

CREDIT OPINION

7 July 2025

Update



Send Your Feedback

RATINGS

TSB Banking Group plc

Domicile	United Kingdom
Long Term Issuer Rating	Baa2
Type	LT Issuer Rating
Outlook	Rating(s) Under Review

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

Edoardo Calandro +44.20.7772.1097
VP-Sr Credit Officer
edoardo.calandro@moody's.com

Alexandra Engels +44.20.7772.2214
Ratings Associate
alexandra.engels@moody's.com

Simon James Robin +44 207 772 5347
Ainsworth
Associate Managing Director
simon.ainsworth@moody's.com

CLIENT SERVICES

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

TSB Banking Group plc

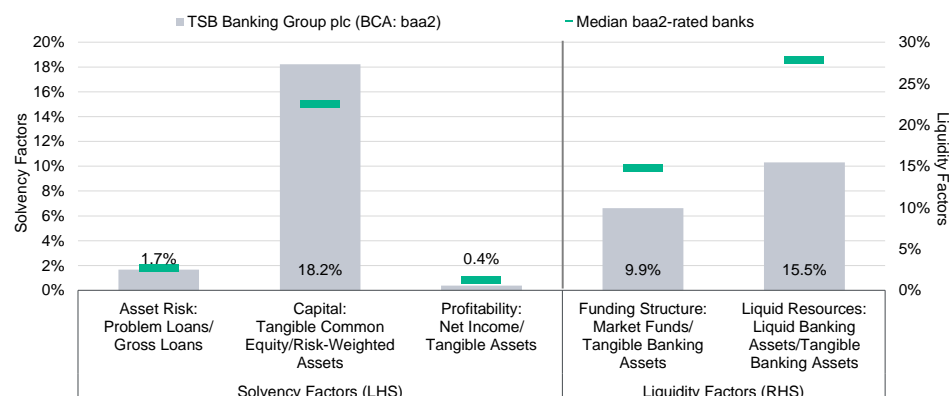
Update after ratings placed under review

Summary

The Baa2 long-term issuer rating of [TSB Banking Group plc](#) (TSB Group) and the Baa1 long-term issuer rating of [TSB Bank plc](#) (TSB) are on review for upgrade, following the [announcement](#) by TSB's owner [Banco de Sabadell, S.A.](#) (Sabadell, Baa1 positive, baa3¹) that its board approved the sale of TSB to [Banco Santander, S.A.](#) (Spain) (Santander, A2 positive, baa1).

Exhibit 1

Rating Scorecard - Key financial ratios



Source: Moody's Ratings

Credit strengths

- » Potential strengthening if TSB is integrated within the Santander UK group
- » Improving profitability supported by high interest rate environment and low cost of funding
- » High-quality retail loan portfolio, consisting mostly of prime mortgages
- » Adequate risk-based capitalisation
- » Large retail deposit base

Credit challenges

- » Weak efficiency compared to UK retail banks
- » Loan and deposit growth potential restricted by intense competition and evolving long term strategy
- » Relatively low nominal leverage
- » Existence of a higher-risk legacy portfolio, currently subject to litigation
- » Concentration of revenue and risks in UK residential mortgages

Outlook

The long-term issuer ratings of TSB Group and TSB, and the long-term deposit rating of TSB are of review for upgrade.

The review for upgrade reflects our expectation that, if the acquisition is concluded, TSB Group and TSB will likely be integrated into Santander's existing UK subsidiary, [Santander UK plc](#) (Santander UK, A1 stable, baa1).

Factors that could lead to an upgrade

The long-term issuer rating of TSB Group and TSB and the long-term deposit rating of TSB could be upgraded following the completion of the acquisition by Santander and integration into Santander UK.

The ratings could be confirmed if the transaction is not completed.

Factors that could lead to a downgrade

The ratings could be confirmed if the transaction is not completed.

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

TSB Banking Group plc (Consolidated Financials) [1]

	12-24 ²	12-23 ²	12-22 ²	12-21 ²	12-20 ²	CAGR/Avg. ³
Total Assets (GBP Billion)	44.1	45.3	46.9	46.7	42.4	1.0 ⁴
Total Assets (USD Billion)	55.2	57.8	56.5	63.0	58.0	(1.2) ⁴
Tangible Common Equity (GBP Billion)	2.1	2.0	1.9	1.8	1.7	5.3 ⁴
Tangible Common Equity (USD Billion)	2.6	2.5	2.3	2.4	2.3	3.1 ⁴
Problem Loans / Gross Loans (%)	1.7	1.7	1.5	1.7	1.6	1.6 ⁵
Tangible Common Equity / Risk Weighted Assets (%)	18.2	18.0	17.9	16.3	15.6	17.2 ⁶
Problem Loans / (Tangible Common Equity + Loan Loss Reserve) (%)	27.5	27.4	28.1	32.0	28.5	28.7 ⁵
Net Interest Margin (%)	2.2	2.2	2.1	2.0	1.9	2.1 ⁵
PPI / Average RWA (%)	3.1	3.3	2.4	1.7	0.5	2.2 ⁶
Net Income / Tangible Assets (%)	0.5	0.4	0.2	0.3	-0.4	0.2 ⁵
Cost / Income Ratio (%)	70.1	69.2	77.4	81.1	94.6	78.5 ⁵
Market Funds / Tangible Banking Assets (%)	9.9	14.1	14.9	15.2	11.4	13.1 ⁵
Liquid Banking Assets / Tangible Banking Assets (%)	15.5	17.9	15.8	16.7	17.2	16.6 ⁵
Gross Loans / Due to Customers (%)	104.0	104.7	105.1	104.3	97.4	103.1 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

TSB is a retail bank operating in the [United Kingdom](#) (UK, Aa3, stable), headquartered in Edinburgh. As of year-end 2024, TSB had £46.1 billion in assets.

TSB was initially operating under the name of TSB Group plc, which was listed on the London Stock Exchange. In 1995, the group merged with Lloyds Bank and was renamed Lloyds TSB; however, it was later divested from Lloyds following a European Commission ruling. A new bank, named TSB Bank, started operations in 2013 with a strong presence in Scotland, and the remainder of Lloyds TSB was renamed [Lloyds Bank plc](#) (A1 stable, a3).

On 30 June 2015, TSB was purchased by the Spanish banking group Sabadell. On 1 July 2025, Sabadell announced that its board approved the sale of TSB to Banco Santander.

Detailed credit considerations

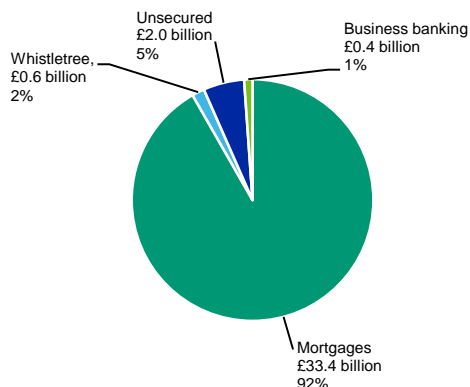
The financial data in the following sections are sourced from TSB Group's financial statements, unless otherwise stated.

High-quality retail loan portfolio, consisting mostly of prime mortgages

We assign a score of baa1 to TSB's Asset Risk, three notches below the Macro-Adjusted score reflecting the bank's low-risk loan portfolio, which consists mainly of UK prime residential mortgages. The score also reflects the constrained growth potential due to the more competitive operating environment, the bank's concentrated business model, and its evolving long-term strategy.

We view TSB's loan portfolio as relatively low risk, predominantly comprising prime mortgage loans. As of 31 December 2024, TSB's core mortgage loans represented 92% of total loans. The remaining 8% of the loan book included legacy mortgage portfolio Whistletree (2% as of year-end 2024), unsecured loans (5%) and business banking (1%). Gross loans have only slightly increase by 0.2% from £36.4 billion at year-end 2023 to £36.5 billion at year-end 2024, reflecting the competitive UK mortgage lending market.

Exhibit 3

TSB's loan portfolio
As of 31 December 2024

Source: Company financials

TSB's legacy residential mortgage portfolio Whistletree, which the bank purchased from Cerberus Capital Management Group in 2015, continues to run off, declining to £0.6 billion (2.0% of total loans) at year-end 2024 from £0.7 billion at year-end 2023. We view the Whistletree portfolio as higher risk because these loans were underwritten under a different risk appetite framework (by Northern Rock, before 2007). The Whistletree portfolio has performed within the bank's expectations, amortising by year-end 2024 to 20% of the original amount of £3 billion; however, we note that the portfolio seasoning happened during the benign credit environment.

TSB's problem loans remained broadly unchanged at £612.3 million as of 31 December 2024, resulting in a problem loan ratio to 1.68%. Moody's calculation of problem loans include purchased or originated as credit impaired (POCI) loans, which amounted to £84.1 million at year-end 2024 (£94.9 million as of year-end 2023). In 2024, the stage 2 loans decreased to £2.7 billion from £3.7 billion in 2023, and represented 7% of gross loans. The decrease in stage 2 loans is driven by ongoing loan repayments by customers, resulting in the transfer from stage 2 to stage 1.

TSB's loan loss reserves stood at £180.1 million at year-end 2024, translating into a problem loan loss coverage ratio of 29.4%. Impairment charges decreased by 56% in 2024 to £30.1 million vs. £68.3 million for year-end 2023, reflecting an improved macroeconomic outlook in 2024.

Good risk-based capitalisation, but relatively low nominal leverage

We assign an a1 Capital score to TSB, two notches below the Macro-Adjusted score. The assigned score reflects the bank's risk-based capitalisation levels, as well but also its relatively low nominal leverage.

TSB's fully loaded Common Equity Tier 1 (CET1) stood at 15.4% at year-end 2024, a slight decrease from 16.7% at year-end 2023, driven by an incremental £200 million proposed dividend to its parent, as the group continues to optimize its capital structure through the issuance of £250 million Additional Tier 1 (AT1) capital.

As of December 2024, TSB is subject to a minimum regulatory CET1 capital level of 10.6% of RWAs, including a 1.6% Pillar 2A buffer, a 2.5% capital conservation buffer, and a 2% countercyclical capital buffer.

TSB's nominal leverage, calculated under PRA's UK leverage framework (which excludes Bank of England reserves from the definition of leverage exposure) was 5.0% at year-end 2024 relative to PRA's expectation of 3.25% (TSB is not subject to the minimum leverage ratio requirement of 3.25%).

We expect TSB's risk-based capitalisation to remain well above regulatory minimum, supported by the bank's improved organic capital generation capacity. However, we expect TSB to optimise further its capital structure, as evident by the increased dividend payment to its parent during 2024.

Improved profitability driven by the high interest rate environment is still constrained by relatively weak efficiency and intense competition

We assign a ba2 score to TSB's profitability, in line with the Macro-Adjusted score. TSB's profitability has improved in the past two years, supported by the high rate environment, its relatively low cost of funding (reflective of its large retail deposit base) and low provision during 2024. The improvement also reflects the progress the bank has made in the past years on optimising its cost structure through branch closures and other budget initiatives.

However, while improved, TSB's core profitability remains weaker than most of its rated peers. At the same time the bank's growth potential was significantly constrained by the intense competition which led to only as small growth on the bank's loan book by 0.2% year on year during 2024, compared to mid-single digit growth for most of its peers.

TSB reported a record statutory profit before tax of £290.4 million in 2024, a 22% increase from £237.2 million earned in 2023. However, net interest income decreased by 4% year-over-year, to £984.4 million in 2024 from £1,022 million in 2023, driven by lower mortgage margins resulting in a decrease on the bank's interest margin to 2.21% from 2.24%. This was offset by lower operating expenses, which decreased 3.6% year-over-year to £822 million in 2024 and lower impairment charges, which decreased by 56% to £30.1 million).

TSB's cost-to-income ratio remained broadly unchanged at 70% in 2024 from 69% in 2023 (according to Moody's adjusted figures). Although, this represents a significant improvement from the higher level of 77% recorded at the end of 2022, TSB's cost-to-income ratio remains one of the weakest among Moody's rated UK retail banks.

With interest rates having peaked in 2023 and gradually declining since H2 2024, we expect the bank's profitability to remain at current levels in the next 12-18 months, as continued cost reduction measures should offset decreasing interest margins as a result of decreasing rates, benefiting from additional support from the structural hedge, as a large share of its mortgage book reprices at higher rates.

Funding profile benefits from a large retail deposit base and low reliance on wholesale funding

We assign a baa1 Funding Structure score to TSB, three notches below the Macro-Adjusted score, to reflect the bank's large retail deposit base and moderate wholesale funding reliance. TSB's deposit base represents 87% of its total funding and constitutes mostly of retail instant access savings (43% of total deposits), personal current accounts (35% of total deposits) and savings with agreed maturity (15% of total deposits). In 2024, TSB's customer deposits increased only slightly by £0.3 billion, or 0.8%, to £35.1 billion, mainly towards fixed rate savings balances as customers moved their balances towards higher interest-earning savings accounts.

TSB's wholesale funding partly consists of central bank funding: as of year-end 2024, its drawings under the Bank of England's (BOE) Term Funding Scheme with additional incentives for SMEs (TFSME) facility amounted to £1.4 billion and its borrowings under the BOE's indexed long-term repo were fully repaid in 2024.

During 2024, TSB repaid £2.6 billion of the £4.0 billion (£4.0 billion TFSME + £5 million Indexed long term repo) and successfully issued £0.9 billion of covered bonds. Most of TSB's TFSME borrowings (£797 million) will be due in 2025 and the remainder in 2027. The rest of TSB's wholesale funding at year-end 2024 was in the form of covered bonds (£3.2 billion), and £900 million of senior unsecured debt issued by TSB to its parent Sabadell. TSB also issued £300 million subordinated notes and £250 million of AT1 to Sabadell, but these obligations are not included in Moody's market funds calculation because they are longer-dated and hence pose limited refinancing risk. Since 2022, TSB also has £1.8 billion of securitized mortgages, which were mostly retained by the banks (£1.3 billion) and the remaining £0.5 billion were included in its wholesale funding.

TSB's wholesale funding, calculated as the amount of market funds (including derivatives) as a proportion of tangible banking assets, declined year-over-year, to 9.9% at year-end 2024 from 14.1% at year-end 2023, mainly resulting from the repayment of TFSME and offset partially by the replacement with covered bonds.

Liquidity profile remains strong

TSB has a strong liquidity profile, as reflected in our assigned baa2 Liquid Resources score, which is in line with the Macro-Adjusted score. TSB maintains a large liquidity portfolio, which amounted to £6.8 billion (Moody's definition) at year-end 2024, translating into a liquid assets ratio of 15.5% of tangible banking assets. The bank's liquidity coverage ratio (LCR) was 200% as of year-end 2024 relative to the PRA minimum regulatory requirement of 100%.

Qualitative adjustment and relationship with Sabadell

In aggregate, we assign a Financial Profile score of baa1 to TSB. Given that TSB's business activity has been predominantly focused on retail banking, its relatively narrow focus results in a one-notch negative qualitative adjustment in respect of business diversification, resulting in a baa2 assigned BCA.

TSB Bank's baa2 BCA exceeds the BCA of its ultimate parent, Sabadell, by one notch. This differential reflects the limited strategic and operational connections between the two institutions and the regulatory "ring-fencing" of TSB Bank in the UK.

ESG considerations

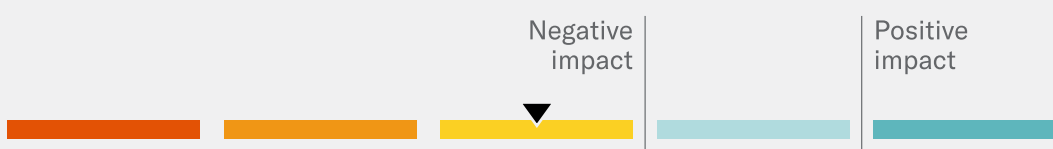
TSB Banking Group plc's ESG credit impact score is CIS-3

Exhibit 4

ESG credit impact score

CIS-3

Score



ESG considerations have a limited impact on the current rating, with potential for greater negative impact over time.

Source: Moody's Ratings

TSB Banking Group Plc's (TSB) **CIS-3** indicates that ESG considerations have a limited impact on the current rating with the potential for downward rating pressure from moderate governance risk. These reflect TSB's relatively weak profitability and efficiency, despite recent improvements, as its growth potential remains constrained due to the lack of a concentrated business model, as well as its lack of full independence due to Banco Sabadell S.A.'s ownership, partly mitigated by TSB's regulatory ring-fencing in the UK and its majority-independent Board of Directors.

Exhibit 5

ESG issuer profile scores



Source: Moody's Ratings

Environmental

TSB faces lower-than-industry exposure to environmental risks. The bank has limited exposure to carbon transition risks because its loan book is concentrated in UK residential mortgages (over 90% of the portfolio), with low exposure to unsecured and business banking loans.

Social

TSB faces high social risks from customer relations because of considerable focus on consumer protection in the UK, exposing banks to potential fines from regulators and litigation from customers as well as cyber risk and the financial and reputational implications of data breaches. The bank's developed policies and procedures help manage associated credit risks. The bank also faces moderate social risks related to potential competition from technology firms and other disruptors.

Governance

TSB faces moderate governance risks, mainly reflecting its relatively weak profitability and efficiency, despite recent improvements, as a result of the substantial progress the bank has made on its strategic plan. Nevertheless, the bank's growth potential continues to remain constrained, compared to peers, by the more competitive operating environment and the bank's concentrated business model and evolving long term strategy. TSB has substantially enhanced its risk management, policies and procedures since the challenges it experienced with migration of its IT systems to Sabadell's in 2018, which brought to light corporate governance deficiencies that subsequently resulted in management changes. In December 2022, the FCA and PRA fined TSB £48.7 million for these operational risk management and governance failures, which concluded the regulatory investigation into this matter. Finally, the score also reflects TSB's lack of independence due to Banco Sabadell S.A.'s ownership, partly mitigated by TSB's regulatory ring-fencing in the UK and its majority-independent Boards of Directors.

ESG Issuer Profile Scores and Credit Impact Scores for the rated entity/transaction are available on Moodys.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

Loss given failure (LGF) analysis and additional notching

TSB is domiciled in the UK, a jurisdiction that is subject to the European Union Bank Recovery and Resolution Directive, which we consider an operational resolution regime. We assume a residual tangible common equity (TCE) of 3% and post-failure losses of 8% of tangible banking assets, a 25% runoff in junior wholesale deposits and a 5% runoff in preferred deposits, and assign a 25% probability to deposits being preferred to senior unsecured debt. These assumptions are in line with our standard assumptions. Particular to TSB and most savings banks and building societies in the UK, we assume the proportion of deposits considered junior at 10%, relative to the standard assumption of 26%, because of their largely retail-oriented deposit base.

Our Advanced LGF analysis indicates that TSB's deposits and senior unsecured debt (none currently publicly outstanding, as all unsecured debt has been issued to Sabadell) are likely to face low loss given failure, because of the loss absorption provided by £900 million of senior unsecured, £300 million of subordinated debt as well as the newly issued £250 million Additional Tier 1 (AT1) internally issued to its parent, Sabadell, and the volume of deposits themselves. This results in a one-notch uplift for TSB's deposits and issuer rating Preliminary Rating Assessment from the bank's BCA of baa2.

TSB Group's issuer rating is likely to face a moderate loss given failure according to our Advanced LGF analysis, because of the loss absorption provided by Additional Tier 1 (AT1) instruments to parent Sabadell. This results in a baa2 preliminary rating assessment for TSB Group's issuer rating, in line with TSB's BCA.

Government support considerations

Because of the limited interconnection with other financial institutions and the relatively small size of its operations, we assume a low probability of government support for TSB's deposits and its potential senior unsecured debt, resulting in no uplift to the Preliminary Rating Assessment. The same assumption applies to the future bondholders of TSB Group because holding company creditors would be expected to bear losses, if necessary.

As a result, we assign issuer and deposit ratings of Baa1 to TSB, in line with the Preliminary Rating Assessment. We also assign a Baa2 issuer rating to TSB Group.

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 materially differ from that suggested by raw data alone (though 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		1.7%	a1	↔	baa1	Expected trend	Loan growth
Capital							
Tangible Common Equity / Risk Weighted Assets (Basel III - fully loaded)		18.2%	aa2	↓↓	a1	Expected trend	Nominal leverage
Profitability							
Net Income / Tangible Assets		0.4%	ba2	↑	ba2	Earnings quality	
Combined Solvency Score			a2		baa1		
Liquidity							
Funding Structure							
Market Funds / Tangible Banking Assets		9.9%	a1	↔	baa1	Deposit quality	
Liquid Resources							
Liquid Banking Assets / Tangible Banking Assets		15.5%	baa2	↔	baa2		
Combined Liquidity Score			a3		baa1		
Financial Profile			a2		baa1		
Qualitative Adjustments					Adjustment		
Business Diversification					-1		
Opacity and Complexity					0		
Corporate Behavior					0		
Total Qualitative Adjustments					-1		
Sovereign or Affiliate constraint					-		
BCA Scorecard-indicated Outcome - Range					baa1 - baa3		
Assigned BCA					baa2		
Affiliate Support notching					-		
Adjusted BCA					baa2		
Balance Sheet							
			in-scope (GBP Million)	% in-scope	at-failure (GBP Million)	% at-failure	
Other liabilities			6,128	13.9%	8,582	19.5%	
Deposits			35,051	79.8%	32,598	74.2%	
Preferred deposits			31,546	71.8%	29,969	68.2%	
Junior deposits			3,505	8.0%	2,629	6.0%	
Senior unsecured holding company debt			900	2.0%	900	2.0%	
Dated subordinated holding company debt			300	0.7%	300	0.7%	
Preference shares(holding company)			250	0.6%	250	0.6%	
Equity			1,318	3.0%	1,318	3.0%	
Total Tangible Banking Assets			43,948	100.0%	43,948	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 + ordination subordination	Sub- ordination	Instrument volume + ordination subordination	Sub- ordination	De Jure	De Facto				
Counterparty Risk Rating	12.3%	12.3%	12.3%	12.3%	3	3	3	3	0	a2
Counterparty Risk Assessment	12.3%	12.3%	12.3%	12.3%	3	3	3	3	0	a2 (cr)
Deposits	12.3%	6.3%	12.3%	6.3%	1	1	1	1	0	baa1
Senior unsecured bank debt	12.3%	6.3%	6.3%	6.3%	1	0	1	-	-	-
Senior unsecured holding company debt	6.3%	4.3%	6.3%	4.3%	0	0	0	0	0	baa2

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	a2	0	A2 RUR Possible Upgrade	A2 RUR Possible Upgrade
Counterparty Risk Assessment	3	0	a2 (cr)	0	A2(cr) RUR Possible Upgrade	
Deposits	1	0	baa1	0	Baa1 RUR Possible Upgrade	
Senior unsecured bank debt	-	-	-	0	Baa1 RUR Possible Upgrade	
Senior unsecured holding company debt	0	0	baa2	0	Baa2 RUR Possible Upgrade	

[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
TSB BANKING GROUP PLC	
Outlook	Rating(s) Under Review
Issuer Rating -Dom Curr	Baa2 ¹
PARENT: BANCO DE SABADELL, S.A.	
Outlook	Positive
Counterparty Risk Rating	A3/P-2
Bank Deposits	Baa1/P-2
Baseline Credit Assessment	baa3
Adjusted Baseline Credit Assessment	baa3
Counterparty Risk Assessment	A3(cr)/P-2(cr)
Senior Unsecured MTN -Dom Curr	(P)Baa2
Senior Subordinate -Dom Curr	(P)Baa3
TSB BANK PLC	
Outlook	Rating(s) Under Review
Counterparty Risk Rating	A2/P-1 ²
Bank Deposits -Dom Curr	Baa1/P-2 ²
Baseline Credit Assessment	baa2 ¹
Adjusted Baseline Credit Assessment	baa2 ¹
Counterparty Risk Assessment	A2(cr)/P-1(cr) ²
Issuer Rating -Dom Curr	Baa1 ¹

[1] Placed under review for possible upgrade on July 4 2025 [2] Rating(s) within this class was/were placed on review on July 4 2025

Source: Moody's Ratings

Endnotes

1 The bank ratings indicated in this report are the deposit and senior unsecured debt ratings with their outlook, and the BCA.

© 2025 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 Moody's Investors Service, Inc. for credit ratings opinions and services rendered by it. MCO and all MCO entities that issue ratings under the "Moody's Ratings" brand name ("Moody's Ratings"), also maintain policies and procedures to address the independence of Moody's Ratings' 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 ir.moody.com under the heading "Investor Relations — Corporate Governance — Charter and Governance 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 61 003 399 657 AFSL 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 and Net Zero Assessments (as defined in Moody's Ratings Rating Symbols and Definitions): Please note that neither a Second Party Opinion ("SPO") nor a Net Zero Assessment ("NZA") is a "credit rating". The issuance of SPOs and NZAs is not a regulated activity in many jurisdictions, including Singapore. JAPAN: In Japan, development and provision of SPOs and NZAs 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.

REPORT NUMBER 1454490

CLIENT SERVICES

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