Q3 Manheim Used Vehicle Value Index Call

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Presenters

Mark Schirmer, Director, Corporate Communications

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Chris Frey, Senior Manager, Economic and Industry Insights

Jeremy Robb, Senior Director, Market Insights and Business Solutions, Cox Automotive
The Power of Cox Automotive

Harnessing the power of connected data for game-changing results
COVID-19 Daily Cases and Hospitalization Trends
Economic Activity Has Plateaued
Consumer Spending Remains Strong

Total spending in 2022 has substantially exceeded 2019 spending levels in most categories; no sign of pullback

Source: Verisk/Equifax
Consumer Sentiment Up From Spring Low

The Index of Consumer Sentiment declined 0.7% in September but was up 1.0% week over week
Continuing Claims at 1.35 Million Nationally

Source: Moody's Analytics, U.S. Department of Labor

NOTE: Latest Employment Numbers for August 2022, Continuing Claims Unemployment Data for Week Ending September 10
Retail Vehicle Sales Estimates

New sales volumes were flat w/w, and performance y/y improved; used sales were also flat w/w and improved y/y
Retail Supply Building in New; More Normal in Used

New supply is 11 days higher y/y and used supply is 6 days higher; both are higher from more units and lower sales
Chris Frey
Senior Manager, Economic and Industry Insights
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 Continue Large Decline into September

Prices in September decreased 3.0% from August 2022 and were down 0.1% compared to September 2021.

January 1995 = 100

Source: Manheim
Year-Over-Year Performance No Longer Elevated

Year-over-year price performance turned negative from higher base from 2021.

Source: Manheim
Seasonal Adjustment Missed Most of Spring Market

Adjusted prices moved lower through Q3 while non-adjusted now catching up rapidly.

Source: Manheim
Wholesale prices continue moving lower, while new-vehicle prices simply flatten through Q3.

Source: Manheim, Kelley Blue Book
Lower-Priced and Work-Related Units Fared Best in September

Vans lost most ground since June 2022; Compacts are only other segment that remained positive since then

Source: Manheim

### Percent Change in Manheim Index Year Over Year September 2022

- **Industry**: -0.1%
- **Compact cars**: 5.9%
- **Midsize cars**: -0.2%
- **Luxury cars**: -4.8%
- **Pickups**: 0.8%
- **SUV / CUV**: 0.8%
- **Vans**: -2.1%
Wholesale Performance, U.S. Versus Canada

U.S. had stronger price performance for several years; Canada has shown more strength and stability since April.

Source: Manheim
Jeremy Robb
Senior Director, Market Insights & Business Solutions, Cox Automotive
For the 3rd Quarter, Declines In MMR Have Been Higher Than Normal

Weekly declines in Resale Value have been almost half a point more than usual seasonal trends

Overall MMR Index Trends
(All Model Years)

Resale Values bucked seasonal patterns by a wide margin in Q3

Weekly Change in Resale Value
All Model Years

Higher Depreciation in Q1 with a flatter Spring Bounce

Q3 Depreciation Trends – well above normal

Source: Manheim
Across All Ages, Depreciation Patterns Have Been Consistent in Q3

All age groups declined virtually the same over the quarter, dropping by 8.8% vs end of Q2
1-Year-Old MMR Index Trends

Q3 depreciation has been higher than normal – but overall values remain elevated versus 2021
Depreciation on 3YO models outpaced other age groups but Resale Value continues to remain historically high.
Both Luxury and Non-Luxury 3YO segments declined by ~9 points over the last quarter.
3-Year-Old MMR by Segment

3YO SUVs have seen higher depreciation than other segments this year

Source: Manheim
Maturing Leases Continue to Show Historic Equity Positions

CALE trends have been declining on 36M term leases but remain extremely elevated relative to pre-Covid timeframes.

CALE = Cox Automotive Lease Equity Position

Measures the difference between Wholesale MMR at Maturity and Residual Value for 36-month term leases

Pre-pandemic, Lease Equity was typically negative ($1,500) to ($2,000) at lease maturity.

Source: Dealertrack & Manheim
Components of CALE – Maturing Residuals Flat, MMR Down

Lease equity has trended down since spring, with MY20s now lower than MY19s

Source: Dealertrack & Manheim
Commercial Supply Is Moving Up Ever So Slowly

Repo check-ins have picked up in Q3 while Rental check-ins run ahead of 21’, but Off-Lease remains very low.

Source: Manheim
Retention Values Now Lower Than Last Year

Retention values peaked at 94% in January; value declines in 3Q end with 79%

Auction Retention Value
(1-3 year old vehicles)

Source: Kelley Blue Book
Average price for rental risk units sold in September up just 0.6% year over year and down 2.9% from August.

Source: Manheim
Rental Risk Vehicle Variety Represented in Sales

Configuration count approaching 2020 levels, though top 10 to 25 shares are still below early pandemic percentages.

<table>
<thead>
<tr>
<th></th>
<th>2020 Q3</th>
<th>2021 Q3</th>
<th>2022 Q3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of unique year, make, model, body configurations sold</td>
<td>3,903</td>
<td>2,890</td>
<td>3,892</td>
</tr>
<tr>
<td>Share accounted for top 10 YMMB</td>
<td>16.9%</td>
<td>17.2%</td>
<td>10.9%</td>
</tr>
<tr>
<td>Share accounted for top 25 YMMB</td>
<td>30.0%</td>
<td>30.0%</td>
<td>19.7%</td>
</tr>
<tr>
<td>Number of YMMB to reach 50% share</td>
<td>75</td>
<td>77</td>
<td>128</td>
</tr>
</tbody>
</table>

Source: Manheim
Average mileage for rental risk units in September was down 4% compared to a year ago and down 4% from August.
Rental Risk Sales Condition

Q3 2022 distribution almost identical to Q1 2022; more 4+ and fewer 2.0 – 2.9 from Q2.
In a reversal, Chevy, Nissan, and Ford lost 1.6% to 3.0% share since Q2, while Toyota share rose almost 4%. 

Source: Manheim
Largest gainers were SUVs and midsize cars; Vans and compact cars lost the most share.

Source: Manheim
### Manheim Insights on Top Volume Vehicles

Price trends on top selling vehicles in September at Manheim showed mainly declining values for the month and year.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Source(Rank)</th>
<th>Category</th>
<th>Subcategory</th>
<th>Vehicle</th>
<th>3-Oct</th>
<th>Past 30 Days</th>
<th>Last Year</th>
<th>Current Dep</th>
<th>L12M Dep/Mo</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>All</td>
<td>Midsize Car</td>
<td>Midsize Car Entry</td>
<td>2020 CHEVROLET MALIBU 4D SEDAN LT</td>
<td>$17,000</td>
<td>$17,600</td>
<td>$20,800</td>
<td>-3.4%</td>
<td>-1.5%</td>
</tr>
<tr>
<td>2</td>
<td>All</td>
<td>Compact Car</td>
<td>Compact Car Premium</td>
<td>2020 TOYOTA COROLLA 4D SEDAN LE</td>
<td>$17,550</td>
<td>$17,900</td>
<td>$19,900</td>
<td>-2.0%</td>
<td>-1.0%</td>
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<tr>
<td>3</td>
<td>All</td>
<td>Midsize Car</td>
<td>Midsize Car Premium</td>
<td>2020 NISSAN ALTIMA FWD 4D SEDAN 2.5L S</td>
<td>$17,600</td>
<td>$18,150</td>
<td>$21,300</td>
<td>-3.0%</td>
<td>-1.4%</td>
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<tr>
<td>4</td>
<td>All</td>
<td>Pickup</td>
<td>Pickup Lite Duty Full</td>
<td>2020 FORD F150 4WD V6 CREW CAB 2.7L XLT</td>
<td>$38,300</td>
<td>$38,600</td>
<td>$42,300</td>
<td>-0.8%</td>
<td>-0.8%</td>
</tr>
<tr>
<td>5</td>
<td>All</td>
<td>Compact Car</td>
<td>Compact Car Premium</td>
<td>2021 TOYOTA COROLLA 4D SEDAN LE</td>
<td>$20,700</td>
<td>$21,000</td>
<td>$23,400</td>
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<td>-1.0%</td>
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<tr>
<td>1 Dealer</td>
<td>Dealer</td>
<td>Pickup</td>
<td>Pickup Lite Duty Full</td>
<td>2020 FORD F150 4WD V6 CREW CAB 2.7L XLT</td>
<td>$38,300</td>
<td>$38,600</td>
<td>$42,300</td>
<td>-0.8%</td>
<td>-0.8%</td>
</tr>
<tr>
<td>1 Lease</td>
<td>Lease</td>
<td>Compact Car</td>
<td>Compact Car Premium</td>
<td>2017 CHEVROLET SONIC 4D HATCHBACK LT</td>
<td>$9,425</td>
<td>$9,250</td>
<td>$10,450</td>
<td>1.9%</td>
<td>-0.8%</td>
</tr>
<tr>
<td>1 Rental</td>
<td>Rental</td>
<td>Midsize Car</td>
<td>Midsize Car Entry</td>
<td>2020 CHEVROLET MALIBU 4D SEDAN LT</td>
<td>$17,000</td>
<td>$17,600</td>
<td>$20,800</td>
<td>-3.4%</td>
<td>-1.5%</td>
</tr>
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</table>

Source: Manheim, Cox Automotive
Wholesale Used Prices Continue Above Normal Depreciation

The average MY 2019 wholesale price more than normal throughout the summer, but retail declined less

Source: Dealertrack, Manheim, Cox Automotive
Wholesale Days’ Supply Returns to Normal

Level of supply suggests more balance between sellers and buyers after buyer friendly summer
Wholesale Flows to Bottom in 2023

After a 7% decline in 2022, 2023 will decline another 4.5% as dealer consignments slow but commercial grows

Estimated Wholesale Volumes by Inflow Channel (Annual Volume)
Repo Dip in 2020-2021 Followed by Slow Recovery

Repossessions in 2020 and 2021 impacted by stimulus support, accommodations, and record values

Source: Manheim, Cox Automotive

Estimated Repossession Volumes

<table>
<thead>
<tr>
<th>Year</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>2018</td>
<td>1.6</td>
</tr>
<tr>
<td>2019</td>
<td>1.7</td>
</tr>
<tr>
<td>2020</td>
<td>1.3</td>
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<tr>
<td>2021</td>
<td>1.1</td>
</tr>
<tr>
<td>2022</td>
<td>1.2</td>
</tr>
<tr>
<td>2023</td>
<td>1.2</td>
</tr>
<tr>
<td>2024</td>
<td>1.3</td>
</tr>
<tr>
<td>2025</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Source: Manheim, Cox Automotive
Off Lease Returns Collapsed with Record Values

Return rate expected to hit historical low of 9% in 2022 following 28% in 2021; normal is >60%

Source: Manheim, Cox Automotive
Dealer Volumes Surged in 2021

Off-lease arbitrage and record retail sales powered 13% jump in dealer consignments in 2021

Source: Manheim, Cox Automotive
Used Vehicle Value Outlook

Depreciation normalizing for vehicles in 2022; Manheim Index to see two below normal years for price change.

2022 MMR and Forecast, 1-5 YO Vehicles

Y/Y % Change Manheim Index, As Of December

Source: Manheim, Cox Automotive
2022 FORECASTS

Q3 UPDATE

NEW SALES
13.7M

NEW RETAIL SALES
11.9M

FLEET SALES
1.8M

NEW LEASE VOLUME
2.3M

LEASE PENETRATION
19%

CPO SALES
2.4M

USED SALES
36.3M

USED RETAIL SALES
19.1M

DEC 2022 Y/Y MANHEIM USED VEHICLE VALUE INDEX
-14%

Indicates change from Q2 forecast
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Auto Market Snapshot: [www.coxautoinc.com/marketssnapshot](http://www.coxautoinc.com/marketssnapshot)

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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.
Thank you for attending!

Contact us with questions or to speak with an expert:

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