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CREDIT OPINION
22 November 2023

Update

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RATINGS

Landesbank Baden-Wuerttemberg

Domicile	Stuttgart, Germany
Long Term CRR	Aa3
Type	LT Counterparty Risk Rating - Fgn Curr
Outlook	Not Assigned
Long Term Debt	Aa3
Type	Senior Unsecured - Dom 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.

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Landesbank Baden-Wuerttemberg

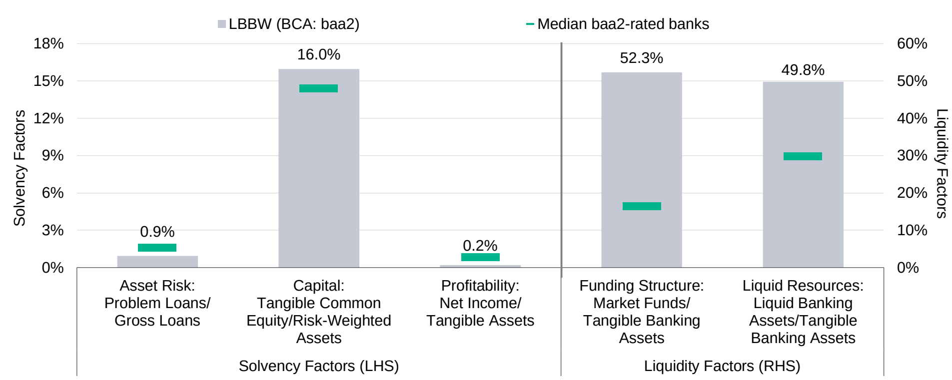
Update to credit analysis

Summary

Landesbank Baden-Wuerttemberg's (LBBW) Aa3(stable)/P-1 deposit and senior unsecured debt ratings reflect the bank's baa2 Baseline Credit Assessment (BCA), a one-notch rating uplift from its membership in the institutional protection scheme of Sparkassen-Finanzgruppe (S-Finanzgruppe; Aa2 stable, a2[1]), resulting in a baa1 Adjusted BCA, three notches of rating uplift from our Advanced Loss Given Failure (LGF) analysis to its liabilities, which incorporates the relative loss severity of a liability class, and a one-notch rating uplift resulting from government support, given its membership in systemically relevant S-Finanzgruppe.

LBBW's baa2 BCA reflects the bank's strong asset-quality metrics, solid capitalisation and highly liquid balance sheet. The BCA further takes into account LBBW's subdued profitability metrics in an international context and its substantial dependence on confidence-sensitive wholesale funding. The BCA also reflects the inherent concentration risks of LBBW's significant exposures to energy-intensive industries and cyclical sectors like the automotive industry and commercial real estate (CRE).

Exhibit 1
Rating Scorecard - Key financial ratios



Sources: Company filings and Moody's Investors Service

Credit strengths

» Low problem loan ratio, which partly reflects the benign economic environment prior to and the support provided by the German and other governments during the coronavirus pandemic and the geopolitical crisis in Ukraine.

» High coverage ratio and solid capitalisation, which provide a substantial buffer against downside risks.

» Sound liquidity balances and access to savings bank sector funding.

Credit challenges

» Risk concentrations in cyclical sectors, such as CRE and the automotive industry, as well as substantial exposures to energy-intensive industries.

» Subdued profitability and efficiency metrics in an international context.

» Significant dependence on confidence-sensitive capital market funding.

Outlook

The stable rating outlook reflects our view that LBBW's current intrinsic financial strength will remain broadly unchanged over the outlook horizon and that LBBW will be able to issue sufficient volumes of bail-in-able liabilities, securing the currently assigned rating uplift resulting from our Advanced LGF analysis.

Factors that could lead to an upgrade

» An upgrade of LBBW's senior unsecured debt and deposit ratings would be subject to an upgrade of its BCA because these ratings already benefit from the highest possible rating uplift from our Advanced LGF analysis.

» Upward pressure on LBBW's BCA could be triggered by a reduction in cyclical sector concentrations and continued low problem loan formation, because of strengthened capitalisation or a significant and sustainable improvement in profitability.

Factors that could lead to a downgrade

» A downgrade of LBBW's ratings could result from a multi-notch downgrade of its BCA; developments within S-Finanzgruppe that would trigger a reduction in our sector support assumptions; or lower results from our Advanced LGF analysis.

» Downward pressure on LBBW's BCA could result from a significant deterioration in its overall credit profile, especially if caused by an outsized increase in problem loan formation, an unexpected and sustained weakening in the bank's capital adequacy metrics, and a weakening of its funding and liquidity.

» In addition, LBBW's ratings could be downgraded if the volume of instruments that are designed to be loss absorbing in resolution decreases compared with the bank's tangible banking assets because this could result in fewer notches of rating uplift from our Advanced LGF analysis.

Key indicators

Exhibit 2
Landesbank Baden-Wuerttemberg (Consolidated Financials) [1]

	06-23[2]	12-22[2]	12-21[2]	12-20[2]	12-19[2]	CAGR/Avg.[3]
Total Assets (EUR Billion)	349.7	308.5	267.4	255.0	237.4	11.7[4]
Total Assets (USD Billion)	381.5	329.2	303.0	312.0	266.5	10.8[4]
Tangible Common Equity (EUR Billion)	14.9	14.7	13.2	13.0	12.7	4.7[4]
Tangible Common Equity (USD Billion)	16.3	15.7	15.0	15.9	14.3	3.8[4]
Problem Loans / Gross Loans (%)	0.9	0.8	0.9	0.9	1.0	0.9[5]
Tangible Common Equity / Risk Weighted Assets (%)	16.0	15.7	15.7	15.8	15.8	15.8[6]
Problem Loans / (Tangible Common Equity + Loan Loss Reserve) (%)	8.1	7.2	6.9	6.7	7.1	7.2[5]
Net Interest Margin (%)	0.9	0.8	0.7	0.7	0.7	0.8[5]
PPI / Average RWA (%)	1.7	2.4	1.0	1.0	1.1	1.4[6]
Net Income / Tangible Assets (%)	0.3	0.3	0.2	0.1	0.2	0.2[5]
Cost / Income Ratio (%)	62.0	52.4	71.0	69.6	69.2	64.8[5]
Market Funds / Tangible Banking Assets (%)	52.8	52.3	54.9	52.4	49.9	52.5[5]
Liquid Banking Assets / Tangible Banking Assets (%)	54.2	49.8	52.8	52.8	50.3	52.0[5]
Gross Loans / Due to Customers (%)	117.5	131.9	124.0	116.1	122.8	122.5[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 Investors Service and company filings

Profile

LBBW is a German universal bank, providing retail and commercial banking, leasing, factoring, asset management, real estate, capital market, and equity and project finance services, either directly or through its subsidiaries. The LBBW Group comprises LBBW, the regional client bank BW-Bank, and, since 1 July 2022, the CRE lender Berlin Hyp AG (Berlin Hyp; Aa3 stable, Aa3 stable, ba1[2]). As of 30 June 2023, the group reported consolidated assets of €364.1 billion and employed 10,158 staff. The bank is designated an “other systemically important institution” (O-SII) by the German regulator BaFin, because of its relatively high interconnectedness and complexity.

LBBW also acts as the central bank for savings banks in Baden-Wuerttemberg, Rhineland-Palatinate, and Saxony, which represent its core regional focus markets. However, the bank is also active selectively outside this remit in other German regions and internationally, operating from 10 representative offices, five branches and one financing company outside of Germany, which are located in Europe, Asia and the Americas.

LBBW was established in 1999, following the tripartite merger of Landesgirokasse with SüdwestLB and the commercial banking business of Landeskreditbank Baden-Wuerttemberg - Förderbank (L-Bank). In 2005, BW-Bank was integrated with LBBW, followed by the Landesbanken of Rhineland-Palatinate and Saxony in 2008.

The owners of LBBW (Träger) are the Savings Bank Association (Sparkassenverband) of Baden-Wuerttemberg (Aa3 stable[3]) with a stake of 40.5%, the Land of Baden-Wuerttemberg (25.0%; Aaa stable[4]), the state capital of Stuttgart (18.9%) and Landesbeteiligungen Baden-Wuerttemberg (15.5%), the latter also being an entity of the Land of Baden-Wuerttemberg.

For more information, please see LBBW's most recent Issuer Profile and our German Banking System Outlook.

Business developments

On 26 January 2022, LBBW announced that it was acquiring the CRE lender Berlin Hyp, a subsidiary of Landesbank Berlin Holding, which was indirectly wholly owned by the German savings banks. The transaction closed on 1 July 2022. Berlin Hyp will remain a legally independent subsidiary of LBBW for the time being, with its own funding franchise, brand and operations. Reaping cost synergies was therefore not the prime objective of the acquisition. Instead, LBBW was targeting market share gains in the CRE space and the deal helped further consolidate the German savings bank sector. For more information, please see our Issuer Comment on the transaction.

Furthermore, in December 2021, Landesbank Hessen-Thueringen GZ (Helaba; Aa3 stable, Aa3 stable, baa2[5]) and LBBW announced that they will swap certain business activities to streamline operations and improve efficiency[6]. In July 2022, Helaba transferred its interest rate, currency and commodity management for savings bank customers to LBBW, and by year-end 2022, Helaba has discontinued its custodian services for special and mutual funds, recommending to customers that they switch to LBBW instead. Conversely, LBBW has transferred its physical foreign notes and coins and precious metal business to Helaba by 1 January 2023, and LBBW no longer provides any new foreign payment or letter of credit business for savings banks since 1 January 2023, recommending to customers that they purchase these services from Helaba now.

Weighted Macro Profile of Strong (+)

We derive the Strong (+) Weighted Macro Profile of LBBW from its regional net exposures, which takes into consideration the gross market value of loans to customers and credit commitments, net of collateral, credit risk hedges and netting agreements. As of 30 June 2023, Germany (Aaa stable[7]), which has a Strong (+) Macro Profile, accounted for 68% of net exposures, while European net exposures outside of Germany represented 17%. North America and Asia-Pacific contributed a further 9% and 3% to net exposures, respectively, while other international exposures accounted for the remaining 2%. The exposure-weighted average of the German and respective regional macro profiles results in a Strong (+) Weighted Macro Profile for LBBW.

Detailed credit considerations

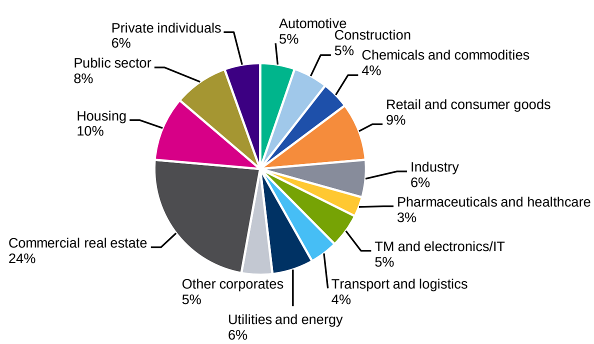
Solid asset risk profile, despite concentrations in higher-risk sectors and market risk

We assign a baa1 Asset Risk score, five notches below the aa2 initial score. The assigned score reflects not only LBBW's exposure to energy-intensive industries and more cyclical sectors, such as CRE and the automotive industry, but incorporates the bank's market risk exposures stemming from its capital markets business.

The bank's risk concentrations in cyclical industries within its corporate loan and CRE book remain high and leave the bank vulnerable to a possible recession in Germany and potential structural shifts in the economy, especially with regard to the automotive industry. LBBW's gross exposure to the automotive sector amounted to €11.0 billion as of 30 June 2023, which represented 74% of tangible common equity (TCE) and was reduced from €13.0 billion as of year-end 2018, reflecting LBBW's efforts to rein in its exposure to a sector that faces high carbon transition risks. The bank's gross CRE exposure was €48.8 billion (327% of TCE) as of 30 June 2023 and has significantly increased following the acquisition of the specialised CRE lender Berlin Hyp. On a net basis, considering collateral, CRE exposures reached €12.6 billion (84% of TCE) as of 30 June 2023. Furthermore, LBBW has significant exposures towards energy-intensive industries, such as manufacturing, utilities, and chemicals, which particularly suffer from elevated energy prices[8]. These credit risks, combined with the bank's market risk exposures related to its capital markets operations, lead us to assign a baa1 Asset Risk score, five notches below the aa2 initial score.

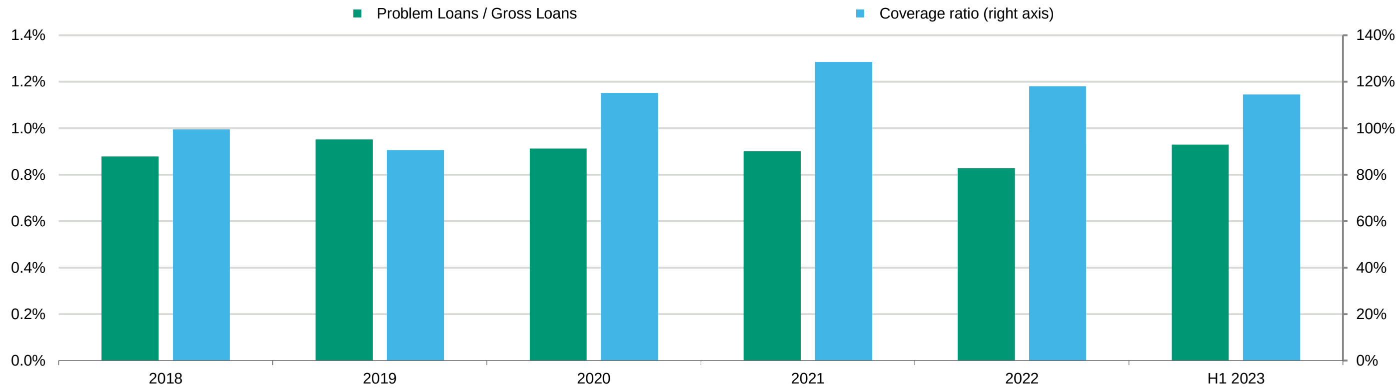
Exhibit 3

LBBW's lending portfolio is diversified with significant exposures to energy-intensive and cyclical industries
Non-financial gross exposures by sector, as of 30 June 2023



Only financial instruments subject to the scope of the impairment provisions of IFRS 9 are presented.
Sources: Company filings and Moody's Investors Service

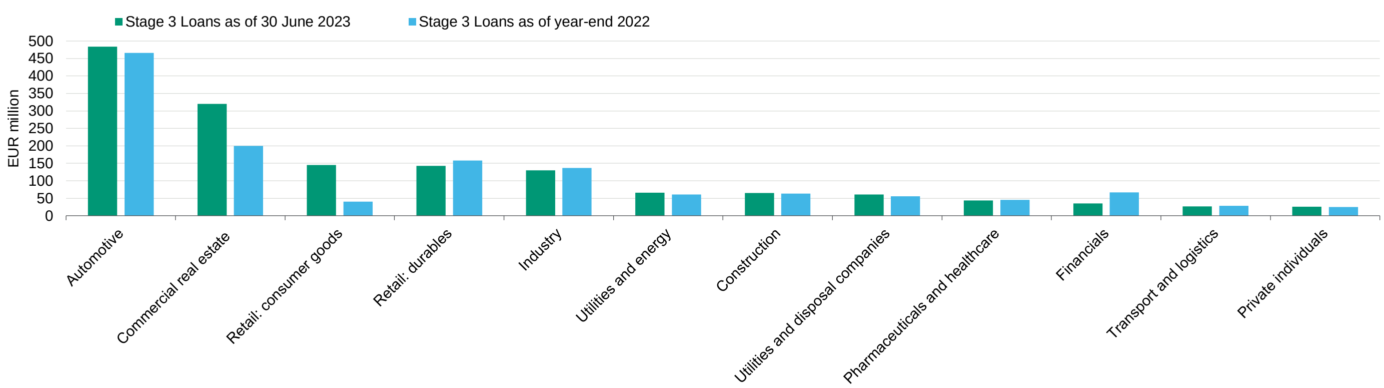
Exhibit 4
LBBW's problem loan ratio has been very stable in recent years and the coverage ratio remains strong



Problem loan ratio in accordance with our definition. Coverage ratio = Loan loss reserves/problem loans.
Sources: Company filings and Moody's Investors Service

LBBW's strong asset quality was represented by a problem loan ratio of 0.93% as of 30 June 2023, up from 0.83% as of year-end 2022. Over the longer term, the bank's problem loans were significantly reduced to €1.0 billion as of 30 June 2022 from €4.7 billion as of year-end 2012, reflecting the benign credit environment until recently, government support programmes for the real economy during the pandemic and the geopolitical crisis in Ukraine, the successful finalisation of LBBW's de-risking after the financial crisis, and a more cautious approach to underwriting risks. As of 30 June 2023, LBBW's problem loans had increased to €1.3 billion again, reflecting the consolidation of Berlin Hyp, but also an uptick in problem loans stemming from exposures to the consumer goods and automotive industries as well as to CRE. Given the deteriorated operating environment, we expect a further increase in problem loans in the upcoming 12-18 months.

Exhibit 5
LBBW's key problem loan sources are exposures to automotive and commercial real estate industries



This industry breakdown is based on LBBW's gross exposure disclosure.
Source: Company filings and Moody's Investors Service

With LBBW having substantially increased its cash coverage ratio since 2020 (114% as of 30 June 2023) by proactively moving exposures to Stage 2 from Stage 1 under IFRS 9 and by creating post-model reserves of more than €800 million, the bank will be well placed to digest a deterioration in asset quality, though.

LBBW's capital ratios remain sound

Our assigned a2 Capital score is two notches below the aa3 initial score, reflecting the bank's elevated leverage, potential longer-term effects stemming from the implementation of Basel IV, and some further negative rating migrations given the geopolitical uncertainties and a possible recession in Germany.

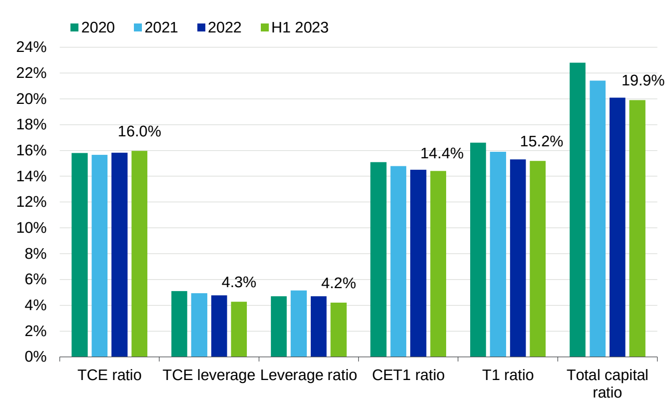
LBBW's balance sheet on a Moody's-adjusted basis expanded by 13.4% or €41.2 billion to €349.7 billion in the first half of 2023 (H1 2023). The growth in the bank's balance sheet mainly reflected a €6.7 billion increase in central bank deposits, €26.9 billion higher interbank assets, €3.7 billion of additional trading assets and investment securities, and €3.6 billion of additional customer loans. These increases were mostly funded by €16.2 billion additional customer deposits, €9.4 billion higher interbank liabilities, €6.4 billion higher short-term funding, and €9.0 billion of additional securitised liabilities. At the same time, the bank's volume of TLTRO III funding sourced from the European Central Bank (ECB) decreased significantly to €9.0 billion from €20.2 billion during H1 2023.

While the bank's balance sheet expanded materially, LBBW's fully-loaded RWA remained flat and its TCE rose by 1.4% in H1 2023, which led to an increase in the TCE ratio to 16.0% as of 30 June 2023 from 15.7% as of year-end 2022. The bank's transitional Common Equity Tier 1 (CET1) ratio, meanwhile, declined to 14.4%[9] from 14.5%, its Tier 1 ratio softened to 15.2% from 15.3%, and its Total Capital ratio reduced to 19.9% from 20.1% in 1H 2023. During the remainder of 2023 and in 2024, we expect that negative rating migrations will continue to materialise to a certain extent given the weakened credit environment, resulting in some potential strain on the bank's TCE and regulatory capital ratios.

Nonetheless, the bank's regulatory capital ratios are expected to remain significantly above the current regulatory requirements, which stipulate a 9.5% CET1 ratio, a 11.3% Tier 1 ratio and a 13.8% Total Capital ratio. Since February 2023, German banks need to comply with an additional countercyclical capital buffer (CCyB) requirement of 0.75% of domestic RWA and an additional 2.0% systemic risk buffer (SyRB) specific to RWA from domestic loans backed by residential properties. For LBBW, this translated into a 0.63% CCyB and a 0.1% SyRB requirement as of 30 June 2023. In addition, LBBW's capital requirements include the standard 2.5% capital conservation buffer (CCoB), a 0.75% other systemically important institutions (O-SII) buffer, and a 1.83% Pillar 2 requirement (P2R) on a total capital basis[10], which compares to a median 2.14% for all banks under ECB supervision. LBBW has also participated in the European Banking Authority's (EBA) stress test in July 2023, in which the EBA tested banks' capital resiliency in a severe adverse scenario and in which LBBW's CET1 ratio dropped to 8.8% by year-end 2025, 0.7 percentage points below its 9.5% regulatory CET1 ratio requirement. Since the stress test result will be utilized by the ECB to determine LBBW's capital requirements as part of the annual Supervisory Review and Evaluation Process (SREP) in H2 2023, LBBW's P2R and its non-disclosed Pillar 2 Guidance (P2G) could increase in 2024.

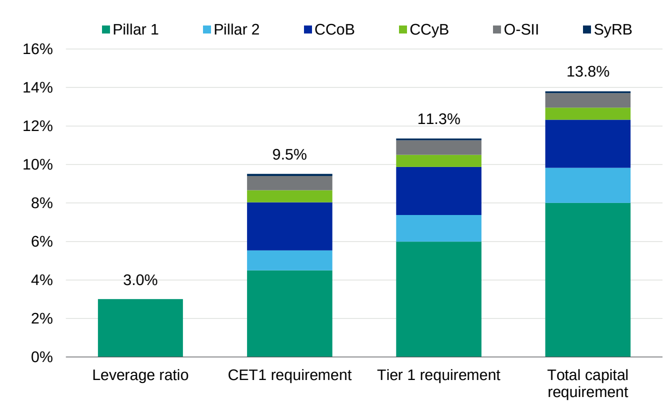
In terms of leverage, the increase in the bank's balance sheet resulted in a marked increase in the leverage exposure to €342.1 billion from €306.0 billion in H1 2023, which drove the regulatory leverage ratio down to 4.2% as of 30 June 2023 from 4.7% as of year-end 2022. Our measure of leverage, based on TCE over tangible assets, reached 4.3% as of 30 June 2023 compared to 4.8% as of year-end 2022, and thus remained below our 5% baseline requirement. The bank's elevated leverage is reflected in our a2 assigned Capital score, two notches below the aa3 initial score, as is the potential softening of the bank's TCE ratio and potential long-term effects on RWA growth stemming from the implementation of Basel IV.

Exhibit 6
LBBW's capitalisation has softened somewhat



TCE = Tangible common equity (our calculation); CET1 = Common Equity Tier 1; T1 = Tier 1; TCE leverage ratio compares TCE to tangible assets.
Sources: Company filings and Moody's Investors Service

Exhibit 7
LBBW's regulatory capital requirements as of 30 June 2023



Pillar 1 = Pillar 1 requirement; Pillar 2 = Pillar 2 requirement; CCoB = capital conservation buffer; CCyB = countercyclical capital buffer; O-SII = other systemically important institutions buffer; SyRB = systemic risk buffer.
Sources: Company filings and Moody's Investors Service

Profitability has improved in the higher interest rate environment

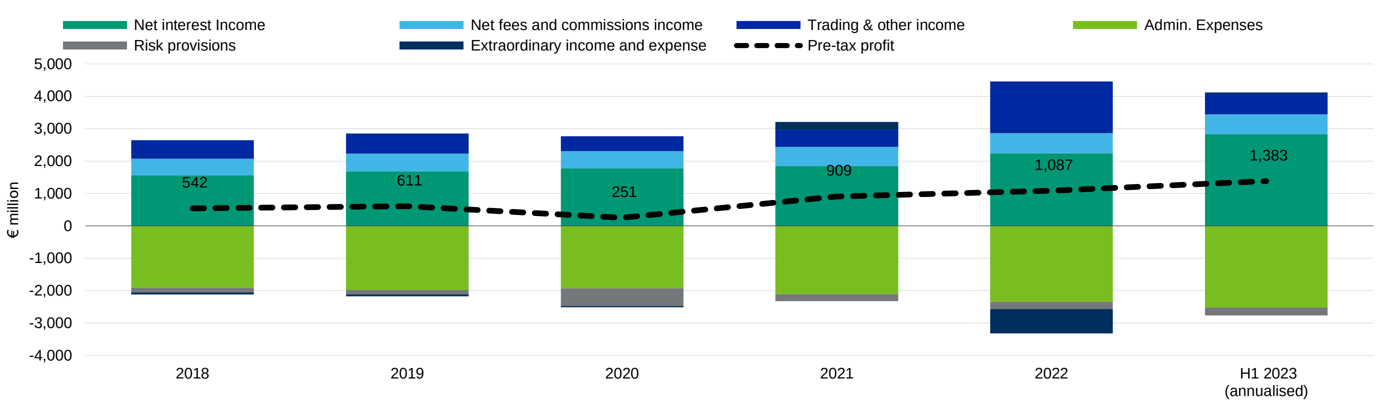
We assign a b1 Profitability score, in line with the initial score, reflecting the average earnings run rate of the bank during the 2020 to H1 2023 period. While profitability has recently improved in the higher interest rate environment, it remains subdued in an international context and might come under pressure again in the weakened operating environment.

Rising interest rates have been a positive for LBBW's profitability, but a more adverse credit and market risk environment could offset some of the gains in 2024 and beyond. While LBBW has a generally sound history of low credit losses, the upcoming potential recession, sustained high energy prices and the structural challenges facing the automotive industry, could result in high loan loss provisions in the years to come. In combination with rising investments in digital banking services and infrastructure, there will likely be persistent pressure on the bank's profitability despite efforts to control costs.

In H1 2023, LBBW reported a Moody's-adjusted net profit of €488 million, up from €273 million in H1 2022, which translated into a return on assets of 0.28% (H1 2022: 0.17%). The improved result was driven by higher revenues, which overall grew by €390 million or 23.7% to €2,037 million. Net interest income advanced by €446 million or 45.9% to €1,417 million reflecting the higher interest rate environment and the consolidation of Berlin Hyp, which was not yet included in the H1 2022 results. This was partly offset by €17 million or -5.3% lower net fee and commission income of €305 million as a result of weaker security and custody earnings as well as generally elevated net fee and commission expenses, while trading income also decreased by €98 million or -39.8% to €148 million. The improvement in net interest income was also partly offset by a €134 million or 11.8% increase in operating costs to €1,263 million, mainly reflecting the inclusion of Berlin Hyp's expense positions, while expenses for the bank levy and deposit guarantee system remained unchanged at €188 million year-on-year. As a result, pre-provision income improved by €257 million or 49.6% to €774 million. From this, LBBW further strengthened its risk buffers through loan loss provisions of €119 million (H1 2022: €84 million), which included €83 million of additional post-model adjustments.

For 2023, LBBW forecasts a pre-tax profit of more than €1 billion (H1 2023: €692 million; 2022: €1,087 million; on a Moody's-adjusted basis), reflecting a continued strong operating business. However, due to the worsened credit and market risk environment, we expect that the return on assets will potentially drop below 0.25% again in 2024 and beyond, commensurate with a b1 Profitability score.

Exhibit 8
LBBW's profitability improved in H1 2023



H1 2023 figures extrapolated to full year by Moody's Investors Service.
Sources: Company filings and Moody's Investors Service

Funding profile supported by access to savings bank sector funding

We assign a ba2 Funding Structure score, which is four notches above the b3 initial score. The upward adjustment reflects the fact that LBBW's market funds ratio contains development bank funding, as well as sector funding, which do not represent confidence-sensitive market funding sources.

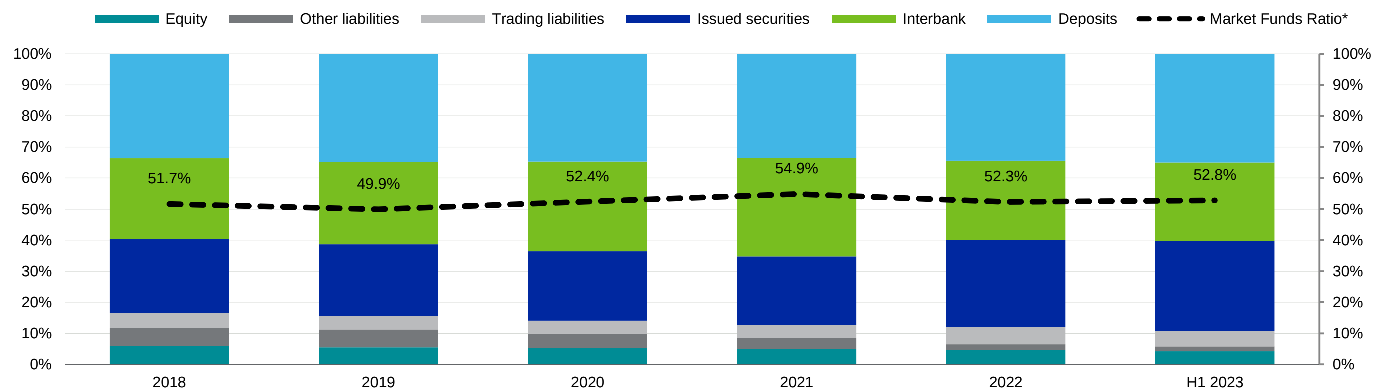
LBBW benefits from good access to stable funding resources provided by regional savings banks (and their retail clients), as well as its own retail client base, its strong covered bond franchise, access to development bank loans[11] and central bank funding. However, the bank also relies on more confidence-sensitive funding sources, such as interbank, money market, bond, and promissory note funding, as well as institutional client deposits, which exposes the bank to refinancing risks in a more adverse market environment. In addition, LBBW's large derivatives book, and the related risk of volatile collateralisation requirements, creates funding risk for the bank. All of these factors are represented in our ba2 assigned Funding Structure score, four notches above the b3 initial score.

As of 30 June 2023, LBBW's Moody's-adjusted total assets of €349.7 billion were inter alia funded by €122.2 billion of customer deposits, €88.5 billion of interbank funds (which included the €9.0 billion TLTRO III funding and €36.1 billion of development bank funding), €34.9 billion of covered bonds, €36.6 billion of unsecured long-term debt, €23.9 billion of money market funding, and €17.5 billion of trading liabilities; other miscellaneous liabilities represented the remainder. As of the same date, LBBW's Net Stable Funding Ratio (NSFR) was 114.2%, slightly up from 111.3% as of year-end 2022.

Exhibit 9

LBBW's funding structure is significantly dependent on interbank lines and debt issuance

The market funds ratio increased slightly in H1 2023



*Market funding ratio = Market funds/tangible banking assets.

Sources: Company filings and Moody's Investors Service

Ample liquidity is a strong mitigant for market funding risks

We assign an a2 Liquid Resources score, two notches below the aa3 initial score. The downward adjustment reflects asset encumbrance and level 3 fair-value and trading assets, which we exclude from our initial calculation of liquid banking assets. This is partly offset by LBBW's overcollateralised cover pools, which the bank could use to source additional liquidity at short notice.

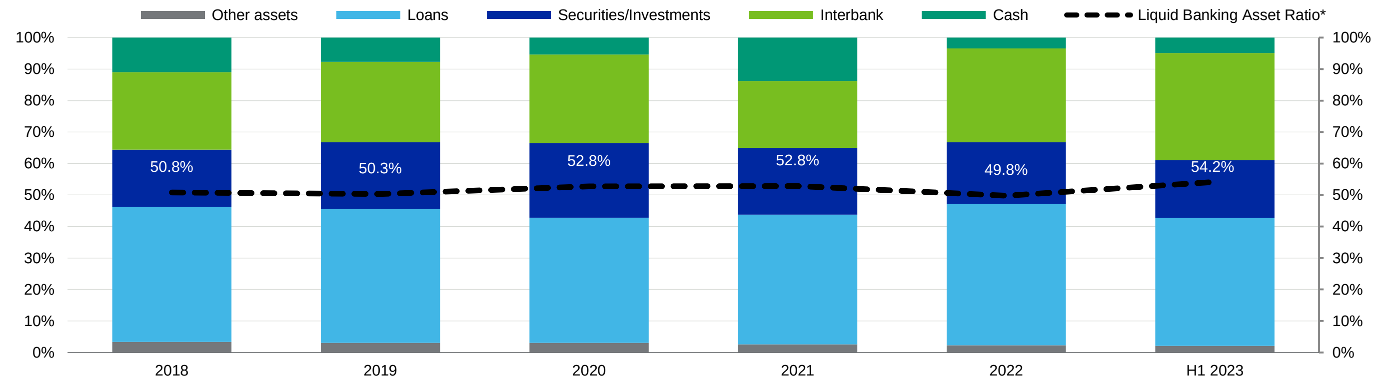
Together with LBBW's diversified funding mix, the bank's ample liquidity reserves provide it with significant flexibility in a more adverse market environment, not only mitigating potential funding challenges, but also supporting the bank's growth strategy because it provides sufficient flexibility to transform the liquid resources into higher-yielding lending assets. As of 30 June 2023, LBBW's initial liquid banking assets of €189.3 billion included €17.2 billion in cash and central bank deposits, €118.9 billion in interbank loans, €37.6 billion in available-for-sale and other government securities, and €15.4 billion in trading assets.

From our initial calculation of liquid banking assets, we deduct asset encumbrance, which mostly stems from LBBW's €28.0 billion development bank pass-through loans, which represent collateral for its development bank funding that is passed on to the savings banks, but also from collateral provided for repo transactions. We also do not consider level 3 fair-value and trading assets as liquid because they are fair-valued on a mark-to-model basis and cannot easily be sold in times of market stress.

However, LBBW could generate additional liquidity through the issuance of covered bonds, which we add to our initial liquid banking assets calculation. As of 30 June 2023, and based on an outstanding issuance of €12.5 billion, the overcollateralisation of LBBW's mortgage cover pool was 46.7% on an unstressed net present value basis. For the public sector cover pool, and based on an outstanding issuance of €10.3 billion, overcollateralisation was 28.2% as of the same date. LBBW therefore has substantial leeway for using its existing cover pool to generate additional liquidity through the issuance of covered bonds.

The overall result of the above-mentioned considerations, and also taking into account LBBW's Liquidity Coverage Ratio (LCR) of 137.2% as of 30 June 2023, lead us to assign an a2 Liquid Resources score, two notches below the aa3 initial score.

Exhibit 10
LBBW has ample access to liquidity from sector funds, liquid securities and cash resources
The liquid banking assets ratio improved in H1 2023



* Liquid banking assets ratio = Liquid banking assets/tangible banking assets.
Sources: Company filings and Moody's Investors Service

ESG considerations

LBBW's ESG credit impact score is CIS-2

Exhibit 11
ESG credit impact score

CIS-2

ESG considerations do not have a material impact on the current rating.

Source: Moody's Investors Service

LBBW's CIS-2 reflects the mitigating rating impact of affiliate support from Sparkassen-Finanzgruppe (S-Finanzgruppe) over LBBW's ESG risk profile. Environmental and social risk factors have had a limited impact on the bank's credit profile to date. The bank's corporate governance risks mainly stem from the bank's weak financial strategy, resulting in subdued operational efficiency.

Exhibit 12
ESG issuer profile scores

Source: Moody's Investors Service

Environmental

LBBW faces moderate exposure to environmental risks primarily because of its exposure to carbon transition risk as a large, mostly regional banking group. In line with its peers, LBBW is facing mounting business risks and stakeholder pressure to meet broader carbon transition goals. Carbon transition risks relate from LBBW's credit exposure to CO2-intensive sectors, e.g. automotive and energy. In response, LBBW is actively engaging in optimising its loan portfolio towards a targeted reduction of clients' carbon intensity, especially through the definition of science-based, sector specific CO2-reduction paths shared with clients. While accompanying its clients on the way to sustainable business models along this CO2-reduction path, LBBW tracks and discloses overall financed emissions.

Social

LBBW faces high social risks, in particular customer relations risks stemming from regulatory risk, exposure to litigation, and high compliance standards the bank has to meet in its diversified operations. High cyber and personal data risks are mitigated by technology solutions and organizational measures to prevent data breaches.

Governance

LBBW's governance risks are moderate, reflecting higher risk appetite and concentration risks inherent in its business model as a universal bank. Its strategy, risk management function and organisational structure are in line with industry practices. Management's ability to address the bank's subdued profitability remains a concern because it provides only a limited buffer against adverse developments and limits the bank's capital generation capacity and, hence, growth prospects. Finally, as a public-sector bank, LBBW is owned by the federal state of Baden-Württemberg (40.5%) and the state capital of Stuttgart (18.9%), which is reflected in the composition of its board of directors, which also includes representatives from S-Finanzgruppe's regional savings bank association, the Sparkassenverband Baden-Württemberg, which owns the remaining 40.5%. Germany's developed institutional framework 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

Affiliate support

LBBW benefits from cross-sector support from S-Finanzgruppe. Cross-sector support reduces the probability of default because the support would be available to stabilise a distressed member bank and not just to compensate for losses in resolution. The high support assumption assigned to LBBW, and also to most other Landesbanks, reflects their cross-liability scheme membership, but only partial ownership by S-Finanzgruppe members. Cross-sector support for LBBW provides a one-notch rating uplift from the baa2 BCA, leading to a baa1 Adjusted BCA.

Loss Given Failure (LGF) analysis

LBBW is subject to the EU Bank Recovery and Resolution Directive (BRRD), which we consider an Operational Resolution Regime. We therefore apply our Advanced LGF analysis, where we consider the risks faced by the different debt and deposit classes across the liability structure should the bank enter resolution.

In our Advanced LGF analysis, we consider the results of both the formal legal position (pari passu, or de jure scenario), to which we assign a 75% probability, and an alternative liability ranking, reflecting resolution authority discretion to prefer deposits over senior unsecured debt (full depositor preference, or de facto scenario), to which we assign a 25% probability.

We further assume residual TCE of 3% and losses post-failure of 8% of tangible banking assets. In addition, we assume a 26% share of deposits being "junior" wholesale deposits, for which we factor in a 25% run-off before failure, while we assume a 5% run-off in preferred deposits. These ratios are in line with our standard assumptions. The results of our Advanced LGF analysis are:

» For deposits and senior unsecured debt, as well as counterparty risk liabilities, our LGF analysis indicates an extremely low loss given failure, leading us to position their Provisional Rating Assessments at a1, three notches above the baa1 Adjusted BCA.

» For junior senior unsecured debt, our LGF analysis indicates a very low loss given failure, leading us to position its Provisional Rating Assessment at a2, two notches above the baa1 Adjusted BCA.

- For subordinated debt, our LGF analysis indicates a high loss given failure, leading us to position its Provisional Rating Assessment at baa2, one notch below the baa1 Adjusted BCA.

Additional Tier 1 (AT1) instruments

We assign a Ba1(hyb) rating to LBBW's low-trigger AT1 securities (non-cumulative preferred shares), three notches below the bank's baa1 Adjusted BCA. The rating reflects our assessment of the notes' undated deeply subordinated claim in liquidation, as well as their non-cumulative coupon deferral features. The notes are senior only to LBBW's capital instruments that qualify as CET1. In addition, the notes' principal is subject to a write-down on a contractual basis if LBBW's consolidated or standalone CET1 ratio falls below 5.125%; the issuer receives public support; or a competent resolution authority determines that the conditions for a write-down of the instrument are fulfilled and orders such a write-down as a measure to prevent insolvency.

Government support

Following the introduction of the BRRD, we have lowered our expectations about the degree of support the government might provide to a bank in Germany in the event of need. Because of its size on a consolidated basis, we consider S-Finanzgruppe to be systemically important. We, therefore, attribute a moderate probability of German government support for all members of the sector, in line with support assumptions for other systemically relevant banking groups in Europe. As a result, we still include one notch of government support uplift in our Counterparty Risk Ratings (CRRs), senior unsecured debt and deposit ratings for S-Finanzgruppe member banks that are incorporated in Germany, including LBBW. For junior senior debt and subordinated debt instruments, we continue to believe that the likelihood of government support is low and these ratings do not include any related uplift.

Counterparty Risk Ratings (CRRs)

LBBW's CRRs are Aa3/P-1

LBBW's CRRs, before government support, are three notches above the bank's baa1 Adjusted BCA, reflecting the extremely low loss given failure from the high volume of instruments that are subordinated to CRR liabilities. The CRRs also benefit from one notch of rating uplift from government support, in line with our moderate support assumptions on deposits and senior unsecured debt.

Counterparty Risk (CR) Assessment

LBBW's CR Assessment is Aa3(cr)/P-1(cr)

LBBW's CR Assessment, before government support, is three notches above the baa1 Adjusted BCA, based on the buffer against default provided to the senior obligations represented by the CR Assessment by more subordinated instruments, including junior deposits and senior unsecured debt. The CR Assessment also benefits from one notch of rating uplift from government support, in line with our moderate support assumptions on deposits and senior unsecured debt.

Because the CR Assessment captures the probability of default on certain senior operational obligations, rather than expected loss, we focus purely on subordination and take no account of the volume of the instrument class.

Methodology and scorecard

Methodology

The principal methodology we used in rating LBBW was Banks Methodology, published in July 2021.

About Moody's Bank Scorecard

Our Bank 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 13

Landesbank Baden-Wuerttemberg

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	0.9%	aa2	↔	baa1	Sector concentration	Market risk
Capital						
Tangible Common Equity / Risk Weighted Assets (Basel III - fully loaded)	16.0%	aa3	↔	a2	Nominal leverage	Expected trend
Profitability						
Net Income / Tangible Assets	0.2%	b1	↔	b1	Expected trend	Return on assets
Combined Solvency Score		a2		baa2		
Liquidity						
Funding Structure						
Market Funds / Tangible Banking Assets	52.3%	b3	↔	ba2	Extent of market funding reliance	Deposit quality
Liquid Resources						
Liquid Banking Assets / Tangible Banking Assets	49.8%	aa3	↔	a2	Asset encumbrance	Additional liquidity resources
Combined Liquidity Score		ba1		baa2		
Financial Profile				baa2		
Qualitative Adjustments				Adjustment		
Business Diversification				0		
Opacity and Complexity				0		
Corporate Behavior				0		
Total Qualitative Adjustments				0		
Sovereign or Affiliate constraint				Aaa		
BCA Scorecard-indicated Outcome - Range				baa1 - baa3		
Assigned BCA				baa2		
Affiliate Support notching				1		
Adjusted BCA				baa1		

Balance Sheet is not applicable.

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	-	-	-	-	-	-	-	3	0	a1
Counterparty Risk Assessment	-	-	-	-	-	-	-	3	0	a1 (cr)
Deposits	-	-	-	-	-	-	-	3	0	a1
Senior unsecured bank debt	-	-	-	-	-	-	-	3	0	a1
Junior senior unsecured bank debt	-	-	-	-	-	-	-	2	0	a2
Dated subordinated bank debt	-	-	-	-	-	-	-	-1	0	baa2
Non-cumulative bank preference shares	-	-	-	-	-	-	-	-1	-2	ba1

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	a1	1	Aa3	Aa3
Counterparty Risk Assessment	3	0	a1 (cr)	1	Aa3(cr)	
Deposits	3	0	a1	1	Aa3	Aa3
Senior unsecured bank debt	3	0	a1	1	Aa3	Aa3
Junior senior unsecured bank debt	2	0	a2	0	A2	A2
Dated subordinated bank debt	-1	0	baa2	0	Baa2	Baa2
Non-cumulative bank preference shares	-1	-2	ba1	0	Ba1 (hyb)	(P)Ba1

[1] Where dashes are shown for a particular factor (or sub-factor), the score is based on non-public information.
Source: Moody's Investors Service

Ratings

Exhibit 14

Category	Moody's Rating
LANDESBANK BADEN-WUERTTEMBERG	
Outlook	Stable
Counterparty Risk Rating	Aa3/P-1
Bank Deposits	Aa3/P-1
Baseline Credit Assessment	baa2
Adjusted Baseline Credit Assessment	baa1
Counterparty Risk Assessment	Aa3(cr)/P-1(cr)
Issuer Rating	Aa3
Senior Unsecured -Dom Curr	Aa3
Junior Senior Unsecured	A2
Junior Senior Unsecured MTN -Dom Curr	(P)A2
Subordinate	Baa2
Pref. Stock Non-cumulative -Dom Curr	Ba1 (hyb)
Commercial Paper -Dom Curr	P-1
Other Short Term -Dom Curr	(P)P-1
BERLIN HYP AG	
Outlook	Stable
Counterparty Risk Rating	Aa3/P-1
Bank Deposits	Aa3/P-1
Baseline Credit Assessment	ba1
Adjusted Baseline Credit Assessment	baa1
Counterparty Risk Assessment	Aa3(cr)/P-1(cr)
Issuer Rating	Aa3
Senior Unsecured	Aa3
Junior Senior Unsecured -Dom Curr	A2
Junior Senior Unsecured MTN -Dom Curr	(P)A2
Subordinate MTN -Dom Curr	(P)Baa2
Commercial Paper -Dom Curr	P-1

Source: Moody's Investors Service

Endnotes

1 The ratings shown are S-Finanzgruppe's corporate family rating and outlook, and its BCA.

2 The ratings shown are Berlin Hyp's deposit and senior unsecured debt ratings and respective outlook, as well as its BCA.

3 The rating shown is the Sparkassenverband Baden-Wuerttemberg's issuer rating and outlook.

4 The rating shown is the Land of Baden-Wuerttemberg's issuer rating and outlook.

5 The ratings shown are Helaba's deposit and senior unsecured debt ratings and respective outlook, as well as its BCA.

6 Press release: https://www.helaba.com/int/press/news/releases/2021/helaba-and-lbbw-agree-to-bundle-capabilities.php.

7 The rating shown is the German government's issuer rating and outlook.

8 For further information, please refer to our report on European banks exposed to energy-intensive industries and to our peer report on the large German Landesbanks

9 The difference between our TCE ratio of 16.0% and LBBW's transitional CET1 ratio of 14.4% stems from several regulatory adjustments of CET1, such as additional measurement adjustments, negative amounts from the calculation of expected losses, deferred tax assets whose recoverability depends on future profitability and irrevocable payment obligations for the bank levy and deposit insurance to S-Finanzgruppe.

10 1.03% on a CET1 and 1.37% on a Tier 1 capital basis.

11 As of 30 June 2023, LBBW had sourced €36.1 billion of development bank loans from Kreditanstalt of Wiederaufbau (senior unsecured: Aaa stable), L-Bank (senior unsecured: Aaa stable), and other German development banks, which LBBW mostly passes on to the savings banks in Baden-Wuerttemberg, Rhineland-Palatinate and Saxony, but also directly to its own customers. Because the funding from development banks will be available to LBBW irrespective of market conditions, given the development banks' status as quasi sovereign or sub-sovereign prime issuers in the capital markets, we do not deem development bank funding to represent confidence-sensitive market funding.

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