

CREDIT OPINION

28 August 2026

Update



Send Your Feedback

RATINGS

Permanent TSB Group Holdings plc

Domicile	Dublin, Ireland
Long Term CRR	Not Assigned
Long Term Debt	Baa1
Type	Senior Unsecured - Dom Curr
Outlook	Positive
Long Term Deposit	Not Assigned

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

Daniella Aruina +44.20.7772.1081
 AVP-Ratings
 daniella.aruina@moody's.com

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

Niclas Boheman +46.8.5179.1281
 VP-Ratings
 niclas.boheman@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

Permanent TSB Group Holdings plc

Update following outlook change to positive

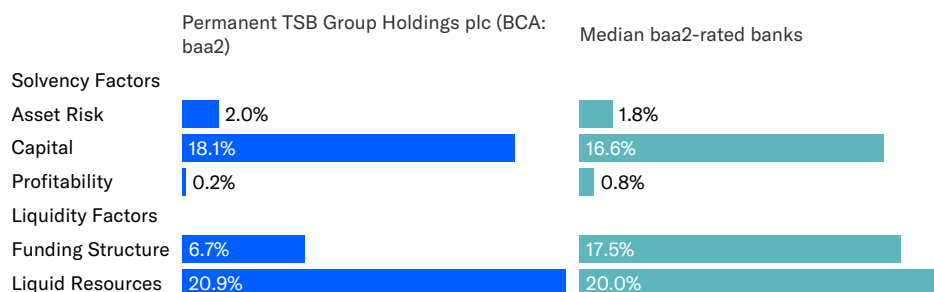
Summary

[Permanent tsb p.l.c.](#)'s (PTSB) deposit and senior unsecured debt ratings are A1 and [Permanent TSB Group Holdings plc](#)'s (PTSBC) senior unsecured debt rating is Baa1. These ratings reflect (1) the bank's Baseline Credit Assessment (BCA) of baa2; (2) the results of our Advanced Loss Given Failure (LGF) analysis, which results in three notches of uplift from the BCA for both PTSB's deposit and senior unsecured debt ratings, and one notch uplift for PTSBC's senior unsecured rating; and (3) our expectation of a moderate level of government support, which results in an additional one-notch of uplift for PTSB's deposit and senior unsecured debt ratings. PTSB's Counterparty Risk (CR) Assessments are A1(cr)/Prime-1(cr) and CR Ratings (CRR) are A1/Prime-1.

PTSB's baa2 BCA reflects its improved asset risk and solid capitalisation levels, improving profitability, broadly stable funding profile and moderate liquidity levels. PTSB's largely monoline business model is also a key driver of the bank's BCA.

Exhibit 1

Rating Scorecard — Key financial ratios



The scorecard ratio calculations are presented in the "Rating methodology and scorecard factors" section.

Source: Moody's Ratings

Credit strengths

- » Sound capital levels, which provide a loss-absorbing cushion against asset stress
- » Significantly improved risk profile, underpinned by high reserve levels
- » Profitability will be supported by new lending growth and improving operational efficiency
- » Broadly stable funding profile and moderate level of high-quality liquid resources

Credit challenges

- » Weak efficiency versus higher-rated peers
- » Still largely monoline business model heightens exposure to the Irish housing sector and property prices
- » Managing asset risk as the bank expands into higher-risk lending segments

Outlook

The positive outlook on PTSBG's long-term senior unsecured debt and issuer ratings reflects our expectation of the potential affiliate support uplift based on [BAWAG P.S.K. AG's](#) (BAWAG, A1 stable, baa1 BCA) standalone credit fundamentals and the unchanged assumption of the low level of government support provided by the [Government of Ireland](#) (Ireland, Aa2 positive) for these rating classes if the transaction concludes.

The positive outlook on PTSB's long-term deposit ratings reflects our expectation of the potential affiliate support uplift based on BAWAG's standalone credit fundamentals and our expectation that the one-notch government support uplift on this rating class would remain unchanged.

Factors that could lead to an upgrade

- » PTSB's BCA could be upgraded if its profitability sustainably improves and the bank demonstrates good control over the cost of risk as it grows and expands its business banking offering. A successful acquisition by BAWAG will likely lead to an upgrade of the Adjusted BCA by one notch.
- » PTSBG's long-term senior unsecured, senior unsecured MTN programme and long-term issuer ratings could be upgraded following the completion of the acquisition by BAWAG due to a higher Adjusted BCA.
- » PTSB's long-term deposit ratings could be upgraded following the completion of the acquisition by BAWAG due to a likely upgrade of PTSB's Adjusted BCA.
- » PTSB's senior unsecured MTN program rating is unlikely to be upgraded in the absence of tangible evidence that the bank's liability structure will include sufficient subordination and senior unsecured debt volume to support our current loss severity assessment in light of the upcoming depositor preference.

Factors that could lead to a downgrade

- » PTSB's deposit ratings could be downgraded if the bank's BCA is downgraded.
- » PTSB's BCA could be downgraded if its core profitability declines significantly due to rising asset risk pressures, reducing capital generation.
- » PTSB's senior secured MTN program rating could be downgraded if its subordination declines beyond the current level.

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

Permanent TSB Group Holdings plc (Consolidated Financials) [1]

	06-26 ²	12-25 ²	12-24 ²	12-23 ²	12-22 ²	CAGR/Avg. ³
Total Assets (EUR Million)	30,534.0	30,465.0	28,932.0	27,755.0	25,933.0	4.8 ⁴
Total Assets (USD Million)	34,909.6	35,779.7	29,959.0	30,659.7	27,676.9	6.9 ⁴
Tangible Common Equity (EUR Million)	1,832.0	1,813.2	1,769.8	1,676.5	1,662.1	2.8 ⁴
Tangible Common Equity (USD Million)	2,094.6	2,129.5	1,832.6	1,852.0	1,773.8	4.9 ⁴
Problem Loans / Gross Loans (%)	1.4	1.4	1.8	3.4	3.3	2.2 ⁵
Tangible Common Equity / Risk Weighted Assets (%)	18.1	16.6	15.4	14.5	14.5	15.8 ⁶
Problem Loans / (Tangible Common Equity + Loan Loss Reserve) (%)	15.0	14.4	17.7	32.0	29.8	21.8 ⁵
Net Interest Margin (%)	2.0	1.9	2.0	2.1	1.5	1.9 ⁵
PPI / Average RWA (%)	1.1	0.8	0.8	1.1	0.0	0.7 ⁶
Net Income / Tangible Assets (%)	0.2	0.4	0.4	0.1	0.8	0.4 ⁵
Cost / Income Ratio (%)	82.6	84.8	86.3	80.8	100.5	87.0 ⁵
Gross Loans / Due to Customers (%)	88.4	87.0	89.2	93.2	91.1	89.8 ⁵
Core Banking Liquidity (HQLA) / Tangible Banking Assets (%)	--	20.9	18.2	--	--	--
Less-stable Funds (LCR) / Tangible Banking Assets (%)	--	6.7	6.9	--	--	--

[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.

Further to the publication of our revised methodology in November 2025, only ratios from annual 2024 onwards included in this report apply reported risk weights for all exposures, discontinuing our previously applied standard adjustment for certain government securities.

Sources: Moody's Ratings and company filings

Profile

[Permanent tsb p.l.c.](#)'s (PTSB, A1 positive, baa2) is an Irish retail bank based in Dublin. Its products and services include deposit accounts, current accounts, personal loans, mortgages, credit cards, SME lending and asset finance. As of June 2026, PTSBG's asset share among Irish-headquartered credit institutions was 8% (based on its total consolidated assets of €30.5 billion) and its reported mortgage market share¹ as of June 2026 was 19% (H1 2025: above 20%).

On 14 April 2026, PTSBG announced that it had agreed to a potential acquisition by Austria's [BAWAG P.S.K. AG](#) (BAWAG, A1 stable, baa1) for a total cash consideration of €1.6 billion, equivalent to around 0.82x PTSBG's tangible book value. The transaction is subject to regulatory and other approvals, and the parties expect it to complete in the fourth quarter of 2026 or the first quarter of 2027. Following completion, PTSBG would be delisted and become a wholly owned subsidiary of BAWAG. The offer has been accepted by PTSBG's board and supported by the Irish Minister for Finance, which currently holds 57% of PTSBG's shares, and has also been approved by PTSBG's shareholders.

Detailed credit considerations

Significantly improved risk profile, underpinned by high reserve levels

We assign a baa1 Asset Risk score that reflects our Problem Loans to Gross Loans ratio of 2.0%, which we consider to be Strong, and is adjusted for tail risk from PTSB's expansion into higher-risk SME and Asset Finance lending. In the 12 months ending 30 June 2026, PTSB's Business Banking book, which includes SME and Asset Finance, increased by 11%, primarily due to growth in Asset Finance lending, increasing the bank's residual value-related risks.

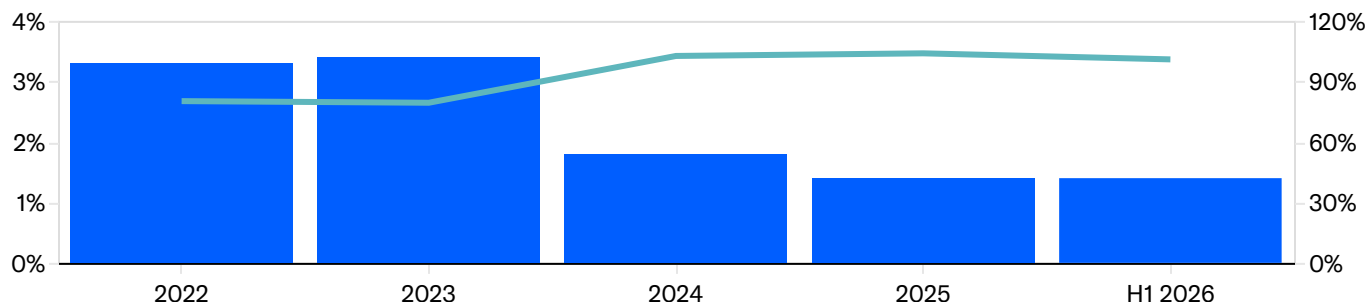
The bank still maintains its medium-term commitment to a low single-digit non-performing loans (NPL) ratio. PTSB has made significant progress in improving its asset quality in recent years through workouts, NPL portfolio sales and securitisations. As of June 2026, problem loans remained flat at 1.4% as compared to December 2025. Stage 2 loans increased slightly to 12.8% of gross loans from 11.9% as of over the same period.

PTSB maintains a high level of loan-loss reserves, which were 100.9% of problem loans as of June 2026 (103.9% as of year-end 2025).

Exhibit 3

Problem loans are at all-time lows and are supported by high provisioning levels

■ Problem loan ratio (LHS) — Problem loan coverage (RHS)



Notes: Problem loan coverage: loan loss reserves % problem loans.
Sources: Moody's Ratings

Sound capital levels, which provide a loss-absorbing cushion against asset stress

We assign an a3 Capital score that reflects our Tangible Common Equity (TCE) to Risk Weighted Assets (RWA) ratio of 18.1%, which we consider Strong, and is adjusted for RWA recognition under the internal ratings-based (IRB) approach, as well as our expectation of PTSB's capital declining marginally as its loan book grows.

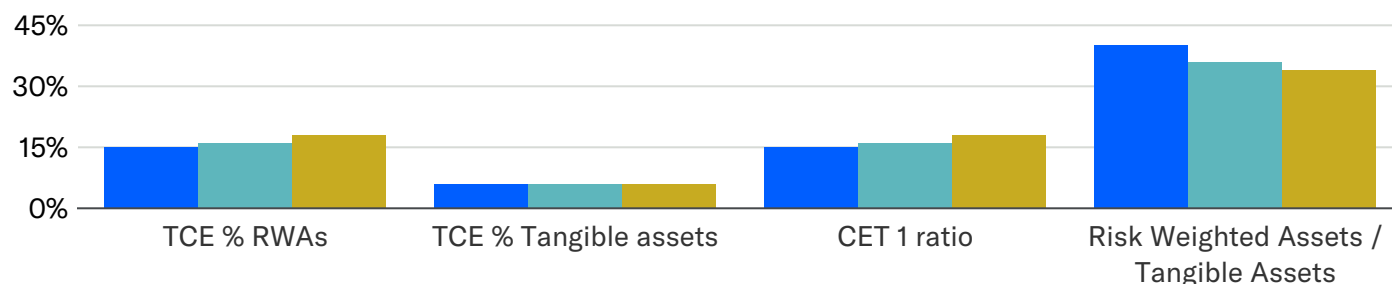
In January 2026, PTSB announced that it had received an approval from the Central Bank of Ireland to implement its IRB mortgage models, effective 30 January 2026. The new models had a 150 basis point (bps) positive impact on bank's pro-forma December 2025 CET1 ratio.

As of June 2026, the bank's reported CET1 ratio was 17.7%, up from the pro-forma CET1 ratio of 17.5% as of December 2025. The increase was driven by organic capital generation, partly offset by loan growth and Additional Tier 1 (AT1) coupon. The bank's minimum CET1 requirement with fully phased-in capital buffers was 10.69% as of H1 2026, in line with year-end 2025.

Exhibit 4

PTSB's H1 2026 capital ratios benefitted from the new IRB mortgage models

■ 2024 ■ 2025 ■ H1 2026



Notes: TCE: Tangible Common Equity/Risk weighted assets and is calculated as ((Tangible common equity – Deferred tax assets) + minimum (Deferred tax assets, 11.1% * (Tangible common equity – Deferred tax assets))) / Risk-weighted assets TCE/Tangible assets or Nominal leverage: tangible common equity % of tangible assets. Tangible assets = Total assets minus goodwill and other intangible assets.

Source: Moody's Ratings

Profitability will be supported by new lending growth and improving operational efficiency

We assign a ba2 Profitability score that reflects our Net Income to Tangible Assets ratio of 0.2%, which we consider to be Weak, and is adjusted for our expectation of profitability improving, offset by a negative adjustment for PTSB's earnings volatility.

We expect PTSB's revenue generation and profitability to increase due to new lending and cost optimisation as a result of the ongoing digitisation initiatives. Revenue from growing SME and asset finance lending will support sustained margin and fee income growth in the coming years. At the same time, PTSB's earnings have remained volatile, with the bank's earnings volatility ratio² exceeding 50% as of June 2026, partly due to PTSB's weak, albeit improving, cost efficiency, as reflected in its reported cost-to-income ratio of 71% as of June 2026 (76% as of June 2025).

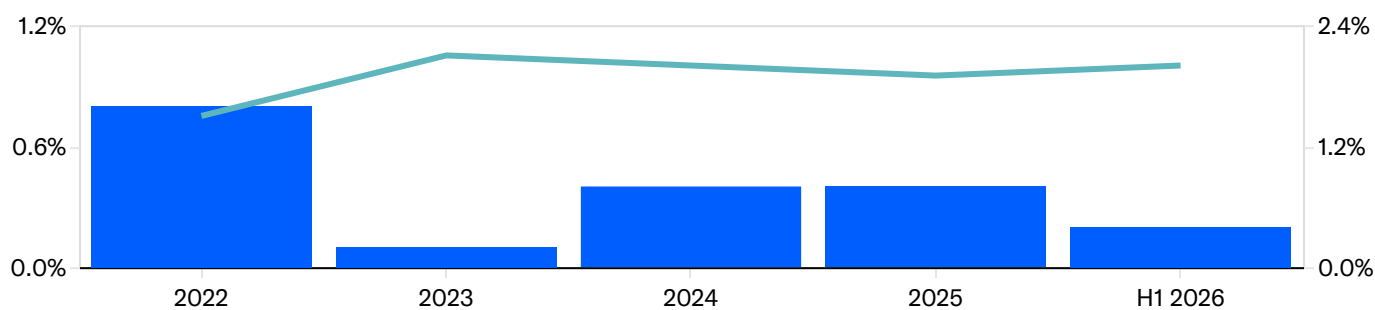
On a Moody's-adjusted basis, the bank made profits of €35 millions in H1 2026, up 57% from H1 2025. The increase was driven by higher net interest income, supported by loan book growth and lower funding costs, as well as by reduced operating expenses. The bank also recorded a net impairment charge of €6 million compared to a nil charge during the first half of 2026, reflecting current economic headwinds.

In line with peers, PTSB is focusing on upgrading their technology, increasing the use of digital platforms, as well as optimising headcount and branches to accommodate customers' evolving preferences to engage digitally. We expect PTSB's profitability to improve over the next 12-18 months, driven by the digitisation and cost optimisation initiatives, the positive impact of the new IRB model and higher earnings growth from the bank's larger and more diversified loan book.

Exhibit 5

PTSB's profits have been volatile due to weak cost efficiency

■ Net income % Tangible assets (LHS) — NIM (RHS)



Notes: NIM: net interest margin.

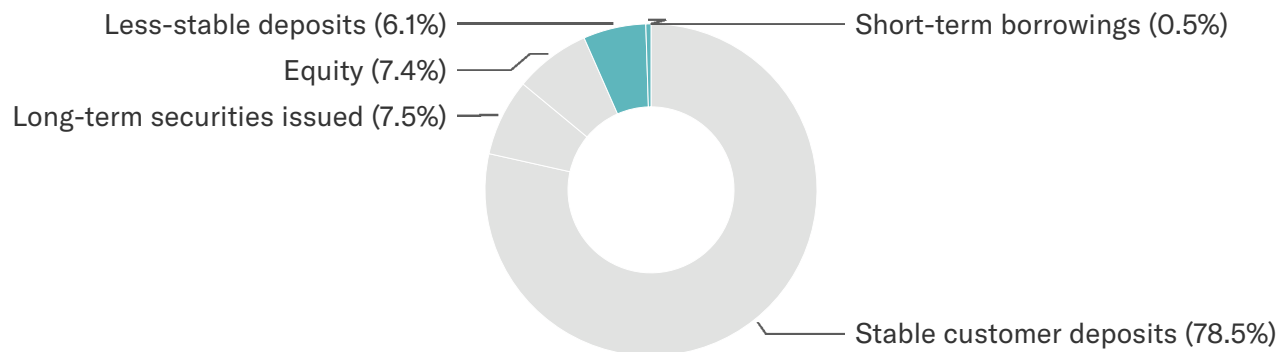
Sources: Moody's Ratings

Broadly stable funding profile with ample stable deposits

We assign an aa3 Funding Structure score that reflects our Less-stable Funds to Tangible Banking Assets ratio of 6.7%, which we consider to be Very Strong, and is adjusted for our expectation of PTSB's less-stable funds relative to tangible banking assets marginally increasing.

PTSB's share of customer deposits relative to total funding has increased to 91% as of end-June 2026, from 69% as of end-December 2015. These customer deposits are primarily retail-sourced and considered less confidence-sensitive. The reported gross loan-to-deposit (LtD) ratio has been steadily improving and stood at 88% as of end-June 2026, down from 111% as of December 2016. Looking ahead, we expect the LtD ratio to increase due to higher lending growth.

Exhibit 6

Stable customer deposits support PTSB's funding profile

Notes: Less-stable funds comprise short-term borrowings and less-stable deposits. Short-term borrowings include all short-term wholesale borrowings, including the portion of long-term debt that matures in less than one year. For banks that report LCR, we calculate Less-stable deposits as follows: the sum of weighted deposit outflow components as reported in the bank's LCR disclosure.

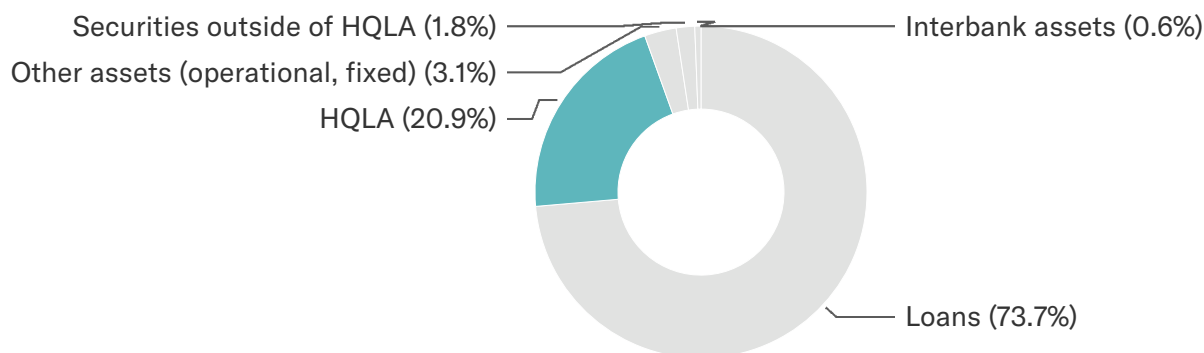
Sources: Moody's Ratings

Moderate level of high-quality liquid resources

We assign an a3 Liquid Resources score that reflects our Core Banking Liquidity (CBL) to Tangible Banking Assets ratio of 20.9%, which we consider to be Moderate, to reflect our expectation of the level of PTSB's liquid resources declining only marginally due to lending growth.

The bank's CBL increased by c.270 bps in 2025 from 18.2% as of December 2024, largely due to an increase in investment securities, which mostly comprise Irish and other European government bonds. In the first half of 2026, PTSB's liquidity coverage ratio was 250%, down from 277% as of December 2025, but still very high.

Exhibit 7

Loans dominate PTSB's asset base, with HQLA comprising the bulk of liquid resources

Notes: For banks that report high quality liquid assets (HQLA), we use HQLA, as reported in the bank's financial statements or regulatory reports, as the numerator of the core banking liquidity ratio.

Sources: Moody's Ratings

Macro Profile

We assign a Strong + Macro Profile to PTSBG, reflecting its large exposure to [Ireland](#).

Business and geographic diversification

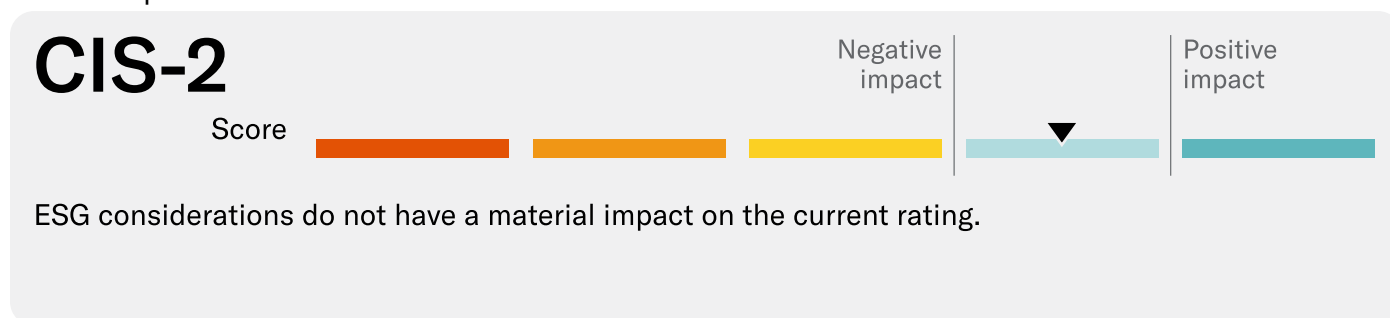
We assign a BCA of baa2 that includes a minus one qualitative adjustment for Business and Geographic Diversification because PTSB derives the majority its revenue from mortgage lending. A bank with a single line of business is highly vulnerable to shocks because it cannot fall back on other income streams. Hence, we consider a bank with monoline activities to be weaker than a bank with diverse businesses.

ESG considerations

Permanent TSB Group Holdings plc's ESG credit impact score is CIS-2

Exhibit 8

ESG credit impact score

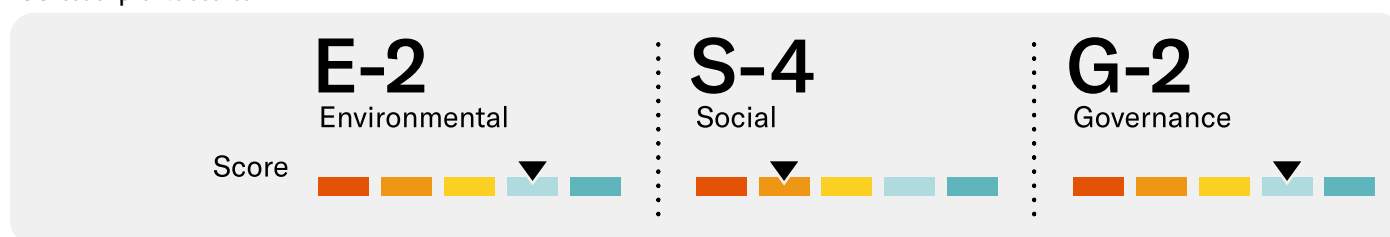


Source: Moody's Ratings

Permanent TSB Group Holdings plc (PTSB)'s **CIS-2** indicates that ESG considerations do not have material impact on the current rating. In particular, governance risks are low, supported by sound capital, liquidity and risk management.

Exhibit 9

ESG issuer profile scores



Source: Moody's Ratings

Environmental

PTSB faces lower-than-industry-average exposure to environmental risks. The bank has limited exposure to carbon transition risks because its loan book is concentrated in Irish residential mortgages and it has negligible exposure to the corporate sector.

Social

PTSB faces high social risks from customer relations, exposing banks to potential fines from regulators and litigation from customers, as well as from cyber risk and the financial and reputational implications of data breaches. Fines in relation to tracker mortgages have so far been contained with no lasting effect on the franchise. The bank's developed policies and procedures help manage associated credit risks.

Governance

PTSB's governance risk is low. The bank's risk management, policies and procedures are in line with industry best practices and are suitable for its risk appetite. PTSB is majority-owned by the Irish government, which we consider a passive shareholder, as reflected in the diversified composition of the bank's board of directors. Ireland's developed institutional framework and the relationship

management agreement in place between the Minister of Finance and PTSB ensures independence and mitigates associated governance risks.

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

PTSB is domiciled in country Ireland, which we consider an operational resolution regime (ORR). Thus, we apply our advanced Loss Given Failure (LGF) analysis. We assume the proportion of deposits considered junior at 10%, below our standard assumption of 26%, because of the bank's largely retail-oriented depositor base. Our Advanced LGF analysis also reflects the fact that full depositor preference over senior debt creditors will be implemented in the EU by early 2028, which is reflected in the "de facto" notching in the scorecard below.

Using historical data as of June 2026, our LGF analysis indicates that PTSB's deposits and senior unsecured ratings are likely to face extremely low loss given failure, yielding three notches of uplift from the bank's baa2 Adjusted BCA. However, with the introduction of full depositor preference in Ireland, we expect PTSB's senior unsecured debt to face very low loss given failure. This would result in a two-notch uplift from PTSB's Adjusted BCA in the absence of tangible evidence that the bank's liability structure will include sufficient subordination and senior unsecured debt volume to support our current loss severity assessment in light of the upcoming depositor preference.

Our approach reflects the fact that the holding company has been required to issue significant volumes of external loss-absorbing capacity and that the main material subsidiaries in operational resolution regimes have been required to issue internal loss-absorbing capital to the holding company. Our approach also takes into account our view that PTSBG has adopted a resolution strategy with a credible mechanism for passing on losses to PTSBG from subsidiaries.

Government support considerations

We incorporate a Moderate probability of government support for the PTSB's deposits and senior unsecured debt, which results in one notch of uplift for both. The moderate assumption of government support reflects the bank's much-improved performance, completion of the European Commission restructuring plan in 2018, the successful inaugural MREL bond issuance in September 2019 and the bank's improving franchise position following the exit of UBIDAC and KBC Bank Ireland resulting in a more concentrated Irish banking system.

For junior securities and holding company instruments, we continue to believe that the potential for government support is low and these ratings do not, therefore, include any related uplift.

Methodology and scorecard

About Moody's Bank Scorecard

Our Bank Scorecard is designed to capture, express and explain in summary form our Rating Committee's judgment. When read in conjunction with our research, a fulsome presentation of our judgment is expressed. As a result, the output of our scorecard may materially differ from that suggested by unadjusted accounting 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 10

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		2.0%	a1	↓	baa1	Expected trend	Asset Composition
Capital							
Tangible Common Equity / Risk Weighted Assets (Basel III - fully loaded)		18.1%	aa3	↓↓	a3	Expected trend	Recognition of risk-weighted assets
Profitability							
Net Income / Tangible Assets		0.2%	b1	↑↑	ba2	Expected Trend	Earnings volatility
Combined Solvency Score			a3		baa2		
Liquidity							
Funding Structure							
Less-stable Funds / Tangible Banking Assets		6.7%	aa2	↓	aa3	Expected Trend	
Liquid Resources							
Core Banking Liquidity / Tangible Banking Assets		20.9%	a3	↔	a3	Expected trend	
Combined Liquidity Score			a1		a1		
Financial Profile			a2		baa1		
Qualitative Adjustments					Adjustment		
Business and Geographic Diversification					-1		
Complexity and Opacity					0		
Strategy, Risk Appetite and Governance					0		
Total Qualitative Adjustments					-1		
Sovereign or Affiliate constraint					Aa2		
BCA Scorecard-indicated Outcome - Range					baa1 - baa3		
Assigned BCA					baa2		
Affiliate Support notching					0		
Adjusted BCA					baa2		
Balance Sheet			in-scope (EUR Million)	% in-scope	at-failure (EUR Million)	% at-failure	
Other liabilities			1,517	5.0%	4,132	13.7%	
Deposits			25,633	84.7%	23,018	76.1%	
Preferred deposits			18,968	62.7%	18,020	59.6%	
Junior deposits			6,665	22.0%	4,998	16.5%	
Senior unsecured holding company debt			1,650	5.5%	1,650	5.5%	
Dated subordinated holding company debt			300	1.0%	300	1.0%	
Preference shares(holding company)			250	0.8%	250	0.8%	
Equity			908	3.0%	908	3.0%	
Total Tangible Banking Assets			30,258	100.0%	30,258	100.0%	

Debt Class	De Jure waterfall		De Facto waterfall		Notching		LGF	Assigned	Additional	Preliminary
	Instrument	Sub-	Instrument	Sub-	De Jure	De Facto	Notching	LGF		
	volume + ordination	subordination	volume + ordination	subordination			Guidance vs. Adjusted BCA	notching	Notching	Rating Assessment
Counterparty Risk Rating	26.8%	26.8%	26.8%	26.8%	3	3	3	3	0	a2
Counterparty Risk Assessment	26.8%	26.8%	26.8%	26.8%	3	3	3	3	0	a2 (cr)
Deposits	26.8%	10.3%	26.8%	10.3%	3	3	3	3	0	a2
Senior unsecured bank debt	26.8%	10.3%	10.3%	10.3%	3	2	2	3	0	a2
Senior unsecured holding company debt	10.3%	4.8%	10.3%	4.8%	1	1	1	1	0	baa1
Dated subordinated bank debt	4.8%	3.8%	4.8%	3.8%	-1	-1	-1	-1	0	baa3
Dated subordinated holding company debt	4.8%	3.8%	4.8%	3.8%	-1	-1	-1	-1	0	baa3
Holding company non-cumulative preference shares	3.8%	3.0%	3.8%	3.0%	-1	-1	-1	-1	-2	ba2

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	1	A1	A1
Counterparty Risk Assessment	3	0	a2 (cr)	1	A1(cr)	
Deposits	3	0	a2	1	A1	A1
Senior unsecured bank debt	3	0	a2	1	(P)A1	
Senior unsecured holding company debt	1	0	baa1	0	Baa1	
Dated subordinated bank debt	-1	0	baa3	0	(P)Baa3	
Dated subordinated holding company debt	-1	0	baa3	0	Baa3	
Holding company non-cumulative preference shares	-1	-2	ba2	0	Ba2 (hyb)	

[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 11

Category	Moody's Rating
PERMANENT TSB GROUP HOLDINGS PLC	
Outlook	Positive
Issuer Rating -Dom Curr	Baa1
Senior Unsecured -Dom Curr	Baa1
Subordinate -Dom Curr	Baa3
Pref. Stock Non-cumulative -Dom Curr	Ba2 (hyb)
Other Short Term -Dom Curr	(P)P-2
PERMANENT TSB P.L.C.	
Outlook	Positive
Counterparty Risk Rating	A1/P-1
Bank Deposits	A1/P-1
Baseline Credit Assessment	baa2
Adjusted Baseline Credit Assessment	baa2
Counterparty Risk Assessment	A1(cr)/P-1(cr)
Senior Unsecured MTN -Dom Curr	(P)A1
Subordinate MTN -Dom Curr	(P)Baa3
Other Short Term -Dom Curr	(P)P-1

Source: Moody's Ratings

Endnotes

- 1 Stock mortgages.
- 2 We calculate the earnings stability ratio as a standard deviation from the mean ratio of pre-provision earnings to tangible assets for a five-year period divided by the five-year mean of the ratio of pre-provision earnings to tangible assets.

© 2026 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 LEGAL, COMPLIANCE, INVESTMENT, FINANCIAL OR OTHER PROFESSIONAL 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 or assessment 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 or assessment 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 or assessment 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., Moody's Local PA Clasificadora de Riesgo S.A., Moody's Local CR Clasificadora de Riesgo S.A., Moody's Local ES S.A. de CV Clasificadora de Riesgo, Moody's Local RD Sociedad Clasificadora de Riesgo S.R.L. and Moody's Local GT 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.

EU: In the European Union, each of Moody's Deutschland GmbH and Moody's France SAS provide services as an external reviewer in accordance with the applicable requirements of the EU Green Bond Regulation. 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 1494735

CLIENT SERVICES

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