

CREDIT OPINION

15 December 2021

Update

✓ Rate this Research

RATINGS

Volkswagen Bank GmbH

Domicile	Brunswick, Germany
Long Term CRR	Aa3
Type	LT Counterparty Risk Rating - Fgn Curr
Outlook	Not Assigned
Long Term Debt	(P)A1
Type	Senior Unsecured MTN - Dom Curr
Outlook	Not Assigned
Long Term Deposit	A1
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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Volkswagen Bank GmbH

Update to credit analysis

Summary

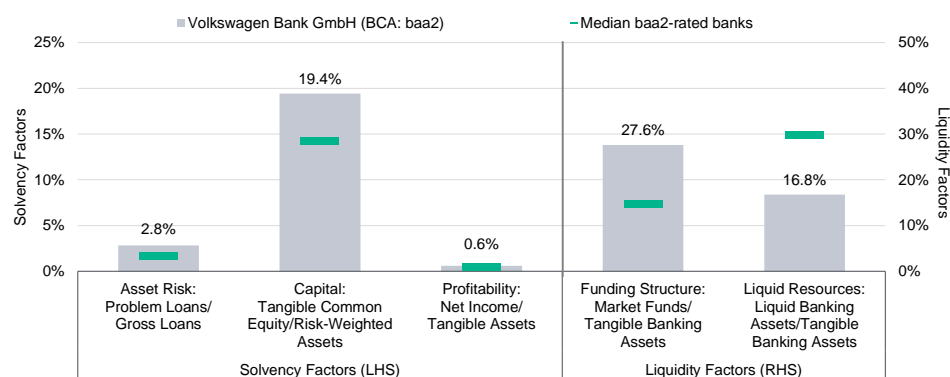
We assign A1 (stable) deposit and issuer ratings, and an A3 junior senior unsecured debt rating to [Volkswagen Bank GmbH](#) (VW Bank). We also assign a baa2 Baseline Credit Assessment (BCA), an a3 Adjusted BCA and Aa3/P-1 Counterparty Risk Ratings (CRRs).

VW Bank's A1 deposit and issuer ratings reflect the bank's baa2 BCA, the incorporation of two notches of uplift for affiliate support from the bank's ultimate parent [Volkswagen Aktiengesellschaft](#) (Volkswagen, A3 stable¹); and the application of our Advanced Loss Given Failure (LGF) analysis to its liabilities, which results in a very low loss given failure and two notches of rating uplift. VW Bank's ratings do not benefit from any government support uplift because of its small size in the context of the German banking sector.

VW Bank's baa2 BCA reflects its sustained sound asset quality, solid regulatory capital levels and continued sound profitability. The broad range of the bank's proven and diversified funding channels displays good access to capital markets even in a volatile market environment, further underpinning the bank's BCA. The baa2 BCA remains constrained by the bank's undiversified business mix, resulting from its captive finance origin and continuing classification of the bank as a monoline business.

Exhibit 1

Rating Scorecard - Key financial ratios Volkswagen Bank GmbH



Source: Moody's Financial Metrics

Credit strengths

- » Sound underlying profitability, given the bank's position as the carmaker's captive finance subsidiary and further supported by its sound net interest margin, which remained resilient during the difficult operating environment in 2020 and 2021
- » Strong capitalisation and prudent leverage
- » A granular, retail-oriented, stable deposit base, which reduces the bank's reliance on more confidence-sensitive wholesale funding sources

Credit challenges

- » The continued reshaping of the automobile industry towards low-emission, alternative-fuel vehicles could eventually hurt VW Bank's sound asset quality and profitability in the current volatile economic environment.
- » The bank's high level of encumbered liquid securities is only partially offset by its committed access to additional liquidity resources.
- » Because of VW Bank's position as the carmaker's captive auto loan provider, the bank's lending portfolio is entirely concentrated in the automobile industry, which links its asset quality, as well as profitability, closely with the strength of its parent.

Outlook

The stable rating outlook reflects the alignment of VW Bank's Adjusted BCA with the issuer rating of its ultimate parent Volkswagen, and our expectation on the forward-looking liability structure of VW Bank.

Factors that could lead to an upgrade

- » Because of the intrinsic links between VW Bank and its automotive parent, its ratings are highly dependent on the creditworthiness of Volkswagen. Therefore, an upgrade of VW Bank's a3 Adjusted BCA could follow the upgrade of Volkswagen's rating. Please see the [Credit Opinion of Volkswagen](#) for a discussion of the automaker's rating drivers.
- » VW Bank's ratings could be upgraded if the increased issuance of instruments that are designated to absorb losses at failure was likely to be sustained. This could result in additional notches of rating uplift for VW Bank's various debt classes from our Advanced LGF analysis.
- » Upward pressure on VW Bank's baa2 BCA could result from a combination of significantly improved profitability; significantly lower dependence on wholesale funding sources, combined with a strong increase in the bank's on-balance-sheet liquidity; and a further improvement in the underlying quality of VW Bank's lending assets. However, a BCA upgrade would not result in an upgrade of the bank's ratings.

Factors that could lead to a downgrade

- » Although unlikely at present, VW Bank's ratings could be downgraded if Volkswagen's ratings were to be downgraded. A downgrade of VW Bank's ratings could also be triggered if Volkswagen were to loosen its ties with its bank subsidiary. This loosening could lead to a lowering of our support assumption for VW Bank and a downgrade of the bank's Adjusted BCA to a level below the parent's issuer rating.
- » VW Bank's ratings could also be downgraded as a result of an unexpected and significant decrease in the volume of the bank's junior senior unsecured and subordinated debt instruments, resulting in fewer notches of rating uplift from our Advanced LGF analysis.

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on www.moody's.com for the most updated credit rating action information and rating history.

- » A downgrade of VW Bank's BCA could be triggered by the following: a sudden and more pronounced erosion of the bank's asset quality, especially considering the bank's large exposure to car dealers, and the pressure that this could exert on both the bank's profitability and capitalisation; a more significant and sustained increase in the bank's dependence on wholesale funding sources, in particular, if the issued instruments' terms no longer matched those of the bank's loan book; or the bank losing or reducing access to committed liquidity lines from its parent or having to substantially use available assets for securitisation. However, a lower BCA would likely be offset by a higher uplift from affiliate support and not result in a rating downgrade.

Key indicators

Exhibit 2

Volkswagen Bank GmbH (Consolidated Financials) [1]

	06-21 ²	12-20 ²	12-19 ²	12-18 ²	12-17 ²	CAGR/Avg. ³
Total Assets (EUR Billion)	65.3	66.9	68.4	83.0	78.7	(5.2) ⁴
Total Assets (USD Billion)	77.4	81.9	76.8	94.9	94.6	(5.6) ⁴
Tangible Common Equity (EUR Billion)	9.9	9.4	9.0	11.0	10.8	(2.5) ⁴
Tangible Common Equity (USD Billion)	11.7	11.6	10.1	12.6	13.0	(2.8) ⁴
Problem Loans / Gross Loans (%)	--	2.8	2.5	2.4	2.3	2.5 ⁵
Tangible Common Equity / Risk Weighted Assets (%)	19.4	18.6	16.1	17.2	16.5	17.6 ⁶
Problem Loans / (Tangible Common Equity + Loan Loss Reserve) (%)	--	13.6	13.5	12.7	11.8	12.9 ⁵
Net Interest Margin (%)	2.6	2.4	2.3	2.0	2.7	2.4 ⁵
PPI / Average RWA (%)	1.5	1.6	1.4	0.7	1.4	1.3 ⁶
Net Income / Tangible Assets (%)	0.6	0.9	0.8	0.8	0.7	0.8 ⁵
Cost / Income Ratio (%)	54.8	51.0	49.8	69.7	62.7	57.6 ⁵
Market Funds / Tangible Banking Assets (%)	26.8	27.6	25.0	31.3	27.6	27.7 ⁵
Liquid Banking Assets / Tangible Banking Assets (%)	18.2	16.8	10.9	7.1	6.8	11.9 ⁵
Gross Loans / Due to Customers (%)	--	174.8	170.2	229.4	150.4	181.2 ⁵

[1] Further to the publication of our revised methodology in July 2021, for issuers that have "high trigger" additional Tier 1 instruments outstanding, not all ratios included in this report reflect the change in treatment of these instruments. [2] All figures and ratios are adjusted using Moody's standard adjustments. [3] Basel III - fully loaded or transitional phase-in; IFRS. [4] May include rounding differences because of the scale of reported amounts. [5] Compound annual growth rate (%) based on the periods for the latest accounting regime. [6] 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

Volkswagen Bank GmbH (VW Bank) is a German limited liability company wholly owned by Volkswagen, a major global automotive manufacturer and provider of associated financial services. VW Bank operates within Volkswagen's financial services division, providing a wide range of banking services to private and business customers. In addition to the captive finance services it provides to support its parent's sales, VW Bank is a significant provider of internet-based banking services in Germany. As of 30 June 2021, the company's direct banking unit (VW Direct) was the largest direct bank in the European automotive financial services market based on its total customer deposits of €26.6 billion (€28.7 billion in 2020). VW Bank operates in nine European countries and employs 1,908 people.

VW Bank's Macro Profile is Strong +

Because of its sustainable focus on the German market, the bank's assigned Macro Profile is in line with the [Strong + Macro Profile of Germany](#), but also takes into account issuer's activities in other EU countries (for example, France, Netherlands, Italy and Spain). For more information, please see VW Bank's [Issuer Profile](#) and our German [Banking System Profile](#).

Recent developments

Supply shortages result in lower sales growth expectations

The pandemic resulted in a precipitous drop in auto sales, with global sales falling 16% in 2020. Global auto sales have begun to recover in 2021, yet global sales forecasts have been corrected downwards for 2022 to 6.2%, driven by supply chain constraints and by near-term direction of coronavirus pandemic (like the [omicron variant](#)). Our 2022 outlooks for global automotive manufacturers remain [stable](#) because we expect the manufacturers to mitigate lower supply by improving mix and raising prices.

Detailed credit considerations

Solid asset quality

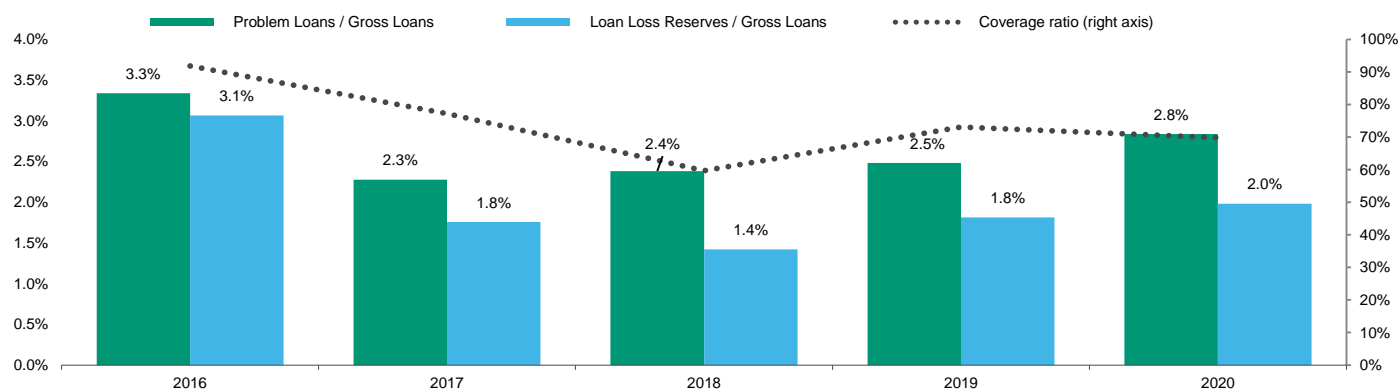
We assign a baa2 Asset Risk score to VW Bank, three notches below its a2 initial score. The assigned score captures the asset-quality risks resulting from a more adverse credit cycle for the type of exposures the bank has, particularly considering the relatively unseasoned nature of the bank's lending book because of pre-pandemic loan growth, as well as the pandemic-induced deterioration in the macroeconomic environment potentially hurting the carmaker's dealer network. Additionally, the future sales performance of cars, in general, appears significantly less certain and predictable as a result of the pandemic. Furthermore, lockdowns aimed at containing the pandemic led to production stops globally in 2020 and the beginning of 2021. Demand for cars contracted significantly in 2020, also as a result of dealerships being repeatedly forced to shut down in several countries across Europe. Recovering demand for new cars in 2021 is threatened by the shortage of semiconductors and lagging effects of production stops, which, however, drives the demand for used cars.

In addition, structural changes in consumer preferences towards more environment-friendly technologies, and towards shared economy, represent a non-lending-related risk factor. These changes could potentially lead to an even more pronounced shift towards leasing- or subscription-based models products and also affect used car values, although VW Bank's remaining residual value (RV) exposure is almost negligible in this regard. Furthermore, although currently unlikely, if Volkswagen falls behind in adapting new technologies, it could significantly hurt VW Bank as a captive subsidiary.

VW Bank's nonperforming loan (NPL) ratio increased to 2.8% as of 31 December 2020 (2019: 2.5%). As of the same date, the bank's problem loan coverage ratio was still solid at 70% (2019: 73%). The increase in problem loans partially reflects lower business volumes in 2020, as the volume in gross loans declined by 7.5%. For 2021, we expect a further increase in the NPL ratio, largely driven by further decline in loan volume.

Exhibit 3

VW Bank's problem loans increased slightly in 2020; solid loan loss coverage remains



Problem loans displayed in accordance with Moody's definition.

Sources: Moody's Investors Service and company reports

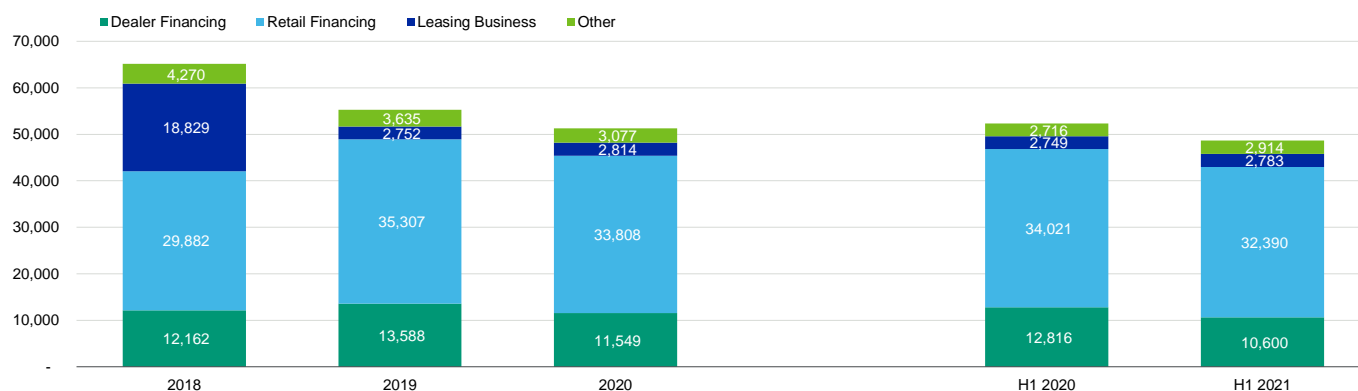
Given the low significance of RV risks for VW Bank's asset quality after the reorganisation², the main downstream risk is a deterioration in the creditworthiness of car dealers because Volkswagen's financial services arm also provides day-to-day financing to Volkswagen's vehicle dealers. In the first half of 2021, we did not observe any significant deterioration in the credit quality of the car dealers. Given the importance of the dealer network to the value chain of the broader group, the carmaker has supported car dealers in the past, for

example, with a €200 million support package for its car dealers in Germany in May 2021 and will likely continue to provide support in case of need. Such support would help alleviate asset-quality risks at the level of VW Bank.

However, financing volumes declined in H1 2021, driven first by the purchases in Germany that were brought forward to Q4 2020; second, by production delays, resulting in lower new car volumes; and third, by the shift in customer preferences towards leasing products, particularly for electrified and alternative-fuel vehicles (AFV).

Exhibit 4

Business volumes in dealer and retail financing declined in H1 2021



Loans to and receivables from customers are in € millions; attributable to client segments per VW Bank GmbH's definition.

Sources: Moody's Investors Service and company reports

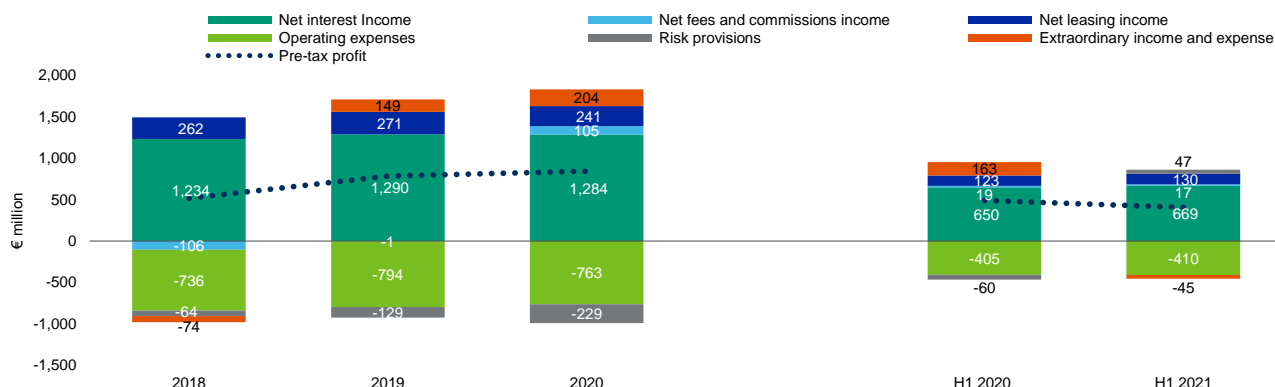
VW Bank maintained its high net interest margin in H1 2021

We assign a baa2 Profitability score to VW Bank, one notch below the initial score of baa1. The assigned score takes into account our expectation of a decline in loan growth in 2021, amplified by the low interest environment. As a result, we expect the bank's profitability to reside within the 0.5%-0.75% range commensurate with the assigned lower score.

In H1 2021, VW Bank reported higher net interest income from lending operations of €669 million, up by 2.9% compared with the €650 million in H1 2020. Its net interest margin increased to 2.6%, partially supported by lower supply and lower rebates. The net income from leasing transactions increased by 5.7% year on year to €130 million, while the operating expenses remained broadly stable at €410 million (H1 2020: €405 million). Net fee and commission income declined to €17 million (H1 2020: €19 million). As far less pandemic-induced defaults materialised than expected, VW Bank started to reverse credit risk provisions and booked €47 million risk provision reversals compared with an addition of €60 million for the same period of 2020. Pretax profit declined by 17% to €407 million, mainly as a result of the absence of positive effects from non-recurring items ([related to VW Bank's portfolio sale in Ireland and provision reversal effects](#)) in the first six months of 2021.

Exhibit 5

VW Bank's pretax profit in H1 2021 remained robust despite the absence of extraordinary effects



2018 figures adjusted for business reorganisation effects in accordance with 2019 and 2018 annual reports. The financials are reported numbers, excluding our standard adjustments. Source: Company reports

VW Bank's profitability remains supported by the carmaker's sales strategy, which targets to grow car sales in combination with the bank's lending, service and insurance products, which constitutes a growing part of the carmaker's overall car sales goal. This argument is supported by Volkswagen providing specific subsidies targeted at offering attractively priced financial services packages for new and used cars. We expect the bank's role to become further entrenched as part of Volkswagen's transition to AFVs and its ROUTE2025 strategy programme as the group aims to expand its lending and lease penetration in the used car market as well.

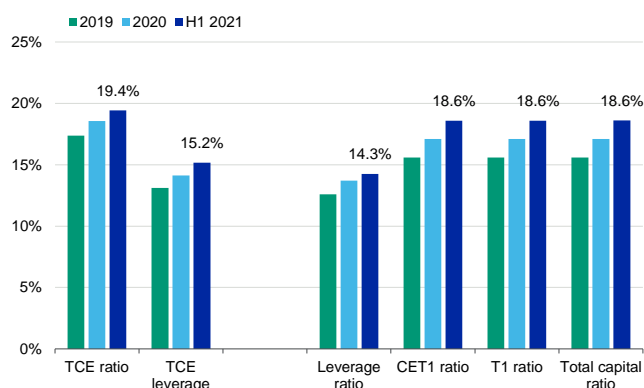
Good capitalisation and prudent leverage

We assign a aa3 Capital score, one notch below the aa2 initial score, capturing our expectation of a potential time-lagging pandemic effects, once government support measures in Germany are withdrawn, presumably later this year. The assigned score further captures the limited opportunity to retain earnings because of the existing profit-and-loss transfer agreement with Volkswagen.

VW Bank's tangible common equity (TCE) ratio was 19.4% as of 30 June 2021 (2020: 18.6%), supported by the reinjection of €383 million capital from the parent, following the recommendation of the ECB to restrict dividend payments in 2020. As of June 2021, VW Bank reported a strong Common Equity Tier 1 (CET1) capital ratio of 18.6%, up from 17.1% in 2020. The difference between the TCE ratio and the regulatory CET1 ratio can be explained by regulatory adjustments for securitisation positions and deferred taxes, which are deducted from the CET1 capital, but not fully from our TCE calculations, and have changed more significantly during the reorganisation.

Exhibit 6

VW Bank has maintained solid levels of capital and leverage

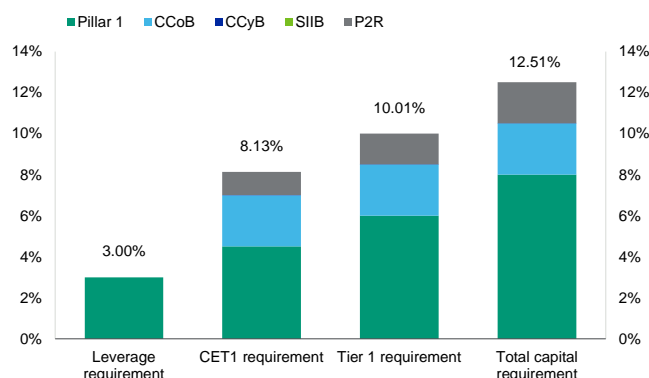


TCE = Tangible common equity (our calculation); CET1 = Common Equity Tier 1 capital; T1 = Tier 1 capital.

Sources: Company reports and Moody's Investors Service

Exhibit 7

VW Bank's capital requirements in detail



CCoB = Capital conservation buffer; CCyB = Countercyclical capital buffer; SIIB = Systemically important institutions buffer

Sources: company reports and the ECB

Historically, Volkswagen and VW FS AG have injected capital into VW Bank, which, in turn, has upstreamed its net income under the existing profit-and-loss transfer agreement. As a result, VW Bank's capital ratios benefited from capital increases in 2016, 2017, 2020 and again in H1 2021.³ The capital increases in 2016-17 have helped compensate for the effects on capital from temporarily higher reorganisation-driven risk-weighted assets (RWA) and for high business-driven RWA growth before the pandemic. The capital reinjection in 2020 followed the ECB recommendation to refrain from dividend payments and will help weather potential pandemic effects.

Post-reorganisation risk density (defined as RWA/total assets) improved to 78% as of 30 June 2021 from more than 80% before the reorganisation, but still remains high, reflecting the concentration in one asset class.

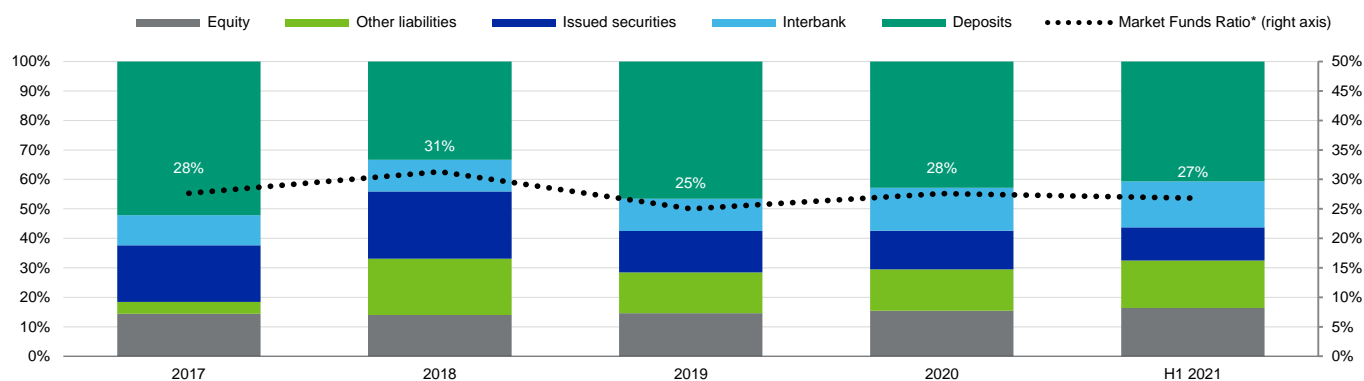
Granular retail-oriented deposit base reduces the bank's reliance on more confidence-sensitive wholesale funding sources

We assign a baa2 Funding Structure score, in line with the initial score, reflecting our expectation of stability in market funding reliance after the reorganisation of the group concludes. Following the successful resumption of senior unsecured issuance at both the parent and VW Bank during 2017-19⁴, the bank returned to a more balanced funding mix, supported by the access to ECB's TLTRO tenders.

The client deposits, as VW Bank's main financing source, amounted to €26.6 billion or 41% of total assets as of 30 June 2021. The value temporarily decreased from 43% of total assets as of year-end 2020 because of favorable market funding conditions and ample availability of ECB funding as VW Bank has participated in TLTRO III tenders in 2020 and 2021. Nonetheless, VW Bank's deposit base remains the main funding source and has repeatedly demonstrated stability, during the 2008-09 financial crisis, following the parent's diesel emissions issue, as well as during the pandemic, and proved to be a reliable and sufficiently flexible funding source. The bank's deposit base increased at a time of difficult and more expensive senior funding market access in H1 2020 to €31.8 billion, further underscoring the benefits of VW Bank's flexible access to multiple funding channels. Since then, the volume has decreased as the bank has continuously reduced the deposit rates for corporate and retail clients alike to control deposit inflow.

Exhibit 8

Market funds ratio started to normalise in 2021, but still contains a higher amount of central bank funding



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

Sources: Company reports and Moody's Investors Service

The bank's sustainable access to a variety of longer-term funding sources also mitigates the risks potentially arising from the frequent refinancing of relatively short-term funding, which generally matches the bank's auto loan assets (with a customary initial tenor of around three years). Other funding sources comprise interbank funding (€10.2 billion as of 30 June 2021) and asset-backed securities (€0.9 billion as of 30 June 2021). VW Bank's funding through group companies remained modest during H1 2021.

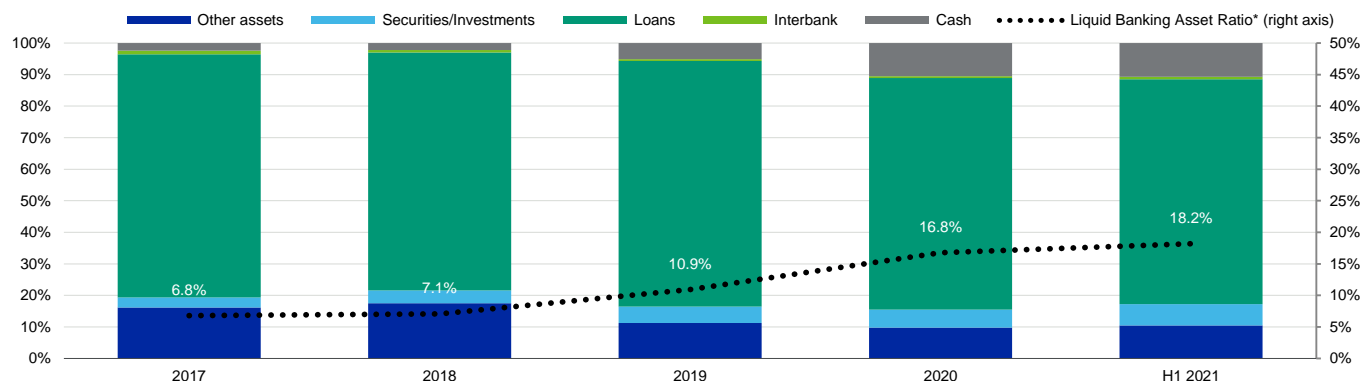
Liquidity benefits from committed access to additional liquid assets

We assign a Liquid Resources score of ba2, three notches below the initial score of baa2. The assigned score reflects our expectation that increased liquidity is temporary and is the result of targeted longer-term refinancing operations (TLTRO) participation in 2020. VW Bank has held a rather limited liquidity reserve in the past and temporarily increased its cash reserve in 2020. The cash reserve position remained stable at €7.0 billion as of June 2021 (2020: €7.1 billion).

The assigned score further reflects VW Bank's access to additional liquidity resources from its carmaker parent in case of need. Furthermore, the bank can rely on access to additional liquidity resources through securitisations and committed liquidity lines from its carmaker parent. This mitigates the historically low level of (visible) cash on the bank's balance sheet.

Exhibit 9

VW Bank's liquid reserves have temporarily increased Composition of liquid assets



*Liquid banking asset ratio = Liquid assets/tangible banking assets.

Sources: Company reports and Moody's Investors Service

Qualitative adjustment captures the close links between the bank's and the carmaker's performance

We reduce VW Bank's weighted average outcome of the assigned Financial Profile factor score by one notch, to baa2 from baa1. This adjustment reflects the bank's strongly focused business profile and sector concentration risks as a captive auto loan provider and lender to borrowers related to the automobile industry.

Business diversification is an important gauge of a bank's sensitivity to stress in a single business line. Business diversification is related to earnings stability in the sense that earnings diversification across distinct and relatively uncorrelated lines of business increases the reliability of a bank's earnings stream and its potential to absorb shocks affecting a business line.

Being a car finance and leasing specialist, VW Bank can be exposed to a more volatile automotive business cycle, potentially hurting its income statement in an adverse scenario. The bank's high reliance on car-finance-related earnings streams limits its potential for earnings diversification and exposes it to unexpected shocks outside its direct control. At the same time, VW Bank benefits from its specialist risk management know-how in managing related business cycle risks.

ESG considerations

Banks have been classified as "Low" risk in our [environmental risk heat map](#)⁵ and as "Moderate" risk in our [social risk heat map](#)⁶.

However, considering VW Bank's close links with its car manufacturer parent, we assess the exposure of VW Bank to environmental risks as more equivalent to the risk levels of automotive manufacturers and these exposures are, thus, classified as "Elevated - Emerging". The value of vehicles that back the company's auto loans and leases could be affected by a more pronounced change in carbon and air pollution regulations in countries where VW Bank operates, which may increase risks for VW Bank. In addition, the change in environmental regulations and the need to meet the requirements of the Paris Agreement exert pressure on Volkswagen in terms of higher investments for greater efficiency and the electrification of its vehicle fleet to maintain compliance and avoid fines or additional costs.

In line with our general view of the banking sector, we assess VW Bank's social risks as "Moderate". The most relevant social risks for automobile lenders arise from the way they interact with their customers, such as fines and reputational damage, for instance, because of product mis-selling. So far, these types of social risks have not had any significant implications for the issuer. This assessment also takes into account our expectation that VW Bank will be able to deal with the changing customer preferences and the gradual shift towards electric and hybrid cars, as well as the development of self-driving technologies and the consequences this might have on its

product portfolio and, potentially, margins. Furthermore, we regard the pandemic as a social risk under our environmental, social and governance (ESG) framework, given the substantial implications for public health and safety.

We do not have any particular governance concerns for VW Bank. Governance² is highly relevant for VW Bank, as it is to all banks, in part because of the complexity of its multinational operations. VW Bank remains further exposed to reputational and financial risks potentially stemming from the ongoing diesel emissions scandal and the related unsatisfactory governance practices observed at its parent in this regard. In an effort to shield itself from any undue contagion risks, VW Bank has recently strengthened its governance principles and installed and added processes that should help safeguard its governance and control processes against unwanted behaviour. Nonetheless, corporate governance remains a key credit consideration and a subject of our ongoing monitoring.

Support and structural considerations

Affiliate support

Based on the control and profit-and-loss transfer agreement of VW Bank with its parent, Volkswagen, and based on the bank's important strategic role within the Volkswagen group, we consider VW Bank an affiliate-backed entity. This results in an Adjusted BCA of a3, aligned with Volkswagen's current long-term issuer rating.

Loss Given Failure (LGF) analysis

VW Bank is subject to the EU Bank Recovery and Resolution Directive (BRRD), which we consider an operational resolution regime. Therefore, we 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.

We assume a residual 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. These ratios are in line with our standard assumptions, with the exception that, in the case of VW Bank, we assume that only a small percentage (10%) of the bank's deposit base can actually be considered junior and qualify as bail-in-able under the BRRD.

The results of our Advanced LGF analysis are as follows:

- » For VW Bank's deposits and senior unsecured debt, our LGF analysis indicates a very low loss given failure, leading to two notches of rating uplift from the bank's a3 Adjusted BCA.
- » For VW Bank's junior senior unsecured debt, our Advanced LGF analysis indicates a moderate loss given failure, leading to no rating uplift from the bank's a3 Adjusted BCA.
- » For VW Bank's subordinated debt, our Advanced LGF analysis indicates a high loss given failure, leading to a positioning of the ratings one notch below the bank's a3 Adjusted BCA.

The assigned notching uplift further reflects our view that VW Bank's liability structure will only temporarily benefit from the currently greater role of junior senior debt in the bank's liability structure relative to its tangible banking assets. Over the next two years, and considering regulatory requirements and likely developments in the bank's liability structure and tangible banking assets, we expect the currently assigned notching uplift to the bank's various debt classes to remain stable.

Government support considerations

We assign a low government support probability assumption for VW Bank, which does not result in any rating uplift from government support. This assumption reflects VW Bank's relatively small size compared with the German banking system, insignificant market share in the domestic deposit market and limited degree of systemic interconnectedness.

Counterparty Risk Ratings (CRRs)

VW Bank's CRRs are Aa3/P-1

The bank's CRRs are three notches above the a3 Adjusted BCA, reflecting the extremely low loss given failure from the high volume of instruments that are subordinated to CRR liabilities.

Counterparty Risk (CR) Assessment

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

The bank's CR Assessment is three notches above the a3 Adjusted BCA, based on the buffer against default provided by more subordinated instruments to the senior obligations represented by the CR Assessment.

Methodology and scorecard

Methodology

The principal methodology used in rating VW Bank is our [Banks Methodology](#), published in July 2021.

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 10

Volkswagen Bank GmbH

Macro Factors							
Weighted Macro Profile		Strong +	100%				
Factor	Historic Ratio	Initial Score	Expected Trend	Assigned Score	Key driver #1	Key driver #2	
Solvency							
Asset Risk							
Problem Loans / Gross Loans	2.8%	a2	↔	baa2	Loan growth	Non lending credit risk	
Capital							
Tangible Common Equity / Risk Weighted Assets (Basel III - transitional phase-in)	19.4%	aa2	↔	aa3	Capital retention	Expected trend	
Profitability							
Net Income / Tangible Assets	0.6%	baa2	↔	baa2	Return on assets	Expected trend	
Combined Solvency Score		a2		a3			
Liquidity							
Funding Structure							
Market Funds / Tangible Banking Assets	27.6%	baa2	↔	baa2	Extent of market funding reliance	Expected trend	
Liquid Resources							
Liquid Banking Assets / Tangible Banking Assets	16.8%	baa2	↔	ba2	Asset encumbrance	Additional liquidity resources	
Combined Liquidity Score		baa2		baa3			
Financial Profile							
Qualitative Adjustments				Adjustment			
Business Diversification				-1			
Opacity and Complexity				0			
Corporate Behavior				0			
Total Qualitative Adjustments				-1			
Sovereign or Affiliate constraint				Aaa			
BCA Scorecard-indicated Outcome - Range				baa1 - baa3			
Assigned BCA				baa2			
Affiliate Support notching				-			
Adjusted BCA				a3			
Balance Sheet							
		in-scope (EUR Million)	% in-scope	at-failure (EUR Million)	% at-failure		
Other liabilities		34,047	49.8%	37,204	54.5%		
Deposits		26,531	38.8%	24,674	36.1%		
Preferred deposits		23,878	35.0%	22,684	33.2%		
Junior deposits		2,653	3.9%	1,990	2.9%		
Junior senior unsecured bank debt		5,650	8.3%	4,350	6.4%		
Dated subordinated bank debt		30	0.0%	30	0.0%		
Equity		2,049	3.0%	2,049	3.0%		
Total Tangible Banking Assets		68,307	100.0%	68,307	100.0%		

Debt Class	De Jure waterfall		De Facto waterfall		Notching		LGF Notching Guidance vs. Adjusted BCA	Assigned LGF notching	Additional Notching	Preliminary Rating Assessment
	Instrument volume + subordination	Sub-ordination	Instrument volume + subordination	Sub-ordination	De Jure	De Facto				
Counterparty Risk Rating	12.3%	12.3%	12.3%	12.3%	3	3	3	3	0	aa3
Counterparty Risk Assessment	12.3%	12.3%	12.3%	12.3%	3	3	3	3	0	aa3 (cr)
Deposits	12.3%	9.4%	12.3%	9.4%	2	2	2	2	0	a1
Senior unsecured bank debt	12.3%	9.4%	9.4%	9.4%	2	1	2	2	0	a1
Junior senior unsecured bank debt	9.4%	3.0%	9.4%	3.0%	0	0	0	0	0	a3
Dated subordinated bank debt	3.0%	3.0%	3.0%	3.0%	-1	-1	-1	-1	0	baa1

Instrument Class	Loss Given Failure notching	Additional notching	Preliminary Rating Assessment	Government Support notching	Local Currency Rating	Foreign Currency Rating
Counterparty Risk Rating	3	0	aa3	0	Aa3	Aa3
Counterparty Risk Assessment	3	0	aa3 (cr)	0	Aa3(cr)	
Deposits	2	0	a1	0	A1	A1
Senior unsecured bank debt	2	0	a1	0	(P)A1	A1
Junior senior unsecured bank debt	0	0	a3	0	A3	
Dated subordinated bank debt	-1	0	baa1	0	Baa1	

[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 11

Category	Moody's Rating
VOLKSWAGEN BANK GMBH	
Outlook	Stable
Counterparty Risk Rating	Aa3/P-1
Bank Deposits	A1/P-1
Baseline Credit Assessment	baa2
Adjusted Baseline Credit Assessment	a3
Counterparty Risk Assessment	Aa3(cr)/P-1(cr)
Issuer Rating	A1
Senior Unsecured MTN -Dom Curr	(P)A1
Junior Senior Unsecured -Dom Curr	A3
Junior Senior Unsecured MTN -Dom Curr	(P)A3
Subordinate -Dom Curr	Baa1
Commercial Paper -Dom Curr	P-1
Other Short Term -Dom Curr	(P)P-1
PARENT: VOLKSWAGEN AKTIENGESELLSCHAFT	
Outlook	Stable
Issuer Rating	A3
Sr Unsec Bank Credit Facility -Dom Curr	A3
Senior Unsecured MTN -Dom Curr	(P)A3
Commercial Paper -Dom Curr	P-2

Source: Moody's Investors Service

Endnotes

- ¹ The rating shown is Volkswagen's long-term issuer rating and outlook.
- ² As part of the reorganisation, the UK car financing and other businesses — including Volkswagen Financial Services S.p.A., Volkswagen Financial Services (UK) Ltd., Volkswagen Financial Ltd., SkoFIN s.r.o, Volkswagen Serwis Ubezpieczeniowy Sp. z o.o. and Volkswagen Bank GmbH, Ireland Branch — have been transferred to [VW Financial Services AG](#) (VW FS AG, A3 stable). Therefore, VW Bank is no longer exposed to the RV risk of the affected subsidiaries' lending and leasing operations. VW FS AG focuses on the non-European bank and non-bank activities primarily in non-EU Europe, the Asia-Pacific and Latin America, as well as the non-bank part of the European business, which includes leasing, insurance and mobility services.
- ³ VW Bank received €1.7 billion in 2016 and €710 million (both numbers net of upstreamed dividends) in H1 2017 from its former parent, VW FS AG.
- ⁴ VW Bank tapped the market in December 2017, June 2018, January 2019 and July 2019, securing €7.0 billion of (non-preferred) senior unsecured funding.
- ⁵ Environmental risks can be defined as environmental hazards encompassing the impact of air pollution, soil/water pollution, water shortages and natural and human-made hazards (physical risks). Additionally, regulatory or policy risks, such as the impact of carbon regulations or other regulatory restrictions, including the related transition risks like policy, legal, technology and market shifts, which could impair the evaluation of assets, are an important factor. Certain finance companies could face a higher risk from concentrated lending to individual sectors or operations exposed to the aforementioned risks.
- ⁶ Social risk considerations represent a broad spectrum, including customer relations, human capital, demographic and societal trends, health and safety and responsible production. The most relevant social risks for financial companies arise from the way they interact with their customers. Social risks are particularly high in the area of data security and customer privacy, which are mitigated by sizeable technology investments and finance companies' long track record of handling sensitive client data. Fines and reputational damage because of product mis-selling or other types of misconduct are further social risks. Societal trends are also relevant in a number of areas, such as shifting customer preferences towards digital services increasing information technology costs, ageing population concerns in several countries affecting the demand for financial services or socially driven policy agendas that may translate into regulations that affect finance companies' revenue bases.
- ⁷ Corporate governance is a well-established key driver for banks, and the related risks are typically included in our evaluation of the banks' financial profiles. The financial expertise of the Audit Committee, the incentives created by executive compensation packages, related-party transactions, interactions with outside auditors and ownership structure are among the areas we may consider in our assessment of how corporate governance might affect an issuer's credit profile. Corporate governance weaknesses can lead to a deterioration in a bank's credit quality, while governance strengths can benefit its credit profile. When credit quality deteriorates because of poor governance, such as the breakdown in controls resulting in financial misconduct, it can take a long time to recover. Governance risks are also largely internal rather than externally driven.

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