WHERE IT ALL CONNECTS

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Cox Automotive

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MANHEIM USED VEHICLE VALUE INDEX

Concept
A single measure of used vehicle price change that is independent of underlying segment shifts in the characteristics of vehicles being sold

Steps
1. All Manheim U.S. sales
2. Classify by market segment
3. Account for differences in mileage
4. Weight to provide smoother segment mix
5. Seasonally adjust
WHOLESALE VEHICLE VALUES DECREASE IN DECEMBER

Prices declined 0.5% from November and were down 7.0% from December 2022

January 1997 = 100
YEAR-OVER-YEAR PERFORMANCE WAS NEGATIVE EACH MONTH IN 2023

Annualized changes have been below 0% since September 2022
Price movements were tight in 2023 until December’s noticeable move lower for unadjusted price.
ALL SEGMENTS LOST PRICE STRENGTH IN 2023

Work units had better performance for most of the year, but lost ground in Q4

Percent Change in Manheim Index Year Over Year December 2023

- Industry: -7.0%
- Compact cars: -11.7%
- Midsize cars: -8.1%
- Luxury: -6.9%
- Pickups: -6.5%
- SUV / CUV: -6.1%
- Vans: -7.9%
WHOLESALE SALES CONVERSION

Sales Conversion rebounded in early December and ended a few points higher than last year

Source: Manheim

Sales Conversion

2021 2022 2023

48.2%

45.8%
WHOLESALE SUPPLY

Inventory is +4% Y/Y and sales +8% as Days Supply grew to 31.4, up 2% at year end vs 2022

Wholesale Days of Supply

Source: Manheim
OVERALL WHOLESALE MMR VALUE TRENDS

Depreciation trends were a bit stronger for most of Q4, with the overall index ending at 84.6%
1YO MMR INDEX WITH RESALE VALUES BY YEAR

The 1YO has shown the strongest depreciation of all age groups, down 18% on the year.

Source: Manheim
3YO MMR INDEX WITH RESALE VALUES BY YEAR

3YO values declined 14% for the year with weekly depreciation trends stronger in December

Source: Manheim
Auction Retention Values declined throughout most of Q4, as new vehicle availability grew.
CALE: LEASE EQUITY POSITIVE, TRENDING DOWN

2023 was flatter mid-year before declines began again in Q4 – by brand results are mixed

CALE Historical View (36-month term)

Source: Cox Automotive
AUCTION CHECK-INS FOR COMMERCIAL SEGMENTS

Repo & Lease Check-In Rates continue to rise, but a long road to normal for Off-Lease

- Repo Check-In Index
  - 2019=100
  - 2019: 100%
  - 2020: 77%
  - 2021: 66%
  - 2022: 74%
  - 2023: 95%

- Lease Check-In Index
  - 2019=100
  - 2019: 100%
  - 2020: 75%
  - 2021: 33%
  - 2022: 15%
  - 2023: 27%

- Rental Check-In Index
  - 2019=100
  - 2019: 100%
  - 2020: 83%
  - 2021: 31%
  - 2022: 56%
  - 2023: 48%

- Repo +29% vs 22’ but down (5%) vs 19’
- Lease +76% vs 22’ yet down (73%) vs 19’
- Rental down (14%) vs 22’ and down (52%) vs 19’

Source: Manheim
RENTAL RISK AVERAGE AUCTION PRICES

Prices for units sold in December were down 4.5% year-over-year and down 3.3% from November

Source: Cox Automotive
# RENTAL RISK VEHICLE VARIETY INCREASING

Shares of top configurations returning to pre-pandemic levels

<table>
<thead>
<tr>
<th></th>
<th>2021 Q4</th>
<th>2022 Q4</th>
<th>2023 Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of unique year, make, model, body configurations sold</td>
<td>2,543</td>
<td>4,164</td>
<td>3,886</td>
</tr>
<tr>
<td>Share accounted for top 10 YMMB</td>
<td>20.6%</td>
<td>11.6%</td>
<td>14.3%</td>
</tr>
<tr>
<td>Share accounted for top 25 YMMB</td>
<td>34.1%</td>
<td>20.5%</td>
<td>24.8%</td>
</tr>
<tr>
<td>Number of YMMB to reach 50% share</td>
<td>64</td>
<td>137</td>
<td>107</td>
</tr>
</tbody>
</table>
RENTAL RISK AVERAGE MILEAGE

Average mileage was down 5.3% from November and down 20.2% from December 2022
RENTAL RISK SALES CONDITION

Trend since Q4 2022 continues – more high-grade units and fewer low-grade units to auction
RENTAL RISK SALES BY MAKE

Toyota share at auction was 25.2% in Q4 2023, the highest of any single make in this series’ history.
RENTAL RISK SALES BY VEHICLE SEGMENT

SUVs saw share decline 3.8% from Q3, while pickups gained 2.8% and midsize cars were up 1.8%
**MANHEIM INSIGHTS ON TOP VOLUME VEHICLES**

Price trends on top selling vehicles in December at Manheim saw substantial variation m/m but consistency y/y

<table>
<thead>
<tr>
<th>Rank</th>
<th>Source(Rank)</th>
<th>Category</th>
<th>Subcategory</th>
<th>Vehicle</th>
<th>1-Jan</th>
<th>Past 30 Days</th>
<th>Last Year</th>
<th>Current Dep</th>
<th>L12M Dep/Mo</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>All</td>
<td>SUV</td>
<td>SUV Midsize</td>
<td>2020 FORD EXPLORER 4WD 4C 4D SUV XLT</td>
<td>$24,300</td>
<td>$24,400</td>
<td>$30,000</td>
<td>-0.4%</td>
<td>-1.6%</td>
</tr>
<tr>
<td>2</td>
<td>All</td>
<td>SUV</td>
<td>SUV Luxury</td>
<td>2021 VOLVO XC90 AWD 4D SUV T6 MOMENTUM</td>
<td>$33,100</td>
<td>$33,400</td>
<td>$40,700</td>
<td>-0.9%</td>
<td>-1.6%</td>
</tr>
<tr>
<td>3</td>
<td>All</td>
<td>SUV</td>
<td>SUV Midsize</td>
<td>2020 CHEVROLET EQUINOX FWD 4D SUV 1.5L LT</td>
<td>$15,650</td>
<td>$16,150</td>
<td>$18,600</td>
<td>-3.1%</td>
<td>-1.3%</td>
</tr>
<tr>
<td>4</td>
<td>All</td>
<td>Compact Car</td>
<td>Compact Car Premium</td>
<td>2021 TOYOTA COROLLA 4D SEDAN LE</td>
<td>$14,900</td>
<td>$15,200</td>
<td>$17,900</td>
<td>-2.0%</td>
<td>-1.4%</td>
</tr>
<tr>
<td>5</td>
<td>All</td>
<td>Midsize Car</td>
<td>Midsize Car Premium</td>
<td>2023 TOYOTA CAMRY FWD 4C 4D SEDAN SE</td>
<td>$22,200</td>
<td>$22,800</td>
<td>$28,300</td>
<td>-2.6%</td>
<td>-1.8%</td>
</tr>
<tr>
<td>1 Dealer</td>
<td>Dealer</td>
<td>Compact Car</td>
<td>Compact Car Premium</td>
<td>2021 TOYOTA COROLLA 4D SEDAN LE</td>
<td>$14,900</td>
<td>$15,200</td>
<td>$17,900</td>
<td>-2.0%</td>
<td>-1.4%</td>
</tr>
<tr>
<td>1 Lease</td>
<td>Lease</td>
<td>SUV</td>
<td>SUV Luxury</td>
<td>2021 VOLVO XC90 AWD 4D SUV T6 MOMENTUM</td>
<td>$33,100</td>
<td>$33,400</td>
<td>$40,700</td>
<td>-0.9%</td>
<td>-1.6%</td>
</tr>
<tr>
<td>1 Rental</td>
<td>Rental</td>
<td>Compact Car</td>
<td>Compact Car Premium</td>
<td>2023 TOYOTA COROLLA 4D SEDAN LE</td>
<td>$18,650</td>
<td>$19,150</td>
<td>$20,200</td>
<td>-2.6%</td>
<td>-1.8%</td>
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Source: Manheim, Cox Automotive
WHOLESALE FLOWS BOTTOMED IN 2022

After 13% decline in 2022, the wholesale market should see a slow and gradual recovery to 2020 levels by 2028

Estimated Wholesale Volumes by Inflow Channel (Annual Volume)
ON-SITE PHYSICAL AUCTION VOLUMES DO NOT FULLY RECOVER

With gradual shift to more transactions offsite and fully digital, onsite volume in 2028 expected to be 18% below 2019

Wholesale Onsite/Physical vs. Offsite

Source: Manheim, Cox Automotive
REPO DIP IN 2020-2021 SEES NORMALIZED RECOVERY

Longer term expects normal default rates by credit tier resulting in higher defaults in 2028 compared to 2019

Estimated Repossession Volumes

Source: Manheim, Cox Automotive
OFF LEASE RETURNS COLLAPSED BUT WILL RECOVER AS MATURITIES FALL

Return rate hit a historical low of 11% in 2022 vs. 62% in 2019; now lease maturities are falling

Source: Manheim, Cox Automotive
DEALER VOLUMES SPIKED IN 2021; NORMAL FLOWS AHEAD

Off-lease arbitrage and record retail sales powered an 11% jump in dealer consignments in 2021

![Estimated Dealer Volumes](image)

Source: Manheim, Cox Automotive
RENTAL VOLUMES IMPROVE AS FLEET SIZE RECOVERS

Total fleet size will expand but still fall short of pre-pandemic levels as share of new market recovers

Source: Manheim, Cox Automotive
HIGHER THAN NORMAL DEPRECIATION IN 2023 TRANSITIONS TO MORE NORMAL PRICE CHANGE IN 2024

2023 saw more price pressure than normal in spring and summer and late in the year.

Year-Over-Year % Change in Manheim Index, as of December

- Dec-19: 2.5%
- Dec-20: 14.2%
- Dec-21: 46.6%
- Dec-22: -14.9%
- Dec-23: -7.0%
- Dec-24: 0.5%

Source: Manheim, Cox Automotive
EV TRANSACTIONS INCREASED YEAR OVER YEAR AT MANHEIM

Q4 EV transactions growth climbed, +73% year over year though unit sales were down against prior quarter

Source: Manheim
2024 FORECASTS
Jan. 8, 2024

- **New Sales**: 15.7M (2023: 15.5M)
- **New Retail Sales**: 12.7M (2023: 12.7M)
- **Fleet Sales**: 3.0M (2023: 2.8M)

- **New Lease Volume**: 2.9M (2023: 2.6M)
- **Lease Penetration**: 23% (2023: 20%)
- **CPO Sales**: 2.7M (2023: 2.6M)

- **Used Sales**: 36.2M (2023: 35.9M)
- **Used Retail Sales**: 19.2M (2023: 19.0M)
- **Used Vehicle Value Index**: +0.5% (2023: -7.0%)
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Fresh content from Chief Economist Jonathan Smoke and the Industry Insights team is published regularly.

**Auto Market Snapshot:** [www.coxautoinc.com/marketsnapshot](http://www.coxautoinc.com/marketsnapshot)
This dashboard is a one-stop dashboard for the most recent data points our team is tracking.

**From the Newsroom:** [www.coxautoinc.com/signup](http://www.coxautoinc.com/signup)
The Cox Automotive biweekly newsletter, published every other Tuesday, is a round-up of news from Cox Automotive and perspectives from its analysts and experts on topics dominating the automotive industry.
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