S&P Global
Ratings

Research

New Issue: Red & Black Auto Germany 11 UG (haftungsbeschränkt)

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New Issue: Red & Black Auto Germany 11 UG (haftungsbeschränkt)

Ratings Detail

Ratings

Class	Rating*	Amount (mil. €)	Available credit enhancement (%)§	Interest	Legal final maturity
A	AAA (sf)	565.800	6.70	One-month EURIBOR plus 0.55% with a 0.0% floor	Sept. 15, 2033
B	AA+ (sf)	18.000	3.70	One-month EURIBOR plus 1.15% with a 0.0% floor	Sept. 15, 2033
C	A (sf)	12.000	1.70	One-month EURIBOR plus 1.60% with a 0.0% floor	Sept. 15, 2033
D	BBB+ (sf)	1.200	1.50	One-month EURIBOR plus 1.98% with a 0.0% floor	Sept. 15, 2033
E	NR	3.000	1.00	5.50%	Sept. 15, 2033
Subordinated loan	NR	5.970	N/A	0.50%	N/A

Note: *Our ratings address timely payment of interest and ultimate payment of principal. §Available credit enhancement consists of subordination and a general reserve that is ultimately available to mitigate potential principal shortfalls. NR--Not rated. N/A--Not applicable.

Supporting ratings

Institution/role	Ratings	Replacement trigger	Collateral posting trigger
The Bank of New York Mellon, Frankfurt Branch as bank account provider	AA-/Stable/A-1+*	A/A-1§	N/A
The Bank of New York Mellon, internal dependency – bank branch parent	AA-/Stable/A-1+	A/A-1*	N/A
DZ BANK AG as swap counterparty	A+/Stable/A-1	A-	A-
Societe Generale S.A. as credit support provider	A/Stable/A-1	BBB†	N/A

*Rating on the bank branch parent. §'A+' if there is no short-term rating assigned by S&P Global Ratings. †Funding trigger for commingling and servicing fee reserve. N/A--Not applicable.

Transaction Summary

- S&P Global Ratings assigned its credit ratings to Red & Black Auto Germany 11 UG (haftungsbeschränkt)'s (Red & Black Auto 11) asset-backed floating-rate class A, B, C, and D notes. At closing, Red & Black Auto 11 also issued unrated class E notes.
- This is Bank Deutsches Kraftfahrzeuggewerbe GmbH's (BDK's) 11th German publicly placed ABS transaction. The underlying collateral comprises German loan receivables for new, used, and newly used cars. BDK originated and granted the loans to its private customers. Of the pool, 71.5% of the current principal balance on contracts amortize with a final balloon payment.
- The transaction amortizes from closing and has separate interest and principal waterfalls. The interest waterfall features a principal deficiency ledger mechanism, by which the issuer can use excess spread to cure principal losses.

- A combination of excess spread, subordination, and the cash reserve provides credit enhancement. The liquidity reserve is used to pay any senior expenses, swap payments, and interest shortfalls. Any excess of the reserve over the required amount will flow through the interest waterfall and will be available to cure any principal deficiency ledger (PDL).
- Société Générale S.A. will fund a reserve to mitigate commingling risk, if it ceases to have a long-term issuer credit rating (ICR) of at least 'BBB', or if BDK becomes insolvent. In our view, the reserve fully mitigates commingling risk.
- The structure also benefits from a conditional servicing fee reserve, which we believe is sufficient to cover the potential additional costs of a substitute servicer over the transaction's residual life. Société Générale will fund this reserve if it ceases to have a long-term ICR of at least 'BBB' or if a servicer termination event occurs and is continuing.
- The assets pay a monthly fixed interest rate, and the notes pay one-month Euro Interbank Offered Rate (EURIBOR) plus a margin subject to a floor of zero. Consequently, the rated notes benefit from an interest rate swap until the legal final maturity date.
- Our ratings address timely payment of interest and ultimate payment of principal on the class A, B, C, and D notes.
- Our structured finance sovereign risk criteria and our operational risk criteria do not constrain our ratings in this transaction. Counterparty risk is adequately mitigated in line with our counterparty criteria.

The Credit Story

Strengths, concerns, and mitigating factors

Strengths	**Concerns and mitigating factors**
In our view, BDK is an experienced and established originator and servicer in the German securitization markets. This is the bank's 11th German publicly rated ABS transaction. The previous transactions have performed well.	About 71.5% of the loan volume in the portfolio relates to balloon loans, which could increase default risk if the market value of the car declines significantly. Under this scenario, borrowers would face a payment shock, and we assume the risk of borrower default would increase. We have accounted for this in our credit and cash flow analysis.
The portfolio is highly granular and well diversified across Germany's federal states. As of the pool cut-off date, the largest single obligor represented about 0.02%, and the top 20 obligors comprised 0.32% of the portfolio.	We do not rate the seller and originator, BDK, which also services the loans. Commingling risk could occur if BDK defaults, because collections from the assets are channeled through BDK's accounts. To mitigate this risk, Société Générale would fund the transaction's seller risk reserve, if the rating on Société Générale falls below 'BBB', or if BDK becomes insolvent.
As of the cutoff date, the portfolio did not contain any contracts that are overdue for more than 30 days, or defaulted contracts.	The transaction allows pro rata redemption of all rated classes if the class A notes' credit enhancement from portfolio overcollateralization (excluding the liquidity reserve) has increased to 8.0%. Pro rata payment can potentially limit the available credit enhancement. The transaction features various performance triggers for PDL and cumulative net loss ratios, mitigating the risk derived from pro rata amortization. Our cash flow model incorporates those triggers, testing the impact of a change in the type of amortization of the notes. Additionally, we have run different sensitivity analyses to consider this risk.
The transaction is not revolving, so the pool's credit quality will not change through asset substitution.	

Strengths, concerns, and mitigating factors (cont.)	
Strengths	**Concerns and mitigating factors**
The structure benefits from an amortizing cash reserve, which was fully funded at closing. The reserve serves primarily as liquidity support to mitigate any cash flow strains. Any excess of the reserve over the required amount will flow through the interest waterfall and will be available to cure any PDL.	
The structure benefits from a conditional servicing fee reserve, which can be used to cover any replacement costs of the servicer and the servicing fee payable to a substitute servicer that is above the standard servicing fee of 0.5%. We believe this is sufficient to cover the potential additional costs of a substitute servicer over the transaction's residual life. Société Générale will fund the reserve if it ceases to have a long-term ICR of at least 'BBB' or if a servicer termination event occurs and is continuing. As a result, we have not modelled a stressed servicer fee in our cash flow analysis because we believe the servicing fee reserve will be sized at a level that is sufficient to cover our stressed servicing fees any time a replacement servicer steps in. Therefore, our driving run assumes the contractual fee charged by BDK, as the existing servicer. The substitute servicer will still be paid from the senior position in the waterfall even in the case the servicing fee reserve is not sufficient. Consequently, we have considered Société Générale's support as servicing fee reserve funder minimal rather than limited.	

Environmental, Social, And Governance (ESG) Factors

Our rating analysis considers a transaction's potential exposure to ESG credit factors. For the auto ABS sector, we view the exposure to environmental credit factors as above average, social credit factors as average, and governance credit factors as below average (see "ESG Industry Report Card: Auto Asset-Backed Securities," published on March 31, 2021). In our view, the exposure to ESG credit factors in this transaction is in line with our sector benchmark. The transaction's above average exposure to environmental credit factors results from the collateral pool primarily comprising vehicles with internal combustion engines (ICE), which create emissions of pollutants including greenhouse gases. While the adoption of electric vehicles and future regulation could in time lower the value of ICE vehicles, we believe that our current approach to evaluating recovery and residual values adequately account for vehicle values over the relatively short expected life of the transaction. As a result, we have not separately identified this as a material ESG credit factor in our analysis.

Asset Description

As of the cutoff date, Aug. 31, 2024, the collateral pool backing the notes comprised 39,608 loans, with a total current principal balance of €600 million.

The entire portfolio comprises auto loan contracts. The products include:

- Standard fully amortizing contracts with a duration of up to 84 months;
- Amortizing contracts (up to 72 months duration), with a final balloon payment; and
- Three-way-financing contracts (up to 72 months duration), with a final balloon payment including a separate dealer buy-back agreement.

The securitized pool complies with the eligibility criteria under the transaction documents. The following is a non-exhaustive list of these criteria:

- The loan receivable derives from a loan agreement, which is legal, valid, and binding, based on the originator's form of contract, and governed by German law;
- The loan agreement was created in compliance with all applicable laws, rules, and regulations (except that the loan agreement may not contain all mandatory information);
- At least one loan installment has been paid in the loan agreement;
- There is no material breach, default, or violation of any obligation under the associated loan agreement;
- The receivable is not derived from a defaulted loan agreement;
- The receivable gives rise to monthly installments;
- The receivable provides for a remaining term of at least two months;
- The receivable provides for an original term no longer than 84 months;
- The original outstanding receivable balance does not exceed 115% of the vehicle sales price;
- The receivable bears a fixed nominal interest rate above or equal to 1.45%;
- The vehicle to which the receivable relates has a vehicle sale price not exceeding €150,000;
- Each loan receivable is denominated in euros;
- Each loan receivable is payable by direct debit;
- Each loan receivable is not in arrears; and
- Each debtor of the receivable is not employed with BDK or any of its affiliates.

Table 1

Collateral key features*

	Red & Black Auto 11	Red & Black Auto 11 (prelim. pool)	Red & Black Auto 10	Red & Black Auto 9	Red & Black Auto 8	Globaldrive 2024-A
Originator	BDK	BDK	BDK	BDK	BDK	FCE Bank
Pool cutoff date	Aug. 31, 2024	July 31, 2024	July 31, 2023	Sept. 30, 2022	Sept. 30, 2021	June 30, 2024
Principal outstanding of the pool (mil. €)	600	600	750	600	1,000	378.3
Average remaining loan principal balance (€)	15,148	15,143	14,413	14,367	12,349	20,386
Number of loans	39,608	39,623	52,036	41,762	80,977	18,557
WA original term (months)	56.9	56.97	57.7	57.5	58.4	47.6
WA seasoning (months)	12.4	12.64	8.89	10.10	11.42	12.3
WA remaining term (months)	44.6	44.32	48.82	47.43	46.98	35.3
WA yield (%)	5.88	5.80	5.05	3.37	3.46	6.0
Top 1 borrower concentration (%)	0.02	0.02	0.01	0.02	0.02	0.15

Table 1

Collateral key features* (cont.)

	Red & Black Auto 11	Red & Black Auto 11 (prelim. pool)	Red & Black Auto 10	Red & Black Auto 9	Red & Black Auto 8	Globaldrive 2024-A
Top 20 borrower concentration (%)	0.32	0.31	0.22	0.26	0.17	1.11
Top 3 geographic concentration (%)	18.02 (Bayern); 16.22 (NRW); 15.23 (BW)	17.73 (Bayern); 16.25 (NRW); 15.44 (BW)	18.72 (Bayern); 16.40 (NRW); 16.21 (BW)	17.12 (NRW); 15.67(BW)	17.30 (Bayern); 16.69 (NRW); 15.36 (BW)	32.12 (NRW); 12.33 (BW); 11.48 (Bayern)
Manufacturer concentration (%)	27.02 (Ford); 15.31 (Opel); 11.38 (Hyundai)	27.04 (Ford); 15.10 (Opel); 11.36 (Hyundai)	30.13 (Ford); 16.60 (Opel); 9.80 (Hyundai)	30.00 (Ford); 15.57 (Opel); 12.95 (Hyundai)	32.38 (Ford); 15.75 (Opel); 14.32 (Hyundai)	100.0 (Ford)
Loan type (%)						
Amortizing	28.46	28.27	33.09	30.08	37.11	12.87
Standard with balloon	68.79	69.10	64.28	66.98	60.45	19.61
Balloon (Three-Way Financing)	2.75	2.63	2.62	2.94	2.44	67.51(TCM)
Vehicle type (%)						
New	8.98	9.43	6.66	9.73	12.71	82.37
Newly used	22.70	22.90	18.39	27.41	33.86	12.46
Used	68.32	67.67	74.95	62.85	53.43	5.17
Customer type (%)						
Private	100	100	100	100	100	84.32
Financed vehicle type (%)						
Cars	95.45	95.32	95.51	94.61	94.45	100
Bus and delivery vans	4.55	4.68	4.49	5.39	5.55	
Engine type (%)						
Petrol	51.46	51.39	55.79	55.51	56.99	22.66
Diesel	30.91	31.22	32.86	33.07	36	34.21
Others (plug-ins, hybrids, etc.)	17.63 (15.44 hybrid; 2.19 EV)	17.39 (15.15 hybrid; 2.23 EV)	11.35 (9.71 hybrid; 1.64 EV)	11.41 (10.25 hybrid; 1.16 EV)	7.01 (5.88 hybrid; 1.13 EV)	43.13 (1.74 EV, 31.33 hybrid, 10.06 plug-in hybrid)

*Calculations are according to S&P Global Ratings' methodology and based on the outstanding discounted principal balance. WA--Weighted average. NRW--North Rhine-Westphalia. BW--Baden-Wuerttemberg. N/A--Not available. TCM--Trade cycle management.

Table 2

Geographic distribution

Federal state	Percentage of the pool (%)
Bayern	18.02
Nordrhein-Westfalen	16.22
Baden-Wuerttemberg	15.23
Hessen	9.68
Niedersachsen	9.16
Rheinland-Pfalz	5.99
Sachsen-Anhalt	5.12

Table 2

Geographic distribution (cont.)

Federal state	Percentage of the pool (%)
Sachsen	4.46
Schleswig-Holstein	4.03
Thueringen	3.92
Brandenburg	2.04
Mecklenburg-Vorpommern	1.94
Saarland	1.60
Hamburg	1.30
Berlin	0.85
Bremen	0.43
Total	100.00

Originator/seller

BDK provides auto loan financing to German private and commercial customers, and together with its parent company ALD Lease Finanz GmbH (which controls 90% of BDK's voting rights), is one of the largest noncaptive car finance banks in Germany. ALD Lease Finanz is a 100% subsidiary of the Société Générale group.

BDK started its operations in 1991 (founded as Garanta Finanzdienst GmbH), and in 2005, there was a spin-off of its leasing business for private and commercial customers of ALD AutoLeasing D GmbH into the new ALD Lease Finanz. BDK is the finance partner of the German car dealers association. BDK provides the loan business, and ALD Lease Finanz provides the leasing business. These two entities work with the same staff, systems, and processes. BDK is a licensed bank in Germany and is therefore regulated by the German regulatory authority (BaFin).

As part of its business model, BDK maintains various cooperations with manufacturers and car dealerships. In 2012, BDK started cooperating with FFS Group, which led to the creation of a branch in Stuttgart. Following the cooperation, BDK was holding a quasi-captive function for Hyundai until 2017. In 2019, BDK started cooperating with Subaru Deutschland GmbH to finance Subaru brand vehicles and with Emil Frey Gruppe Deutschland, a large dealership and vehicles importer.

BDK's annual loan origination volumes increased to €1.62 billion and €1.77 billion in 2018 and 2019, respectively, from €1.59 billion in 2017. Since the COVID-19 pandemic, the figures for new business volume have not continued the same trend. For 2021, newly originated loans reached 1.59 billion. In 2022 and 2023, they were 1.43 billion and 1.23 billion, respectively.

The split between commercial and private customers has slightly changed over the previous few years. Over the past year, 75%-80% of BDK's origination volume was to private customers, lower than the longer-term average of 80%-90%.

BDK offers a broad range of car financing products to its customer base. However, only amortizing loans (classic financing) and balloon loans (balloon financing and three-way-financing) form part of the portfolio. Further, only loans granted to private customers are included in the portfolio.

The final balloon installment as a percentage of the vehicle sale price is determined based on the contract duration of the respective loan, the vehicle make, and whether it is a new, newly used, or used car. We understand that BDK can increase the determined balloon payment by 5% for used vehicles and by 10% for new vehicles.

BDK's loan book is diversified across car brands, which is a strength, in comparison with captive finance companies. It also has adequate geographic diversification and a good franchise, in our view.

The seller has developed a high level of experience in its core business of auto financing. It also has efficient procedures and experienced staff in underwriting and collection processes, in our view.

Underwriting

Origination is typically done through BDK's co-operating car dealers in Germany, whereas the credit approval process remains with BDK. The underwriting process is a two-step assessment, starting with the dealer entering the customer's information in BDK's web-based application tool. In the second step, BDK assesses the applicant's creditworthiness, using external credit bureau data (SCHUFA or Creditreform) and BDK'S internal scoring models. The credit decision can either be an automated or manual approval, or a rejection. Non-automated decisions are underwritten by qualified employees from BDK's acceptance department and subject to specific credit authority limits.

Servicing

A delinquency department manages any delinquent contracts. It makes phone calls, sends reminder letters, and ultimately repossesses the vehicles. The first reminder letter is sent out no later than 15 days after the relevant due date. Contract termination for a private customer can occur after two monthly payments totaling at least 10% (for contracts with up to a 36-month term) or 5% (for contracts with a term of more than 36 months) of the total outstanding contract volume have been missed. After termination of the loan contract, the vehicle will be repossessed and then re-marketed by BDK's remarketing department. If repossession and/or full recovery is not possible, we understand that BDK would initiate legal action.

The seller's credit risk management process is very much aligned with that of Société Générale. It undertakes credit risk assessments and monitoring in Hamburg. BDK's risk controlling department, at the holding company level, controls and monitors all standard risk indicators.

In our operational risk analysis, we look at the risk that cash flows may be disrupted following an operational failure of the servicer. The application of our operational risk criteria does not constrain the maximum potential ratings on the notes.

The transaction does not have a back-up servicer at closing. We rely on the general availability of servicing in the German market to mitigate the risk of servicing disruption. Furthermore, the cash reserve provides additional liquidity and mitigates servicer disruption risk.

Credit Analysis

We analyzed the transaction's credit risk under various stress scenarios by applying our European auto ABS criteria.

We received quarterly and monthly static gross loss data and recovery data from first-quarter 2004 to first-quarter 2024, the entire originator loan book, and for the subpool, private and commercial data. We have also used the performance information available from the predecessor transactions. In addition, we received origination volumes, dynamic delinquency, and prepayment data for this period.

The quality of data provided is in line with our quality, timeliness, and reliability standards.

Economic outlook

In our analysis, we considered the following economic data and their baseline effect on collateral credit quality in determining our credit assumptions (also see "Related Research").

Table 3

Economic forecast summary: Germany

	2023	2024f	2025f	2026f
Real GDP (y/y growth, %)	(0.1)	0.2	1.1	1.3
CPI (y/y growth, %)	6.0	2.7	2.2	1.9
Unemployment rate (annual average, %)	3.0	3.4	3.3	3.1

Sources: National statistics offices, OECD, Eurostat, European Central Bank, S&P Global Ratings. y/y--Year over year. CPI--Consumer Price Index. f--Forecast.

In our base-case scenario for Germany, we forecast economic growth to be 0.2% in 2024 after contracting by 0.1% in 2023. We forecast GDP growth of 1.1% and 1.3% in 2025 and 2026, respectively. We expect inflation to continue to cool down from 6.0% in 2023 to 2.7% in 2024, with rates of 2.2% and 1.9% in 2025 and 2026, respectively. At the same time, we expect the unemployment rate to slightly increase to 3.4% in 2024 from 3.0% in 2023 and reduce again to 3.3% and 3.1% in 2025 and 2026, respectively. We believe changes in GDP growth, inflation, and the unemployment rate largely determine portfolio default performance. In our view, the credit assumptions we considered in our analysis account for this economic outlook.

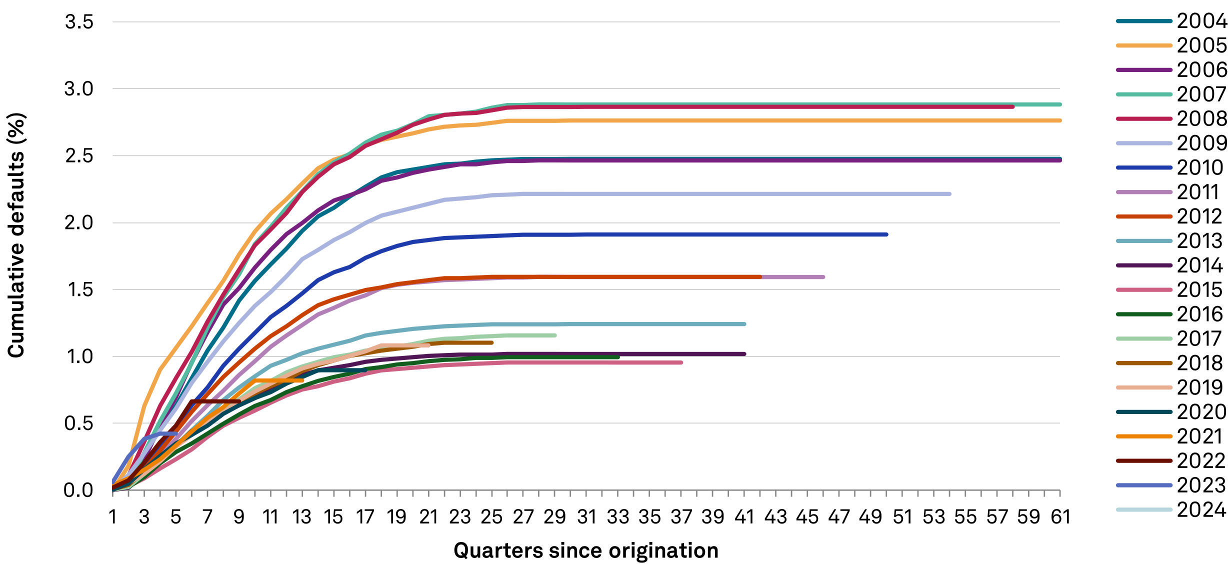
Gross loss base-case assumption

We have based our analysis solely on the subportfolio "private" as it accounts for 100% of the closing pool.

Chart 1 shows yearly averages of quarterly static cumulative gross loss data on private loans from first-quarter 2004 to first-quarter 2024.

Chart 1

Private customer pool: Cumulative gross losses



Our base-case assumptions reflect performance trends based on historical data in BDK's book, our view of portfolio quality, and our analysis of the originator's underwriting and servicing standards. Compared to Red & Black Auto Germany 10 UG (haftungsbeschränkt) (Red & Black 10), we have reduced our gross loss base-case assumption to 1.65%. We have observed continued good performance on the book data and predecessor transactions from BDK.

Recoveries and recovery timing

Recoveries are a combination of vehicle sale proceeds and ancillary payments received from the borrowers. Under our global auto ABS criteria, we establish recovery rate assumptions based primarily on an analysis of historical recovery rates for the issuer and the market, the volatility of past performance as well as credit, operational, or other factors that might affect the timing, amount, and sustainability of recovery rates. After considering all this information we set the base-case recovery rate at 60%.

We expect the transaction's performance to be in line with its peer auto loan originators in Germany. We give credit to its predecessor's recent consistent and strong performance. On this basis, we have set the stressed recovery rate for the 'AAA' stress level at 36.0%.

Chart 2

Private customer pool: Recovery curves

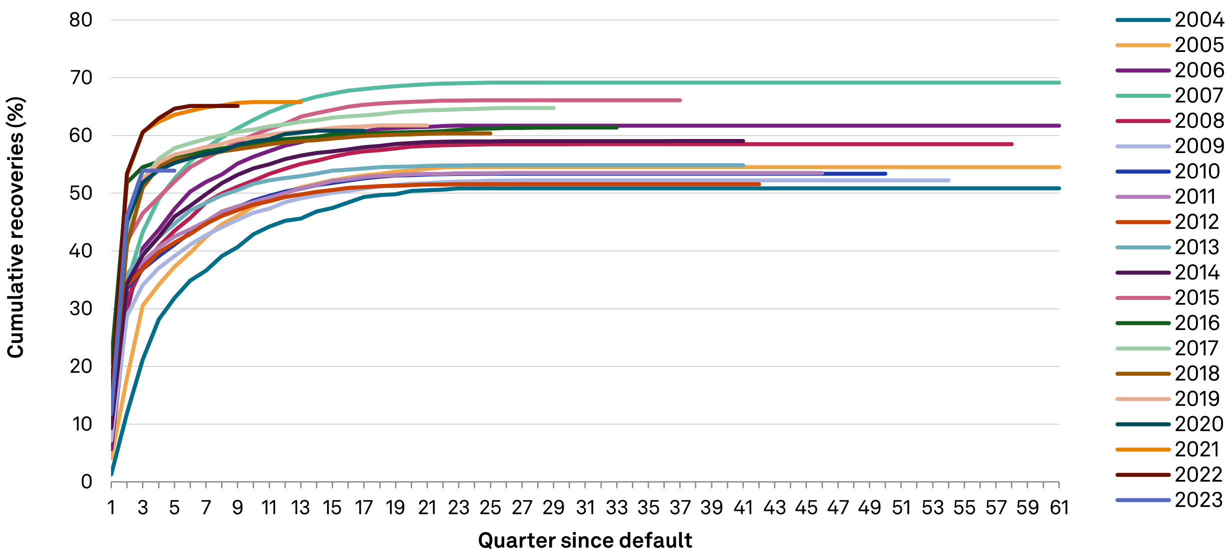


Table 4

Credit assumptions summary (closing pool)

Rating level	Cumulative gross loss base-case (%)	Stress multiple (x)	Stressed cumulative gross losses (%)	Recovery rate base-case (%)	Recovery rate haircuts	Stressed cumulative net losses (%)
AAA	1.65	4.60	7.59	60	40.0	4.9
AA	1.65	3.50	5.78	60	28.0	3.3
A	1.65	2.40	3.96	60	19.5	2.0
BBB	1.65	1.65	2.72	60	13.0	1.3
BB	1.65	1.35	2.23	60	6.5	1.0
B	1.65	1.05	1.73	60	0.0	0.7

Table 5

Peer comparison at 'AAA'

Rating level	Red & Black 11	Red & Black 10	Red & Black 9	Red & Black 8	Red & Black 7	Globaldrive Auto Receivables 2024-A B.V.	RevoCar 2024-1 UG (haftungsbeschränkt)	Silver Arrow 17
Stressed combined cumulative gross loss (%)*	7.59	8.05	8.93	8.93	9.40	8.08	9.10	7.68
Stressed recovery rate (%)	36.00	36.00	35.80	37.00	35.00	35.75	22.00	42.00
Stressed combined cumulative net loss (%)	4.86	5.15	5.73	5.63	6.11	5.19	7.10	4.45

*Excluding balloon gross loss assumptions (if applicable).

Balloon risk

Balloon contracts and three-way-financing contracts may introduce additional obligor default risk to the transaction if the borrower defaults on its obligation to make the balloon installment because the sale of the car in the open market did not result in a price high enough to fully cover the balloon payment.

We have set our balloon gross loss assumption at the 'AAA' level and at 7.5%, based on the significant diversification by brand and vehicle type, BDK's balloon-setting policy, and the overall size and concentration of maturing balloon payments.

Table 6

Balloon gross loss assumptions—closing pool

Rating level	Balloon gross loss rate(%)
AAA	7.5
AA	6.0
A	3.5
BBB	2.0
BB	0.0
B	0.0

In applying the additional loss rate in our cash flow analysis, the aggregate balloon payments on loans securitized are adjusted to reflect stress scenario defaults and prepayments to establish an adjusted balloon payment amount. The applicable additional balloon loss rate is multiplied by the adjusted balloon payment amount as a percentage of the total pool balance to calculate the incremental balloon gross loss rate.

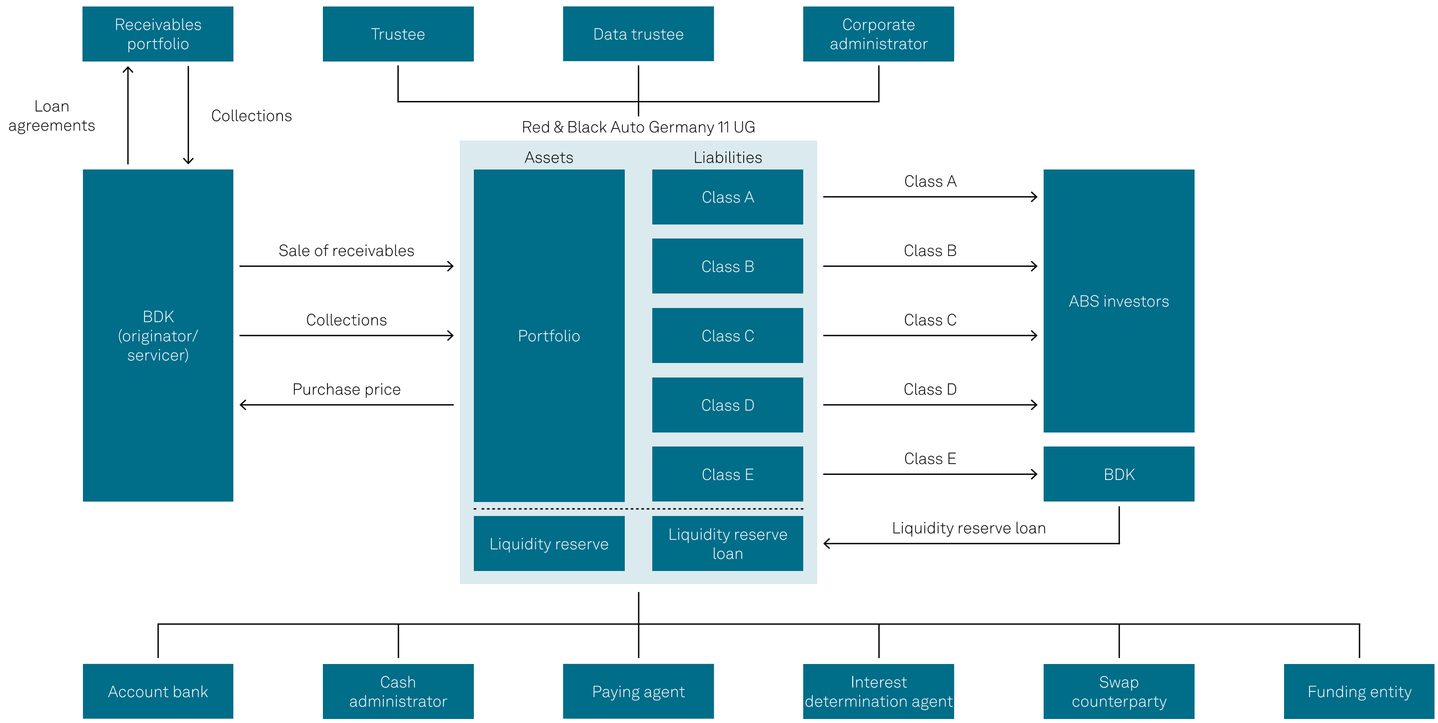
Transaction Structure

At closing, Red & Black Auto 11 purchased directly from BDK a portfolio of German auto loan receivables. The issuer used the note issuance proceeds to finance these purchases. All receivables were purchased at par value, €600 million (see chart 3). The seller transferred to the issuer the security title to the vehicles and the receivables. Therefore, the issuer will be able to enforce its right to the vehicles if the seller were to become insolvent.

The class A to D notes pay a floating rate of interest linked to one-month EURIBOR. To hedge the fixed-to-floating rate risk between the assets and the class A to D notes' liabilities, Red & Black Auto 11 entered into an interest rate swap with DZ Bank AG. We have considered this feature in our cash flow analysis.

Chart 3

Red & Black Auto Germany 11 UG (haftungsbeschrankt)
Transaction structure



Source: S&P Global Ratings.

The issuer is a German special-purpose entity, which we consider to be bankruptcy remote under our legal criteria (see "Structured Finance: Asset Isolation And Special-Purpose Entity Methodology," published on March 29, 2017). The final legal opinion at closing confirmed that the sale of the assets would survive the seller's insolvency.

Cash Flow Mechanics

The class A, B, C, D, and E notes pay interest and principal on the monthly interest payment dates (IPDs). The first IPD will be Oct. 15, 2024. The class A to D notes pay interest at a floating rate plus a margin, provided that if the interest rate is less than zero, it will be deemed to be zero. The class E notes pay a fixed rate. The legal final maturity date is Sept. 15, 2033.

The transaction has separate interest and principal waterfalls.

PDL mechanism and principal borrowing mechanism

The transaction features a gross loss PDL. The PDL is divided into five sub-ledgers—one each for class A to E notes. Periodic gross losses result in debits due to the PDL in reverse order, i.e., starting with the subordinated notes sub-ledger upward.

The principal waterfall features a principal borrowing mechanism, by which the issuer can use available principal amounts to cure shortfalls of senior expenses and interest on the class A to D notes (if not deferred).

Any principal borrowed to make up shortfalls in the interest waterfall also results in a debit to the PDL. Debits to the PDL may subsequently be cleared through the interest waterfall.

Interest deferral trigger

Interest on the class B notes can be paid junior to the PDL in the interest priority of payments if the below conditions are satisfied:

- The class is not the most senior class; or
- The debit balance on class B PDL is booked at 100% of the principal amount outstanding of the class B notes.

Interest on the class C to D notes can be paid junior to the PDL in the interest priority of payments if the below conditions are satisfied:

- The class is not the most senior class; or
- The debit balance on the class C and D PDL exceeds 50% of the principal amount outstanding of the respective class.

Repayment of the notes and pro rata mechanism

From closing, the issuer redeems the notes sequentially until the class A subordination has increased to 8.0% from 5.7% at closing. Once the target credit enhancement level has been reached, the class A to D notes will switch to pro rata paydown.

Moreover, the transaction will switch back to sequential paydown if there is a sequential payment trigger event, which is hit if:

- The cumulative net loss ratio exceeds 1.50%;
- The PDLs of the notes are booked at an aggregate amount equal to or higher than 1.00% of the original outstanding balance of the notes at closing; or
- The aggregate outstanding portfolio balance falls below 10% of original outstanding portfolio balance.

Clean-up call

BDK can exercise a clean-up call as soon as the aggregate outstanding portfolio balance falls below 10% of the aggregate outstanding portfolio balance at closing. If BDK exercises this option, the notes will fully redeem (including accrued interest).

Interest priority of payments

On any monthly interest payment date, Red & Black Auto 11 applies to the interest waterfall the sum of the following payments that it received on the preceding month:

- Interest collections;
- Recovery collections;
- Net swap receipts;
- Interest accrued on bank accounts and reserve accounts;
- Amounts on the seller risk reserve, which applies only if the servicer as of the previous payment date has failed to transfer received interest collections or if the seller fails to pay the issuer any deemed collections relating to interest collections resulting from setoff claims declared by the debtor;
- The amount standing to the credit of the servicing fee reserve account upon the occurrence of a servicer termination event to the extent necessary to cover any replacement costs of the servicer and the servicing fee payable to the substitute servicer that are above the standard servicing fee with respect to the collection period ending on the determination date immediately preceding the relevant payment date;
- Any amounts it has transferred from the principal waterfall via the principal borrowing mechanism; and
- Amounts on the liquidity reserve.

Table 7

Simplified interest priority of payments	
1	Statutory claims
2	Senior fees and admin expenses
3	Servicing fees
4	Swap payments
5	Interest on the class A notes
6	Interest on the class B notes (if the class B notes' PDL is below 100%)
7	Interest on the class C notes (if the class C notes' PDL is below 50%)
8	Interest on the class D notes (if the class D notes' PDL is below 50%)
9	Top-up the liquidity reserve to the required amount
10	Clear class A notes' PDL
11	Clear class B notes' PDL
12	Clear class C notes' PDL
13	Clear class D notes' PDL
14	Clear class E notes' PDL
15	Interest on the class B notes (if the class B notes' PDL equals 100%)
16	Interest on the class C notes (if the class C notes' PDL is more than 50%)
17	Interest on the class D notes (if the class D notes' PDL is more than 50%)
18	Interest on the class E notes
19	subordinated swap termination payments
20	Interest on the subordinated loan
21	Subordinated loan redemption amount
22	Other junior expenses

Principal priority of payment

On any monthly IPD, Red & Black Auto 11 applies to the principal waterfall the sum of the following collections that it has received during the preceding month:

- Principal collections (including prepayments and deemed collections);
- Any amounts it has transferred from the interest waterfall via the principal deficiency ledger mechanism; and
- Amounts on the seller risk reserve, which apply only if the servicer as of the previous payment date has failed to transfer received principal collections or if the seller fails to pay the issuer any deemed collections relating to principal collections resulting from setoff claims declared by the debtor.

Table 8

Simplified principal priority of payments	
1	Principal borrowed to cure shortfalls of senior expenses and interest on class A to D notes (if not deferred)
2	Class A notes redemption amount (sequential or pro rata)
3	Class B notes redemption amount (sequential or pro rata)
4	Class C notes redemption amount (sequential or pro rata)
5	Class D notes redemption amount (sequential or pro rata)
6	Class E notes (only once class A to D notes have fully redeemed)

Excess spread

Excess spread results from the difference between the interest income received from the assets and the interest paid to the noteholders, plus any senior fees and expenses. The excess spread is used to cure defaults after the replenishment of the reserve.

Cash reserve

At closing, the originator funded through the subordinated loan an amortizing liquidity reserve equal to 1.0% of the closing balance of the class A to D notes. The liquidity reserve amortizes in line with 1.0% of the class A to D notes' outstanding amount with a floor of 0.5% of the initial amount of the class A to D notes.

The liquidity reserve serves as a liquidity buffer to cover any potential shortfalls in the payment of senior costs and expenses and interest on the class A to D notes, but the reserve cannot be applied for the class B to D notes' interest if the respective interest deferral trigger is hit. Any excess of the reserve over the required amount will flow through the interest waterfall and will be available to cure any PDL.

Servicing fee reserve

To cover replacement costs of the servicer and the servicing fee payable to a substitute servicer, which could potentially be above the standard servicing fee of 0.5%, Société Générale will fund a servicing fee reserve if one of the below triggers are breached:

- Société Générale S.A. ceases to have a rating of at least 'BBB'; or
- A servicer termination event occurs and is continuing.

The reserve will be funded within 60 calendar days if a downgrade event has occurred or promptly upon a servicer termination event.

Once one of the above triggers occurs, the required amount will be equal to the product of 0.5% multiplied by the weighted-average life (WAL) of the assets as at the determination date multiplied by the aggregate outstanding portfolio principal balance as at the determination date.

On each payment date after the reserve has been funded, the issuer will repay to the funding entity any servicing fee reserve surplus outside of the applicable priority of payments.

As a result, we have not modelled a stressed servicer fee in our cash flow analysis because we believe the servicing fee reserve will be sized at a level that is sufficient to cover our stressed servicing fees any time a replacement servicer steps in. Therefore, our driving run assumes the contractual fee of 0.5% charged by BDK, as the existing servicer.

Interest rate hedging

At closing, the issuer and the swap counterparty entered into four fixed-to-floating interest swap agreements--one for each of the class A to D notes--to hedge the risk between the fixed rate of interest paid by the assets and the floating rate of interest payable on the notes.

Under these swap agreements, the issuer pays a fixed rate on the swap notional. In exchange, the swap counterparty pays to the issuer a floating interest rate based on one-month EURIBOR (i.e., the same index that the notes pay).

The swap documentation is in line with our criteria.

Mitigation Of Seller Risks

Setoff risk

A substantial share of the contracts was sold together with insurance products, and the loans can finance the insurance. BDK paid the insurance premium upfront to the insurer. Under the transaction documents, the borrower's right to reduce the installments by an amount equal to the premium related to the unused insurance protection cannot be excluded if BDK and the insurer become insolvent at the same time. We consider the set-off risk to be limited, when the insurance provider is a third party and independent from BDK. We also consider the set-off risk to be limited when the insurance provider is a subsidiary of Société Générale, as the link between the financial strength of the insurance subsidiary and BDK is limited.

Commingling risk

Commingling risk may arise if the servicer becomes insolvent and if collections at that time in the servicer's collection accounts, plus collections received afterward until borrowers are notified to redirect their payments into the issuer account, become commingled with the insolvent servicer monies.

The servicer sweeps collections to the issuer monthly. BDK receives collections on the loan receivables either on the first day or the 15th day of the month. BDK has direct debit arrangements for all receivables of the pool. We assume collections from the previous month and the first 30% of the following month's collections to be commingled.

Société Générale will fund a commingling reserve up to the relevant maximum amount within 60 days if the long-term ICR on Société Générale falls below 'BBB', or promptly if BDK becomes insolvent.

We have used the above inputs and stressed assumptions on commingling risk we would expect at the relevant rating levels. The commingling reserve fund fully mitigates the transaction's exposure to commingling risk.

The table below shows the maximum amount in relation to the date:

Table 9

Maximum amount paid by Société Générale

From (and including)	To (and excluding)	Maximum amount (mil. €)
Closing date	Sept. 15, 2025	31.0
Sept. 15, 2025	Sept. 15, 2026	27.0
Sept. 15, 2026	Sept. 15, 2027	21.0
Sept. 15, 2027	Sept. 15, 2028	20.0
Sept. 15, 2028	Sept. 15, 2029	14.0
Sept. 15, 2029	Sept. 15, 2030	7.0
Sept. 15, 2030	Sept. 15, 2031	1.0

Cash Flow Analysis

Table 10

Cash flow assumptions

Recession start	Closing
Length of recession	Weighted-average life (32 months)
Cumulative gross loss curve	Evenly distributed and back-loaded over weighted-average life
Recovery lag	13 months
Delinquency	Two-thirds of credit losses recovered six months later
Stressed servicing fees (%)	0.5
Fixed fees (€)	100,000
Prepayments (high/low) (%)	24.0/0.5
Interest rate	Up, down, up/down, down/up
WAC (%)*	5.88
Commingling stress	Mitigated through a dedicated reserve.

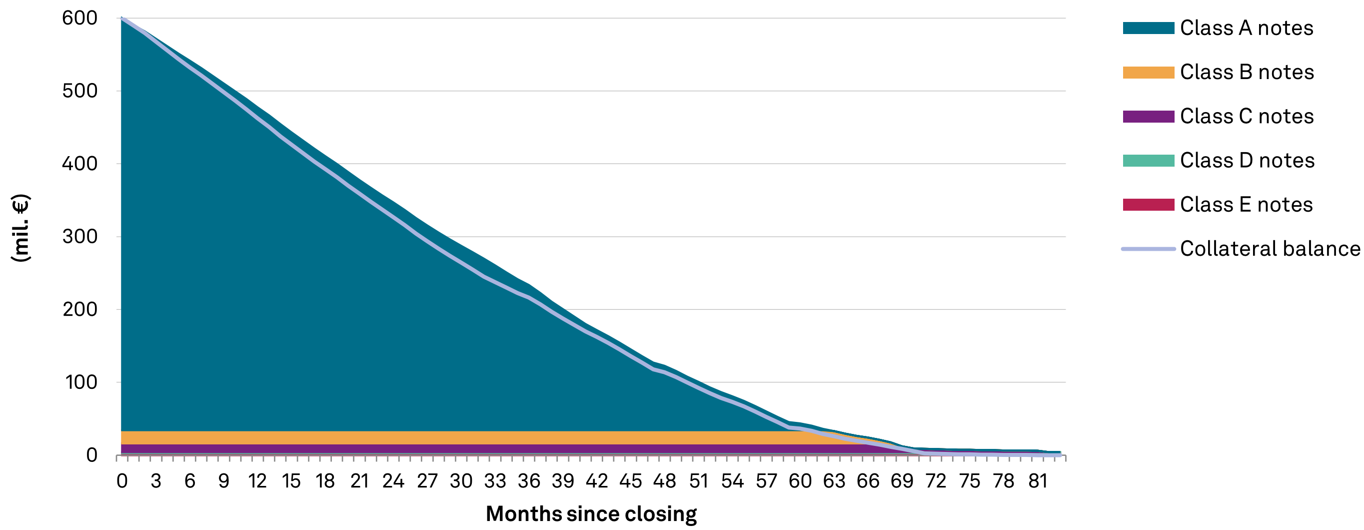
*Calculations are according to S&P Global Ratings' methodology. WAC--Weighted-average coupon before spread compression.

We have tested the classes' ability to pay timely interest and ultimate principal on the class A to D notes under the above stress assumption through a cash flow model. The model incorporates the payment structure, including the notes' sequential/pro rata amortization feature and the liquidity reserve's amortizing nature.

Chart 4

Collateral and note balances

In the 'AAA' most stressful scenario



Based on the assumptions discussed above, the high prepayment scenarios have proved to be more stressful, mostly because they reduce the amount of available excess spread.

Our analysis indicates that the available credit enhancement is sufficient to withstand the credit and cash flow stresses that we apply at the 'AAA' rating for the class A notes, 'AA+' rating for the class B notes, 'A' rating for the class C notes, and 'BBB+' rating for the class D notes. The cash flow output for the class B notes in the standard run achieves a higher rating. However, we have assigned a 'AA+ (sf)' rating to take into account the lower credit enhancement compared to the class A notes. The cash flow output for the class C notes in the standard run achieves a higher rating. However, we have assigned a 'A (sf)' rating to take into account the lower available hard credit enhancement. The cash flow output for the class D notes in the standard run achieves a higher rating. However, we have assigned a 'BBB+ (sf)' rating to take into account the volatility shown in our sensitivity runs.

To account for the notes' sequential/pro rata amortization feature, we have also tested the structure's sensitivity to back-loaded loss timing. Due to the tight sequential payment triggers in relation to cumulative net losses and aggregate PDLs booked at 1% of original outstanding balance, we found that the transaction does not switch to pro rata redemption in our higher rating scenarios.

Sovereign Risk

Our long-term unsolicited sovereign credit rating on Germany is 'AAA'. Therefore, our structured finance sovereign risk criteria do not constrain our ratings in this transaction (see "Incorporating Sovereign Risk In Rating Structured

Finance Securities," published on Jan. 30, 2019).

Forward-Looking View

We consider the transaction's resilience to additional stresses to some key variables, in particular defaults and recoveries, to determine our forward-looking view.

In our view, borrowers' ability to repay their auto loans will be highly correlated to macroeconomic conditions, particularly the unemployment rate and, to a lesser extent, consumer price inflation and interest rates. As of today, our forecast on unemployment rates for Germany is 3.4% in 2024, 3.3% for 2025, and 3.1% for 2026. Our forecast for inflation in Germany is 2.7% in 2024 and we expect this to decline to 2.2% in 2025 and to 1.9% in 2026.

Furthermore, a decline in second-hand car values typically lowers realized recoveries. Although used car prices may decline moderately in Germany in 2024, we do not expect them to fall significantly.

Given our current macroeconomic forecast and forward-looking view of Germany's auto market, our sensitivity scenarios consider, all else being equal, the hypothetical effect on our credit ratings of:

- An increased gross default base case of up to 30%; and
- A maximum haircut of 30% to the recovery rate base case.

We therefore ran eight scenarios with increased gross defaults and/or reduced expected recoveries, as shown in the chart below.

Chart 5

Sensitivity analysis

Class	Base case	1	2	3	4	5	6	7	8
Default rate base-case increase (%)	0	10	30	0	0	10	30	10	30
Recovery rate base-case decrease (%)	0	0	0	10	30	10	10	30	30
Gross default rate (%)	1.65	1.82	2.15	1.65	1.65	1.82	2.15	1.82	2.15
Recovery rate (%)	60	60	60	54	42	54	54	42	42

Class of notes	Initial rating	1	2	3	4	5	6	7	8
A	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA
B	AA+	AA+	AA+	AA+	AA+	AA+	AA+	AA+	AA+
C	A	A	A	A	A	A	A	A	A
D	BBB+	BBB+	BBB+	BBB+	BBB+	BBB+	BBB+	BBB+	BBB

No change
One-notch downgrade
Two-notch downgrade
Three-notch or more downgrade

Source: S&P Global Ratings.

The results of the above sensitivity analysis indicate a deterioration of no more than one notch on the class D notes, which is in line with the credit stability considerations in our rating definitions. Transaction features such as initial subordination levels and a liquidity reserve enhance the stability of the ratings under each scenario.

The transaction also embeds some other strengths that may offset a sudden increase of defaults. The transaction has a short weighted-average life and delivers fast build-up of additional credit enhancement as the transaction amortizes, even though this might slow down when the class A to class D notes start amortizing pro-rata among themselves. The interest rate swap mitigates the interest rate risk.

Monitoring And Surveillance

We will assess quarterly the underlying portfolio's performance, including defaults and delinquencies.

Additionally, we will also assess annually:

- The supporting ratings;
- The servicer's operations and its ability to maintain minimum servicing standards; and
- Whether the then-available credit enhancement for each class of notes is sufficient to withstand losses that are commensurate with the ratings assigned.

Appendix

Transaction participants

Transaction participants	
Issuer	Red & Black Auto Germany 11 UG (haftungsbeschränkt)
Originator, seller, and servicer	Bank Deutsches Kraftfahrzeuggewerbe GmbH
Arranger and lead manager	Société Générale S.A.
Corporate administrator	Intertrust (Deutschland) GmbH
Cash administrator/interest determination agent and paying agent	Bank of New York Mellon, London Branch
Trustee and data trustee	Intertrust Trustees GmbH
Swap provider	DZ BANK AG
Bank account provider	Bank of New York Mellon, Frankfurt Branch

Related Criteria

- Criteria | Structured Finance | ABS: Global Auto ABS Methodology And Assumptions, July 26, 2024
- General Criteria: Environmental, Social, And Governance Principles In Credit Ratings, Oct. 10, 2021
- Criteria | Structured Finance | General: Global Framework For Payment Structure And Cash Flow Analysis Of Structured Finance Securities, Dec. 22, 2020
- Criteria | Structured Finance | General: Methodology To Derive Stressed Interest Rates In Structured Finance, Oct. 18, 2019
- Criteria | Structured Finance | General: Counterparty Risk Framework: Methodology And Assumptions, March 8, 2019
- Criteria | Structured Finance | General: Incorporating Sovereign Risk In Rating Structured Finance Securities: Methodology And Assumptions, Jan. 30, 2019
- Legal Criteria: Structured Finance: Asset Isolation And Special-Purpose Entity Methodology, March 29, 2017
- Criteria | Structured Finance | General: Global Framework For Assessing Operational Risk In Structured Finance Transactions, Oct. 9, 2014
- General Criteria: Methodology Applied To Bank Branch-Supported Transactions, Oct. 14, 2013
- Criteria | Structured Finance | General: Global Derivative Agreement Criteria, June 24, 2013
- General Criteria: Principles Of Credit Ratings, Feb. 16, 2011
- Criteria | Structured Finance | General: Methodology For Servicer Risk Assessment, May 28, 2009

Related Research

- Economic Outlook Eurozone Q4 2024: Consumer Spending To The Rescue, Sept. 24, 2024
- European Auto ABS Index Report Q2 2024, Aug. 12, 2024

- Germany 'AAA/A-1+' Ratings Affirmed; Outlook Stable, March 22, 2024
- S&P Global Ratings Definitions, June 9, 2023
- ESG Industry Report Card: Auto Asset-Backed Securities, March 31, 2021
- How Much Is Enough? Information Quality Standards For The EMEA RMBS And ABS Rating Process, Jan. 8, 2019
- 2017 EMEA ABS Scenario And Sensitivity Analysis, July 6, 2017
- European Structured Finance Scenario And Sensitivity Analysis 2016: The Effects Of The Top Five Macroeconomic Factors, Dec. 16, 2016
- Global Structured Finance Scenario And Sensitivity Analysis 2016: The Effects Of The Top Five Macroeconomic Factors, Dec. 16, 2016