Presale:

Carvana Auto Receivables Trust 2023-N1

April 20, 2023

PRIMARY CREDIT ANALYST

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Preliminary ratings

Class(i)	Preliminary rating	Type	Interest rate(ii)	Amount (mil. $)(ii)	Legal final maturity date
A	AAA (sf)	Senior	Fixed	245.85	April 12, 2027
B	AA (sf)	Subordinate	Fixed	59.98	Nov. 10, 2027
C	A (sf)	Subordinate	Fixed	55.58	July 10, 2029
D	BBB (sf)	Subordinate	Fixed	60.75	July 10, 2029
E(iii)	NR	Subordinate	Fixed	56.63	April 10, 2030

Note: This presale report is based on information as of April 20, 2023. The ratings shown are preliminary. This report does not constitute a recommendation to buy, hold, or sell securities. Subsequent information may result in the assignment of final ratings that differ from the preliminary ratings. (i)The transaction will issue class XS notes, which are unrated and may be retained or sold in one or more private placements. (ii)The actual interest rate and amount for each class will be determined on the pricing date. (iii)The transaction will issue unrated class E notes, which may initially be retained or sold in one or more private placements.

Profile

Expected closing date	May 2, 2023.
Collateral	Subprime auto loan receivables.
Originator, seller, administrator, and sponsor	Carvana LLC, indirectly owned by Carvana Co. (CC/Negative/--).
Depositor	Carvana Receivables Depositor LLC.
Issuer	Carvana Auto Receivables Trust 2023-N1.
Servicer	Bridgecrest Credit Co. LLC.
Backup servicer	Vervent Inc.
Grantor trust	Carvana Auto Receivables Grantor Trust 2023-N1.
Collateral custodian and indenture trustee	Computershare Trust Co. N.A. (BBB/Stable/--).
Owner trustee and grantor trust trustee	BNY Mellon Trust of Delaware.
Bank account provider	Wells Fargo Bank N.A. (A+/Stable/A-1).

Rationale

The preliminary ratings assigned to Carvana Auto Receivables Trust 2023-N1's (CRVNA 2023-N1) automobile asset-backed notes reflect:

- The availability of approximately 55.60%, 48.39%, 39.28%, and 30.12% credit support (hard credit enhancement and haircut to excess spread) for the class A, B, C, and D, notes, respectively, based on stressed cash flow scenarios. These credit support levels provide at least 3.00x, 2.60x, 2.10x, and 1.60x coverage of our expected cumulative net loss (ECNL) of 18.25% for the class A, B, C, and D notes, respectively (see the Credit Enhancement And Collateral and the Cash Flow Modeling Assumptions And Results sections below).
- The expectation that under a moderate ('BBB') stress scenario (1.60x our expected loss level), all else being equal, our preliminary 'AAA (sf)', 'AA (sf)', 'A (sf)', and 'BBB (sf)' ratings on the class A, B, C, and D notes, respectively, are within our credit stability limits (see the Cash Flow Modeling Assumptions And Results section below).
- The timely interest and principal payments by the designated legal final maturity dates under our stressed cash flow modeling scenarios, which we believe are appropriate for the assigned preliminary ratings.
- The collateral characteristics of the series' subprime automobile loans, our view of the credit risk of the collateral, and our updated macroeconomic forecast and forward-looking view of the auto finance sector (see the Credit Enhancement And Collateral and the Macroeconomic And Auto Finance Sector Outlook sections below).
- The series' bank accounts at Wells Fargo Bank N.A. (Wells Fargo), which do not constrain the preliminary ratings.
- Our operational risk assessment of Bridgecrest Credit Co. LLC (Bridgecrest) as servicer, as well as the backup servicing agreement with Vervent Inc. (Vervent).
- Our assessment of the transaction's potential exposure to environmental, social, and governance (ESG) credit factors that are in line with our sector benchmark.
- The transaction's payment and legal structures.

Our ECNL for CRVNA 2023-N1 is 18.25%, which is an increase from 17.50% for CRVNA 2022-N1. It reflects:

- CRVNA's more recent outstanding series, which are showing signs of deterioration in performance with higher losses and delinquencies and lower recovery rates compared to more seasoned transactions;
- Our view that the CRVNA 2023-N1 collateral characteristics are marginally weaker than those of CRVNA 2022-N1; and
- Our forward-looking view of the economy and auto finance sector, including our outlook for a shallow recession later this year.

Key Ratings Considerations

Our ratings reflect the following considerations:

Asset isolation In rating this transaction, S&P Global Ratings will review the legal matters it believes are relevant to its analysis, as outlined in its criteria (see, "U.S. Structured Finance Asset Isolation And Special-Purpose Entity Criteria," published May 15, 2019). Specifically, in addition to certain other opinions, we request opinions of counsel that address risks related to insolvency in order to determine (a) that the transfer of receivables from Carvana LLC (Carvana) to Carvana Receivables Depositor LLC constitute a true sale of the assets as opposed to a secured loan and that (i) the receivables would not be the property of the Carvana bankruptcy estate under Section 541 of the Title 11 of the U.S. Code (the "Bankruptcy Code") and (ii) Section 362(a) of the Bankruptcy Code would not operate to stay payments by the servicer of collections on the receivables in accordance with the transaction's agreements and(b) whether a court exercising bankruptcy jurisdiction would order substantive consolidation of the assets and liabilities of Carvana, and those of Carvana Receivables Depositor LLC, Carvana Auto Receivables Trust 2023-N1, or Carvana Auto Receivables Grantor Trust 2023-N1. In reliance on these opinions, S&P Global Ratings bases its ratings of this transaction on the creditworthiness of the isolated assets, without regard to the current or future creditworthiness of the original owner of the assets, Carvana, indirectly owned by Carvana Co. (CC/Negative/--).

Servicer Bridgecrest Credit Co. LLC. (Bridgecrest), is the servicer of the receivables securing the notes of CRVNA 2023-N1. Bridgecrest has over 25 years of experience in servicing auto loans. The company is responsible for all aspects of on-boarding, servicing, and collections, including coordinating repossession and remarketing of the vehicles. Bridgecrest's on-boarding includes a welcome call and introductory letter and/or email to obligors, with its own letter brands and instructions regarding payments. All future contact with the obligor is through Bridgecrest. This significantly reduces the risk of delayed payments, as well as reduces the risk of increased delinquencies and losses in the event of Carvana bankruptcy. Commingling risk is reduced by the requirement that all collections are deposited to the series' collections account within two business days of collection. In addition, Vervent, who has been in business for over 30 years and has extensive experience in servicing auto loans, will serve as the back-up servicer. Vervent has mapped the data fields for Bridgecrest's servicing system and receives a monthly data tape, which we believe will facilitate a smooth servicing transfer in the event of a servicer termination event.

Collateral custodian Computershare Trust Co. N.A., is the custodian of the receivables' contract files, including authoritative copy or records of the electronic contract, with direct responsibility for the administration under the transaction documents. If the certificate of title has not been received, the collateral custodian expects to receive a copy of the title application or electronic submission within 45 days of the closing date and the certificate of title within 180 days of the closing date. This separation ensures continuity of servicing of the receivables, without regard to the current or future creditworthiness of the original owner of the assets, Carvana. The transaction documents contain representations that if the title is not perfected and if the breach is deemed to materially and adversely affect the noteholders, the contract will be repurchased by the originator. Discussions with the third-party servicer, Bridgecrest, regarding the outstanding rated series, indicate that these instances are de minimis. Additionally, the servicer can, where required, pursue title perfection. Our understanding is that obligors' contractual obligations under the loans should not be impacted by titling.

Underwriting The collateral characteristics of this series relative to those of a rated series (see table 2) are not materially different. Additionally, the performance of those outstanding series, albeit early and incorporate the uplift from COVID-19 pandemic-related support programs, are in-line with or better than our initial loss expectations. The Ally Financial Inc. (Ally) flow arrangement, in place since 2016, imposes Ally's underwriting review and due diligence--as if Ally is underwriting the loans--which can reduce deterioration of credit quality in the underwriting process. Our expected cumulative net loss (CNL) takes into consideration underwriting, performance, and our forward-looking view of the economy.

Carvana Other than second-quarter 2021, Carvana has not been profitable. The lack of profitability has historically resulted from the company's focus on growth. For year-end 2022, the company reported a net loss of $2,893 million, up from a $286 million net loss in the prior year. The company attributed its financial performance to a mix of external economic factors and internal disruptions. Carvana's liquidity includes a $2.20 billion floorplan facility, a $4.00 billion flow program with Ally, and four short-term credit revolving facilities with bank lenders totaling about $2.00 billion.

On March 22, 2023, Carvana Co. announced that it commenced offers to exchange its outstanding existing notes for up to an aggregate principal amount of $1 billion of senior secured second-lien notes due 2028. Per our corporate analysis, we view this proposed distraction as distressed and tantamount to default. As a result, we lowered our issuer credit rating on Carvana to 'CC' from 'CCC+' (see "Carvana Co. Downgraded to 'CC' On Proposed Distressed Debt Exchange; Outlook Negative," published March 23, 2023). Overall, however, our ratings for the current transaction are based on, among other factors, the creditworthiness of the isolated assets, without regard to the current or future creditworthiness of the original owner of the assets, Carvana.

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, to social credit factors as average, and to governance credit factors as below average (see "ESG Industry Report Card: Auto Asset-Backed Securities," published March 31, 2021).

The transaction's environmental and governmental credit factors are in line with our sector benchmark. Environmental credit factors are generally viewed as above average, given that the collateral pool primarily comprises vehicles with internal combustion engines (ICE), which emit pollutants that contribute to climate transition risks. While the adoption of electric vehicles and future regulation could in time lower ICE vehicle values, we believe that our current approach to evaluating recovery and residual values adequately accounts for vehicle values over the transaction's relatively short expected life. As a result, we have not separately identified this as a material ESG credit factor in our analysis.

In our view, the transaction has relatively higher exposure to social credit factors than our sector benchmark because the transaction has a pool of subprime obligors while the benchmark comprises prime obligors. Given the elevated interest rate and affordability considerations for these subprime borrowers, legal and regulatory risks could increase if the validity of the contracts or the servicer's collection practices were challenged. We believe this risk is mitigated by representations from the issuer that each loan complied with all laws when it was originated. The issuer has a compliance department that manages its adherence to all applicable laws.

Credit Enhancement And Collateral

Structural changes from CRVNA 2022-N1

- No class N notes will be issued for this series.
- While prior series have implemented a targeted amortization class structure, the 2023-N1 series will utilize a standard sequential pay class structure.
- Total initial hard credit enhancement increased for classes A, B, C, D, and E to 53.70%, 42.10%, 31.35%, 19.60% and 8.65%, respectively, from 50.00%, 38.10%, 26.15%, 14.25%, and 1.75% (see table 1).
- Subordination decreased for classes A, B, C, and D notes to 45.05%, 33.45%, 22.70%, and 10.95%, respectively, from 48.25%, 36.35%, 24.40%, and 12.50%.
- Initial and target overcollateralization increased to 7.40% and 11.20%, respectively, from 0.50% and 4.25%.
- Pre-pricing excess spread is estimated at 10.80%, which is a decrease from 11.66% for 2022-N1.

The increase in the initial hard credit enhancement is primarily due to the increase in our expected loss for the 2023-N1 series as well as a reduction in excess spread. Our stressed cash flow results indicate that each of CRVNA 2023-N1's classes is enhanced to the degree consistent with the assigned preliminary ratings (see the Cash Flow Modeling Assumptions And Results section below).

Table 1

Credit enhancement summary (%)

	CRVNA				
	2023-N1	2022-N1(iv)	2021-N4(iv)	2021-N3(iv)	2021-N2(iv)
Subordination(i)					
Class A	45.05	48.25	48.60	49.65	53.65
Class B	33.45	36.35	36.60	36.20	40.25
Class C	22.70	24.40	24.50	23.50	25.70
Class D	10.95	12.50	12.20	11.00	15.50
Class E	0.00	0.00	0.00	0.00	0.00
Class N	N/A	0.00	0.00	0.00	N/A
Overcollateralization(i)					
Initial	7.40	0.50	0.00	0.00	0.00
Target	11.20	4.25	3.00	3.85	4.60
Floor	1.25	1.25	1.25	1.25	1.50
Reserve fund(i)					
Initial	1.25	1.25	1.25	1.25	1.25
Target	1.25	1.25	1.25	1.25	1.25
Floor	1.25	1.25	1.25	1.25	1.25
Total initial hard credit enhancement(i)					
Class A	53.70	50.00	49.85	50.90	54.90

Table 1

Credit enhancement summary (%) (cont.)

	CRVNA				
	2023-N1	2022-N1(iv)	2021-N4(iv)	2021-N3(iv)	2021-N2(iv)
Class B	42.10	38.10	37.85	37.45	41.50
Class C	31.35	26.15	25.75	24.75	26.95
Class D	19.60	14.25	13.45	12.25	16.75
Class E	8.65	1.75	1.25	1.25	1.25
Class N(ii)	N/A	0.40	0.35	0.05	N/A
Estimated excess spread per year(iii)	10.80	11.66	13.93	14.60	15.17

(i)Percentage of the initial collateral pool balance. (ii)For series 2021-N3, 2021-N4, and 2022-N1, in which class N notes were issued, the class N enhancement accounts for the class N reserve account, which is 0.05%, 0.30%, and 0.40% of the initial pool balance, respectively, and is available solely to pay class N interest and principal. (iii)Pre-pricing for 2023-N1 and post-pricing for all other series. CRVNA--Carvana Auto Receivables Trust. (iv)The series 2021-N1, 2021-N2, 2021-N3, and 2021-N4 transactions pay principal sequentially until each class achieves its targeted balance (when the classes below it can be paid pro rata to the extent of sufficient available funds). N/A--Not applicable.

Collateral changes from CRVNA 2022-N1

The significant collateral changes for CRVNA 2023-N1's initial pool (as of April 15, 2023) from CRVNA 2022-N1's final pool include:

- The percentage of loans with original terms of 73-75 months increased to 23.39% from 6.96%. Additionally, 2023-N1 is the first series to include original term loans of 76-78 months, which accounts for 0.20% of the pool.
- The weighted average FICO decreased to 578 from 584.
- The percentage of loans that have not made a payment decreased to 16.16% from 44.27%.
- The weighted average seasoning increased to 3.18 months from 1.11 months.
- The weighted average annual percentage rate (APR) increased to 20.92% from 18.05%.

We believe the CRVNA 2023-N1 collateral pool is marginally weaker than that of CRVNA 2022-N1, mainly due to the increase in longer-term loans (see table 2). However, this is partially mitigated by the increase in seasoning and resulting lower percentage of loans that have not made their first payment. We factored this into our expected loss for CRVNA 2023-N1 (see the S&P Global Ratings' Expected Loss section below).

Table 2

Collateral comparison(i)

	CRVNA				
	2023-N1	2022-N1	2021-N4	2021-N3	2021-N2
Collateral cutoff date	April 15, 2023	Feb. 26, 2022	Nov. 27, 2021	Aug. 21, 2021	May 9, 2021
Pool size (mil. $)	517.05	375.00	460.00	420.00	400.00
No. of loans	23,540	16,335	21,856	19,997	20,928
Avg. principal balance ($)	21,965	22,957	21,047	21,003	19,113
WA APR (%)	20.92	18.05	18.82	18.60	19.19

Table 2

Collateral comparison(i) (cont.)

	CRVNA				
	2023-N1	2022-N1	2021-N4	2021-N3	2021-N2
WA LTV ratio (%)	100.77	100.33	100.94	101.10	98.97
WA down payment (%)	7.66	7.08	6.99	7.04	11.73
WA original term (mos.)	72.23	71.56	71.62	71.35	71.27
WA remaining term (mos.)	69.05	70.44	69.93	70.32	70.25
WA seasoning (mos.)	3.18	1.11	1.69	1.03	1.02
Loans with original terms of 61-72 months (%)	75.58	92.43	91.45	97.19	97.11
Loans with original terms of 73-75 months (%)	23.39	6.96	7.94	2.17	2.02
Loans with original terms of 76-78 months (%)	0.20	N/A	N/A	N/A	N/A
WA deal score	26.18	26.09	26.55	25.51	24.70
Non-zero WA original FICO score	578	584	578	579	569
Loans with no FICO score (%)	3.21	4.03	4.77	5.11	5.90
Top five state concentrations (%)					
	TX=13.73	TX: 10.66	TX: 10.86	TX: 11.75	TX: 10.85
	FL=7.81	CA: 7.63	CA: 6.95	GA: 7.66	CA: 7.16
	PA=7.48	FL: 7.13	FL: 6.89	FL: 7.06	FL: 6.55
	CA=6.78	GA: 6.92	GA: 6.35	CA: 6.33	GA: 6.53
	GA=5.57	PA: 6.58	PA: 6.31	PA: 5.88	PA: 5.90
Originator's credit grades--deal score					
0-19	35.58	37.11	35.97	38.88	40.65
20-39	36.26	32.81	33.81	32.46	32.96
40-59	28.16	30.08	30.22	28.66	26.39
S&P Global Ratings' original ECNL (%)	18.25	17.00-18.00	17.75-18.75	18.00-19.00	20.00-21.00

(i)All percentages are of the initial gross receivables balance. CRVNA--Carvana Auto Receivables Trust. WA--Weighted average. APR--Annual percentage rate. LTV--Loan-to-value. ECNL--Expected cumulative net loss. N/A--Not applicable.

Macroeconomic And Auto Finance Sector Outlook

In our view, changes in the unemployment rate are a key determinant of charge-offs in the auto finance industry. We have also observed that recovery values tend to weaken during recessionary periods.

In our analysis, we considered the economic data and forecasts outlined in table 3, and their baseline effect on collateral credit quality in determining our base-case expected loss level.

As the Federal Reserve's (Fed) aggressive tightening of interest rates increases borrowing costs, we expect the economy to fall into a shallow recession later this year. We are forecasting slightly negative growth in the second and third quarters of this year with GDP averaging 0.7% growth for the year (see "Economic Outlook U.S. Q2 2023: Still Resilient, downside Risks Rise). With economic pressures worsening due to higher borrowing costs, businesses will need to trim payrolls in interest rate-sensitive sectors. The recent banking sector disturbance may also lead to credit tightening and a softer jobs market. We expect the unemployment rate to rise and peak at 5.4% in early 2025 and then decline in late 2025.

Inflation remains a concern because it is eroding wage gains and the savings cushion that was built during the pandemic, particularly for those with lower incomes and smaller cushions.

Table 3

U.S. economic factors

	Actual	Forecast			
	2022	2023	2024	2025	2026
Real GDP (% year-over-year growth)	2.1	0.7	1.2	1.8	2.0
Unemployment rate (% annual average)	3.7	4.1	5.0	5.1	4.6
Consumer Price Index (CPI) (% annual average)	8.0	4.2	2.4	1.6	1.5

Source: Bureau of Economic Analysis, Bureau of Labor Statistics, and S&P Global Ratings Economics forecasts.

In the auto market, as new vehicle supply imbalances continue to ease and borrowing rates continue to rise, we would expect used vehicle values to normalize to historical levels.

S&P Global Ratings' Expected Loss: 18.25%

We determined our expected loss for CRVNA 2023-N1 by analyzing:

- The collateral characteristics relative to those of outstanding series (see table 2) and to peers (see table 4);
- The managed portfolio's performance and origination static pool data and their relative performances (see table 5, and charts 1 and 2); and
- The outstanding series' performance (see table 6 and charts 3-6).

We placed more emphasis on origination static pool analysis when determining the expected loss for this series. We complemented this analysis with our forward-looking view of the economy and the auto finance sector (see the Macroeconomic And Auto Finance Sector Outlook section above). Overall, we expect CRVNA 2023-N1 to experience lifetime CNL of 18.25%, an increase from 17.50% for the 2022-N1 series.

Peer analysis

We also compared the series 2023-N1 pool's collateral characteristics with those of Carvana's peers in the subprime space.

Table 4

Carvana collateral comparison with peers(i)

	Series			
	CRVNA 2023-N1	GCAR 2023-1	CPSART 2023-A	EART 2023-1
Pool size (mil. $)	517.05	318.58	362.87	610.57
No. of loans	23,540	16,676	18,017	31,903
Avg. principal balance ($)	21,965	19,104	20,140	19,138
WA APR (%)	20.92	20.78	20.06	21.83
WA LTV ratio (%) (ii)	100.77	118.26	124.82	113.72
WA Mileage	56,216	61,381	N/A	66,310
New vehicles (%)	0.00	7.60	6.81	2.02
Used vehicles (%)	100.00	92.40	93.19	97.98
WA original term (mos.)	72.23	69.74	69.72	73.00
WA remaining term (mos.)	69.05	64.43	67.17	69.00
WA seasoning (mos.)	3.18	5.31	2.55	4.00
Loans with original terms of 61-72 months (%)	75.58	89.18	55.12	60.13
Loans with original terms of 73-78 months (%)	23.59	N/A	26.62	37.80
Non-zero WA original FICO score	578	572	581	574
No FICO score (%)	6.66	N/A	0.57	
Top five state concentrations (%)				
	TX=13.73	TX=13.86	OH=8.38	TX=13.05
	FL=7.81	CA=11.04	TX=8.21	CA=10.97
	PA=7.48	FL=9.40	CA=7.11	FL=8.99
	CA=6.78	GA=6.11	PA=5.47	GA=8.39
	GA=5.57	OH=3.75	FL=5.28	NC=4.99
S&P Global Ratings' ECNL (%)	18.25	17.50	19.75	21.00

(i)All percentages are of the initial gross receivables balance. (ii)Carvana's LTV ratio is calculated as the loan amount over the sale price of the vehicle plus related taxes and fees. However, GCAR, CPSART, and EART calculate their LTV ratios as the loan amount over the wholesale value of the vehicle using NADA, Black Book, or Kelley Blue Book trade-in prices. CRVNA--Carvana Auto Receivables Trust. GCAR--GLS Auto Receivables Trust. CPSART--CPS Auto Receivables Trust. EART--Exeter Automobile Receivables Trust. WA--Weighted average. APR--Annual percentage rate. LTV--Loan-to-value. ECNL--Expected cumulative net loss. N/A--Not applicable.

Managed portfolio

As of March 31, 2023, Carvana's nonprime portfolio comprised contracts totaling approximately $5.04 billion, a year-over-year increase of approximately 22.00% (see table 5). Total 31-plus-day delinquencies increased to 13.64% as of March 31, 2023, compared with 10.19% for the similar period a year ago. Net charge-offs as of March 31, 2023, were 5.41%, increasing from 4.69% a year ago. The deterioration in managed portfolio performance can be attributed mostly to normalization, given the expiration of stimulus programs, weaker recovery rates, and competitive conditions in auto sector in 2021 and 2022.

Table 5

Nonprime managed portfolio data

	As of March 31						
	2023	2022	2022	2021	2020	2019	2018
Principal outstanding at end of period (mil. $)	5,036.96	4,136.55	4,816.08	3,922.43	2,695.25	1,826.35	835.69
Average month-end principal amount (mil. $)	4,950.69	4,032.29	4,403.50	3,416.52	2,300.33	1,355.02	580.52
Net charge-offs (mil. $)(i)	66.96	47.32	240.05	98.48	81.68	64.83	29.03
Net charge-offs (% average month-end principal)	5.41	4.69	5.45	2.88	3.55	4.78	5.00
Delinquencies (%)							
31-60 days	8.48	6.57	9.96	7.33	6.72	8.07	7.31
61-90 days	4.24	2.97	4.36	3.12	2.63	2.70	2.69
91-plus days	0.92	0.65	0.92	0.78	0.56	0.84	0.86
Total	13.64	10.19	15.24	11.23	9.91	11.61	10.87

(i)Does not include all repossession-related expenses.

Origination static pool analysis

To derive our base-case expected losses for CRVNA 2023-N1, we analyzed Carvana's static pool quarterly originations data from 2014 to 2022 by gross loss and net loss on the aggregate portfolio, deal score, and FICO score. We developed a variety of loss timing curves based on different quarterly vintages to estimate potential losses on outstanding vintages.

We then calculated weighted average projected loss proxies by weighting each outstanding vintage month's projected loss by the origination dollar volume for the respective vintage. Then we computed a weighted average projected loss for the pool by weighting the loss proxies by the respective percentage of the current pool balance.

Chart 1

Quarterly origination vintage cumulative net loss performance | deal score 0-49

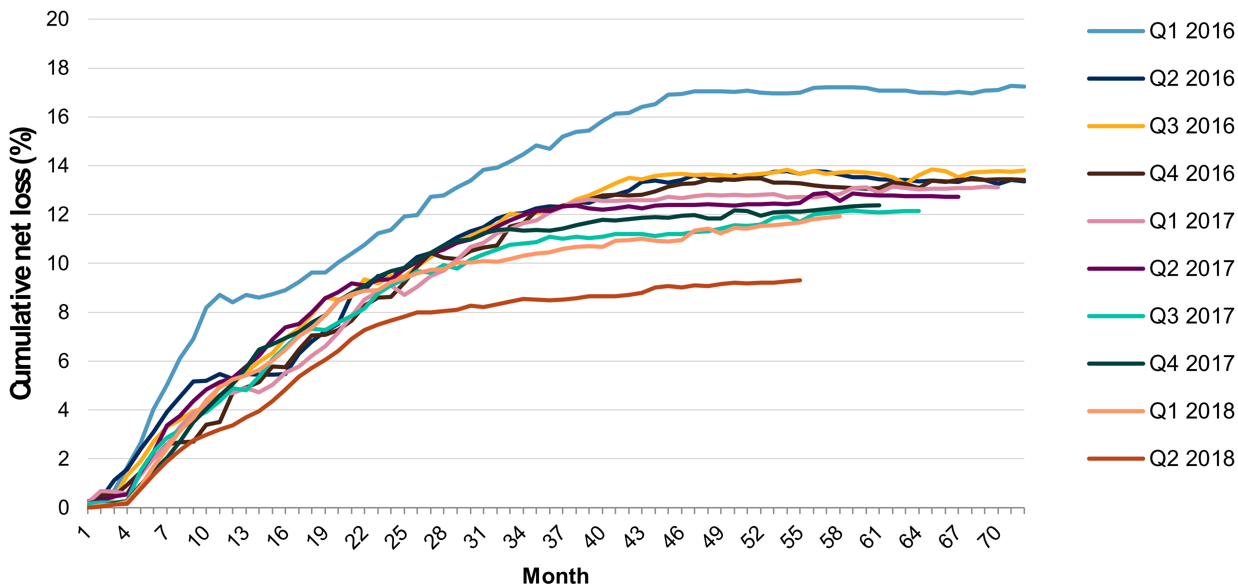
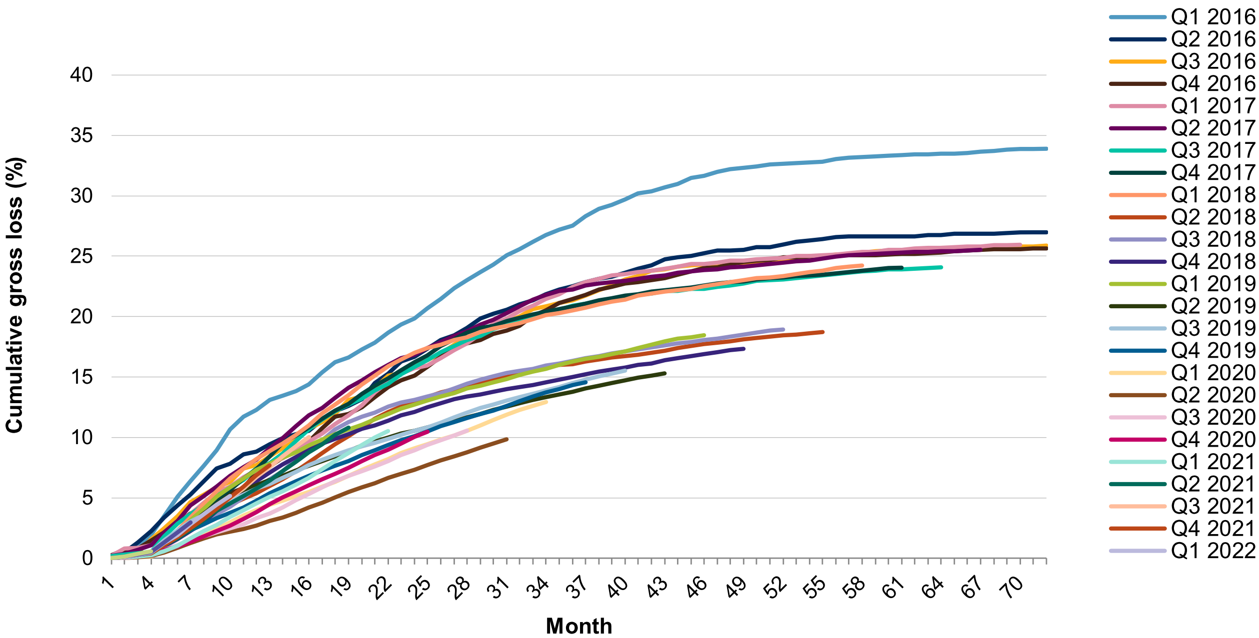


Chart 2

Quarterly origination vintage cumulative gross loss performance | deal score 0 -49



Carvana transaction performance

S&P Global Ratings has rated 14 of Carvana's prime and non-prime transactions. The nonprime series are currently performing in line with or better than our initial expectations (see table 6 and charts 4-6). Early loss performance on the most recent 2022 series is trending worse than the prior series.

Table 6

CRVNA collateral performance and CNL expectations(i)

Series	Month	Pool factor (%)	Current CNL (%)	Current CRR (%)	30-plus-day delinq. (%)	Extension rate (%)	Straight line projection. (%)	Initial lifetime CNL exp. (%)
2021-N1	24	41.63	6.83	41.52	20.62	1.90	12.04	20.00-21.00
2021-N2	22	47.77	7.27	40.66	22.57	2.14	13.93	20.00-21.00
2021-N3	19	54.17	8.18	34.77	19.79	1.95	17.86	18.00-19.00
2021-N4	16	60.93	6.81	31.89	17.62	2.03	17.44	17.75-18.75
2022-N1	13	69.61	5.49	28.45	14.40	1.92	18.07	17.00-18.00

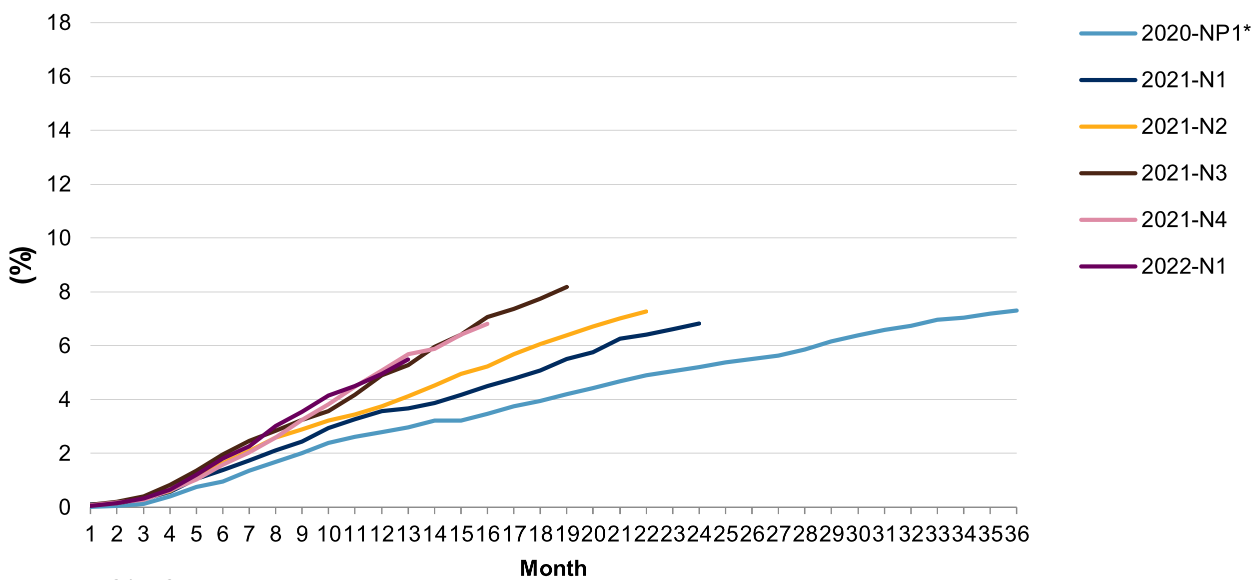
(i) Distribution as of March 2023. CNL--Cumulative net loss. CRR--Cumulative recovery rate. Delinq.--Delinquency. N/A--Not applicable.

We reviewed the outstanding series and, although still early, losses are currently projecting between 12.0%-18.1% using a straight-line approach.

We also analyzed CNLs relative to pool factors (see chart 6) for the 2020 through 2022 series, which showed that for the same pool factor (approximately 50%, for example), CNLs are slightly higher for the more recent series. Given the increase in longer term loans for more recent securitizations, we expect these pools will continue to amortize more slowly, thus increasing the risk of more backloaded losses.

Chart 3

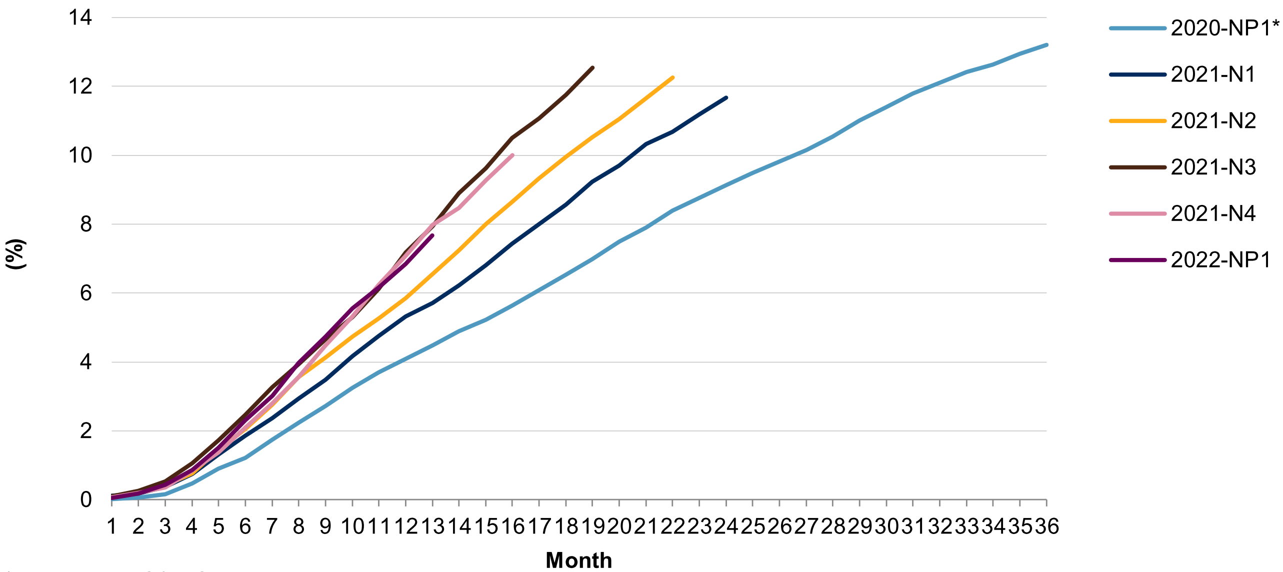
Securitization cumulative net losses



*Not rated by S&P Global Ratings.

Chart 4

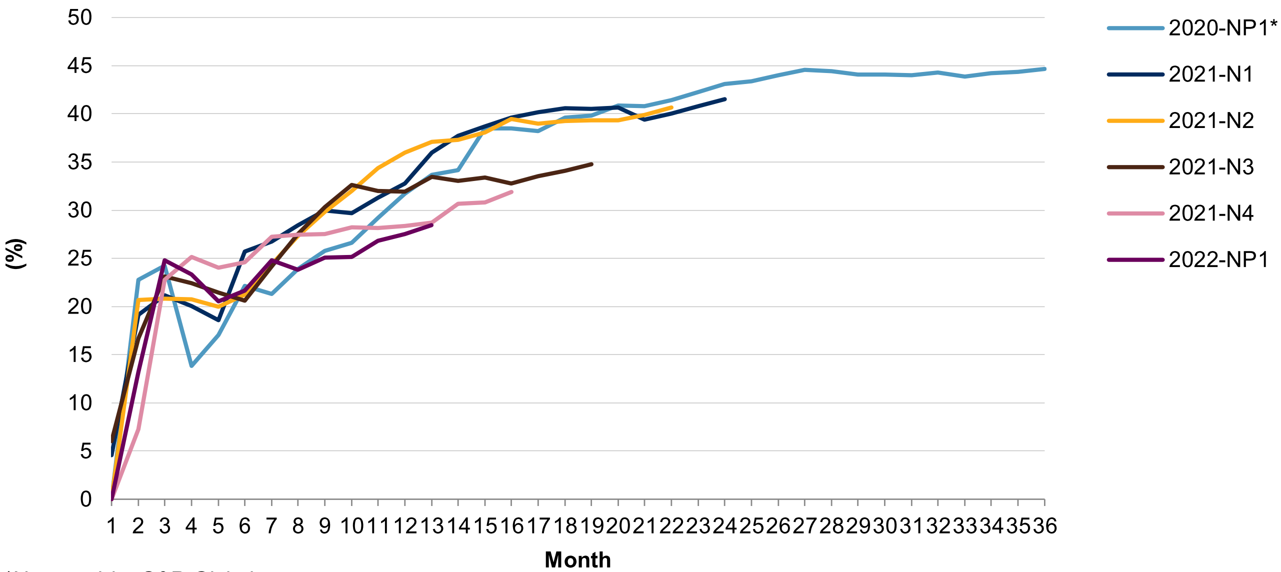
Securitization cumulative gross losses



*Not rated by S&P Global

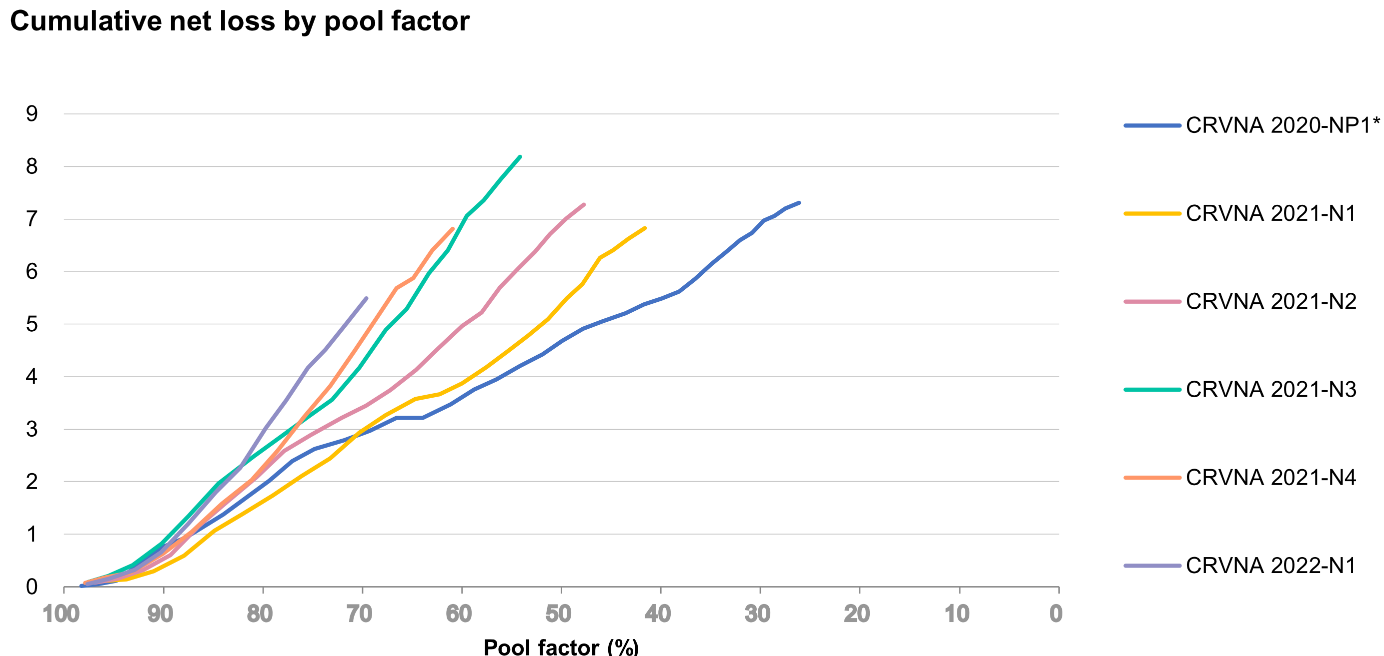
Chart 5

Securitization cumulative recovery rates



*Not rated by S&P Global

Chart 6



*Not rated by S&P Global Ratings.

Legal Overview And Transaction Structure

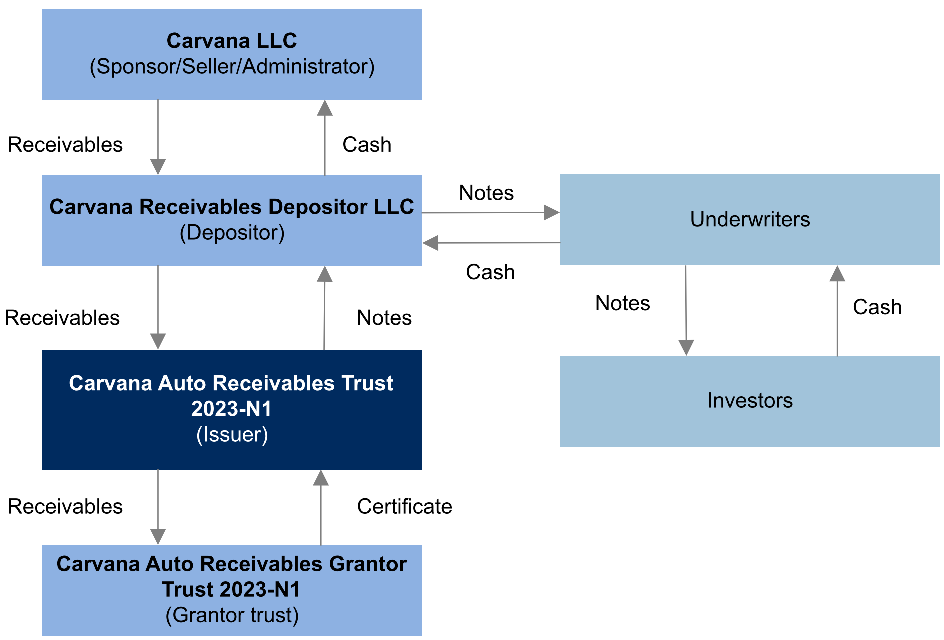
Legal overview

In rating this transaction, S&P Global Ratings will review the legal matters it believes are relevant to its analysis, as outlined in its criteria.

CRVNA 2023-N1 is structured as a true sale of the receivables from Carvana to Carvana Receivables Depositor LLC, a Delaware limited liability company, which is a wholly owned subsidiary of the sponsor. The depositor will transfer the receivables to the issuing trust, CRVNA 2023-N1, in return for the notes and a certificate evidencing an undivided beneficial ownership in the issuing trust. The issuing trust will transfer its rights in the receivables to the grantor trust, Carvana Auto Receivables Grantor Trust 2023-N1, in return for a certificate of undivided beneficial ownership in the grantor trust. The grantor trust will pledge its rights in the receivables in favor of the indenture trustee for the noteholders' benefit (see chart 7).

Chart 7

Transaction Structure



Transaction structure

CRVNA 2023-N1 incorporates the following structural features:

- A senior-subordinated sequential-pay structure in which the senior-most notes outstanding are paid first;
- A subordinated class XS, whose payments are the difference between the servicing strip amount (2.50% times the pool balance on the first day of the collection period times 1/12) and the servicing fee (1.34% times the pool balance on the first day of the collection period times 1/12): the excess servicing strip amount;
- Initial overcollateralization that starts at 7.40% and builds to a target of 11.20% of the current pool balance. The target overcollateralization amount is subject to a floor of 1.25% of the initial collateral balance;
- A nonamortizing reserve account amount that will equal 1.25% of the cutoff date pool balance as of the closing date; and
- Excess spread of approximately 10.80% (pre-pricing) per year.

Payment Priority

Payment distributions before an event of default

On each payment date, before an acceleration of the notes, distributions will be made from available funds according to the payment priority outlined in table 7. In addition, the funds in the reserve account will be available to cover fees, expenses, and interest shortfalls and pay parity principal and principal due on the notes' final maturity date. On each payment date, principal distributions will be made sequentially to the class A, B, C, and D notes until each class is paid in full.

Table 7

Payment waterfall

Priority	Payment
1	The servicing strip amount for the related collection period will be used to pay the servicing fee, and any excess servicing strip amount will be distributed to the class XS notes.
2	Pro rata to the backup servicer, if it has replaced Bridgecrest Credit Co. LLC as servicer, any unpaid indemnity amounts and unpaid transition expenses capped at $150,000 for the calendar year; and to the indenture trustee, owner trustee, grantor trust trustee, administrator, collateral custodian, and independent accountant, any accrued and unpaid fees, expenses, and indemnities then due to each entity, provided that, in aggregate in any calendar year, those fees and expenses do not exceed $125,000 to the indenture trustee and collateral custodian, $75,000 combined to the owner trustee and grantor trust trustee, and $9,000 to the independent accountant and that, in any calendar year, and rating agency surveillance fees, paid pro rata, not to exceed $45,000 in the aggregate.
3	To the backup servicer, the backup servicing fee.
4	To the class A notes, the aggregate class A interest distributable amount for that distribution date.
5	The first-priority principal payment (if the class A notes' aggregate note principal balance is greater than the aggregate principal balance).
6	To the class B notes, the aggregate class B interest distributable amount for that distribution date.
7	The second-priority principal payment (if the class A and B notes' aggregate note principal balance is greater than the aggregate principal balance after making any first-priority principal payments).
8	To the class C notes, the aggregate class C interest distributable amount for that distribution date.
9	The third-priority principal payment (if the class A, B, and C notes' aggregate principal balance is greater than the aggregate principal balance after making any first- and second-priority principal payments).
10	To the class D notes, the aggregate class D interest distributable amount for that distribution date.
11	The fourth-priority principal payment (if the class A, B, C, and D notes' aggregate principal balance is greater than the aggregate principal balance after making any first-, second-, and third-priority principal payments).
12	To the class E notes, the aggregate class E interest distributable amount for that distribution date.
13	The fifth-priority principal payment (if the class A, B, C, D, and E notes' aggregate principal balance is greater than the aggregate principal balance after making any first-, second-, and third-priority principal payments).
14	To the reserve account, the amount necessary to fund the reserve account up to the reserve account required amount.
15	To the note distribution account, the noteholders' regular principal distributable amount for that distribution date to pay principal on the notes (other than the class XS notes).

Table 7

Payment waterfall (cont.)

Priority	Payment
16	Pro rata to the backup servicer, indenture trustee, collateral custodian, administrator, owner trustee, grantor trust trustee, rating agencies, and the independent accountant, any fees and expenses and indemnities then due and payable to each party that exceed the cap or annual limitation specified in item 2 above.
17	All remaining amounts, to the certificateholders.

Events of default

The payment priorities outlined in table 7 can change if certain events of default occur and continue, including:

- A failure to pay interest on the controlling class;
- A failure to pay principal at final maturity (other than the class XS notes);
- The issuer's involuntary and voluntary bankruptcy; and
- A material breach of a covenant, agreement, representation, or warranty.

The senior-most outstanding class of notes is the controlling class. The class XS will never be the controlling class, as per the transaction documents.

Payment distributions after an event of default

If an event of default occurs, distributions will be made from available funds according to the payment priority outlined in table 8.

Table 8

Payment waterfall after an event of default

Priority	Payment
1	The servicing strip amount for the related collection period will be used to pay the servicing fee, and any excess servicing strip amount will be distributed to the class XS note.
2	Pro rata, to the backup servicer, indenture trustee, owner trustee, collateral custodian, administrator, and grantor trust trustee, any amount due to each entity, disregarding any caps or annual limitations.
3	To the backup servicer, the backup servicing fee.
4	To the class A notes, the aggregate class A interest distributable amount for that distribution date.
5	Principal to the extent necessary to reduce the class A note balance to zero.
6	To the class B notes, the aggregate class B interest distributable amount for that distribution date.
7	Principal to the extent necessary to reduce the class B note balance to zero.
8	To the class C notes, the aggregate class C interest distributable amount for that distribution date.
9	Principal to the extent necessary to reduce the class C note balance to zero.
10	To the class D notes, the aggregate class D interest distributable amount for that distribution date.
11	Principal to the extent necessary to reduce the class D note balance to zero.

Table 8

Payment waterfall after an event of default (cont.)

Priority	Payment
12	To the class E notes, the aggregate class E interest distributable amount for that distribution date.
13	Principal to the extent necessary to reduce the class E note balance to zero.
14	All remaining amounts to the certificateholders.

Cash Flow Modeling Assumptions And Results

In our cash flow analysis, we assess the availability of asset cash flows to meet the transaction's promised obligations under a variety of stress assumptions, while considering the transaction structure and available credit support. We also use our cash flow analysis in other aspects of our ratings analysis, including the testing of credit stability (sensitivity analysis) and legal final analysis.

Break-even analysis

For the CRVNA 2023-N1 transaction structure, we applied the assumptions outlined in table 9 in our cash flow analysis to simulate stress scenarios that we believe are appropriate for the assigned preliminary ratings. To assign a rating to a class, we consider the class's lower breakeven levels (the maximum net losses the class can withstand without defaulting) and generally expect it to be equal to or greater than the rating stressed scenario breakeven requirement.

Based on our stressed cash flows, the breakeven net loss results show that the class A, B, C, and D notes are credit-enhanced to the degree appropriate for the assigned preliminary ratings (see table 10).

Table 9

Breakeven cash flow assumptions

Voluntary ABS (%)	0.85
Servicing fee (%)(i)	2.50
Recovery rate (%) (ii)	37.50/40.00
Charge-off and recovery lag (mos.)	4
CNL timing mos. (12/24/36/48)(%)	
Front-loaded loss curve	40/70/90/100
Back-loaded loss curve	30/50/70/90/100

(i) 1.00% base servicing fee plus the backup servicing fee. (ii) 37.50% recovery rate was used for AAA and AA classes and 40.00% recovery rate was used for A and BBB classes ABS--Absolute prepayment speed. Mos.--Months.

Table 10

Breakeven cash flow results

	Class			
	A	B	C	D
Preliminary rating	AAA (sf)	AA (sf)	A (sf)	BBB (sf)
CNL timing mos. (12/24/36/48)(%)				
Front-loaded loss curve	66/100	43/78/100	39/70/90/100	39/70/90/100
Back-loaded loss curve	67/100	44/75/100	36/61/86/100	29/50/71/92/100
Approximate break-even CNL levels (%)(i)				
Required	54.75	47.45	38.33	29.20
Available: front-loaded loss curve	55.63	48.39	39.28	30.12
Available: back-loaded loss curve	55.60	48.44	40.59	32.38

(i)The maximum CNLs, with 90.00% credit to any excess spread, the transaction can withstand without triggering a payment default on the relevant class of notes. CNL--Cumulative net loss.

Sensitivity analysis

In addition to running breakeven cash flows, we undertook sensitivity analysis using the assumptions outlined in table 9 using a 40% recovery rate for all classes. We believe that under a moderate ('BBB') stress scenario (1.60x of 18.25% expected loss level) and with 90.00% credit to any excess spread, all else being equal, our preliminary ratings will be within the credit stability limits specified by section A.4 of the Appendix of "S&P Global Ratings Definitions," published Nov. 10, 2021 (see table 11).

Table 11

Maximum projected deterioration under moderate stress conditions

Horizon	AAA	AA	A	BBB	BB
One-year	AA	A	BB	B	CCC
Three-year	BBB	BB	B	CCC	D

Chart 8

1.60x cumulative net loss - coverage multiples (front-loaded loss curve)

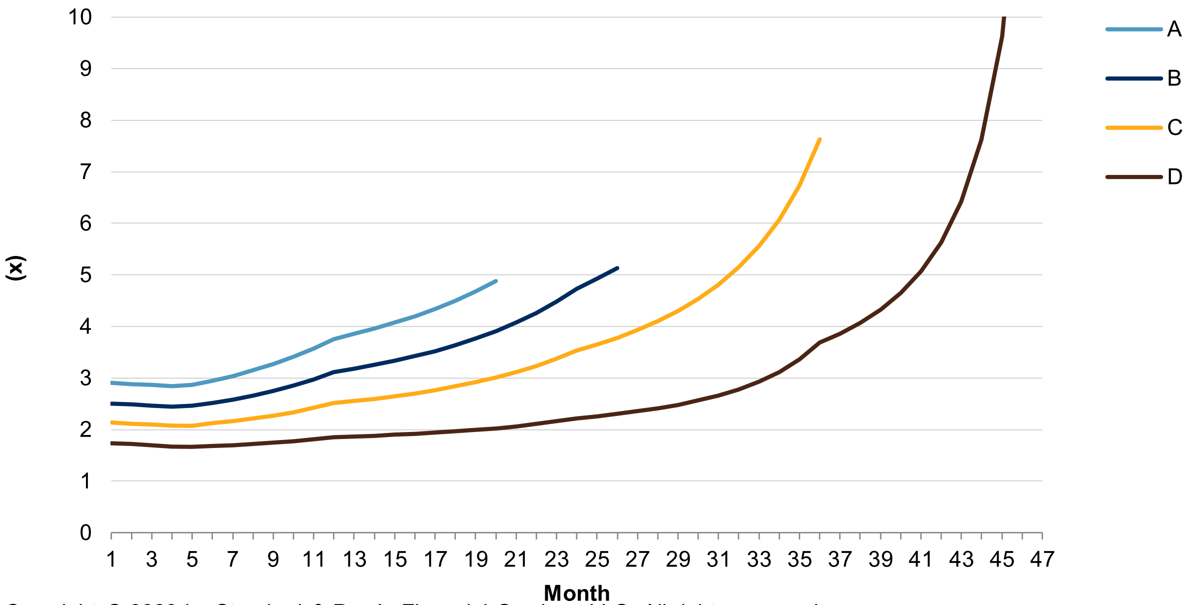
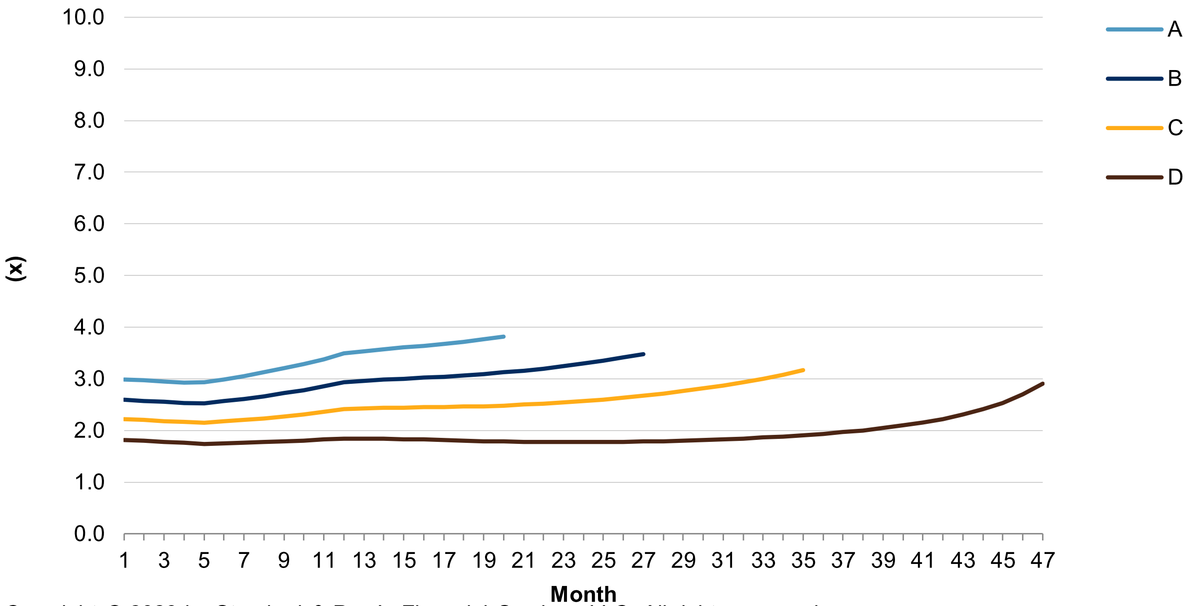


Chart 9

1.60x cumulative net loss - coverage multiples (back-loaded loss curve)



Legal final maturity

To test the legal final maturity dates set for classes A through D, we determined the date when the respective notes would be fully amortized in a zero-loss zero-prepayment scenario, and then added three months to the result. For the longest-dated security (class E), we added six months to the tenor of the longest-dated receivable in the pool accommodate extensions on the receivables. Further, in the break-even scenario for each respective rating level, we confirmed that the credit enhancement was sufficient to both cover losses and repay the related notes in full by the legal final maturity date.

Counterparty And Operational Risks

Bank account provider

On or before the closing date, the CRVNA 2023-N1 bank accounts will be established with the bank account provider, Wells Fargo Bank N.A. The bank account provider is consistent with our counterparty criteria for a 'AAA' supported transaction (see "Counterparty Risk Framework: Methodology And Assumptions," published March 8, 2019).

Servicers

Bridgecrest, an affiliate of DriveTime, is the servicer of all Carvana loans with centralized servicing and collections in Mesa, Ariz., and Dallas. Bridgecrest has over 25 years of experience in servicing auto loans and a current portfolio of $16 billion. Bridgecrest has a team dedicated to servicing only Carvana loans. The company is responsible for all aspects of on-barding, servicing and collections, including coordinating repossession and remarketing of the vehicles--similar to its approach for DriveTime loans. Bridgecrest's on-boarding includes a welcome call, and an introductory letter and/or email with its letter brands, and instructions regarding payment. As a third-party servicer, all contact with the obligor after loan inception is through Bridgecrest, which significantly reduces the risks of delayed payments, increase in delinquencies and losses in the event of the originator bankruptcy.

Bridgecrest is not rated by S&P Global Ratings, and commingling risk is addressed by the requirement that all collections are deposited to the series collections account within two business days of collection. Our operational risk assessment of Bridgecrest as servicer does not constrain the ratings (see "Global Framework For Assessing Operational Risk In Structured Finance Transactions," published Oct. 9, 2014).

Vervent is the series' back-up servicer. Vervent has been in business for over 30 years and has extensive experience in servicing auto loans. Vervent has been the backup servicer for Carvana transactions for over two years and new backup servicing agreements are created for each issuing trust. Vervent is expected to transition to servicing with 30 days' notice. In the event that servicing duties were to be transferred from Bridgecrest to Vervent, we believe that the transition may be smoother given that Vervent receives monthly data files from Bridgecrest to reconcile related activities.

Regulatory

Carvana and the key transaction parties are subject to various regulatory investigation and or legal proceedings that may arise in their ordinary course of business. We will assess these outcomes when available to determine any impact on our counterparty and operational risk assessments.

Carvana

Carvana, indirectly owned by Carvana Co. (CC/Negative/--), is a used-vehicle retailer that sells 100% online with direct delivery to customers or for pickup at one of its vending machines. On Carvana's website, customers can purchase used vehicles, arrange financing, purchase service plans, and sell cars to Carvana (as a trade-in or independently). Carvana owns and manages its inventory and distribution network. The company sources its inventory from auction channels or directly from customers and reconditions them internally for sale. While its primary business is selling cars, Carvana also offers financing to its customers (they finance approximately 70.00%-80.00% of all sales). As such, Carvana is a direct lender that originates prime, nonprime, and subprime auto loans.

The company was initially formed as a subsidiary of DriveTime in 2012 and became public in 2017. The founder and CEO, Ernie Garcia III, is the son of the CEO and founder of DriveTime. As a result, Carvana developed its processes, policies, and procedures using those of DriveTime as a starting point. The company has been rapidly growing since its inception, and it continues to expand its market penetration. As of Dec. 31, 2022, Carvana increased its operations to 316 markets from 311 markets a year earlier, and it had purchased, reconditioned, sold, and delivered over one million vehicles. In fourth-quarter 2022, the company added an additional 86,977 units sold.

Originations and underwriting

Originations and underwriting are all centralized at Carvana's headquarters in Tempe, Ariz., and all applications are processed online through Carvana's website. Through the website, customers have access to approximately 10,000 combinations of down payment, annual percentage rate, term, and monthly payments that are calculated for a specific vehicle.

Carvana has multiple proprietary risk scoring models, which it uses to predict performance of Carvana loans. Carvana's deal score is calculated after loan origination and is used for portfolio monitoring purposes. The deal score produces a score ranging from 0 to 100, where a higher score indicates a lower risk of default. This score incorporates the CarvanaScore (its first-generation scorecard) and specific attributes of a loan. Carvana considers a deal score of 50 or above to be prime originations.

Carvana offers ancillary products to customers through DriveTime. Carvana itself does not provide any vehicle service contracts and/or warranty products to the customer that are included in the loan balance. We believe this reduces the risk of non-payment by customers in the event of a Carvana bankruptcy because there are no contractual service/product obligations that Carvana is required to provide to the customer.

Related Criteria

- Criteria | Structured Finance | ABS: Global Auto ABS Methodology And Assumptions , March 31, 2022
- 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 | Legal: U.S. Structured Finance Asset Isolation And Special-Purpose Entity Criteria , May 15, 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
- Criteria | Structured Finance | General: Global Framework For Assessing Operational Risk In Structured Finance Transactions , Oct. 9, 2014
- General Criteria: Global Investment Criteria For Temporary Investments In Transaction Accounts , May 31, 2012
- General Criteria: Principles Of Credit Ratings , Feb. 16, 2011
- Criteria | Structured Finance | General: Methodology For Servicer Risk Assessment , May 28, 2009

Related Research

- U.S. Auto Loan ABS Tracker: February 2023 Performance, April 11, 2023
- Credit Conditions North America Q2 2023: Coalescing Stresses, March 28, 2023
- Economic Outlook U.S. Q2 2023: Still Resilient, Downside Risks Rise, March 27, 2023
- Carvana Co. Downgraded to 'CC' On Proposed Distressed Debt Exchange; Outlook Negative, March 23, 2023
- Carvana Co., May 19, 2020