environmental risks primarily because of its portfolio exposure to carbon transition risk as a diversified bank. In line with its peers, the bank is exposed to mounting business risks and stakeholder pressure to meet broader carbon transition goals. In response, CIC is developing its climate risk and portfolio management capabilities, and is actively transitioning its lending portfolios to achieve carbon neutrality targets.

Social

CIC faces moderate social risks mainly related to customer relations as well as to demographic and societal trends. The bank's developed policies and procedures mitigate conduct risk associated with the distribution of financial products such as regulatory and reputational risks, as well as exposure to litigation. Continued investments in technology and the bank's long track record of handling sensitive customer data, as well as appropriate culture and governance that ensure adherence to regulatory standards, help to manage high cyber and personal data risks. CIC operates mainly in France, which faces challenges from adverse demographic trends affecting long-term economic growth prospects and impacting the demand for certain banking products. Product diversity as well as an ability to adapt to consumer preferences, regulatory changes and societal trends such as digitization are key to address these risks.

Governance

CIC faces low governance risks, and its risk management policies and procedures are in line with industry practices. CIC is controlled by the Banque Federative du Credit Mutuel through its 93% ownership. Therefore, we have aligned the subsidiary's board structure, policies and procedures score with that of its parent, given (i) the bank's strategic importance for the mutualist group, (ii) the parent's oversight over the board's subsidiary and (iii) the same regulatory frameworks both entities are required to comply with.

ESG Issuer Profile Scores and Credit Impact Scores for the rated entity/transaction are available on Moody's.com. In order to view the latest scores, please click [here](#) to go to the landing page for the entity/transaction on MDC and view the ESG Scores section.

Support and structural considerations

Affiliate support

We assign an Adjusted BCA of a3 to CIC, incorporating one notch of uplift from its BCA of baa1 for the affiliate support provided by GCM.

Although CIC does not fall under the legal scope of GCM's solidarity mechanisms, because it is not an affiliated member of the mutualist group, it is fully integrated within CMAF both strategically and operationally, and holds one of the main franchises of the group. Therefore, an adverse scenario affecting CIC would likely hurt the credit strength of CMAF and, by extension, that of GCM. Hence, our ratings incorporate a very high probability of support from CMAF and, in turn, from GCM.

Loss Given Failure (LGF) analysis

GCM and its operating entities in France are subject to the EU Bank Recovery and Resolution Directive, which is an operational resolution regime. We assume that a resolution, if any, would occur at the level of GCM once the said group reaches the point of non-viability. If financial difficulties occur at the CIC level, this would be addressed by GCM through affiliate support.

Our Advanced LGF analysis is, therefore, based on GCM's consolidated liability structure. We also assume residual TCE of 3% and post-failure losses of 8% of tangible banking assets, a 25% runoff in junior wholesale deposits, a 5% runoff in preferred deposits and a proportion of 26% of deposits considered junior, and assign a 25% probability to deposits being preferred to senior unsecured debt. These are in line with our standard assumptions.

Our Advanced LGF analysis indicates a very low loss given failure for deposits and senior unsecured debt, leading to a two-notch uplift to the Adjusted BCA. This uplift is prompted by the loss absorption provided by a combination of substantial deposit volume and subordinated instruments including residual equity.

Government support considerations

We expect a moderate probability of government support for both deposits and senior unsecured debt issued by CIC because of GCM's systemic importance in France. This results in a one-notch government support uplift for CIC's deposit and senior unsecured ratings to Aa3. Subordinated securities do not benefit from government support because their purpose is to absorb losses.

Methodology and scorecard

About Moody's Bank Scorecard

Our scorecard is designed to capture, express and explain in summary form our Rating Committee's judgement. When read in conjunction with our research, a fulsome presentation of our judgement is expressed. As a result, the output of our scorecard may significantly differ from that suggested by raw data alone (although it has been calibrated to avoid the frequent need for strong divergence). The scorecard output and the individual scores are discussed in rating committees and may be adjusted up or down to reflect conditions specific to each rated entity.

Rating methodology and scorecard factors

Exhibit 6

Rating Factors

Macro Factors							
Weighted Macro Profile		Strong +	100%				
Factor	Historic Ratio	Initial Score	Expected Trend	Assigned Score	Key driver #1	Key driver #2	
Solvency							
Asset Risk							
Problem Loans / Gross Loans	2.8%	a2	↔	baa1	Market risk	Single name concentration	
Capital							
Tangible Common Equity / Risk Weighted Assets (Basel III - fully loaded)	13.9%	a2	↓	a3			
Profitability							
Net Income / Tangible Assets	0.5%	ba1	↔	ba1			
Combined Solvency Score		a3		baa1			
Liquidity							
Funding Structure							
Market Funds / Tangible Banking Assets	36.3%	ba2	↔	baa1	Term structure		
Liquid Resources							
Liquid Banking Assets / Tangible Banking Assets	34.4%	a2	↔	baa1	Asset encumbrance		
Combined Liquidity Score		baa2		baa1			
Financial Profile				baa1			
Qualitative Adjustments				Adjustment			
Business Diversification				0			
Opacity and Complexity				0			
Corporate Behavior				0			
Total Qualitative Adjustments				0			
Sovereign or Affiliate constraint				Aa2			
BCA Scorecard-indicated Outcome - Range				a3 - baa2			
Assigned BCA				baa1			
Affiliate Support notching				-			
Adjusted BCA				a3			
Balance Sheet		in-scope (EUR Million)	% in-scope	at-failure (EUR Million)	% at-failure		
Other liabilities		182,984	19.8%	243,324	26.3%		
Deposits		591,571	63.9%	531,231	57.4%		
Preferred deposits		437,763	47.3%	415,874	44.9%		
Junior deposits		153,808	16.6%	115,356	12.5%		
Senior unsecured bank debt		94,937	10.3%	94,937	10.3%		
Junior senior unsecured bank debt		15,874	1.7%	15,874	1.7%		
Dated subordinated bank debt		12,120	1.3%	12,120	1.3%		
Junior subordinated bank debt		22	0.0%	22	0.0%		
Preference shares (bank)		816	0.1%	816	0.1%		
Equity		27,783	3.0%	27,783	3.0%		
Total Tangible Banking Assets		926,107	100.0%	926,107	100.0%		

Debt Class	De Jure waterfall		De Facto waterfall		Notching		LGF Notching Guidance vs. Adjusted BCA	Assigned LGF notching	Additional Notching	Preliminary Rating Assessment
	Instrument volume + subordination	Sub-ordination	Instrument volume + subordination	Sub-ordination	De Jure	De Facto				
Counterparty Risk Rating	28.8%	28.8%	28.8%	28.8%	3	3	3	3	0	aa3
Counterparty Risk Assessment	28.8%	28.8%	28.8%	28.8%	3	3	3	3	0	aa3 (cr)
Deposits	28.8%	6.1%	28.8%	16.4%	2	3	2	2	0	a1
Senior unsecured bank debt	28.8%	6.1%	16.4%	6.1%	2	2	2	2	0	a1
Dated subordinated bank debt	4.4%	3.1%	4.4%	3.1%	-1	-1	-1	-1	0	baa1

Instrument Class	Loss Given Failure notching	Additional notching	Preliminary Rating Assessment	Government Support notching	Local Currency Rating	Foreign Currency Rating
Counterparty Risk Rating	3	0	aa3	1	Aa2	Aa2
Counterparty Risk Assessment	3	0	aa3 (cr)	1	Aa2(cr)	
Deposits	2	0	a1	1	Aa3	Aa3
Senior unsecured bank debt	2	0	a1	1	Aa3	Aa3
Dated subordinated bank debt	-1	0	baa1	0		(P)Baa1

[1] Where dashes are shown for a particular factor (or sub-factor), the score is based on non-public information.

Source: Moody's Ratings

Ratings

Exhibit 7

Category	Moody's Rating
CREDIT INDUSTRIEL ET COMMERCIAL	
Outlook	Stable
Counterparty Risk Rating	Aa2/P-1
Bank Deposits	Aa3/P-1
Baseline Credit Assessment	baa1
Adjusted Baseline Credit Assessment	a3
Counterparty Risk Assessment	Aa2(cr)/P-1(cr)
Senior Unsecured	Aa3
Subordinate MTN	(P)Baa1
Commercial Paper -Dom Curr	P-1
Other Short Term	(P)P-1
PARENT: BANQUE FEDERATIVE DU CREDIT MUTUEL	
Outlook	Stable
Counterparty Risk Rating	Aa2/P-1
Bank Deposits	Aa3/P-1
Baseline Credit Assessment	a3
Adjusted Baseline Credit Assessment	a3
Counterparty Risk Assessment	Aa2(cr)/P-1(cr)
Senior Unsecured	Aa3
Junior Senior Unsecured -Dom Curr	A3
Junior Senior Unsecured MTN -Dom Curr	(P)A3
Subordinate -Dom Curr	Baa1
Pref. Stock Non-cumulative -Dom Curr	Baa3 (hyb)
Commercial Paper -Dom Curr	P-1
Other Short Term	(P)P-1
CREDIT INDUSTRIEL ET COMMERCIAL, NEW YORK	
BR	
Commercial Paper	P-1

Source: Moody's Ratings

Endnotes

- [1](#) The ratings shown here are the bank's long-term deposit and senior unsecured debt ratings, together with the outlook and BCA.
- [2](#) European Banking Authority, EBA, [Risk Dashboard, Q4 2023](#).
- [3](#) EBA, [Risk Dashboard, Q4 2023](#).
- [4](#) EBA, [Risk Dashboard, Q4 2023](#).
- [5](#) Groupe Credit Mutuel's unity is ensured by a mutual support guarantee. The cohesion of GCM's subgroups is secured by the group's central body, which mainly performs oversight since it is required by law to ensure that all group entities have sufficient liquidity and capital. GCM's entities are also mutually bound by law to ensure the adequate capital and liquidity of all. Accordingly, any entity facing significant financial difficulties or a major disruption would receive support from the rest of the group as long as they remain part of the group.
- [6](#) [Risk Dashboard, Q4 2023](#).
- [7](#) Our calculation.

© 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 Calificadora 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.

CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454