S&P Global
Ratings

Research

Presale:

# CarMax Auto Owner Trust 2020-4

**October 8, 2020**


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## Preliminary Ratings

| Class | Preliminary rating | Type | Interest rate(i) | Base pool amount (mil. $) | Upsize amount (mil. $) | Expected legal final maturity date |
|---|---|---|---|---|---|---|
| A-1 | A-1+ (sf) | Senior | Fixed | 185.000 | 231.000 | Oct. 15, 2021 |
| A-2a/A-2b | AAA (sf) | Senior | Fixed/floating(ii) | 438.000 | 548.000 | Jan. 16, 2024 |
| A-3 | AAA (sf) | Senior | Fixed | 388.000 | 485.000 | Aug. 15, 2025 |
| A-4 | AAA (sf) | Senior | Fixed | 100.450 | 125.310 | June 15, 2026 |
| B | AA (sf) | Subordinate | Fixed | 38.560 | 48.190 | June 15, 2026 |
| C | A (sf) | Subordinate | Fixed | 30.720 | 38.400 | Aug. 17, 2026 |
| D | BBB (sf) | Subordinate | Fixed | 19.270 | 24.100 | April 15, 2027 |

Note: This presale report is based on information as of Oct. 8, 2020. The ratings shown are preliminary. Subsequent information may result in the assignment of final ratings that differ from the preliminary ratings. Accordingly, the preliminary ratings should not be construed as evidence of final ratings. This report does not constitute a recommendation to buy, hold, or sell securities. (i)The tranches' coupons will be determined on the pricing date. (ii)The class A-2 notes may be split into a fixed-rate class A-2a and a floating-rate class A-2b. The sizes of classes A-2a and A-2b will be determined at pricing, though the principal balance of the class A-2b notes is not expected to exceed $120.000 million ($150.000 million for the upsized pool). The class A-2b coupon will initially be expressed as a spread tied to one-month LIBOR.

## Profile

| | |
|---|---|
| Expected closing date | Oct. 21, 2020. |
| Collateral | Prime auto loan receivables. |
| Issuer | CarMax Auto Owner Trust 2020-4. |
| Originator, sponsor, and servicer | CarMax Business Services LLC. |
| Depositor and seller | CarMax Auto Funding LLC. |
| Indenture trustee | Wilmington Trust N.A. |
| Owner trustee | U.S. Bank Trust N.A. |
| Lead underwriter | RBC Capital Markets LLC. |

### Credit Enhancement Summary (%)

| | Series 2020-4 | | | Series 2020-3 | | | Series 2020-2 | | | Series 2020-1 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Initial(i)(ii) | Target(i)(ii) | Floor(i)(ii) | Initial(i)(ii) | Target(i)(ii) | Floor(i)(ii) | Initial(i)(ii) | Target(i)(ii) | Floor(i)(ii) | Initial(i)(ii) | Target(i)(ii) | Floor(i)(ii) |
| **Class A** | | | | | | | | | | | | |
| Subordination | 7.35 | 7.35 | 7.35 | 8.40 | 8.40 | 8.40 | 9.40 | 9.40 | 9.40 | 6.35 | 6.35 | 6.35 |
| Reserve account | 0.50 | 0.50 | 0.50 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.25 | 0.25 | 0.25 |
| O/C | 0.40 | 0.40 | 0.40 | 0.60 | 0.60 | 0.60 | 0.60 | 1.45 | 1.45 | 0.25 | 0.25 | 0.25 |
| Total | 8.25 | 8.25 | 8.25 | 10.00 | 10.00 | 10.00 | 11.00 | 11.85 | 11.85 | 6.85 | 6.85 | 6.85 |
| **Class B** | | | | | | | | | | | | |
| Subordination | 4.15 | 4.15 | 4.15 | 4.90 | 4.90 | 4.90 | 6.15 | 6.15 | 6.15 | 3.95 | 3.95 | 3.95 |
| Reserve account | 0.50 | 0.50 | 0.50 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.25 | 0.25 | 0.25 |
| O/C | 0.40 | 0.40 | 0.40 | 0.60 | 0.60 | 0.60 | 0.60 | 1.45 | 1.45 | 0.25 | 0.25 | 0.25 |
| Total | 5.05 | 5.05 | 5.05 | 6.50 | 6.50 | 6.50 | 7.75 | 8.60 | 8.60 | 4.45 | 4.45 | 4.45 |
| **Class C** | | | | | | | | | | | | |
| Subordination | 1.60 | 1.60 | 1.60 | 1.90 | 1.90 | 1.90 | 3.40 | 3.40 | 3.40 | 1.70 | 1.70 | 1.70 |
| Reserve account | 0.50 | 0.50 | 0.50 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.25 | 0.25 | 0.25 |
| O/C | 0.40 | 0.40 | 0.40 | 0.60 | 0.60 | 0.60 | 0.60 | 1.45 | 1.45 | 0.25 | 0.25 | 0.25 |
| Total | 2.50 | 2.50 | 2.50 | 3.50 | 3.50 | 3.50 | 5.00 | 5.85 | 5.85 | 2.20 | 2.20 | 2.20 |
| **Class D** | | | | | | | | | | | | |
| Reserve account | 0.50 | 0.50 | 0.50 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.25 | 0.25 | 0.25 |
| O/C | 0.40 | 0.40 | 0.40 | 0.60 | 0.60 | 0.60 | 0.60 | 1.45 | 1.45 | 0.25 | 0.25 | 0.25 |
| Total | 0.90 | 0.90 | 0.90 | 1.60 | 1.60 | 1.60 | 1.60 | 2.45 | 2.45 | 0.50 | 0.50 | 0.50 |
| Estimated annual excess spread(iii) | 6.0 | | | 5.9 | | | 4.4 | | | 5.1 | | |

(i)Applicable for both the $1.20 billion base and the $1.50 billion upsized structure. (ii)Percentage of the initial receivables balance. (iii)Estimated annual excess spread is pre-pricing for series 2020-4 and post-pricing for series 2020-3, 2020-2, and 2020-1. O/C--Overcollateralization.

## Rationale

The preliminary ratings assigned to CarMax Auto Owner Trust 2020-4's (CAOT 2020-4's) auto receivables asset-backed notes reflect:

- The availability of approximately 14.6%, 11.8%, 8.8%, and 6.7% credit support for the base and upsized pools' class A, B, C, and D notes, respectively, based on our stressed break-even cash flow scenarios. These credit support levels provide coverage of approximately 5.1x, 4.1x, 3.1x, and 2.3x our 2.80%-3.00% expected net loss range to the respective classes, and are commensurate with the assigned preliminary 'A-1+ (sf)'/'AAA (sf)', 'AA (sf)', 'A (sf)', and 'BBB (sf)' ratings, respectively (see the S&P Global Ratings' Expected Loss and Cash Flow Modeling sections of this report, below).

- The timely interest and full principal payments made under the stressed cash flow modeling scenarios appropriate for the assigned preliminary ratings (see the Cash Flow Modeling section).
- Our expectation that under a moderate ('BBB') stress scenario (2.0x our expected loss level), all else being equal, our preliminary 'A-1+ (sf)'/'AAA (sf)', 'AA (sf)', 'A (sf)', and 'BBB (sf)' ratings on the class A-1, A-2 through A-4, B, C, and D notes, respectively, are consistent with the tolerances outlined in our credit stability criteria (see "Methodology: Credit Stability Criteria," published May 3, 2010).
- The performance of CarMax Business Services LLC's (CarMax) previous securitizations since 2001.
- The collateral characteristics of the securitized pool of auto loans, including a weighted-average nonzero FICO score of approximately 713.
- The transaction's payment and legal structures.

S&P Global Ratings acknowledges a high degree of uncertainty about the evolution of the coronavirus pandemic. The current consensus among health experts is that COVID-19 will remain a threat until a vaccine or effective treatment becomes widely available, which could be around mid-2021. We are using this assumption in assessing the economic and credit implications associated with the pandemic (see our research here: www.spglobal.com/ratings). As the situation evolves, we will update our assumptions and estimates accordingly.

## Credit Enhancement Changes From Series 2020-3

- Total hard credit enhancement decreased for classes A, B, C and D to 8.25%, 5.05%, 2.50%, and 0.90% from 10.00%, 6.50%, 3.50%, and 1.60%, respectively, from series 2020-3.
- The initial and floor overcollateralization (O/C), as a percentage of initial receivables balance, decreased to 0.40% from 0.60%.
- Subordination decreased to 7.35% from 8.40% for class A, 4.15% from 4.90% for class B, and 1.60% from 1.90% for class C.
- The reserve account, as a percentage of initial receivables balance, decreased to 0.50% from 1.00%.
- The estimated excess spread increased marginally to approximately 6.0% from 5.9%.

Although the total hard credit enhancement in series 2020-4 decreased compared to series 2020-3, there is more hard enhancement in series 2020-4 than the pre-COVID series 2020-1 transaction. When compared to series 2020-1, series 2020-4 has an additional 1.40%, 0.60%, 0.30%, and 0.40% of hard enhancement for class A, B, C, and D, respectively. In addition, soft enhancement in the form of estimated annual excess spread has also increased (see the Credit Enhancement Summary table for comparison). All classes in series 2020-4 are sufficiently enhanced to withstand our stress scenarios at the assigned preliminary ratings.

## Collateral Changes From Series 2020-3

The series 2020-4 collateral characteristics are comparable to those of series 2020-3, in our view (see table 2). Some of the notable characteristics indicative of the series 2020-4 base pool's collateral credit quality that we considered in our expected loss analysis are as follows:

- The percentage of the pool from the company's two highest internal credit score categories (tier A and B) increased to 95.0% from 90.0%.
- The weighted-average loan-to-value (LTV) ratio decreased to 91.8% from 93.2%.
- The percentage of the pool with original terms greater than 60 months declined to 60.0% from 61.1%.
- The percentage of the pool with called collateral decreased to 0.7% from 8.7%.
- The weighted-average nonzero FICO score decreased slightly, to 713 from 714.
- As of the Sept. 30, 2020, collateral cut-off date, 69 contracts (86 contracts for the upsized pool), or approximately 0.10% of the total number of receivables in the pool (0.10% for the upsized pool), received a payment extension (for any reason) during the month of September. Additionally, from October 1 through October 5, 0.01% of the total pool (base and upsize) received a payment extension (for any reason).

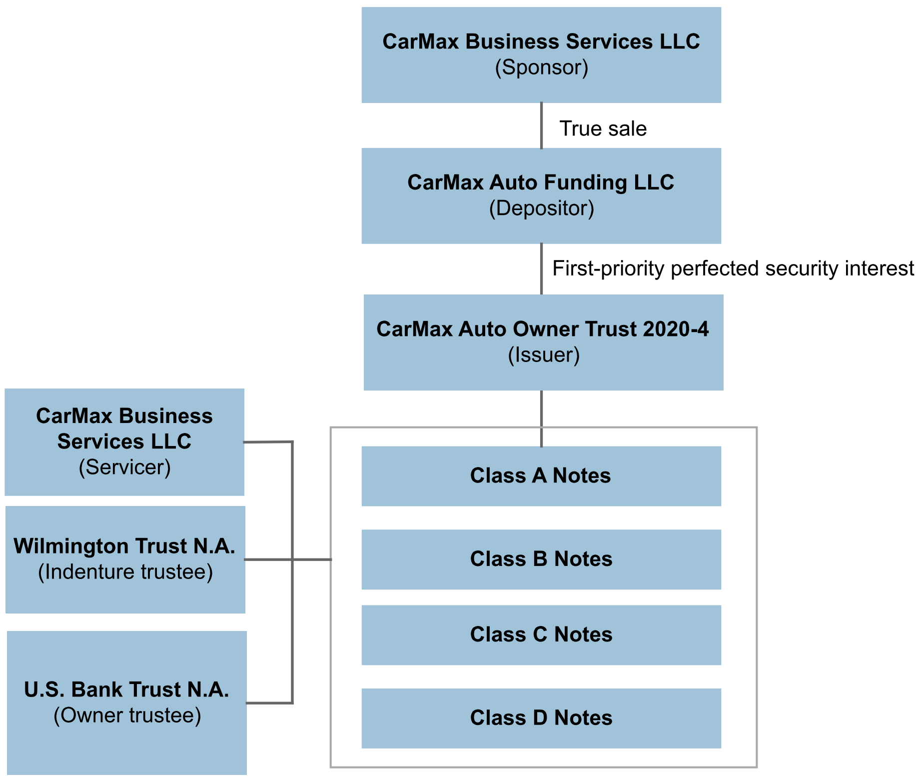
Overall, we believe the series 2020-4 collateral pool is comparable to series 2020-3 and other recent CarMax transactions (see the Pool Analysis section for the collateral pool comparison to 2020-2 and prior CarMax pools). However, we expect unemployment levels to remain elevated above pre-pandemic levels and, based on the historical correlation between credit performance and unemployment, losses will likely increase as well. As a result, we increased our expected cumulative net loss for CAOT 2020-4 to the 2.80%-3.00% range, the same as for CAOT series 2020-3 and 2020-2 (see "The Potential Effects Of COVID-19 On U.S. Auto Loan ABS," published March 26, 2020).

To test whether the money market tranche can be repaid by its maturity date, we ran cash flows using assumptions to delay the principal collections. We assumed zero defaults and, due to our current economic outlook and potential for increased extensions, as well as any temporary decrease in collections in the near term, we are not assuming any voluntary prepayments in our cash flow runs.

## Transaction Structure

CarMax will sell a pool of auto loan receivables to CarMax Auto Funding LLC, which will then sell the receivables to CAOT 2020-4, the transaction's issuing trust (see chart 1). In rating this transaction, we will review the legal matters we believe are relevant to our analysis as outlined in our criteria.

### Transaction Structure






## Transaction Summary

The series 2020-4 transaction incorporates the following structural features:

- A sequential-pay mechanism among the class A, B, C, and D notes that is expected to result in more credit enhancement, as a percentage of the current pool balance, for the more-senior classes as the pool amortizes.
- Notes that pay a fixed interest rate, except for the class A-2b notes, which pay a floating interest rate tied to one-month LIBOR. The exact amounts of the class A-2a and A-2b notes will be determined at pricing, though the principal balance of the class A-2b notes is not expected to exceed $120.000 million ($150.000 million for the upsized structure).
- Subordination of approximately 7.35%, 4.15%, and 1.60% for classes A, B, and C, respectively.
- A nonamortizing reserve account that will equal 0.50% of the initial pool balance.
- Initial and target overcollateralization of 0.40% of initial pool balance.

The series 2020-4 transaction documents include fallback language that closely follows the recommended contractual language published on May 31, 2019, by the Federal Reserve's

Alternative Reference Rates Committee (ARRC) for new issuances of LIBOR securitizations. In the event of a LIBOR cessation or the occurrence of a benchmark transition event, both as defined in the transaction documents and by ARRC, the class A-2b floating rate will be allowed to transition from LIBOR as the benchmark rate. We currently do not expect the ultimate discontinuance of LIBOR to have a material impact on the preliminary ratings. We will continue to monitor the events related to this topic as they evolve and evaluate the potential impact to our ratings, if any.

## Payment Structure

The trust will pay scheduled interest and principal on the rated notes on each monthly distribution date beginning Nov. 16, 2020. The payment priority that CarMax presented to S&P Global Ratings indicated that the trust will use the auto loan collections to make the distributions as shown in table 1. In addition, the reserve account's funds are intended to be available to pay interest shortfalls and make priority principal payments.

Table 1

### Payment Waterfall

| Priority | Payment |
|---|---|
| 1 | Servicer fee (1.00% per year). |
| 2 | Pro rata: the successor servicer fees (if the servicer has been replaced) and transition expenses capped at $175,000, and then any asset representations reviewer fees and expenses capped at $175,000. |
| 3 | Class A note interest, pro rata. |
| 4 | The first-priority principal distributable amount to the class A noteholders, sequentially, to maintain the class A notes' parity with the receivables. |
| 5 | Class B note interest. |
| 6 | The second-priority principal distributable amount, sequentially, to maintain the class A and B notes' parity with the receivables. |
| 7 | Class C note interest. |
| 8 | The third-priority principal distributable amount, sequentially, to maintain the class A, B, and C notes' parity with the receivables. |
| 9 | Class D note interest. |
| 10 | The fourth-priority principal distributable amount, sequentially, to maintain the class A, B, C, and D notes' parity with the receivables. |
| 11 | To the reserve account until the required amount is met. |
| 12 | The regular principal distributable amount, sequentially, to the class A-1, A-2, A-3, A-4, B, C, and D notes until each class is paid in full. This will also maintain overcollateralization to the target amount. |
| 13 | Pro rata: unpaid transition expenses exceeding the cap amounts listed in item 2 that are due in the event of a servicer termination; any additional servicing fees that are to be paid to the successor servicer, and any unpaid fees; unpaid indemnity amounts due to the successor servicer exceeding the cap amounts listed in item 2; expenses due to the asset representations reviewer that exceed the related cap amounts listed in item 2; and amounts due and owing to the indenture trustee under the indenture, which have not been previously paid in full. |
| 14 | Any remainder to the certificateholders. |

## Pool Analysis

As of the Sept. 30 2020, cut-off date, the series 2020-4 pool consists of 65,896 loans (82,341 in the upsized pool) totaling $1.205 billion ($1.506 billion in the upsized structure) in motor vehicle loans originated by CarMax's affiliates (see table 2).

As mentioned above, 69 contracts (86 contracts for the upsized pool), or approximately 0.10% of the total number of receivables in the pool (0.10% for the upsized pool), received a payment extension (for any reason) during the month of September. Additionally, from October 1st through October 5, 0.01% of the total pool (base and upsize) received a payment extension (for any reason).

Table 2

### Collateral Comparison(i)

| | Series 2020-4 (upsized) | Series 2020-4 (base) | Series 2020-3 | Series 2020-2 | Series 2020-1 | Series 2019-4 | Series 2019-3 | Series 2019-2 | Series 2019-1 |
|---|---|---|---|---|---|---|---|---|---|
| Receivables balance (bil. $) | 1.506 | 1.205 | 1.358 | 1.157 | 1.554 | 1.504 | 1.504 | 1.368 | 1.506 |
| No. of receivables | 82,341 | 65,896 | 89,174 | 75,761 | 92,022 | 91,203 | 90,510 | 86,231 | 91,421 |
| Avg. loan balance ($) | 18,290 | 18,284 | 15,230 | 15,271 | 16,886 | 16,488 | 16,614 | 15,869 | 16,474 |
| Weighted avg. APR (%) | 7.87 | 7.87 | 7.77 | 7.74 | 8.04 | 8.63 | 8.59 | 8.51 | 8.43 |
| Weighted avg. original term (mos.) | 65.86 | 65.83 | 66.20 | 66.07 | 66.18 | 66.39 | 66.29 | 66.15 | 66.18 |
| Weighted avg. remaining term (mos.) | 62.80 | 62.76 | 58.61 | 59.40 | 61.40 | 61.72 | 62.12 | 61.16 | 61.62 |
| Weighted avg. seasoning (mos.) | 3.06 | 3.06 | 7.59 | 6.67 | 4.78 | 4.67 | 4.17 | 4.99 | 4.56 |
| Weighted avg. FICO score | 713.3 | 713.1 | 713.8 | 715 | 710 | 705 | 705 | 707 | 706 |
| Original term 61–72 months (%) | 60.19 | 60.03 | 61.08 | 60.10 | 61.36 | 62.54 | 62.32 | 61.56 | 61.68 |
| New vehicles (%) | 0.49 | 0.50 | 0.10 | 0.44 | 0.42 | 0.27 | 0.29 | 0.33 | 0.36 |
| Used vehicles (%) | 99.51 | 99.50 | 99.90 | 99.56 | 99.58 | 99.73 | 99.71 | 99.67 | 99.64 |
| **Top five state concentrations (%)** | | | | | | | | | |
| | CA=18.43 | CA=18.42 | CA=16.65 | CA=17.83 | CA=17.09 | CA=17.01 | CA=17.61 | CA=17.96 | CA=17.42 |
| | TX=9.80 | TX=9.85 | TX=12.36 | TX=11.46 | TX=11.40 | TX=11.09 | TX=10.41 | TX=10.84 | TX=10.39 |
| | FL=7.29 | FL=7.28 | FL=8.87 | FL=8.52 | FL=7.94 | FL=8.11 | FL=8.64 | FL=8.93 | FL=8.32 |

Table 2

### Collateral Comparison(i) (cont.)

| | Series 2020-4 (upsized) | Series 2020-4 (base) | Series 2020-3 | Series 2020-2 | Series 2020-1 | Series 2019-4 | Series 2019-3 | Series 2019-2 | Series 2019-1 |
|---|---|---|---|---|---|---|---|---|---|
| | MD=6.58 | MD=6.56 | GA=6.96 | GA=6.61 | GA=6.23 | GA=6.56 | GA=6.46 | GA=7.01 | GA=6.36 |
| | GA=6.36 | GA=6.47 | NC=6.04 | VA=5.60 | VA=5.65 | VA=5.77 | VA=5.82 | VA=5.76 | IL=5.17 |

(i)All percentages are of the initial receivables balance. APR--Annual percentage rate.

## Securitization Performance

We currently maintain ratings on 15 active CAOT transactions that closed between 2016 and 2020. All 15 transactions had their lifetime loss expectations revised between October 2019 and June 2020. In our view, all of the classes currently have adequate credit enhancement at their current rating levels. We will continue to monitor the performance of the outstanding transactions, especially in light of the current recessionary environment resulting from the COVID-19 pandemic, to ensure that the credit enhancement remains sufficient, in our view, to cover our revised cumulative net loss expectations under our stress scenarios for each of the rated classes.

Chart 2

**CarMax Auto Owner Trust Cumulative Net Loss By Paid-Off Vintages | 2007-2016**

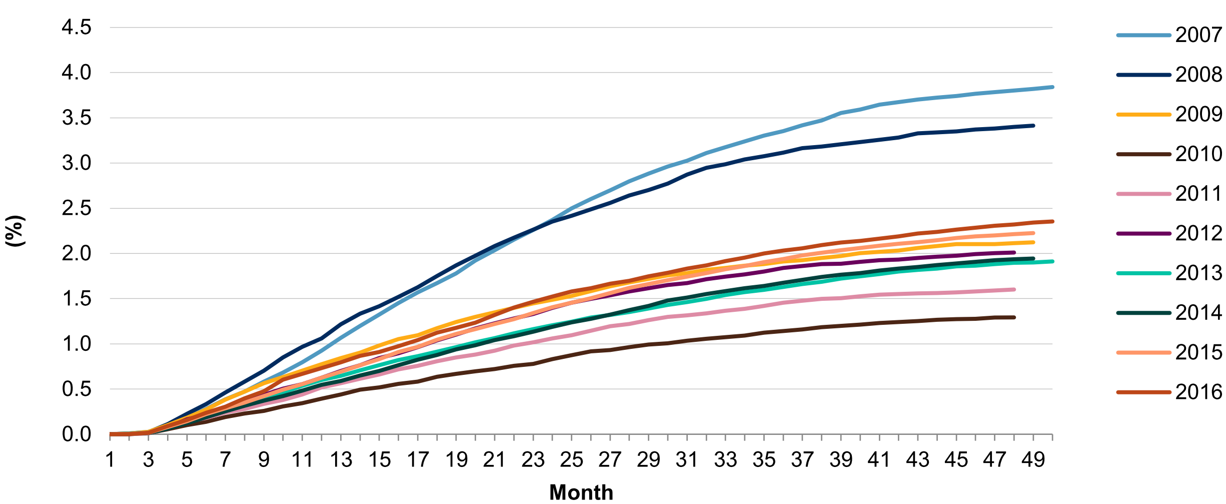


Chart 3

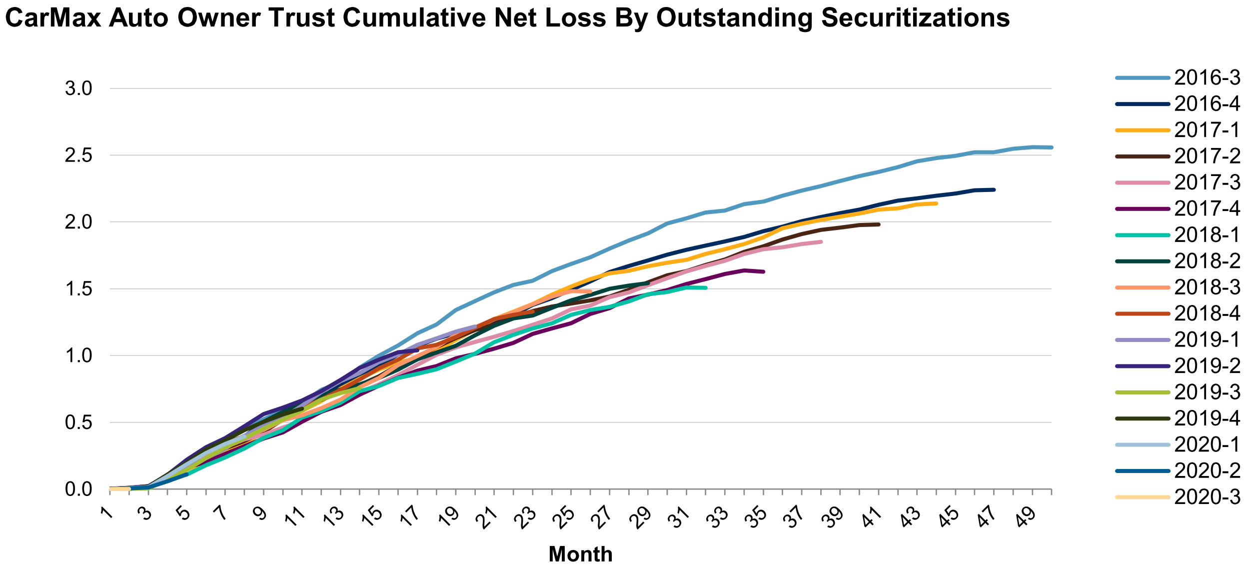





Table 3

## Performance Data for Outstanding CarMax Auto Owner Trust As Of The September 2020 Distribution Date

| Series | Month | Pool factor (%) | CNL (%) | 60+ day del (%) | Former lifetime CNL exp. (%) | Revised lifetime CNL exp. (%) |
|---|---|---|---|---|---|---|
| 2016-3 | 50 | 11 | 2.56 | 2.13 | 2.55-2.65 | Up to 2.65(i) |
| 2017-2 | 41 | 20 | 1.98 | 1.37 | 2.20-2.30 | 2.30-2.40(i) |
| 2017-3 | 38 | 23 | 1.85 | 1.40 | 2.15-2.25 | 2.30-2.40(i) |
| 2017-4 | 35 | 27 | 1.63 | 1.10 | 2.15-2.25 | 2.20-2.30(i) |
| 2018-1 | 32 | 31 | 1.51 | 1.18 | 2.15-2.25 | 2.20-2.30(i) |
| 2018-2 | 29 | 35 | 1.54 | 1.26 | 2.20-2.30 | 2.20-2.30(ii) |
| 2018-3 | 26 | 42 | 1.48 | 1.26 | 2.20-2.30 | 2.20-2.30(ii) |
| 2018-4 | 23 | 47 | 1.33 | 1.20 | 2.25-2.35 | 2.70-2.90(i) |
| 2019-1 | 20 | 52 | 1.22 | 1.02 | 2.30-2.40 | 2.75-2.95(i) |
| 2019-2 | 17 | 56 | 1.04 | 1.08 | 2.15-2.25 | 2.80-3.00(i) |
| 2019-3 | 14 | 64 | 0.76 | 0.97 | 2.20-2.30 | N/A |
| 2019-4 | 11 | 71 | 0.60 | 0.80 | 2.20-2.30 | N/A |
| 2020-1 | 8 | 78 | 0.39 | 0.65 | 2.15-2.25 | N/A |
| 2020-2 | 5 | 85 | 0.11 | 0.42 | 2.80-3.00 | N/A |
| 2020-3 | 2 | 93 | 0.00 | 0.17 | 2.80-3.00 | N/A |

(i)Revised/maintained June 2020. (ii)Revised/maintained October 2019. N/A--Not applicable.

## Managed Portfolio

As of Aug. 31, 2020, CarMax's serviced portfolio under its primary underwriting program totaled approximately $13.177 billion--an approximate 2% increase from a year ago. In our view, CarMax's managed portfolio demonstrates relatively stable performance since 2016. Delinquencies decreased year-over-year to 2.32% from 3.19%, while annualized net charge-offs, as a percentage of the average outstanding balance, increased to 0.98% from 0.93% (see table 4).

Table 4

### Managed Portfolio Performance

| | Eight months ended Aug. 31 | | Year ended Dec. 31 | | | | |
|---|---|---|---|---|---|---|---|
| | 2020 | 2019 | 2019 | 2018 | 2017 | 2016 | 2015 |
| Portfolio at end of period (bil. $) | 13.177 | 12.924 | 13.211 | 12.238 | 11.372 | 10.367 | 9.295 |
| No. of contracts | 1,011,963 | 990,051 | 1,009,267 | 944,952 | 875,063 | 782,772 | 686,375 |
| **Delinquencies (%)** | | | | | | | |
| 31-60 days | 1.43 | 2.03 | 2.31 | 2.30 | 2.15 | 2.09 | 2.10 |
| 61-90 days | 0.68 | 0.93 | 1.08 | 1.03 | 0.93 | 0.87 | 0.81 |
| 91 days or more | 0.20 | 0.22 | 0.27 | 0.27 | 0.27 | 0.29 | 0.26 |
| Total delinquencies (% of the portfolio) | 2.32 | 3.19 | 3.66 | 3.61 | 3.35 | 3.25 | 3.17 |
| Avg. month-end amount outstanding during the period (bil. $) | 13.152 | 12.559 | 12.728 | 11.828 | 10.907 | 9.863 | 8.825 |
| Net charge-offs (mil. $) | 86.037 | 77.613 | 128.056 | 118.881 | 111.189 | 97.912 | 72.003 |
| Net charge-offs (% of avg. month-end amount outstanding)(i) | 0.98 | 0.93 | 1.01 | 1.01 | 1.02 | 0.99 | 0.82 |

(i)Annualized.

## S&P Global Ratings' Expected Loss: 2.80%-3.00%

To derive the base-case loss assumptions for the series 2020-4 transaction, we examined CarMax's static pool performance data for series 2006-2 through series 2020-3, stratified by CarMax's proprietary credit grades. The proprietary credit grade incorporates the loan structure (term and advance rate) and demographic data (income, debt-to-income ratio, and payment-to-income ratio).

We used the 2007-2016 paid-off loss curves to project losses for the outstanding 2016-2019 vintages that are not fully liquidated. We applied the pool composition weights by credit grade to determine a weighted-average loss projection for the series 2020-4 pool.

Based on our analysis of the static pool performance by credit grade, the pool's credit quality, a peer comparison of the collateral pool, the recent securitization performance of CarMax pools, and our forward-looking view of the economy given the measures taken to contain the COVID-19 pandemic, we expect the CAOT 2020-4 pool to experience cumulative net losses in the 2.80%-3.00% range.

## Cash Flow Modeling Assumptions And Results

We modeled the transaction to simulate stress scenarios commensurate with the preliminary 'AAA (sf)', 'AA (sf)', 'A (sf)', and 'BBB (sf)' ratings (see table 5).

Table 5

### Cash Flow Assumptions And Results--Fixed/Floating

| | Class | | | |
|---|---|---|---|---|
| | A | B | C | D |
| **Front-loaded loss curve** | | | | |
| Preliminary rating | AAA (sf) | AA (sf) | A (sf) | BBB (sf) |
| Net loss timing (mos.) | 12/24/36/48 | 12/24/36/48 | 12/24/36/48 | 12/24/36/48 |
| Net loss (%) | 30/35/25/10 | 30/35/25/10 | 30/35/25/10 | 30/35/25/10 |
| ABS voluntary prepayments (%) | 1.70 | 1.65 | 1.60 | 1.50 |
| Recovery rate (%) | 50.00 | 50.00 | 50.00 | 50.00 |
| Recovery lag (mos.) | 3 | 3 | 3 | 3 |
| Approximate break-even levels (%)(i) | 14.6 | 12.0 | 9.6 | 7.9 |
| **Back-loaded loss curve** | | | | |
| Preliminary rating | AAA (sf) | AA (sf) | A (sf) | BBB (sf) |
| Net loss timing (mos.) | 12/24/36/48 | 12/24/36/48 | 12/24/36/48 | 12/24/36/48 |
| Net loss (%) | 25/30/30/15 | 25/30/30/15 | 25/30/30/15 | 25/30/30/15 |
| ABS voluntary prepayments (%) | 1.70 | 1.65 | 1.60 | 1.50 |
| Recovery rate (%) | 50.00 | 50.00 | 50.00 | 50.00 |
| Recovery lag (mos.) | 3 | 3 | 3 | 3 |
| Approximate break-even levels (%)(i) | 14.7 | 11.8 | 8.8 | 6.7 |

(i)The maximum cumulative net losses on the pool that the transaction can withstand without triggering a payment default on the relevant classes of notes. ABS--Absolute prepayment speed.

Based on the cash flow stress results, each class in the series 2020-4 transaction is, in our view, enhanced to the degree necessary to withstand a stressed level of net losses consistent with the assigned preliminary ratings.

## Sensitivity Analysis

In addition to analyzing break-even cash flows, we conducted a sensitivity analysis to determine whether under a moderate ('BBB') stress scenario, all else being equal, our preliminary ratings would remain within the tolerances outlined in our credit stability criteria (see "S&P Global Ratings Definitions," published Aug 7, 2020). We found that our preliminary 'A-1+ (sf)'/'AAA (sf)', 'AA (sf)', 'A (sf)', and 'BBB (sf)' ratings on the class A, B, C, and D notes, respectively, are consistent with the tolerances outlined in our credit stability criteria.

Table 6

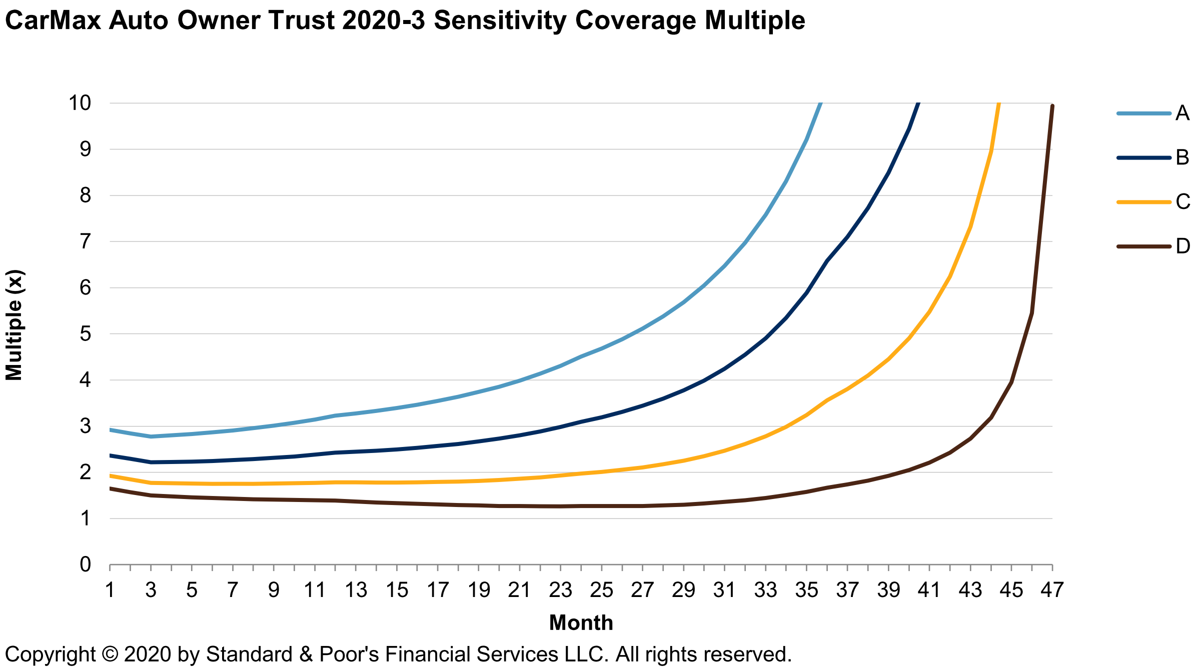
### Scenario Analysis Summary

| | |
|---|---|
| CNL level (%) | 5.75 |
| Loss timing (month 12/24/36/48) (%) | 30/30/25/15 |
| Voluntary ABS (%) | 1.50 |
| Servicing fee (%) | 1.00 |
| Recovery rate (%) | 50.00 |

CNL--Cumulative net loss. ABS--Absolute prepayment speed.

Chart 4 displays the coverage multiples over time for the class A through D notes under a moderate 'BBB' stress scenario.

Chart 4




## Money Market Tranche Sizing

The proposed money market tranche's (class A-1's) legal final maturity date is Oct. 15, 2021. To test whether the money market tranche can be repaid by its maturity date, we ran cash flows using assumptions to delay the principal collections. Due to our current economic outlook and potential for increased extensions that may result in a temporary decrease of collections in the near term, we are assuming that there will be no voluntary prepayments in our money market stress. In previous CarMax transactions, we typically assumed a voluntary absolute prepayment speed of 0.5%. Based on our current modeling assumptions, approximately 11 months of scheduled principal collections would be sufficient to pay off the money market tranche by its legal final maturity date.

## Legal Final Maturity

To test the legal final maturity dates set for the long-dated tranches (classes A-2 through C), we determined the date when the respective notes were fully amortized in a zero-loss and zero-prepayment scenario and then added three months to the result. For the longest-dated security (class D), we added six months to the remaining term of the longest receivable in the pool to accommodate extensions on the receivables. Furthermore, in the break-even scenario for each rating level, we confirmed that credit enhancement was sufficient to cover losses and to repay the related notes in full by the legal final maturity date.

## CarMax

CarMax has employed the used-car store concept since 1993, and it is the largest retailer of used cars in the U.S., with 220 used-car stores in 106 television markets as of August 31, 2020. CarMax purchases, reconditions, and sells primarily used vehicles, as well as some new vehicles, under various franchise agreements. CarMax also offers a range of related products and services, including financing, extended service contracts, accessories, and repair service.

## Related Criteria

- Criteria | Structured Finance | General: Methodology To Derive Stressed Interest Rates In Structured Finance, Oct. 18, 2019
- Criteria | Structured Finance | Legal: U.S. Structured Finance Asset Isolation And Special-Purpose Entity Criteria, May 15, 2019
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- 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: Methodology: Criteria For Global Structured Finance Transactions Subject To A Change In Payment Priorities Or Sale Of Collateral Upon A Nonmonetary EOD, March 2, 2015
- Criteria | Structured Finance | General: Global Framework For Assessing Operational Risk In Structured Finance Transactions, Oct. 9, 2014
- Criteria | Structured Finance | General: Criteria Methodology Applied To Fees, Expenses, And Indemnifications, July 12, 2012
- 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 | ABS: General Methodology And Assumptions For Rating U.S. Auto Loan Securitizations, Jan. 11, 2011
- Criteria | Structured Finance | General: Methodology For Servicer Risk Assessment, May 28, 2009

## Related Research

- U.S. Biweekly Economic Roundup: Job Gains Slow Amid Signs Of A Long Recovery To Come, Sept. 5, 2020
- U.S. Real Time Economic Data Continues To Paint A Mixed Picture, Aug. 14, 2020
- U.S. Economic Update: A Recovery At Risk As Covid-19 Surges, July 22, 2020
- Presale: CarMax Auto Owner Trust 2020-3, July 9, 2020
- Fourteen Ratings Raised, 31 Ratings Affirmed On Eight CarMax Auto Owner Trust Transactions, June 30, 2020
- The U.S. Faces A Longer And Slower Climb From The Bottom, June 25, 2020
- An Already Historic U.S. Downturn Now Looks Even Worse, April 16, 2020
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- U.S. Jobs Market Buckles Under The Coronavirus Pandemic, April 2, 2020
- It's Game Over For The Record U.S. Run; The Timing Of A Restart Remains Uncertain, March 27, 2020
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- Assessing The Coronavirus-Related Damage To The Global Economy And Credit Quality, March 24, 2020
- Six Ratings Raised, Seven Affirmed On Two Carmax Auto Owner Trust Transactions, Oct. 1, 2019
- Global Structured Finance Scenario And Sensitivity Analysis 2016: The Effects Of The Top Five Macroeconomic Factors, Dec. 16, 2016