S&P Global Ratings

Research

Presale:

Ford Credit Auto Owner Trust 2023-A

March 23, 2023

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Preliminary Ratings

Class	Preliminary rating	Type	Interest rate(i)	Preliminary amount (mil. $)(i)	Preliminary amount if upsized (mil. $)(i)	Expected legal final maturity date
A-1	A-1+ (sf)	Senior	Fixed	250.00	300.00	April 15, 2024
A-2a/A-2b(ii)	AAA (sf)	Senior	Fixed/floating	495.00	594.00	March 15, 2026
A-3	AAA (sf)	Senior	Fixed	425.00	510.00	Feb. 15, 2028
A-4	AAA (sf)	Senior	Fixed	80.00	96.00	Dec. 15, 2028
B	AA+ (sf)	Subordinate	Fixed	39.44	47.33	Jan. 15, 2029
C	AA- (sf)	Subordinate	Fixed	26.34	31.61	Sept. 15, 2030

Note: This presale report is based on information as of March 23, 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 trust will issue notes with an aggregate initial principal amount of $1.316 billion or $1.579 billion, if upsized. The interest rates and actual sizes of these tranches will be determined on the pricing date. (ii)The allocation of the initial principal amount between the class A-2a and class A-2b notes will be determined during pricing, although the class A-2b note size will not exceed $247.50 million if the aggregate issuance is $1.316 billion (or $297.00 million if the aggregate note issuance is $1.579 billion). The class A-2b notes will accrue interest at a floating rate indexed to a compounded SOFR (30-day average) plus a margin. SOFR--Secured overnight financing rate.

Profile

Expected closing date	March 31, 2023.
Collateral	Prime auto loan receivables.
Originator, servicer, sponsor, and administrator	Ford Motor Credit Co. LLC (BB+/Positive/B).
Issuing trust	Ford Credit Auto Owner Trust 2023-A.
Depositor	Ford Credit Auto Receivables Two LLC.
Indenture trustee	The Bank of New York Mellon (AA-/Stable/A-1+).
Owner trustee	U.S. Bank Trust N.A.

Credit Enhancement Summary

	FCAOT				
	2023-A	2023-A (upsized)	2022-D(i)	2022-C	2022-B(i)
Subordination (% of the initial adjusted receivables balance)					
Class A	5.00	5.00	5.00	5.00	5.00
Class B	2.00	2.00	2.00	2.00	2.00
Class C	0.00	0.00	0.00	0.00	0.00
Reserve account (% of the initial adjusted receivables balance)					
Initial	0.25	0.25	0.30	0.30	0.25
Target	0.25	0.25	0.30	0.30	0.25
Floor	0.25	0.25	0.30	0.30	0.25
Overcollateralization					
Initial (% of the initial adjusted pool balance)	0.00	0.00	0.00	0.00	0.00
Target (including the reserve) (% of initial adjusted pool balance plus % of current gross pool balance)	2.00/1.50	2.00/1.50	2.00/1.50	2.00/1.50	2.00/1.50
Total initial hard credit enhancement (% of the initial adjusted receivables balance)					
Class A	5.25	5.25	5.30	5.30	5.25
Class B	2.25	2.25	2.30	2.30	2.25
Class C	0.25	0.25	0.30	0.30	0.25
Excess spread (%)					
YSOA discount rate	9.05	9.05	9.20	8.05	7.95
Estimated excess spread (including YSOA) per year(ii)	2.56	2.56	NA	2.74	NA
Initial gross receivables balance ($)	1,443,452,359	1,732,167,318	1,471,280,949	1,745,303,061	1,173,418,193
Initial YSOA ($)	127,671,920	153,219,525	155,500,949	166,355,464	120,786,473
Initial adjusted receivables balance ($)	1,315,780,439	1,578,947,792	1,315,780,000	1,578,947,597	1,052,631,721
Total securities ($)	1,315,780,000	1,578,940,000	1,315,780,000	1,578,940,000	1,052,630,000
YSOA (% of the gross receivables balance)	8.84	8.85	10.57	9.53	10.29
YSOA (% of the adjusted receivables balance)	9.70	9.70	11.82	10.54	11.47

(i)Not rated by S&P Global Ratings. (ii)Estimated excess spread per year is before pricing for series 2023-A and after pricing for series 2022-C. The time-weighted cost of debt that is used to estimate excess spread is calculated as a percentage of the initial adjusted pool balance. FCAOT--Ford Credit Auto Owner Trust. YSOA--Yield supplement overcollateralization amount. NA--Not available.

Rationale

The preliminary ratings assigned to Ford Credit Auto Owner Trust 2023-A's (FCAOT 2023-A) asset-backed notes reflect:

- The availability of approximately 9.40%, 7.00%, and 5.40% credit support for the class A (classes A-1, A-2a/A-2b, A-3, and A-4, collectively), B, and C notes, respectively (based on stressed break-even cash flow scenarios, including excess spread). These credit support levels provide coverage of at least 5.00x, 4.50x, and 3.67x our 1.25% expected net loss to the class A, B, and C notes, respectively, and are commensurate with the assigned preliminary 'A-1+ (sf)'/'AAA (sf)', 'AA+ (sf)', and 'AA- (sf)' ratings (see the S&P Global Ratings' Expected Loss section).
- The timely interest and full principal payments made under stressed cash flow modeling scenarios appropriate to the assigned preliminary ratings (see the Cash Flow Modeling section). In our modeling approach, we used a bifurcated pool method in which the low-annual percentage rate (low-APR) loans (those with APRs at or below our APR bifurcation threshold) prepay and default at lower rates than the high-APR loans.
- The expectation that under a moderate ('BBB') stress scenario (2.0x our expected loss level), all else being equal, our ratings will be within the credit stability limits specified by section A.4 of the Appendix in "S&P Global Ratings Definitions," published Nov. 10, 2021.
- The transaction's credit enhancement in the form of subordination, overcollateralization, a reserve account, the yield supplement overcollateralization amount (YSOA), and excess spread (see the Credit Enhancement Summary table).
- Our view of the characteristics of the pool being securitized.
- Ford Motor Credit Co. LLC's (Ford Credit's) extensive securitization performance history since 1989.
- Our view of the transaction's payment and legal structures.

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, 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).

In our view, the transaction's exposure to ESG credit factors is in line with our sector benchmark. The environmental credit factors are generally viewed as above average, given that the collateral pool primarily comprise vehicles with internal combustion engines (ICE), which create emissions of pollutants, including greenhouse gases. While the adoption of electric vehicles and future regulation could lower ICE vehicle values over time, 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.

Changes From Prior FCAOT Series

Notable structural and credit enhancement changes from the FCAOT 2022-D transaction (not rated by S&P Global Ratings) and the FCAOT 2022-C transaction include:

- The reserve account amount (fully funded at closing) decreased to at least 0.25% of the initial adjusted pool balance from 0.30%.
- The YSOA discount rate decreased slightly to 9.05% from 9.20% for series 2022-D, but is higher than the 8.05% discount rate for series 2022-C. However, in each case and based on the pools' composition, the initial YSOA as a percentage of the initial aggregate pool balance has decreased to 8.84% (8.85% if upsized) from 10.57% for series 2022-D and 9.53% for series 2022-C.
- The estimated per annum excess spread (adjusted for YSOA) decreased to 2.56% from 2.74% for series 2022-C (post-pricing).

Notable changes in the collateral composition from the FCAOT 2022-D transaction (not rated by S&P Global Ratings) include:

- The weighted average seasoning decreased to 7.3 months from 9.7 months.
- The percentage of loans with an original term greater than 60 months increased to 54.51% from 51.53%. Most of the increase is in the 73- to 84-month term distribution, which increased to 18.49% from 9.81%. Offsetting this increase is a decline in the 61- to 72-month term to 36.01% from 41.72%.
- The percentage of used vehicles increased to 12.20% from 11.93%.
- The weighted average loan-to-value (LTV) ratio increased slightly to 101.40% from 100.64%.
- The weighted average APR of the pool increased to 4.74% from 3.77%.

Notable changes in the collateral composition from the FCAOT 2022-C transaction include:

- The weighted average seasoning decreased to 7.3 months from 9.4 months.
- The percentage of loans with an original term greater than 60 months increased to 54.51% from 51.33%. Most of the increase is in the 73- to 84-month term distribution, which increased to 18.49% from 9.85%. Offsetting this increase is a decline in the 61- to 72-month term to 36.01% from 41.48%.
- The weighted average FICO increased slightly to 745 from 744. For loans with an original term greater than 60 months, the weighted average FICO score increased to 721 from 719, and for loans with an original term greater than 75 months, the weighted average FICO score increased to 728 from 727.
- The percentage of used vehicles increased to 12.20% (some with 73-75 month term) from 10.17%(with none greater than 72-month term).
- The weighted average LTV ratio increased to 101.40% from 100.37%.
- The weighted average payment-to-income (PTI) ratio increased to 9.50% from 9.12%.
- The percentage of subvened-APR (manufacturer-incentivized) loans decreased to 63.68% from 65.84%, resulting in an increase of the pool's weighted average APR to 4.74% from 3.29%.

The percentages stated for the FCAOT 2023-A pool reflect the characteristics of the base pool. The larger collateral pool, if upsized, exhibits very similar characteristics to the base pool (see table 3 for more information on the upsize pool).

Overall, we believe the FCAOT 2023-A pool exhibits slightly weaker collateral characteristics to the series 2022-C pool and other recent FCAOT transactions we've rated (series 2022-A, 2021-A, and 2020-C), with increases in the concentration of 73- to 84-month loans, weighted average LTV and PTI (see the Pool Analysis section for a collateral comparison with prior FCAOT pools). As such, our base case expected cumulative net loss (CNL) for FCAOT 2023-A increased to 1.25%, compared to 1.20% for series 2022-C. In deriving our CNL expectation, we also considered FCAOT's better-than-expected securitization performance and Ford Credit's underwriting and servicing operations, including steps to mitigate higher losses.

Transaction Overview

FCAOT 2023-A will be Ford Credit's 21st auto loan ABS transaction issued under its Regulation AB II-compliant retail shelf. Ford Credit will issue $1.316 billion ($1.579 billion if upsized) of class A, B, and C sequential-pay notes, to which we have assigned preliminary 'A-1+ (sf)'/'AAA (sf)', 'AA+ (sf)', and 'AA- (sf)' ratings, respectively. The notes will be secured by a pool of prime auto loans. The transaction's first scheduled payment date is April 17, 2023, and the notes' applicable principal and interest are scheduled to be paid on the 15th day of each following month or, if not a business day, the next business day.

FCAOT 2023-A incorporates:

- A sequential-pay mechanism that results in increased credit enhancement for the senior notes as the pool amortizes;
- A YSOA that amortizes according to a schedule rather than being recalculated and reduced when the low-yielding assets prepay;
- A nonamortizing reserve account; and
- The use of excess spread, to the extent available after covering net losses, to pay principal on the outstanding notes to build credit enhancement to the target level.

The YSOA is sized so that the yield on the contracts with APRs below the YSOA discount rate is raised to the YSOA discount rate. The YSOA for each distribution date will be calculated at closing, assuming zero prepayment and zero default, and will amortize according to a schedule. On the closing date, we expect the YSOA to be $127.7 million ($153.2 million if upsized). The YSOA discount rate is 9.05%.

Ford Credit's transaction structure includes a targeted overcollateralization amount equal to the YSOA plus 2.00% of the initial adjusted pool balance plus the excess, if any, of 1.50% of the outstanding receivables balance over the required reserve account amount (at least 0.25% of the initial adjusted receivables balance).

Overcollateralization will begin at 0.00% of the initial adjusted pool balance and build while available excess spread pays principal to the senior notes. Once the class A-1 notes are fully repaid and the overcollateralization amount reaches its target amount, excess cash flow will be released to the residual interest holder. The depositor will be the initial residual interest holder.

FCAOT 2023-A will be the fourth transaction under the shelf to utilize the secured overnight financing rate (SOFR) interest rate benchmark for the floating-rate class A-2b notes (series 2022-B was the first). The class A-2b coupons will initially be based on a compounded SOFR (a 30-day average SOFR determined by the calculation agent using the published rate on the Federal

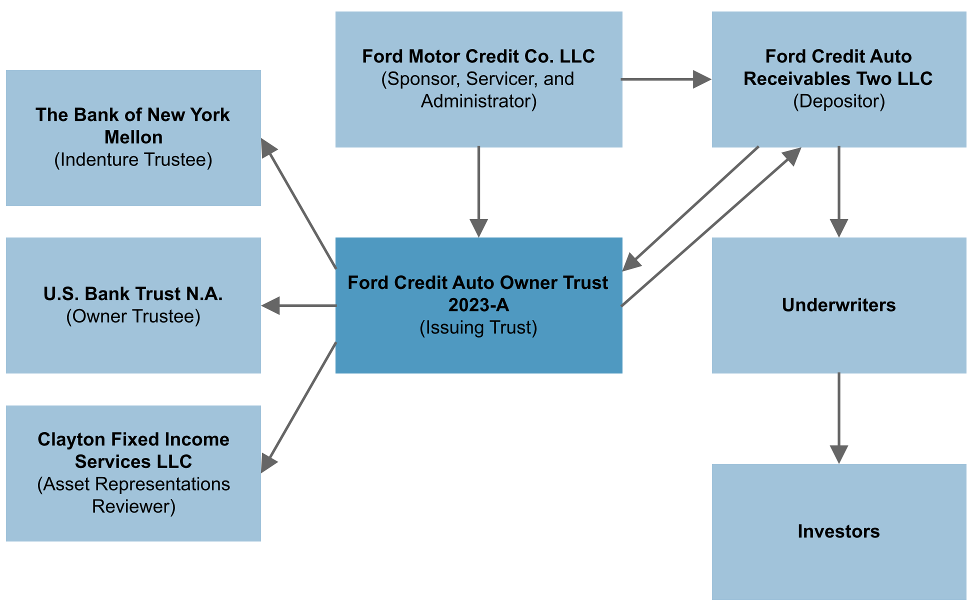
Reserve Bank of New York's website) to calculate the interest rate for the floating-rate notes. In addition, provisions have been incorporated into securitization documents that govern rate selection if SOFR becomes unavailable.

Legal Structure

The trust's primary assets will be a pool of car, light truck, and utility vehicle receivables purchased by Ford Credit from dealers. On the closing date, Ford Credit will sell the receivables and other related assets to the depositor as a true sale, and the depositor will sell the receivables and other related assets to the trust. The trust assets will be pledged by the trust to the indenture trustee for the benefit of the noteholders.

Chart 1

Transaction Structure



In rating this transaction, S&P Global Ratings will review the relevant legal matters outlined in its criteria.

Payment Structure

Interest and principal on the notes are scheduled to be paid on each monthly distribution date beginning April 17, 2023. FCAOT 2023-A's payment priority provides that the auto receivables collections will be used to make the distributions shown in table 1. In addition, the reserve account's funds will be available to cover interest shortfalls, make priority principal payments, and make principal payments that are due on the notes' final maturity date.

Table 1

Payment Waterfall

Priority	Payment
1	Indenture trustee fees, owner trustee fees, asset representation reviewer, and issuer expenses, capped at $375,000 per year.
2	The 1.0% servicing fee.
3	Class A note interest, pro rata, to the class A noteholders.
4	First-priority principal payment (if the class A notes' balance exceeds the adjusted pool balance).
5	Class B note interest.
6	Second-priority principal payment (if the class A and B notes' balance exceeds the adjusted pool balance after any first-priority principal payments are made).
7	Class C note interest.
8	Restore the reserve account to its required amount.
9	Regular principal payment(i).
10	Any unpaid trustee fees and expenses.
11	Any remainder to the residual interest holder.

(i)The regular principal payment amount is designed to pay the class A-1 notes in full and build the overcollateralization (on an adjusted pool basis) on the closing date to the target overcollateralization amount: the YSOA plus 2.0% of the initial adjusted pool balance plus the excess of 1.5% of the gross current pool balance over at least 0.25% of the initial adjusted pool balance (the required reserve amount). If the note balance exceeds the adjusted pool balance (before the target overcollateralization amount is reached), principal collections and excess spread will be used to pay down the notes until the note balance equals the adjusted pool balance (items 4 and 6 in the payment waterfall) and the overcollateralization target (including the reserve amount) is reached (item 9 in the payment waterfall). No excess spread will be released until the class A-1 notes are paid in full and the target overcollateralization amount has been reached. YSOA--Yield supplement overcollateralization amount. Class A--Classes A-1, A-2a/A-2b, A-3, and A-4, collectively.

Ford Credit

Ford Credit, headquartered in Dearborn, Mich., is a wholly owned captive finance subsidiary of Ford Motor Co. Ford Credit is one of the largest auto finance companies in the U.S., with an average retail contracts portfolio of approximately $47.3 billion as of the year ended Dec. 31, 2022. Ford Credit offers consumer retail contracts, consumer leases, business loans, and lines of credit to dealerships that sell Ford Motor Co. products. Ford Credit purchases retail contracts for the sale of new and used vehicles from Ford and Lincoln dealerships.

Origination, Servicing, And Collections

Ford Credit's retail automobile loan origination strategy involves the purchase of installment sale contracts entered into between retail customers and Ford Motor Co. franchised dealers for the sale and financing of new or used vehicles, underwritten pursuant to Ford Credit's policy and guidelines. Ford Credit's underwriting and purchasing strategy includes internal scoring models that assess a potential obligor's creditworthiness and ability to pay. These scoring models consider the customer's characteristics, the retail installment sale contract's proposed terms, and a national credit bureau report. Ford Credit frequently reviews the predictability of its scoring models and makes updates in response to changing economic factors, market conditions, and loss/delinquency experiences. Ford Credit's origination scoring models were launched for consumer credit applicants in January 2018 and again in May 2022 for certain FICO score segments, for commercial credit applicants in January 2019, and for commercial line-of-credit applicants in April 2022.

Electronic decision-making models automatically evaluate the submitted applications and approve, reject, or make a conditional offer for a resulting retail installment sale contract. Many of the applications not approved in the electronic decision making process are evaluated and approved by a credit analyst. Ford Credit began nationwide origination of 75-month contracts in 2014, a limited pilot program to purchase 84-month contracts in 2015, and nationwide origination of 84-month contracts in April 2016.

In March 2020 and again in October 2021, Ford Credit revised its purchase quality guidelines and began offering 84-month contracts to an expanded range of applicants who may have lower FICO scores and higher LTV ratios. According to Ford Credit, these contracts are offered to certain customers under stricter eligibility criteria and are assessed to have lower credit risk under Ford Credit's origination scoring models. In July 2022, Ford Credit further expanded its 84-month purchase quality guidelines for personal use vehicles to include applicants with lower proprietary risk scores while maintaining maximum advance limits. Most of the 84-month contracts finance the purchase of new vehicles for personal use.

In May 2022, Ford Credit increased the maximum term for commercial use contracts from 72 to 84 months on an exception basis.

Ford Credit has been servicing the receivables in each of its U.S. public retail securitizations since the program began in 1989. It uses internally developed behavior-scoring models to determine the default probability for each receivable and to reduce credit losses by focusing the collections effort on the higher-risk accounts. These behavior scoring models consider each account's origination characteristics, the customer's payment history, and periodically updated FICO scores, if applicable. To maintain an optimal collection strategy, Ford Credit updates its behavioral scoring models on a regular cycle plan and tests new servicing practices.

Managed Portfolio

Ford Credit's managed retail portfolio as of the year ended Dec. 31, 2022, shows stable performance relative to pre-COVID-19 pandemic periods. Overall, delinquencies and losses remain comparable or better compared to full-year 2019 and prior. As of Dec. 31, 2022, Ford Credit's retail portfolio comprised 1.865 million contracts with an outstanding principal balance of approximately $47.3 billion (see table 2).

Similarly to the managed portfolio performance of many in the auto finance industry, Ford Credit's managed portfolio performance was influenced by the company's response to the COVID-19 pandemic and higher used vehicle auction values due to vehicle supply shortages, resulting in lower delinquencies, repossession, and net credit losses. Ford Credit granted goodwill payment extensions to obligors during the COVID-19 pandemic and temporarily suspended involuntary repossessions of financed vehicles from delinquent obligors nationwide. This has contributed to a decline in delinquencies, repossessions, and, ultimately, credit losses.

Ford Credit's 84-month contracts exhibit performance similar to that of the overall pool, showing stable performance relative to pre-COVID-19 pandemic periods. While overall losses remain relatively low, the average net loss on charged-off 84-month contracts is historically higher than that of the entire portfolio due to the slower amortization of such loans and relatively higher LTV ratio.

Table 2

Managed Portfolio Performance

	Year ended Dec. 31					
	2022	2021	2020	2019	2018	2017
Avg. portfolio outstanding during the period (mil. $)	47,297	49,264	49,869	46,650	46,704	44,406
Avg. 84-month portfolio outstanding during the period (mil. $)	3,112	3,081	2,725	2,033	1,340	545
Avg. number of contracts outstanding	1,865,258	2,010,001	2,132,085	2,140,915	2,194,989	2,144,925
Delinquencies (%)(i)						
31-60 days	1.09	0.90	1.02	1.33	1.34	1.41
61-90 days	0.14	0.10	0.13	0.12	0.13	0.15
91-120 days	0.01	0.01	0.02	0.01	0.01	0.01
Over 120 days	0.00	0.00	0.01	0.00	0.00	0.00
Total delinquencies	1.24	1.01	1.18	1.46	1.48	1.57
Delinquencies (%)(ii)						
31-60 days	1.13	0.99	1.06	1.45	1.45	1.31
61-90 days	0.17	0.12	0.13	0.16	0.15	0.14
91-120 days	0.02	0.01	0.01	0.01	0.01	0.01
Over 120 days	0.01	0.01	0.01	0.00	0.00	0.00
Total delinquencies	1.33	1.13	1.21	1.62	1.61	1.46
84-month contract delinquencies (%)(ii)						
31-60 days	0.77	0.65	0.55	0.53	0.35	0.21
61-90 days	0.10	0.07	0.07	0.03	0.02	0.03
91-120 days	0.01	0.01	0.00	0.01	0.01	0.01
Over 120 days	0.00	0.00	0.01	0.00	0.00	0.00
Total delinquencies	0.88	0.73	0.63	0.57	0.38	0.25
Repossessions (% of the average no. of contracts outstanding)	0.74	0.75	0.95	1.24	1.28	1.29
Repossessions of 84-month contracts (% of the average no. of 84-month contracts outstanding)	0.47	0.49	0.55	0.60	0.53	0.42
Aggregate net losses (mil. $)	70	32	180	246	253	272
Net losses (% of gross liquidations)(iii)	0.30	0.13	0.78	1.08	1.07	1.26
Net losses (% of the average portfolio outstanding)	0.15	0.06	0.36	0.53	0.54	0.61
Net losses on 84-month contracts (% of the average 84-month portfolio outstanding)	0.13	0.08	0.21	0.25	0.21	0.16
Number of contracts charged-off (% of the average number of contracts outstanding)	1.21	1.16	1.46	1.88	1.89	1.91
Average net loss on charged-off contracts ($)	3,093	1,350	5,783	6,131	6,100	6,640

Table 2

Managed Portfolio Performance (cont.)

	Year ended Dec. 31					
	2022	2021	2020	2019	2018	2017
Average net loss on charged-off 84-month contracts ($)	7,885	5,118	11,886	13,464	13,665	12,260

(i)Average number of delinquencies as a percentage of the average number of contracts outstanding. (ii)Aggregate principal balance of delinquent contracts as a percentage of the portfolio outstanding. (iii)Gross liquidations are cash payments and charge-offs that reduce a receivables' outstanding balance.

Ford Credit's retail loan origination volume declined by the number of contract originations but increased by the aggregate principal balance for the year ended Dec. 31, 2022 from the year prior, reflecting lower vehicle sales and related financing due to continuing new vehicle supply constraints (see table 3). The percentage of loans with an original term greater than 60 months declined from historical levels; however, the weighted average FICO scores for original terms greater than 60 months and for 84-month terms have decreased in the current period due to Ford Credit's expansion in October 2021 of its 84-month contract financing to applicants, who may have lower FICO scores and higher LTV ratios.

Table 3

Managed Portfolio Origination Characteristics

	Year ended Dec. 31					
	2022	2021	2020	2019	2018	2017
Number of contracts	484,524	514,312	668,156	588,258	729,323	705,490
Total principal balance ($ mil)	22,139	21,508	27,506	22,332	25,293	23,561
Weighted average original term (mos.)	64.3	64.4	68.6	66.2	66.3	66.2
Original term greater than 60 months (%)	52.2	53.5	71.8	61.0	59.9	61.9
Original term of 84 months (%)	8.9	5.3	10.2	4.2	5.7	2.9
Weighted average FICO score	738	742	730	742	741	741
Weighted average FICO score for original term greater than 60 months	711	719	717	723	722	725
Weighted average FICO score for original term of 84 months	723	728	734	752	754	761
No FICO score consumer (%)	0.9	0.7	0.7	0.9	0.9	0.9
Weighted average LTV ratio (%)	102	99	102	97	96	95
Weighted average PTI ratio (%)	9.4	9.1	9.2	8.9	8.7	8.8
Subvened-APR contracts (%)	58	61	69	63	54	47
Commercial use (%)	25	24	17	19	18	18
New vehicles (%)	85	92	93	91	89	92

LTV--Loan-to-value. PTI--Payment-to-income. APR--Annual percentage rate.

Pool Analysis

We compared the FCAOT 2023-A collateral pool with previous FCAOT nonrevolving retail auto securitization pools (see table 4). In our view, the FCAOT 2023-A collateral pool is slightly weaker compared to the previous FCAOT 2022-D, 2022-C, 2022-B, 2022-A, and 2021-A pools with the increases in the concentration of 73- to 84-month loans, weighted average LTV, and PTI. The concentration of these 73- to 84-month original term loans in the 2023-A pool is 18.49%, whereas these previous pools include slightly less than 10.00%. FCAOT pools prior to series 2020-C did not include 73- to 84-month loans.

Per FCAOT 2023-A's receivables selection criteria, no loans in the pool have been granted a payment extension as of the March 1, 2023 cut-off date.

Table 4

Collateral Comparison(i)

	FCAOT								
	2023-A	2023-A (upsized)	2022-D (ii)	2022-C	2022-B (ii)	2022-A	2021-A	2020-C	2020-B
Pool size (bil. $)	1.44	1.73	1.47	1.75	1.17	1.15	1.42	1.43	2.25
No. of receivables	40,633	48,752	45,366	52,430	36,914	34,997	43,920	43,498	79,877
Avg. principal balance ($)	35,524	35,530	32,431	33,288	31,788	32,751	32,229	32,865	28,215
Weighted avg. APR excluding the YSOA (%)	4.74	4.74	3.77	3.29	2.86	2.59	2.56	2.31	2.93
Weighted avg. original term (mos.)	65.1	65.1	64.3	64.2	64.8	65.6	67.1	67.5	65.1
Weighted avg. remaining (mos.)	57.8	57.8	54.6	54.7	54.4	56.9	59.5	60.6	56.3
Seasoning (mos.)	7.3	7.3	9.7	9.5	10.4	8.7	7.6	6.9	8.8
Loans with an original term of 61-72 months (%)	36.01	36.04	41.72	41.48	43.72	48.32	57.08	59.97	57.57
Loans with an original term of 73-84 months (%)	18.49	18.51	9.81	9.85	9.84	9.77	9.96	9.86	N/A
New vehicle (%)	87.80	87.82	88.07	89.83	91.90	92.38	92.17	91.89	88.44
Used vehicle (%)	12.20	12.18	11.93	10.17	8.10	7.62	7.83	8.11	11.56
Weighted avg. original FICO score(iii)	745	745	745	744	746	745	734	736	744

Table 4

Collateral Comparison(i) (cont.)

	FCAOT								
	2023-A	2023-A (upsized)	2022-D (ii)	2022-C	2022-B (ii)	2022-A	2021-A	2020-C	2020-B
Weighted avg. FICO score of pools with an original term greater than 60 mos.(iii)	721	721	720	719	724	724	719	723	724
Weighted avg. FICO score of pools with an original term greater than 72 mos.(iii)	717	717	721	722	726	724	726	729	N/A
Weighted avg. LTV ratio at origination (%)(iv)	101.40	101.41	100.64	100.37	100.25	99.60	101.03	101.75	98.09
Weighted avg. PTI ratio at origination (%)(v)	9.50	9.46	9.24	9.12	9.00	9.08	9.17	9.14	8.89
Top five state concentrations (%)									
	TX=17.19	TX=17.27	TX=17.00	TX=18.48	TX=17.07	TX=16.39	TX=15.52	TX=17.16	TX=17.56
	CA=10.31	CA=10.35	CA=11.10	CA=11.18	CA=10.64	CA=9.90	CA=10.93	FL=7.54	CA=9.39
	FL=8.76	FL=8.93	FL=8.75	FL=8.26	FL=8.29	FL=7.91	FL=8.26	CA=6.40	FL=7.87
	GA=4.30	GA=4.27	GA=3.87	GA=3.79	MI=3.38	MI=3.50	GA=3.65	GA=3.76	GA=3.72
	NC=3.70	NC=3.66	MI=3.40	MI=3.33	GA=3.31	GA=3.43	OH=3.50	OH=3.74	MI=3.46

(i)All percentages are of the initial gross receivables balance. (ii)Not rated by S&P Global Ratings. (iii)Excludes receivables that have primary obligors who do not have FICO scores because they are not individuals or are individuals with minimal or no recent credit history. (iv)The LTV ratio for a receivable is the original amount financed divided by the wholesale value of the vehicle. (v)The PTI ratio for a receivable is the contract monthly payment amount divided by the monthly combined income of the obligor and any co-obligor. It excludes commercial-use receivables with a business entity as the primary obligor. It also excludes a limited number of receivables where income is not reported. FCAOT--Ford Credit Auto Owner Trust. APR--Annual percentage rate. YSOA--Yield supplement overcollateralization amount. N/A--Not applicable. LTV--Loan-to-value. PTI--Payment-to-income.

Securitization Performance

We maintain ratings on 15 active retail FCAOT transactions that closed in 2018 through 2022. Of those, seven are SEC-registered with amortizing structures, and eight (series 2018-REV1, 2019-REV1, 2020-REV1, 2020-REV2, 2021-REV1, 2021-REV2, 2022-REV1, and 2023-REV1) are broadly distributed Rule 144A transactions with revolving structures.

On March 10, 2023, we revised our lifetime loss expectations for six FCAOT amortizing transactions downward due to better-than-expected performance. We also raised our ratings on four classes and affirmed on 19 from the six transactions (see "Ratings Raised On Four Classes And Affirmed On 19 Classes From Six Ford Credit Auto Owner Trust Transactions," published March 10, 2023).

The outstanding classes have adequate credit enhancement at their current rating levels, in our view. We will continue to monitor all outstanding transactions to ensure that the credit enhancement remain sufficient, in our view, to cover our revised CNL expectations under our stress scenarios for each of the rated classes.

Charts 2-5 show performance data for FCAOT's nonrevolving transactions.

Chart 2

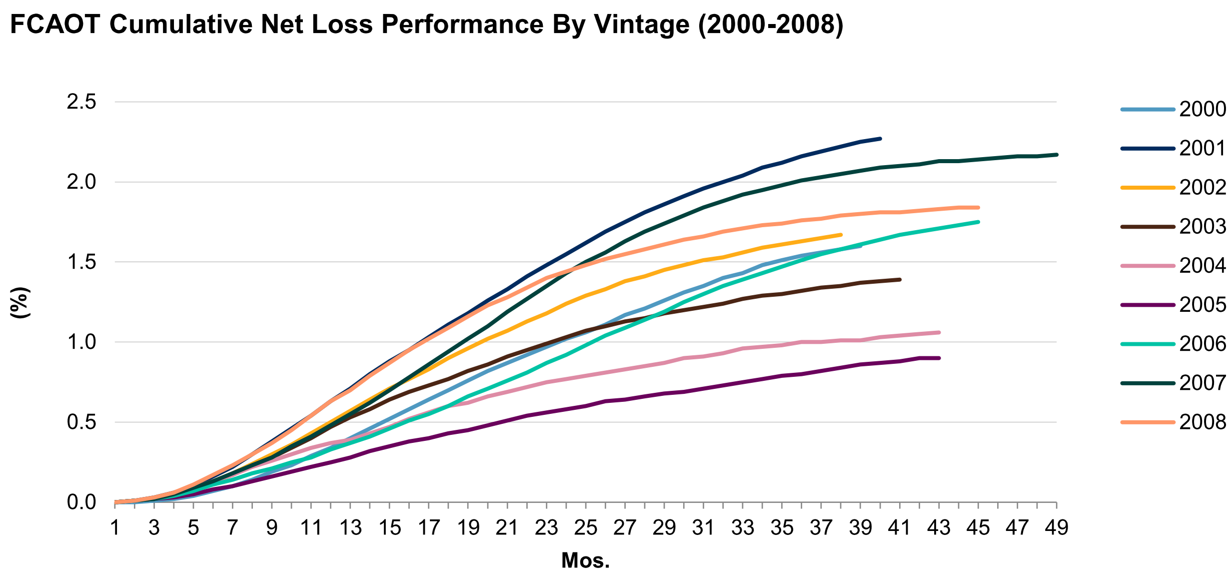


Chart 3

FCAOT Cumulative Net Loss Performance By Vintage (2009-2022)

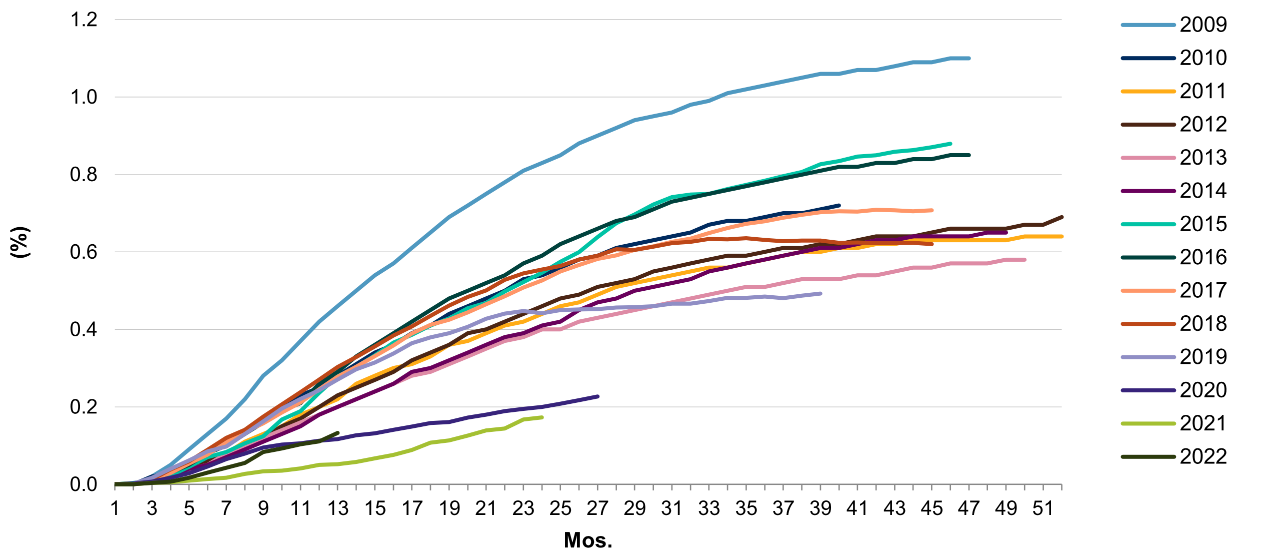
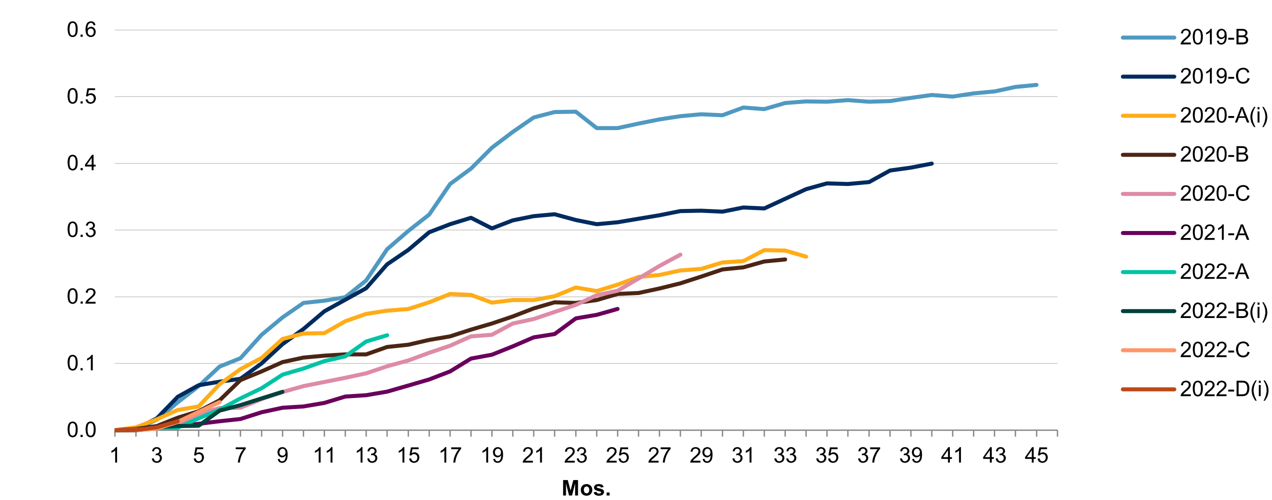


Chart 4

Cumulative Net Loss Performance Of FCAOT Outstanding Securitizations



(i)Not rated by S&P Global.

FCAOT's average cumulative recovery rate from 2009 to 2013 is approximately 64.00%. Beginning in 2014, the cumulative recovery rates began to decrease. From 2014-2017, FCAOT average cumulative recovery rates were below 60.00%. The series 2018-A through 2022-A transactions are generally experiencing higher cumulative recovery rates in the range of 60.00%-70.00%.(see chart 5).

Chart 5

Cumulative Recovery Rate By Vintage

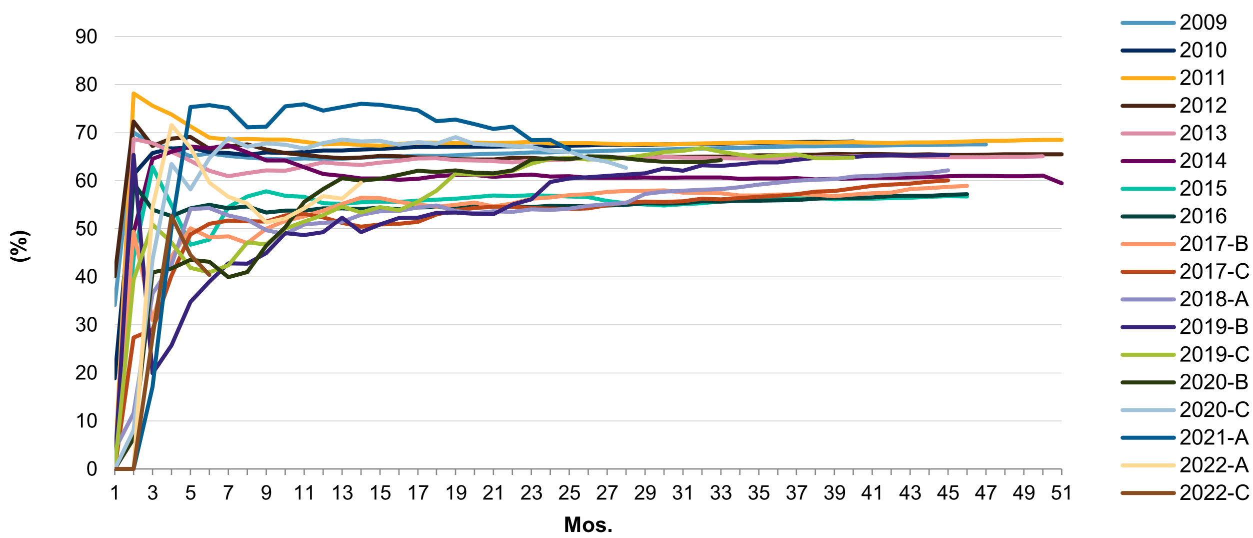


Table 5 shows performance data for FCAOT's outstanding nonrevolving series 2019-2022 transactions that we have rated.

Table 5

Performance Data For Outstanding Nonrevolving Ford Credit Auto Owner Trust Transactions(i)

Series	Month	Pool factor (%)	60-plus-day delinquency (%)	CNL (%)	Initial expected lifetime CNL (%)	Revised expected lifetime CNL (%)(ii)
2019-B	45	10.17	0.66	0.52	1.00-1.20	Up to 0.55
2019-C	40	15.23	0.35	0.40	1.00-1.20	Up to 0.50
2020-B	33	22.45	0.28	0.26	1.30-1.50	0.40
2020-C	28	34.99	0.25	0.26	1.40-1.60	0.55
2021-A	25	39.02	0.25	0.18	1.25-1.45	0.60
2022-A	14	60.58	0.15	0.14	1.10-1.30	1.00
2022-C	6	81.60	0.09	0.04	1.20	N/A

(i)Performance as of the March 2023 distribution date. (ii)The lifetime expected CNL was revised in March 2023 for series 2019-B, 2019-C, 2020-B, 2020-C, 2021-A, and 2022-A. CNL--Cumulative net loss. N/A-- Not applicable.

S&P Global Ratings' Expected Loss: 1.25%

To derive the base case for the FCAOT 2023-A transaction, we examined the CNL performance of paid-off and outstanding FCAOT nonrevolving transactions that had collateral characteristics similar to the FCAOT 2023-A pool. We derived a loss timing curve from the paid-off pools to project losses on the outstanding securitizations. In addition, we selected some loss timing curves from paid-off pools that may have experienced greater back-end losses to project losses on the outstanding securitizations. This allowed us to determine how the outstanding securitizations may perform if losses were to become more back-ended compared to historical experience, given the increase in longer-term loans (greater than 60 months) included in recent FCAOT pools. We also projected remaining gross losses on the outstanding securitizations and assumed lower future recovery rates to account for expected declines in used vehicle values. The gross loss approach yielded slightly higher CNL projections.

We also analyzed static pool origination net loss data on Ford Credit's U.S. managed portfolio going back to 2001. We received static pool data from Ford Credit segmented by credit score band, term (including 73- to 84-month term loans), new/used vehicle mix, vehicle type, and APR subvention, and we developed expected net loss projections for each combination of those segments. Then we weighted these projections based on the actual concentration of the various segments in the FCAOT 2023-A pool and recently securitized pools. Our goal was to estimate the relative percentage increase or decrease in the overall expected net loss due to the FCAOT 2023-A pool's credit composition compared with previous pools. When analyzing static pool performance and securitization performance, we placed less focus on performance from the past couple of years, given the impact of extensions on delinquencies and the robust vehicle recovery that we expect will stabilize in the near term.

Similarly to previous FCAOT pools, the FCAOT 2023-A pool includes commercial accounts, which represent receivables with primary obligors that are generally small businesses that use the financed vehicles for commercial purposes. Most of these accounts do not have FICO scores because the account obligors are businesses, not individuals. The commercial accounts' loss performance is included in the various origination static pool net loss data segmentations described above. In our view, the origination static pool data showed that these accounts' loss performance was generally better than that of consumer loans with FICO scores less than 676.

Based on our analysis of the FCAOT 2023-A pool's credit quality, the vintage static origination net loss data and our applied projected loss to the FCAOT 2023-A pool, our CNL and gross loss projections for Ford Credit's outstanding securitized pools, Ford Credit's managed portfolio performance, and our forward-looking view of the economy, we expect the FCAOT 2023-A pool to experience CNLs of 1.25%, an increase of 0.05% from series 2022-C.

Cash Flow Modeling Assumptions And Results

We modeled the FCAOT 2023-A transaction to withstand our 'AAA', 'AA+', and 'AA-' stress scenarios for the class A, B, and C notes, respectively (see table 6). Historical performance data indicate that loans with lower APRs tend to prepay and default less frequently than loans with higher APRs. When this occurs within a pool of loans, the lower-APR loans remain outstanding longer. We stressed the excess spread in our cash flow modeling scenarios accordingly by using a bifurcated-pool method under which the higher-APR loans prepay faster and default at a disproportionately higher rate than the lower-APR loans. In our modeling scenarios, we bifurcated the pool using a cutoff APR of 5.00% (accounting for the cost of debt). Table 6 details the cash flow assumptions applied and the related results using a fast loss timing curve, and table 7 shows the assumptions and results using a slower loss timing curve.

Table 6

Cash Flow Assumptions And Results (Fast)

	Class A	Class B	Class C
Preliminary rating	A-1+ (sf)/AAA (sf)	AA+ (sf)	AA- (sf)
Subvened loans (% of pool)(i)	59	59	59
Nonsubvened loans (% of pool)	41	41	41
Cumulative net loss timing (% of losses per year)			
Total loans	33-41-20-6	33-41-20-6	33-41-20-6
Subvened loans	32-42-20-7	32-42-20-7	32-42-20-7
Nonsubvened loans	35-40-20-5	35-40-20-5	35-40-20-5
Loss allocation (% of total losses)			
Subvened loans	50	50	50
Nonsubvened loans	50	50	50
Voluntary ABS (%)			
Subvened loans	0.25	0.25	0.25
Nonsubvened loans	1.50	1.50	1.50
Recovery rate (%)	50	50	50
Recovery lag (mos.)	4	4	4
Approx. breakeven levels | base (%)(ii)	9.4	7.0	5.4
Approx. breakeven levels | upsize (%)(ii)	9.4	7.1	5.4

(i)For modeling purposes, we classified subvened loans as loans with APRs that are lower than or equal to 5.0%, and nonsubvened loans as loans with APRs greater than 5.0%. (ii)The maximum cumulative net losses on the pool that the transaction can withstand without triggering a payment default on the class A or B notes. ABS--Absolute prepayment speed. APRs--Annual percentage rates. Class A--Classes A-1, A-2a/A-2b, A-3, and A-4, collectively.

Table 7

Cash Flow Assumptions And Results (Slow)

	Class A	Class B	Class C
Preliminary rating	A-1+ (sf)/AAA (sf)	AA+ (sf)	AA- (sf)
Subvened loans (% of pool)(i)	59	59	59
Nonsubvened loans (% of pool)	41	41	41
Cumulative net loss timing (% of losses per year)			
Total loans	31-42-20-6-1	31-42-20-6-1	31-42-20-6-1
Subvened loans	27-43-20-7-2	27-43-20-7-2	27-43-20-7-2
Nonsubvened loans	35-40-20-5	35-40-20-5	35-40-20-5
Loss allocation (% of total losses)			
Subvened loans	50	50	50
Nonsubvened loans	50	50	50

Table 7

Cash Flow Assumptions And Results (Slow) (cont.)

	Class A	Class B	Class C
Voluntary ABS (%)			
Subvened loans	0.25	0.25	0.25
Nonsubvened loans	1.50	1.50	1.50
Recovery rate (%)	50	50	50
Recovery lag (mos.)	4	4	4
Approx. breakeven levels | base (%)(ii)	9.4	7.0	5.4
Approx. breakeven levels | upsize (%)(ii)	9.4	7.1	5.4

(i)For modeling purposes, we classified subvened loans as loans with APRs that are lower than or equal to 5.0%, and nonsubvened loans as loans with APRs greater than 5.0%. (ii)The maximum cumulative net losses on the pool that the transaction can withstand without triggering a payment default on the notes. ABS--Absolute prepayment speed. APRs--Annual percentage rates. Class A--Classes A-1, A-2a/A-2b, A-3, and A-4, collectively.

By running low prepayments on the subvened, lower-APR contracts, and applying a slower loss timing curve to these contracts than to the higher-APR contracts, the cash flows stressed the weighted average APR on the collateral, causing it to decrease faster over time. This increases the likelihood that the YSOA will be used for yield enhancement rather than credit enhancement. In a stressed scenario, liquidity risk could arise due to interest shortfalls resulting from the yield on the assets being lower than the yield on the bonds (especially because the bonds pay sequentially, leading to higher-coupon debt outstanding at the tail-end of the transaction). Increasing the use of the YSOA for yield enhancement decreases the amount of the YSOA available to cover credit losses, thereby decreasing break-even levels.

The class A-2 notes may consist of fixed-rate class A-2a notes and floating-rate class A-2b notes, which will accrue interest at a floating rate indexed to compounded SOFR (a 30-day average SOFR calculated in advance by the calculation agent using the published rate on the Federal Reserve Bank of New York's website) plus a spread. For the floating-rate tranche, we applied our stressed interest rates for one-month SOFR, as described in our criteria "Methodology To Derive Stressed Interest Rates In Structured Finance," published Oct. 18, 2019, using a SOFR curve starting at 4.50%. We also modeled the maximum potential size of the class A-2b note balance ($247.5 million or $297.0 million if the note issuance is upsized)

The break-even cash flow results show that each rated class in the FCAOT 2023-A transaction has more than sufficient credit enhancement to withstand a stressed net loss level consistent with the assigned preliminary ratings.

Sensitivity Analysis

In addition to running break-even cash flows, we ran a two-pool sensitivity analysis to see how the ratings on the notes could be affected by losses that are moderately higher than what we currently expect (see table 6 and chart 6).

Table 8

Sensitivity Analysis Summary--Moderate Loss Scenario

Loss level (multiple)	2.0x base case

Table 8

Sensitivity Analysis Summary--Moderate Loss Scenario (cont.)

Cumulative net loss level (%)	2.5
Loss timing by months outstanding (12/24/36/48/60) (%)	
Subvened(i)	27/43/20/7/2
Nonsubvened	35/40/20/5/0
Aggregate	31/42/20/6/1
Disproportionate loss allocation (%)	
Subvened(i)	50.0
Nonsubvened	50.0
Voluntary ABS (%)	
Subvened(i)	0.25
Nonsubvened	1.50
Servicing fee (%)	1.0
Recovery rate (%)	50.0
Recovery lag (mos.)	4

(i)Subvened loans are loans with APRs that are 5.0% or lower, and nonsubvened loans are loans with APRs greater than 5.0%. ABS--Absolute prepayment speed. APRs--Annual percentage rates.

Moderate loss scenario: 2.50% (2.0x cumulative net loss results)

Under the moderate stress loss scenario, we assumed CNLs of 2.50% (approximately 2.0x our expected CNL level) and again ran a bifurcated-pool assumption, under which the nonsubvened collateral was defaulted at a higher rate and prepaid at a faster rate than the subvened collateral (see chart 6). As with our break-even stress scenarios, we allocated losses disproportionately between the subvened and nonsubvened loans. In addition, we assumed a 50.00% recovery rate on gross losses, which is lower than outstanding FCAOT securitizations' current recovery rates. To stress excess spread, we assumed a voluntary prepayment speed of 1.50% for contracts with APRs higher than 5.00%, and 0.25% for contracts with APRs at or below 5.00%.

In our view, the assigned preliminary ratings on the class A, B, and C notes are consistent with the credit stability limits specified by section A.4 of the Appendix of "S&P Global Ratings Definitions," published Nov. 10, 2021 (see table 9 and chart 6). This indicates that we would not assign the ratings if, under moderate stress conditions, the ratings would be lowered by more than one category within the first year.

Table 9

Credit Stability As A Limiting Factor On Ratings

	Maximum projected deterioration associated with rating levels for one- and three-year horizons under moderate stress conditions					
Horizon	**AAA**	**AA**	**A**	**BBB**	**BB**	**B**
One year	AA	A	BB	B	CCC	D

Table 9

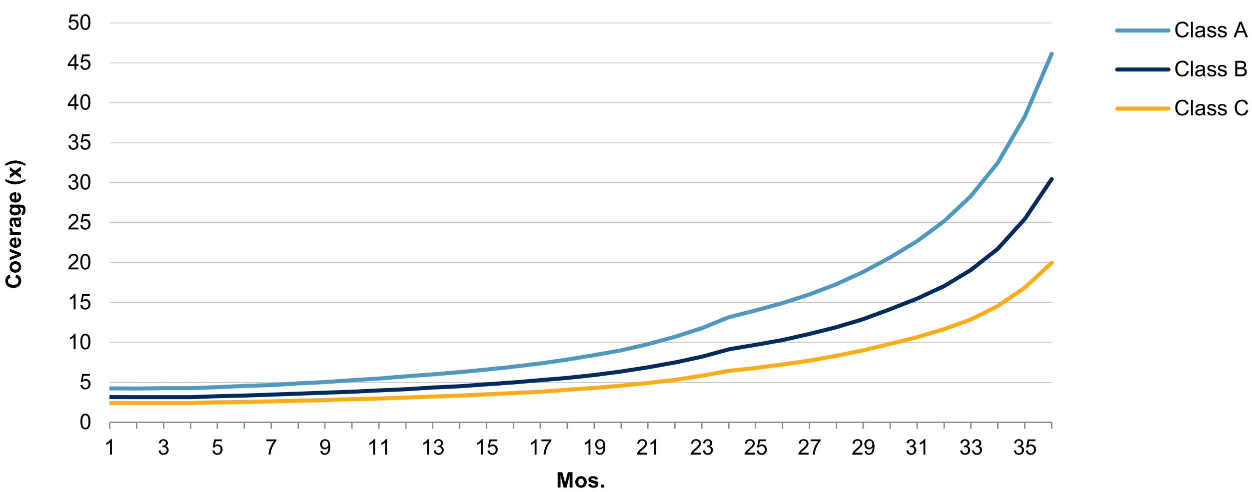
Credit Stability As A Limiting Factor On Ratings (cont.)

	Maximum projected deterioration associated with rating levels for one- and three-year horizons under moderate stress conditions					
Horizon	**AAA**	**AA**	**A**	**BBB**	**BB**	**B**
Three years	BBB	BB	B	CCC	D	D

(i)These credit quality transitions do not reflect our view of the expected degree of deterioration that rated issuers or obligations could experience over the specified time horizons. Nor do they reflect the typical historical levels of deterioration among rated issuers and securities.

Chart 6

Sensitivity Chart



Class A--Classes A-1, A-2a/A-2b, A-3, and A-4, collectively.

Money Market Tranche Sizing

The proposed legal final date for the money market tranche (class A-1) is April 15, 2024. To test whether the money market tranche can be repaid by the proposed legal final date, we ran cash flows using assumptions that delay the principal collections during the 13-month time period.

We assumed a voluntary absolute prepayment speed of 0.50% for nonsubvened loans and 0.00% for subvened loans. Based on our current modelling assumptions, approximately 10 months of principal collections would be sufficient to pay off the money market tranche.

Legal Final Maturity

To test the legal final maturity dates set for long-dated tranches (i.e., classes A-2a/A-2b through B), we determined the date on which the respective notes would fully amortize in a zero-loss, zero-prepayment scenario and then added three months to the result. For the longest-dated security (class C), we added at least six months to the tenor of the longest receivable in the pool to accommodate extensions on the receivables. Furthermore, in the break-even scenario for each respective rating level, we confirmed that there was sufficient credit enhancement to both cover losses and repay the related notes in full by the legal final maturity date.

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 | General: Methodology To Derive Stressed Interest Rates In Structured Finance, Oct. 18, 2019
- Criteria | Structured Finance | ABS: Global Equipment ABS Methodology And Assumptions, May 31, 2019
- 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
- General Criteria: Methodology For Linking Long-Term And Short-Term Ratings, April 7, 2017
- 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: January 2023 Performance, March 13, 2023
- Ratings Raised On Four Classes And Affirmed On 19 Classes From Six Ford Credit Auto Owner Trust Transactions, March 10, 2023
- Bulletin: Ford Motor Co. Rating Momentum Brakes Slightly On Weaker Than Anticipated Cash Flow In 2023, Feb. 3, 2023
- Credit Conditions North America Q1 2023: Worse Before It Gets Better, Dec. 1, 2022
- Economic Outlook U.S. Q1 2023: Tipping Toward Recession, Nov. 28, 2022
- Bulletin: Ford Motor Co.'s Third-Quarter Results Are In-Line With Expectations For A Potential

Upgrade In 2023, Oct. 27, 2022