

Automotive Industry

Weekly automotive pit stop

Industry Overview

Recent US industry reports and data points – Pages 2-8

- [Year Ahead 2024: Five Auto themes & top stock picks as volatility remains](#)
- [Total recall 3Q:23 – Good results, but the electric slide & UAW/labor costs rise](#)
- [Top 5 Themes for 2023: Back to School report card](#)
- [December 2023 US auto sales run hard through the tape – SAAR of 15.8mm](#)

Core Autos primers (see links):

- [Car Wars 2024-2027: Rise of powertrain conundrum & return of market share shifts](#)
- [Who Makes the Car of the Future – 2023](#)
- [The Auto Dealer Dilemma – will the good times keep rolling?](#)

Valuation update – Pages 9-13

We believe that the accompanying valuation framework is one of the most important fundamental factors that should be considered when making investment decisions on the stocks in our coverage universe. However, given the extreme volatility in certain links of the automotive value chain, investors should be cognizant that the stocks are sensitive to headlines and swings in expectations, especially in the short term.

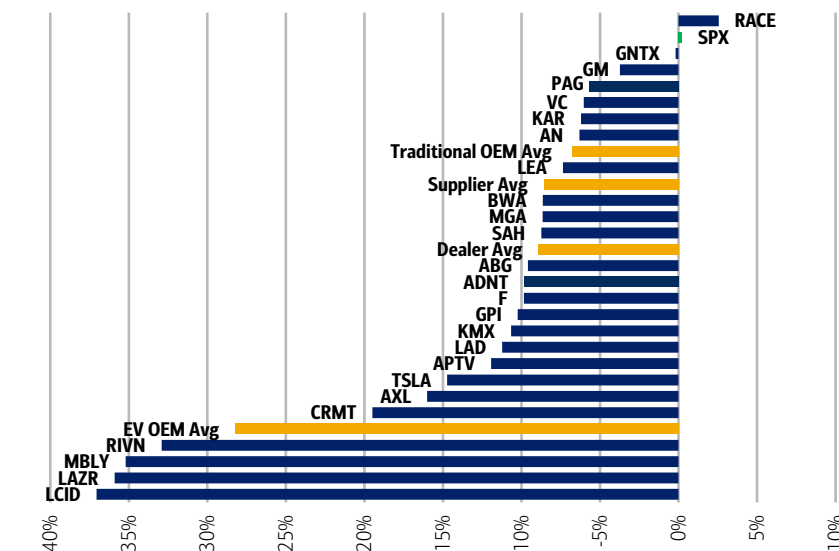
Buy: ABG, ADNT, AN, APTV, BWA, F, GM, GPI, LAD, LEA, MGA, PAG, RACE, RIVN, VC

Neutral: GNTX, LAZR, LCID, TSLA

Underperform: AXL, CRMT, KAR, KMX, MBLY, SAH

Exhibit 1: 2024 YTD stock performance

YTD stock performance of automotive coverage vs. supplier, dealer & OEM averages as well as S&P Index



Source: Bloomberg as of 1/18/24

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19 January 2024

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Autos/Car Manufacturers

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Stock symbol key:

Adient Plc	ADNT
American Axle	AXL
America's Car-Mart	CRMT
Aptiv PLC	APTV
Asbury Auto	ABG
AutoNation, Inc.	AN
BorgWarner	BWA
CarMax	KMX
Ferrari	RACE
Ford Motor	F
General Motors	GM
Gentex	GNTX
Group 1 Auto	GPI
OPENLANE	KAR
Luminar Technologies Inc	LAZR
Lucid Group	LCID
Lear Corp.	LEA
Lithia Motors A	LAD
Mobileye	MBLY
Magna Intl	MGA
Penske Auto Group	PAG
Rivian Automotive	RIVN
Sonic Automotive	SAH
Tesla	TSLA
Visteon Corp	VC

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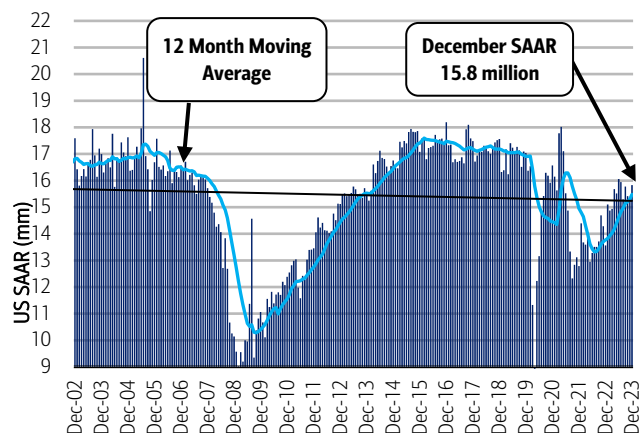
Timestamp: 19 January 2024 05:00AM EST

December 2023 auto sales run hard through the tape

December SAAR of 15.8mm up 17.3% YoY

Exhibit 2: U.S. seasonally adjusted annual rate (SAAR)

December SAAR of 15.8mm was above the 12-month moving average



Source: WardsAuto InfoBank

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December US light vehicle sales increased 17.3% YoY for a seasonally adjusted annualized rate (SAAR) of 15.8mm, an increase from the 15.3mm SAAR in November. This was above both our estimate of 15.4mm and consensus of 15.5mm. December performance brings 2023 full-year sales to 15.5mm units, up 12.7% YoY. The increase was driven mainly by improving inventory levels and a robust recovery in fleet sales.

Looking forward to 2024, although some risks persist, which include macro uncertainty, inflation, higher rates, weak consumer confidence, and a potential US recession, our forecast for 2024 is more constructive. After a SAAR of 13.8mm in 2022 and 15.5mm in 2023, we project auto sales will increase to 16.1mm in 2024 and build towards the next peak in the US auto cycle in 2028 (17-18mm range).

Exhibit 3: US vehicle sales and market share – current month and 2023YTD

US December unit sales increased 17.3% YoY on a SD-adjusted basis, with car sales up 8.7% YoY and light truck sales up 19.3% YoY

		Cars			Light Trucks			Total Vehicles		
		2023	2022	%Δ*	2023	2022	%Δ*	2023	2022	%Δ*
December	December UNITS:									
	Detroit Three	27,667	31,268	-8.1%	526,331	488,128	12.0%	553,998	519,396	10.8%
	Europeans	34,194	31,242	13.7%	100,208	86,501	20.3%	134,402	117,743	18.5%
	Japanese	138,360	122,141	17.6%	389,064	307,880	31.2%	527,424	430,021	27.4%
	Koreans	34,417	38,692	-7.6%	107,825	99,960	12.0%	142,242	138,652	6.5%
	Others	19,734	19,570	4.7%	55,466	43,515	32.4%	75,200	63,085	23.8%
	Total	254,372	242,913	8.7%	1,178,894	1,025,984	19.3%	1,433,266	1,268,897	17.3%
	ANNUAL RATE (Mils.)	3.1	2.8	8.2%	12.8	10.7	19.0%	15.8	13.6	16.7%
	CAR/TRUCK MIX (%):	17.7%	19.1%	(1.4)	82.3%	80.9%	1.4	100.0%	100.0%	
	MARKET SHARE:									
YTD 2023	Detroit Three	10.9%	12.9%	(2.0)	44.6%	47.6%	(2.9)	38.7%	40.9%	(2.3)
	Europeans	13.4%	12.9%	0.6	8.5%	8.4%	0.1	9.4%	9.3%	0.1
	Japanese	54.4%	50.3%	4.1	33.0%	30.0%	3.0	36.8%	33.9%	2.9
	Koreans	13.5%	15.9%	(2.4)	9.1%	9.7%	(0.6)	9.9%	10.9%	(1.0)
	Others	7.8%	8.1%	(0.3)	4.7%	4.2%	0.5	5.2%	5.0%	0.3
	YTD 2023 UNITS:									
	Detroit Three	411,253	418,327	-1.4%	5,605,371	5,168,302	8.8%	6,016,624	5,586,629	8.0%
	Europeans	391,988	354,016	11.1%	971,494	916,834	6.3%	1,363,482	1,270,850	7.6%
	Japanese	1,540,979	1,365,047	13.3%	3,998,387	3,394,472	18.2%	5,539,366	4,759,519	16.8%
	Koreans	494,863	481,229	3.2%	1,157,958	992,995	17.0%	1,652,821	1,474,224	12.5%
	Others	253,416	239,956	6.0%	622,464	423,161	47.6%	875,880	663,117	32.5%
	Total	3,092,499	2,858,575	8.5%	12,355,674	10,895,764	13.8%	15,448,173	13,754,339	12.7%
	ANNUAL RATE (Mils.)	3.1	2.9	8.3%	12.4	10.9	13.5%	15.5	13.8	12.4%
	CAR/TRUCK MIX (%):	20.0%	20.8%	(0.8)	80.0%	79.2%	0.8	100.0%	100.0%	
	MARKET SHARE:									
	Detroit Three	13.3%	14.6%	(1.3)	45.4%	47.4%	(2.1)	38.9%	40.6%	(1.7)
	Europeans	12.7%	12.4%	0.3	7.9%	8.4%	(0.6)	8.8%	9.2%	(0.4)
	Japanese	49.8%	47.8%	2.1	32.4%	31.2%	1.2	35.9%	34.6%	1.3
	Koreans	16.0%	16.8%	(0.8)	9.4%	9.1%	0.3	10.7%	10.7%	(0.0)
	Others	8.2%	8.4%	(0.2)	5.0%	3.9%	1.2	5.7%	4.8%	0.8

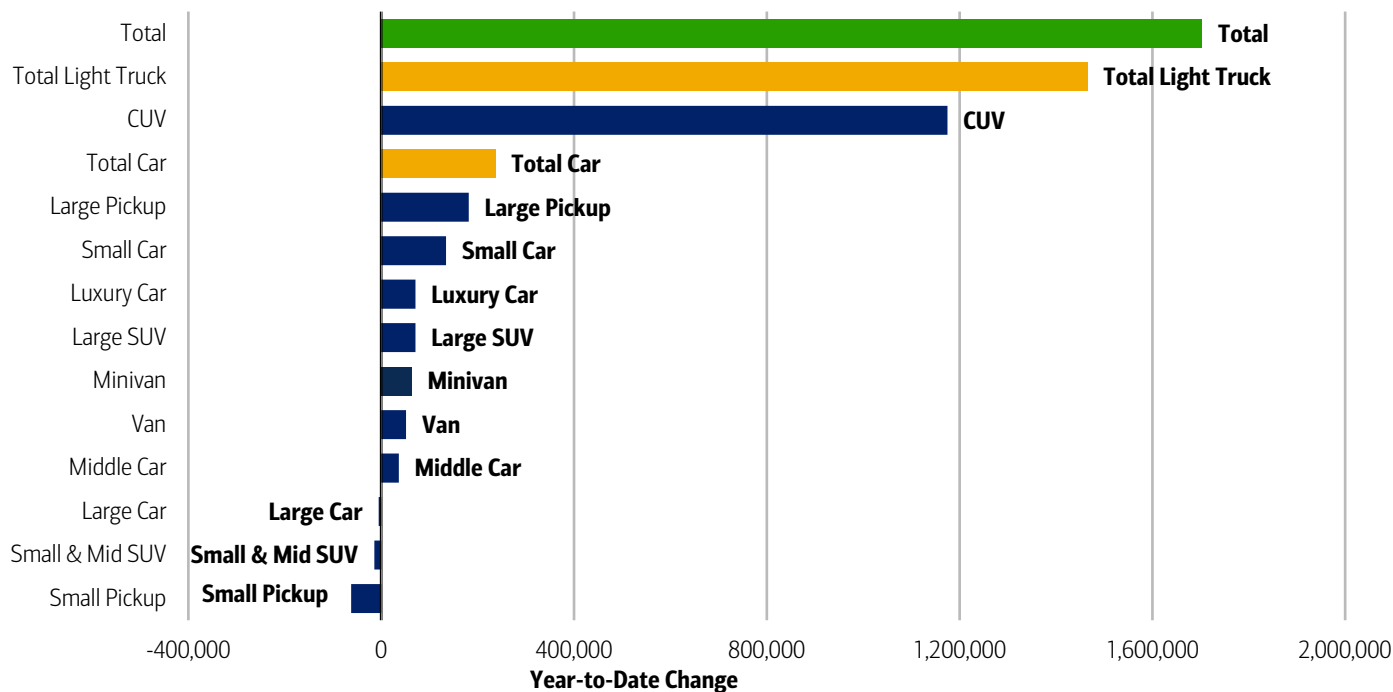
Source: WardsAuto InfoBank; * Note: Selling day adjusted

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US sales mix

Exhibit 4: US sales by segment – 2023 unit change

Total light vehicle sales are up YTD, with increases in both Light Truck (especially CUV) and Car sales

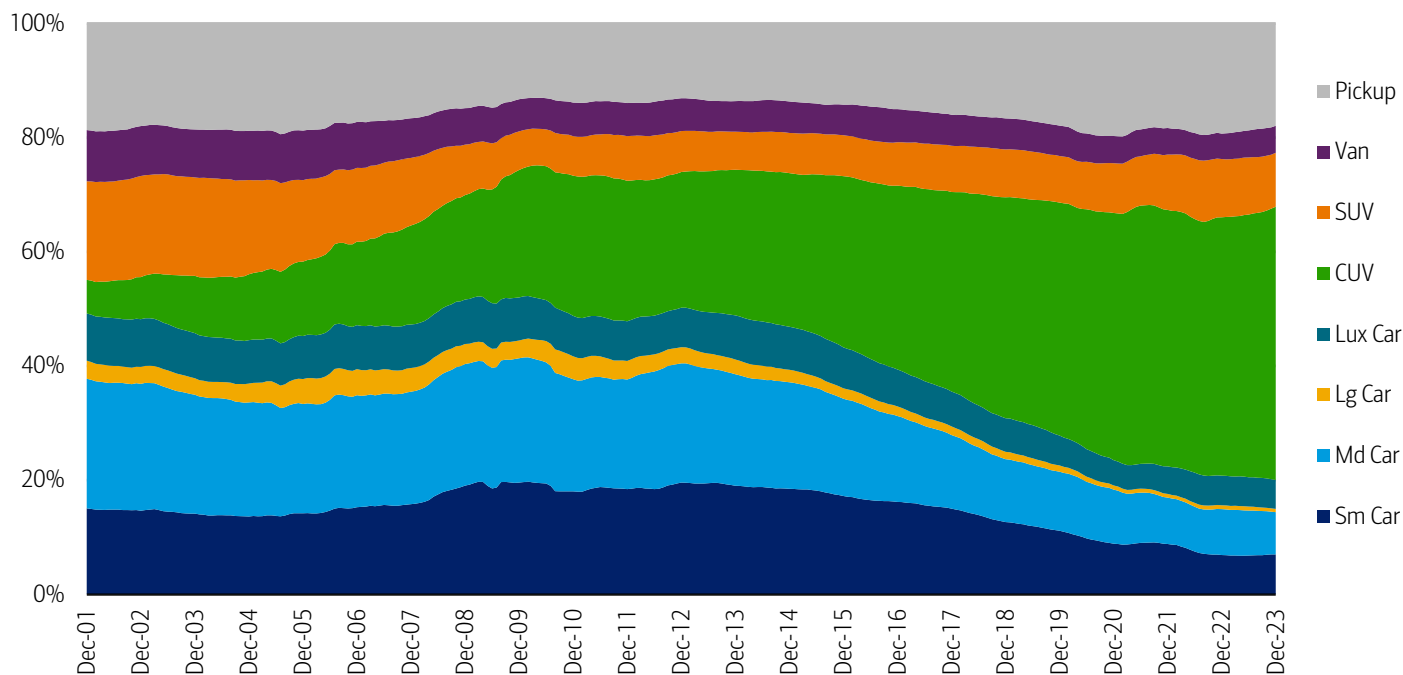


Source: WardsAuto InfoBank

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Exhibit 5: US sales by segment – Last Twelve Months (LTM) mix trend

Over the past decade, Crossover Utility Vehicles (CUVs) have increasingly gained market share from Small, Mid-sized and Large Cars



Source: WardsAuto InfoBank

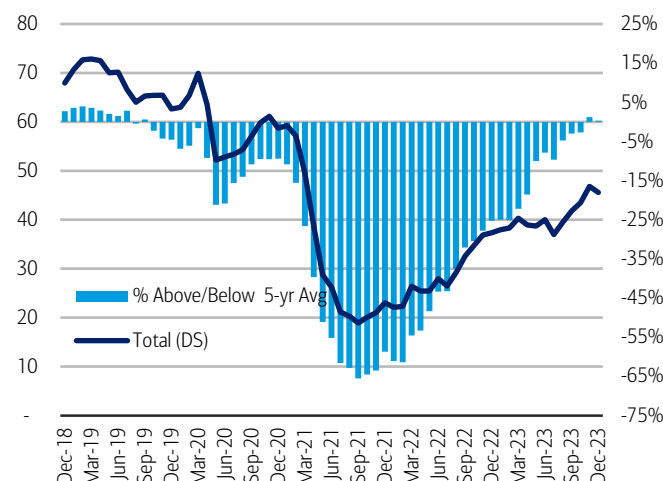
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Inventory shrinks following strong sales

December inventory decreases 31k units MoM

Exhibit 6: US inventory – total (DS)

December days' supply of 46DS came in above the 5-year average of 45DS



Source: WardsAuto InfoBank

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December 2024 auto inventory was down 31k units from November 2023 to ~2.3mm. Although the rise in inventories paused in December, recall that inventories climbed the last two years and are now up 140% off the September 2021 trough. Almost all of the MoM decline in absolute inventory was driven by the Japanese (-42k) and Korean OEMs (-9k), while the D3 posted higher inventory (+14k), likely due to some restocking of models affected by the UAW strike in late 2023. Inventory for European OEMs grew (+6k). On a days' supply (DS) basis, inventory stood at 46DS, which is a bit above the five-year average of 45DS, but down one day MoM.

December inventory decline came in light of robust December sales, which were up MoM on a SAAR basis to 15.8mm

Inventory remains somewhat lower than “normal” levels of 2.5mm-3.0mm+ units, but is gradually approaching this range. As production constraints faded in 2023, both sales and inventory started to recover after years in which low inventory impaired sales. We believe there is still substantial unfulfilled demand following the last few years of shortages. Affordability could represent an obstacle for stronger demand to materialize.

Exhibit 7: December 2023 inventory summary

December inventory was ~2.30mm units, with days' supply of 46 above the 5-year avg. of 45

	Inventory	Days	5-yr	% Above	
	Units	Supply	Avg DS	/Below	Note
Detroit 3 -- Cars	105,918	79	53	49%	Detroit 3 OEM's total inventory was up 14k MoM and increased 225k units YoY. Aggregate supply remains less constrained than the industry average, across both cars and light trucks.
Detroit 3 -- Lt Trucks	1,177,308	64	59	8%	
Detroit 3 -- Total	1,283,226	65	59	12%	
Japanese -- Cars	168,964	34	38	-11%	Supply at Japanese OEMs was down 43k MoM but increased 276k units YoY. Aggregate supply is more constrained than the industry average across both cars and light trucks.
Japanese -- Lt Trucks	455,554	35	36	-2%	
Japanese -- Total	624,518	35	36	-5%	
European -- Cars	58,663	45	46	-2%	European OEM's inventory was up 6k units MoM and increased 68k units YoY. Aggregate supply is less constrained than the industry average across both cars and light trucks.
European -- Lt Trucks	166,701	52	47	11%	
European -- Total	225,364	50	47	6%	
Korean -- Cars	32,604	20	31	-36%	Inventory at Korean OEMs declined 9k units MoM but increased 56k units YoY. Both car and truck inventories remain well below the industry average.
Korean -- Lt Trucks	98,044	26	36	-27%	
Korean -- Total	130,648	24	34	-28%	
Industry -- Cars	370,289	37	38	-4%	Total inventory was down 31k units MoM, but up 631k units YoY. Car supply tighter than light truck, as OEMs continue to prioritize production and inventory build of high ASP/margin vehicles.
Industry -- Lt Trucks	1,931,067	48	48	0%	
Industry -- Total	2,301,356	46	45	0%	

Source: WardsAuto InfoBank, BofA Global Research

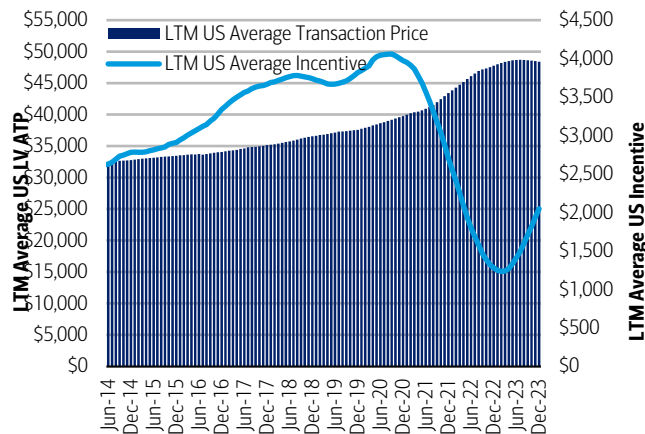
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Incentives & pricing

Mix holds near record levels, ATPs fall in December

Exhibit 8: Industry average transaction price & average incentive

US average ATPs fall from record highs in December, Incentives climb



Source: Kelley Blue Book (ATPs do not include applied incentives), AutoData

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Two data points that speak to the strength of underlying demand are mix and price, which remain near record levels. Light trucks (pickups, Sports Utility Vehicles (SUVs), Crossover Utility Vehicles (CUVs)) gained +140bps of market share relative to passenger cars in December on a YoY basis, while alternative powertrain vehicles gained +480bps from ICE vehicles YoY.

Average transaction prices (ATPs) fell in December, down 2.4% YoY to \$48,759 (-\$1,180/unit YoY), but were +1.3% MoM according to Kelley Blue Book. Incentives were up 101% YoY and +6% MoM in December but are still well below 2019 levels (5.5% of ATP vs. ~10% in 2019). We are closely monitoring the strength of demand in light of broader macro risks.

On that note, we expect the recently strong pricing trends (more transitory) and favorable mix shift that has occurred in the last 10 years (more structural) could begin to flatten out or fade as volumes begin to recover in the mid-2020s.

Exhibit 9: Most recent month US incentive and ATP trends – major automakers

Industry average incentive was up 101.3% YoY in December, while the average transaction price was down 2.4% YoY

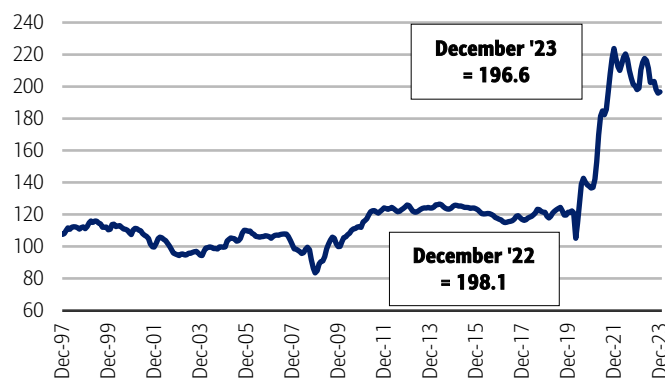
AutoData/KBB	Average Incentive					Average Transaction Price				
	Dec-23	Nov-23	MoM % Chg	Dec-22	YoY % Chg	Dec-23	Nov-23	MoM % Chg	Dec-22	YoY % Chg
GM	\$2,657	\$2,441	8.8%	\$1,273	108.7%	\$53,530	\$52,621	1.7%	\$53,712	-0.3%
Ford	\$2,054	\$1,956	5.0%	\$624	229.2%	\$56,198	\$54,989	2.2%	\$57,432	-2.1%
Stellantis	\$4,363	\$4,402	-0.9%	\$1,987	119.6%	\$59,292	\$60,100	-1.3%	\$56,777	4.4%
Toyota	\$1,051	\$1,235	-14.9%	\$609	72.6%	\$41,710	\$40,994	1.7%	\$40,559	2.8%
Honda	\$1,658	\$1,608	3.1%	\$973	70.4%	\$38,118	\$38,324	-0.5%	\$38,344	-0.6%
Nissan	\$2,992	\$2,762	8.3%	\$1,435	108.5%	\$36,339	\$35,891	1.2%	\$37,863	-4.0%
Hyundai	\$2,563	\$2,649	-3.2%	\$1,062	141.3%	\$38,483	\$37,425	2.8%	\$36,608	5.1%
BMW	\$4,442	\$4,327	2.7%	\$2,030	118.8%	\$68,987	\$69,150	-0.2%	\$68,794	0.3%
Volkswagen	\$3,875	\$3,863	0.3%	\$1,590	143.7%	\$57,653	\$57,014	1.1%	\$60,023	-3.9%
Tesla	\$5,032	\$3,663	37.4%	\$5,575	-9.7%	\$50,051	\$53,771	-6.9%	\$66,815	-25.1%
Industry	\$2,687	\$2,546	5.5%	\$1,335	101.3%	\$48,759	\$48,130	1.3%	\$49,939	-2.4%

Source: Kelley Blue Book (ATPs do not include applied incentives), AutoData

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Exhibit 10: NADA Used Vehicle Price Index

NADA Used Vehicle Price Index was down 0.7% YoY in December 2023 and increased 0.4% on a MoM basis

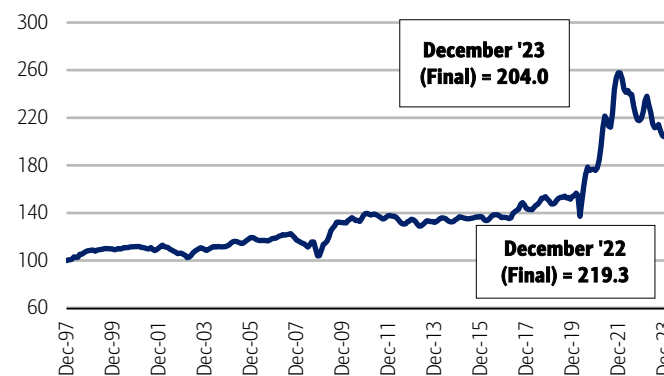


Source: NADA

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Exhibit 11: Manheim Used Vehicle Value Index

Manheim Used Vehicle Value Index was down 7.0% YoY in December 2023 (Final) and decreased 0.5% on a MoM basis



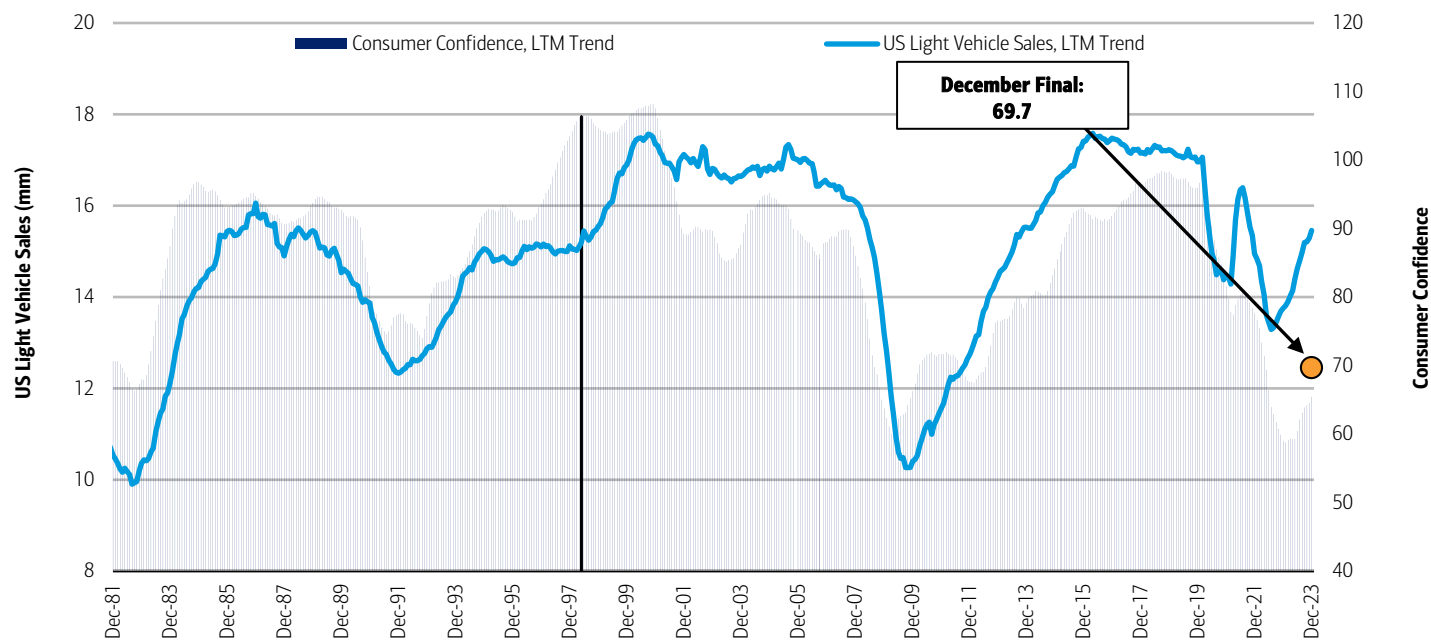
Source: Manheim

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Other monthly data

Exhibit 12: Consumer confidence versus US auto sales

On an LTM basis, consumer confidence and US automotive sales seem to be past their trough; December (Final) consumer confidence was up 16.8% YoY

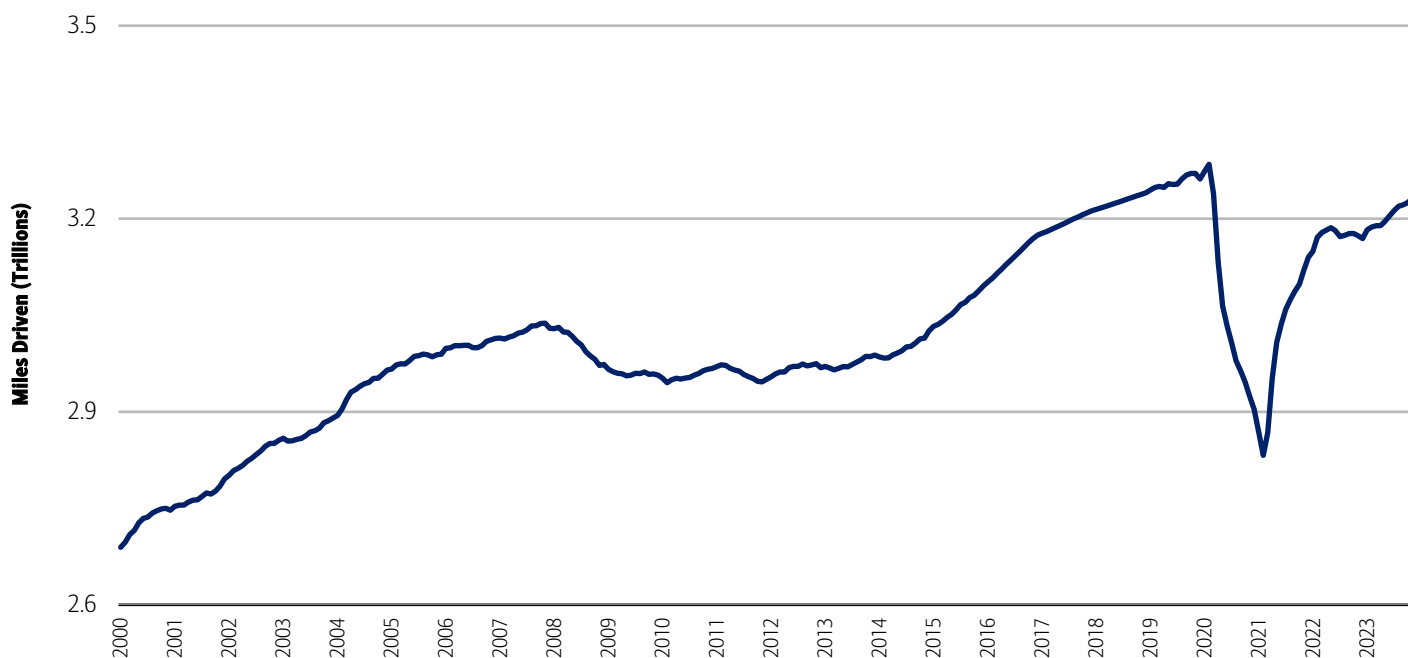


Source: University of Michigan, Wards AutoInfoBank

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Exhibit 13: LTM US miles driven

On a LTM basis, US miles driven fell significantly in 2020 due to COVID-19 but have largely recovered. After declining in 2H22, miles driven increased in 2023YTD.



Source: Federal Highway Administration

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Exhibit 14: US average retail gasoline price

US average retail gasoline prices rose steadily from 2020-2022. Gas prices retreated throughout 2H22 and increased through 2023 but have declined since October.

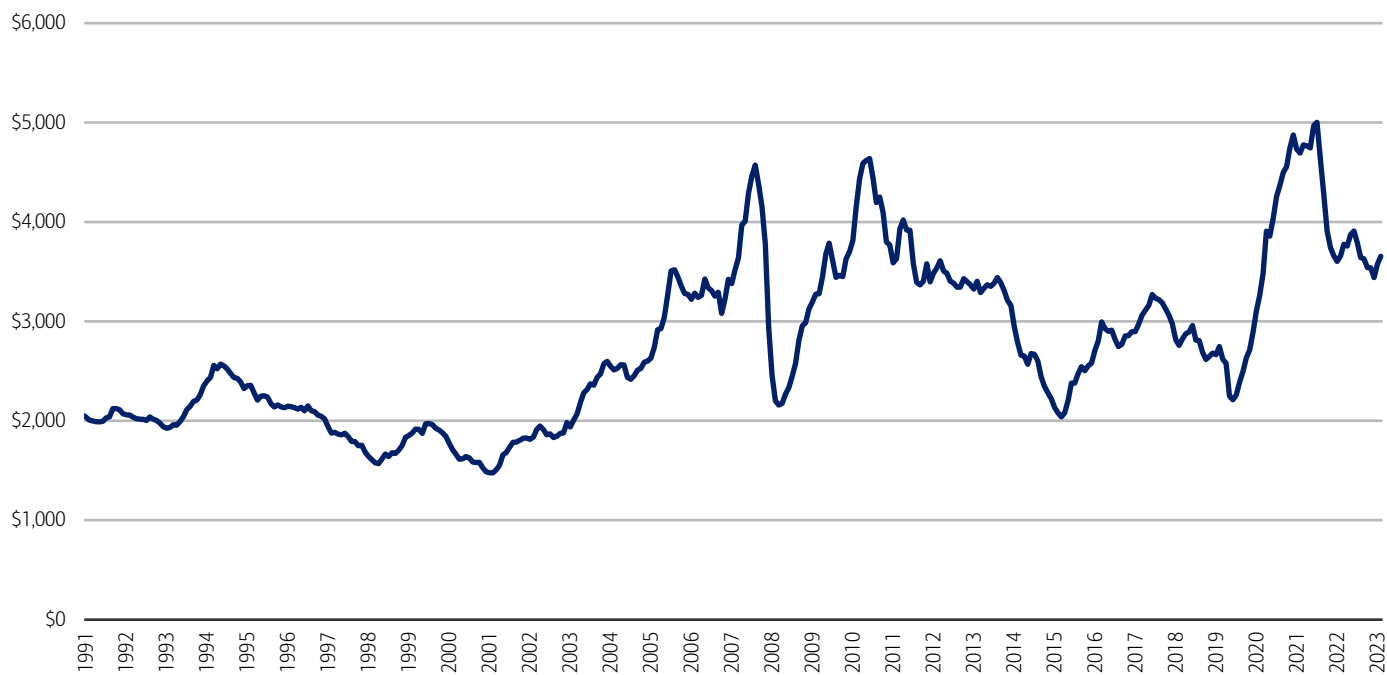


Source: US Energy Information Administration

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Exhibit 15: BofA Global Research estimated total raw material \$ cost per average vehicle

We estimate that the total raw material \$ cost per average vehicle has decreased in recent months, although it has been volatile over time



Source: BofA Global Research estimates

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Upcoming event calendar

Exhibit 16: Calendar of upcoming automotive industry events

Below we outline the release dates for monthly industry and economic data used in our analyses

January	January 19, 2024	Economic Data Release	Preliminary Consumer Confidence survey for month of January
February	February 1, 2024	Industry Data Release	January 2024 US auto sales
	February 2, 2024	Economic Data Release	Final Consumer Confidence survey for month of January
	February 2, 2024	Economic Data Release	US unemployment rate / US employees change in nonfarm payrolls
	Week of February 5, 2024	Industry Data Release	January 2024 US auto inventories
	February 16, 2024	Economic Data Release	Preliminary Consumer Confidence survey for month of February
March	March 1, 2024	Industry Data Release	February 2024 US auto sales
	March 1, 2024	Economic Data Release	Final Consumer Confidence survey for month of February
	Week of March 4, 2024	Industry Data Release	February 2024 US auto inventories
	March 8, 2024	Economic Data Release	US unemployment rate / US employees change in nonfarm payrolls
	March 15, 2024	Economic Data Release	Preliminary Consumer Confidence survey for month of March
	March 26-27, 2024	BofA Conference	Bank of America 2024 Global Automotive Summit (New York)
	March 28, 2024	Economic Data Release	Final Consumer Confidence survey for month of March
April	April 2, 2024	Industry Data Release	March 2024 US auto sales
	Week of April 1, 2024	Industry Data Release	March 2024 US auto inventories
	April 5, 2024	Economic Data Release	US unemployment rate / US employees change in nonfarm payrolls
	April 12, 2024	Economic Data Release	Preliminary Consumer Confidence survey for month of April
	April 26, 2024	Economic Data Release	Final Consumer Confidence survey for month of April
May	May 1, 2024	Industry Data Release	April 2024 US auto sales
	Week of May 1, 2024	Industry Data Release	April 2024 US auto inventories
	May 3, 2024	Economic Data Release	US unemployment rate / US employees change in nonfarm payrolls
	May 10, 2024	Economic Data Release	Preliminary Consumer Confidence survey for month of May
	May 24, 2024	Economic Data Release	Final Consumer Confidence survey for month of May
June	June 3, 2024	Industry Data Release	May 2024 US auto sales
	Week of June 3, 2024	Industry Data Release	May 2024 US auto inventories
	June 7, 2024	Economic Data Release	US unemployment rate / US employees change in nonfarm payrolls
	June 14, 2024	Economic Data Release	Preliminary Consumer Confidence survey for month of June
	June 28, 2024	Economic Data Release	Final Consumer Confidence survey for month of June

Source: AutoNews, Bloomberg, Company filings, BofA Global Research

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Valuation update

Exhibit 17: Automotive coverage universe valuation summary

Using valuation multiples based on 2024e (and sometimes 2025e), we have published ratings on a collection of OEM, supplier, and dealer company names

Ticker	Company Name	QRQ	Rating	Price Objective	Pot' Upside/Downside	Basis
F	Ford Motor Co	B-1-7	Buy	\$19.00	72.9%	~4x 2024e EV/EBITDAP, implying 11x P/E; within the historical trading range given increased credibility and improving execution
GM	General Motors	B-1-7	Buy	\$75.00	116.9%	~4x 2024e EV/EBITDAP, implying 9x P/E; within the historical trading range given ongoing execution and the Core to Future transition
RACE	Ferrari	B-1-7	Buy	\$456.00	31.4%	~31x 2024e EV/EBITDA, 12x EV/Sales; a slight premium to current trading level, reflecting ongoing volume, revenue, and earnings growth
LCID	Lucid Motors	C-2-9	Neutral	\$7.00	164.2%	~6x EV/Sales on 2025e, implies roughly 0.5x EV/Sales and 3x EV/EBITDA on pro-forma capital-induced 2030 estimates
RIVN	Rivian Automotive	C-1-9	Buy	\$40.00	154.1%	~3x EV/Sales on 2025e, implying 0.5x EV/Sales and 3x EV/EBITDA on pro-forma capital-induced 2030 estimates
TSLA	Tesla Motors	C-2-9	Neutral	\$290.00	36.9%	~8.5x EV/Sales and 48x EV/EBITDA on 2024e, implying 3.0x EV/Sales and 22x EV/EBITDA on pro-forma capital-induced 2025 estimates
ADNT	Adient PLC	C-1-9	Buy	\$50.00	52.5%	~6x FY2024e EV/EBITDA, above the historical average, reflecting forthcoming US/NA and Global production volume recovery and turnaround efforts
APTIV	Aptiv	C-1-9	Buy	\$125.00	58.2%	~12x 2024e EV/EBITDA; well above supplier average and above multi-industrial average given unique leverage to industry mega-trends
AXL	American Axle	C-3-9	Underperform	\$8.00	8.1%	~4x 2024e EV/EBITDA; below historical average but in-line recent trading ranges, reflecting forthcoming US/NA and Global production recovery
BWA	BorgWarner	B-1-7	Buy	\$52.00	58.8%	~7x 2024e EV/EBITDA; reflecting BWA's positioning towards a higher growth trajectory after the spin-off of the Fuel Systems and Aftermarket segments
GNTX	Gentex Corp	B-2-7	Neutral	\$34.00	4.3%	~10x 2024e EV/EBITDA; well above supplier average, but slightly below historical average, reflecting potential long-term headwinds for core products
LAZR	Luminar Technologies	C-2-9	Neutral	\$4.00	85.2%	~5.5x EV/Sales on 2025e, a slight premium to avg EV/Sales multiples in Auto/Tech universe we include in LAZR's peer group
LEA	Lear Corp	B-1-7	Buy	\$220.00	68.2%	~7x 2024e EV/EBITDA; above the average, reflecting how vertical integration will bolster already strong cash flow and shareholder returns
MGA	Magna International	B-1-7	Buy	\$77.00	42.7%	~6x 2024e EV/EBITDA; above the historical average given solid long term positioning in industry evolution
MBLY	Mobileye	C-3-9	Underperform	\$22.00	-21.6%	~5.5x 2025e EV/Sales; below the average of its four closest peers reflecting our slower growth outlook following the company's initial guidance for 2024
VC	Visteon Corp	C-1-9	Buy	\$180.00	53.4%	~10x EV/EBITDA on 2024e, consistent with a P/E of ~20x. Slightly above mid-point of where the stock has traded since 2016 (6x-12x)
ABG	Asbury Automotive Group	B-1-9	Buy	\$350.00	72.1%	~11x 2024e P/E; roughly in line with average dealer through-cycle multiple, reflecting forthcoming US/NA cycle recovery through mid-2020s
AN	AutoNation	B-1-9	Buy	\$255.00	81.2%	~11x 2024e P/E; roughly in line with average dealer through-cycle multiple, reflecting forthcoming US/NA cycle recovery through mid-2020s
GPI	Group 1 Automotive	C-1-7	Buy	\$455.00	66.3%	~11x 2024e P/E; about in line with average dealer through-cycle multiple, reflecting forthcoming US/NA cycle recovery through mid-2020s
LAD	Lithia Motors	C-1-7	Buy	\$440.00	50.5%	~11x 2024e P/E; roughly in line with average dealer through-cycle multiple, reflecting forthcoming US/NA cycle recovery through mid-2020s
PAG	Penske Automotive Group	B-1-7	Buy	\$200.00	32.2%	~12x 2024e P/E; roughly in line with average dealer through-cycle multiple, reflecting forthcoming US/NA cycle recovery through mid-2020s
SAH	Sonic Automotive	C-3-7	Underperform	\$60.00	17.0%	~9x 2024e P/E; a bit below the average dealer through-cycle multiple, reflecting potential challenges given the supply of used vehicles
CRMT	America's Car-Mart	C-3-9	Underperform	\$55.00	-9.8%	~15x FY2025e (CY2024) P/E; line with an average through-cycle multiple, reflecting less favorable macro dynamics for low income consumer
KMX	CarMax	C-3-9	Underperform	\$44.00	-35.8%	~12x FY2025e (CY2024) P/E; below historical trading range reflecting potential challenges given the supply of used vehicles
KAR	KAR Auction Services	C-3-9	Underperform	\$16.00	15.2%	~8x 2024e EV/EBITDA; about in line with historical trading range, reflecting potential challenges given the supply of wholesale vehicles

Source: Company filings, Bloomberg, BofA Global Research estimates Up/Downside=potential

Notes: Upside/downside = potential from current stock prices, Adjusted EV/Sales and EV/EBITDA multiples are adjusted for pension & OPEB, 2023-2025e are based off of actual prices as of 1/18/2024, CRMT & KMX calendar years equate to 1-year forward fiscal years (CY2024 = FY2025)

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Exhibit 18: Automotive coverage universe P/E multiples

Below we compare P/E multiples for the companies in our coverage universe, as well as forecast P/E multiples out through 2025E

		P/E											
Ticker	Company Name	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023E	2024E	2025E
F	Ford Motor Co	11.6x	7.3x	6.9x	6.6x	5.9x	7.8x	24.4x	13.1x	6.2x	6.6x	5.6x	4.9x
GM	General Motors	11.5x	6.8x	5.7x	6.2x	5.1x	6.8x	8.5x	8.3x	4.4x	5.0x	4.4x	3.9x
RACE	Ferrari	nm	27.9x	24.6x	30.9x	25.8x	39.9x	57.5x	54.4x	39.5x	46.8x	43.7x	39.2x
	Traditional OEM Average ex. RACE	11.5x	7.0x	6.3x	6.4x	5.5x	7.3x	16.5x	10.7x	5.3x	5.8x	5.0x	4.4x
LCID	Lucid Motors	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm
RIVN	Rivian Automotive	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm
TSLA	Tesla Motors	nm	nm	nm	nm	nm	2,788.9x	309.5x	155.9x	30.3x	79.6x	51.7x	43.2x
	EV OEM Average	nm	nm	nm	nm	nm	2,788.9x	309.5x	155.9x	30.3x	79.6x	51.7x	43.2x
ADNT	Adient PLC	nm	nm	6.9x	8.4x	2.7x	11.8x	nm	23.0x	nm	16.9x	11.4x	6.8x
APTV	Aptiv	nm	nm	nm	18.3x	11.7x	17.6x	67.2x	53.9x	27.3x	18.9x	12.2x	9.9x
AXL	American Axle	9.8x	6.6x	5.9x	4.5x	3.4x	6.0x	64.2x	10.0x	12.6x	nm	10.6x	7.4x
BWA	BorgWarner	16.9x	14.2x	12.1x	13.1x	7.8x	9.4x	14.0x	11.4x	8.8x	9.5x	7.8x	6.8x
GNTX	Gentex Corp	19.0x	15.0x	16.5x	16.4x	12.5x	15.5x	23.4x	23.4x	20.1x	18.5x	15.2x	12.8x
LAZR	Luminar Technologies	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm
LEA	Lear Corp	12.0x	11.3x	9.4x	10.4x	6.7x	8.7x	29.8x	23.0x	14.2x	11.9x	7.3x	6.0x
MGA	Magna International	12.0x	9.0x	8.3x	9.6x	6.8x	8.1x	19.7x	15.8x	13.7x	10.8x	7.5x	5.9x
MBLY	Mobileye	nm	nm	nm	nm	nm	nm	nm	nm	43.8x	53.5x	78.0x	33.0x
VC	Visteon Corp	187.5x	40.7x	15.1x	20.3x	9.8x	31.3x	129.4x	52.7x	24.5x	18.9x	13.2x	10.3x
	Supplier Average	42.9x	16.1x	10.6x	12.6x	7.7x	13.5x	49.7x	26.7x	17.3x	15.1x	10.6x	8.2x
ABG	Asbury Automotive Group	17.4x	12.1x	10.1x	10.0x	7.9x	10.5x	11.3x	6.3x	4.8x	6.8x	6.4x	6.2x
AN	AutoNation	17.3x	15.0x	11.5x	12.8x	8.1x	9.1x	9.8x	6.4x	4.4x	6.6x	6.1x	6.0x
GPI	Group 1 Automotive	15.3x	11.0x	10.5x	9.2x	5.9x	8.1x	7.3x	5.7x	3.9x	6.6x	6.6x	6.5x
LAD	Lithia Motors	17.0x	15.2x	13.1x	13.5x	7.6x	11.1x	16.1x	7.4x	4.6x	8.9x	7.3x	6.7x
PAG	Penske Automotive Group	15.5x	11.5x	13.0x	11.1x	7.6x	8.5x	8.9x	7.0x	6.2x	9.8x	9.3x	8.7x
SAH	Sonic Automotive	14.2x	11.6x	11.4x	10.0x	7.7x	10.4x	10.0x	5.8x	5.1x	8.1x	7.7x	8.0x
CRMT	America's Car-Mart	19.3x	8.2x	32.9x	17.5x	20.1x	14.5x	14.9x	6.8x	5.2x	24.4x	18.9x	16.3x
KMX	CarMax	30.8x	20.3x	21.0x	19.7x	17.0x	16.3x	17.7x	28.8x	8.7x	25.3x	23.9x	18.5x
KAR	KAR Auction Services	nm	nm	nm	nm	nm	18.7x	36.5x	50.4x	30.3x	21.8x	17.4x	13.2x
	Dealer Average	16.1x	12.7x	11.6x	11.1x	7.5x	9.6x	10.6x	6.5x	4.8x	7.8x	7.2x	7.0x

Source: Company filings, Bloomberg, BofA Global Research estimates

Notes: Upside/downside = potential from current stock prices, 2023-2025e are based off of actual prices as of 1/18/2024, CRMT & KMX calendar years equate to 1-year forward fiscal years (CY2024 = FY2025)

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Exhibit 19: Automotive coverage universe adjusted EV/EBITDA estimates

Below we compare Adjusted EV/EBITDA multiples for the companies in our coverage universe, as well as forecast these multiples through 2025E

Ticker	Company Name	Adjusted EV / EBITDA											
		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023E	2024E	2025E
F	Ford Motor Co	4.8x	3.1x	5.0x	3.3x	1.9x	2.5x	3.9x	5.0x	2.0x	5.7x	4.1x	3.5x
GM	General Motors	3.8x	3.6x	3.1x	3.5x	2.8x	3.8x	4.2x	4.3x	2.1x	5.0x	4.1x	3.6x
RACE	Ferrari	nm	12.7x	12.6x	16.4x	15.0x	22.0x	31.0x	29.6x	20.9x	25.1x	23.8x	21.3x
	Traditional OEM Average ex. RACE	4.3x	3.4x	4.1x	3.4x	2.3x	3.1x	4.1x	4.6x	2.0x	5.4x	4.1x	3.5x
LCID	Lucid Motors	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm
RIVN	Rivian Automotive	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm
TSLA	Tesla Motors	nm	nm	53.7x	147.5x	29.3x	27.5x	125.6x	101.1x	21.9x	56.9x	35.4x	29.6x
	EV OEM Average	nm	nm	53.7x	147.5x	29.3x	27.5x	125.6x	101.1x	21.9x	56.9x	35.4x	29.6x
ADNT	Adient PLC	nm	nm	6.5x	6.9x	2.8x	4.1x	7.8x	10.8x	5.8x	7.8x	5.3x	3.8x
APTV	Aptiv	nm	nm	nm	12.4x	8.5x	11.5x	22.8x	22.5x	14.5x	10.7x	7.9x	6.9x
AXL	American Axle	6.0x	5.0x	4.4x	5.2x	4.2x	4.6x	5.9x	4.4x	5.0x	4.7x	3.6x	3.0x
BWA	BorgWarner	9.2x	8.6x	6.7x	7.7x	5.0x	5.5x	12.4x	9.8x	14.0x	10.8x	10.6x	9.2x
GNTX	Gentex Corp	10.6x	8.1x	8.6x	8.5x	8.3x	10.3x	15.3x	16.0x	13.0x	12.2x	9.5x	8.0x
LAZR	Luminar Technologies	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm
LEA	Lear Corp	6.7x	6.4x	5.3x	5.9x	4.0x	4.8x	9.6x	9.1x	6.5x	6.3x	4.5x	3.7x
MGA	Magna International	6.7x	5.0x	5.0x	5.7x	4.5x	4.5x	7.3x	7.2x	6.1x	6.1x	4.5x	3.6x
MBLY	Mobileye	nm	nm	nm	nm	nm	nm	nm	nm	36.2x	51.3x	24.1x	14.6x
VC	Visteon Corp	38.1x	9.8x	7.6x	10.9x	6.1x	11.5x	19.6x	15.2x	11.0x	8.8x	6.2x	4.9x
	Supplier Average	12.9x	7.2x	6.3x	7.9x	5.4x	7.1x	12.6x	11.9x	9.5x	8.4x	6.5x	5.4x
ABG	Asbury Automotive Group	10.7x	8.8x	7.7x	7.3x	7.1x	8.6x	9.4x	7.8x	5.3x	23.1x	16.5x	8.1x
AN	AutoNation	10.6x	9.5x	8.7x	9.3x	7.1x	6.8x	6.8x	5.6x	4.4x	5.8x	5.5x	5.2x
GPI	Group 1 Automotive	10.0x	8.3x	8.0x	7.5x	6.4x	7.6x	6.6x	5.9x	4.4x	14.9x	9.4x	5.2x
LAD	Lithia Motors	11.1x	9.3x	8.4x	8.7x	6.9x	8.3x	11.5x	6.4x	6.0x	9.9x	8.7x	8.6x
PAG	Penske Automotive Group	11.1x	8.4x	10.3x	9.7x	8.2x	8.9x	8.3x	6.8x	6.4x	8.6x	8.3x	8.2x
SAH	Sonic Automotive	8.0x	6.9x	6.9x	6.7x	6.0x	6.2x	6.3x	5.4x	4.8x	6.5x	6.3x	6.1x
CRMT	America's Car-Mart	20.1x	33.0x	17.5x	14.4x	14.9x	16.8x	16.0x	16.6x	18.5x	19.9x	35.4x	31.4x
KMX	CarMax	16.0x	11.4x	12.0x	11.1x	9.9x	11.2x	12.0x	17.6x	7.1x	13.7x	12.3x	10.7x
KAR	KAR Auction Services	nm	nm	nm	nm	nm	7.8x	10.3x	9.5x	9.7x	9.2x	7.3x	5.6x
	Dealer Average	10.3x	8.5x	8.3x	8.2x	7.0x	7.7x	8.1x	6.3x	5.2x	11.5x	9.1x	6.9x

Source: Company filings, Bloomberg, BofA Global Research estimates

Notes Adjusted EV/EBITDA multiples are adjusted for pension & OPEB; 2023-2025e are based off of actual prices as of 1/18/2024, CRMT & KMX calendar years equate to 1-year forward fiscal years (CY2024 = FY2025)

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Exhibit 20: Automotive coverage universe EPS

Below we compare EPS for the companies in our coverage universe, as well as forecasted EPS estimates out through 2025E

Ticker	Company Name	EPS											
		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023E	2024E	2025E
F	Ford Motor Co	\$1.34	\$1.93	\$1.76	\$1.88	\$1.30	\$1.19	\$0.36	\$1.59	\$1.88	\$1.85	\$1.95	\$2.25
GM	General Motors	\$3.03	\$5.02	\$6.12	\$6.62	\$6.54	\$4.82	\$4.90	\$7.07	\$7.59	\$7.16	\$7.80	\$8.85
RACE	Ferrari	€ 1.38	€ 1.63	€ 2.25	€ 2.83	€ 3.37	€ 3.71	€ 3.28	€ 4.50	€ 5.13	€ 6.65	€ 7.30	€ 8.15
LCID	Lucid Motors	nm	nm	nm	nm	nm	(\$35.61)	(\$28.42)	(\$2.00)	(\$0.77)	(\$1.43)	(\$1.15)	(\$0.80)
RIVN	Rivian Automotive	nm	nm	nm	nm	nm	nm	nm	(\$14.78)	(\$6.34)	(\$4.88)	(\$2.25)	(\$0.30)
TSLA	Tesla Motors	(\$0.07)	(\$0.36)	(\$0.19)	(\$0.58)	(\$0.09)	\$0.01	\$0.76	\$2.26	\$4.07	\$3.12	\$4.10	\$4.90
ADNT	Adient PLC	nm	\$5.33	\$8.52	\$9.35	\$5.65	\$1.61	(\$0.04)	\$2.08	\$0.11	\$2.15	\$2.88	\$4.85
APTIV	Aptiv	\$3.77	\$3.51	\$4.47	\$4.64	\$5.26	\$4.80	\$1.94	\$3.06	\$3.41	\$4.75	\$6.50	\$8.00
AXL	American Axle	\$2.31	\$2.88	\$3.27	\$3.81	\$3.30	\$1.61	\$0.13	\$0.93	\$0.62	(\$0.16)	\$0.70	\$1.00
BWA	BorgWarner	\$3.25	\$3.04	\$3.26	\$3.89	\$4.48	\$4.13	\$2.76	\$3.96	\$4.60	\$3.76	\$4.20	\$4.85
GNTX	Gentex Corp	\$0.95	\$1.07	\$1.19	\$1.28	\$1.62	\$1.67	\$1.45	\$1.49	\$1.36	\$1.77	\$2.15	\$2.55
LAZR	Luminar Technologies	nm	nm	nm	nm	(\$12.00)	(\$0.84)	(\$2.54)	(\$0.38)	(\$0.78)	(\$0.84)	(\$0.65)	(\$0.50)
LEA	Lear Corp	\$8.15	\$10.85	\$14.03	\$17.00	\$18.21	\$13.99	\$5.33	\$7.94	\$8.72	\$11.84	\$18.00	\$21.80
MGA	Magna International	\$4.54	\$4.49	\$5.23	\$5.93	\$6.70	\$6.05	\$3.60	\$5.13	\$4.10	\$5.45	\$7.20	\$9.20
MBLY	Mobileye	\$0.21	\$0.47	\$0.73	nm	nm	nm	nm	nm	\$0.80	\$0.81	\$0.36	\$0.85
VC	Visteon Corp	\$0.57	\$2.81	\$5.31	\$6.15	\$6.13	\$2.77	\$0.97	\$2.11	\$5.33	\$6.60	\$8.90	\$11.40
ABG	Asbury Automotive Group	\$4.37	\$5.57	\$6.08	\$6.43	\$8.41	\$9.46	\$12.90	\$27.29	\$37.66	\$33.00	\$32.00	\$32.80
AN	AutoNation	\$3.49	\$3.98	\$4.22	\$4.01	\$4.41	\$4.77	\$7.12	\$18.14	\$24.57	\$22.80	\$23.25	\$23.50
GPI	Group 1 Automotive	\$5.87	\$6.87	\$7.42	\$7.73	\$8.91	\$10.93	\$18.03	\$34.55	\$45.71	\$46.05	\$41.40	\$42.05
LAD	Lithia Motors	\$5.11	\$7.02	\$7.42	\$8.39	\$9.98	\$11.76	\$18.19	\$40.03	\$44.42	\$36.85	\$40.00	\$43.65
PAG	Penske Automotive Group	\$3.17	\$3.67	\$4.00	\$4.31	\$5.34	\$5.28	\$6.64	\$15.28	\$18.55	\$16.35	\$16.35	\$17.35
SAH	Sonic Automotive	\$1.90	\$1.97	\$2.01	\$1.85	\$1.79	\$2.65	\$3.85	\$8.46	\$9.61	\$6.95	\$6.65	\$6.40
CRMT	America's Car-Mart	\$2.77	\$3.25	\$1.33	\$2.55	\$3.60	\$6.73	\$7.39	\$14.95	\$13.92	\$3.11	\$3.22	\$3.75
KMX	CarMax	\$2.16	\$2.66	\$3.06	\$3.26	\$3.69	\$4.79	\$5.33	\$4.52	\$6.97	\$3.03	\$2.87	\$3.70
KAR	KAR Auction Services	nm	nm	nm	\$1.30	\$1.26	\$1.04	\$0.51	\$0.31	\$0.43	\$0.68	\$0.80	\$1.05

Source: Company filings, Bloomberg, BofA Global Research estimates

Notes: CRMT & KMX calendar years equate to 1-year forward fiscal years (CY2024 = FY2025)

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**Exhibit 21: Automotive coverage universe closing prices**

Below we compare annual closing prices for the companies in our coverage universe

Ticker	Company Name	Closing Price											
		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024E	2025E
F	Ford Motor Co	\$15.50	\$14.09	\$12.13	\$12.49	\$7.65	\$9.30	\$8.79	\$20.77	\$11.63	\$12.19	\$10.99	\$10.99
GM	General Motors	\$34.91	\$34.01	\$34.84	\$40.99	\$33.45	\$32.59	\$41.64	\$58.63	\$33.64	\$35.92	\$34.58	\$34.58
RACE	Ferrari	nm	\$48.00	\$58.14	\$104.84	\$99.44	\$147.42	\$229.52	\$258.82	\$214.22	\$338.43	\$347.10	\$347.10
LCID	Lucid Motors	nm	nm	nm	nm	nm	nm	\$10.01	\$38.05	\$6.83	\$4.21	\$2.65	\$2.65
RIVN	Rivian Automotive	nm	nm	nm	nm	nm	nm	nm	\$103.69	\$18.43	\$23.46	\$15.74	\$15.74
TSLA	Tesla Motors	\$14.83	\$16.00	\$14.25	\$20.76	\$22.19	\$27.89	\$235.22	\$352.26	\$123.18	\$248.48	\$211.88	\$211.88
ADNT	Adient PLC	nm	nm	\$58.60	\$78.70	\$15.06	\$18.92	\$34.77	\$47.88	\$34.69	\$36.36	\$32.79	\$32.79
APTV	Aptiv	nm	nm	nm	\$84.83	\$61.57	\$84.58	\$130.29	\$164.95	\$93.13	\$89.72	\$79.01	\$79.01
AXL	American Axle	\$22.59	\$18.94	\$19.30	\$17.03	\$11.10	\$9.58	\$8.34	\$9.33	\$7.82	\$8.81	\$7.40	\$7.40
BWA	BorgWarner	\$54.95	\$43.23	\$39.44	\$51.09	\$34.74	\$38.63	\$38.64	\$45.07	\$40.25	\$35.85	\$32.75	\$32.75
GNTX	Gentex Corp	\$18.07	\$16.01	\$19.69	\$20.95	\$20.21	\$25.81	\$33.93	\$34.85	\$27.27	\$32.66	\$32.60	\$32.60
LAZR	Luminar Technologies	nm	nm	nm	nm	nm	\$10.20	\$34.00	\$16.91	\$4.95	\$3.37	\$2.16	\$2.16
LEA	Lear Corp	\$98.08	\$122.83	\$132.37	\$176.66	\$122.86	\$122.18	\$159.03	\$182.95	\$124.02	\$141.21	\$130.82	\$130.82
MGA	Magna International	\$54.35	\$40.56	\$43.40	\$56.67	\$45.45	\$48.84	\$70.80	\$80.94	\$56.18	\$59.08	\$53.97	\$53.97
MBLY	Mobileye	nm	nm	nm	nm	nm	nm	nm	nm	\$35.06	\$43.32	\$28.07	\$28.07
VC	Visteon Corp	\$106.86	\$114.50	\$80.34	\$125.14	\$60.28	\$86.59	\$125.52	\$111.14	\$130.83	\$124.90	\$117.36	\$117.36
ABG	Asbury Automotive Group	\$75.92	\$67.44	\$61.70	\$64.00	\$66.66	\$99.55	\$145.74	\$172.73	\$179.25	\$224.97	\$203.40	\$203.40
AN	AutoNation	\$60.41	\$59.66	\$48.65	\$51.33	\$35.70	\$43.31	\$69.79	\$116.85	\$107.30	\$150.18	\$140.71	\$140.71
GPI	Group 1 Automotive	\$89.62	\$75.70	\$77.94	\$70.97	\$52.72	\$89.06	\$131.14	\$195.22	\$180.37	\$304.74	\$273.54	\$273.54
LAD	Lithia Motors	\$86.69	\$106.67	\$96.86	\$113.59	\$76.33	\$130.91	\$292.67	\$296.95	\$204.74	\$329.28	\$292.30	\$292.30
PAG	Penske Automotive Group	\$49.07	\$42.34	\$51.84	\$47.85	\$40.32	\$44.72	\$59.39	\$107.22	\$114.93	\$160.51	\$151.33	\$151.33
SAH	Sonic Automotive	\$27.04	\$22.76	\$22.90	\$18.45	\$13.76	\$27.61	\$38.57	\$49.45	\$49.27	\$56.21	\$51.30	\$51.30
CRMT	America's Car-Mart	\$53.38	\$26.69	\$43.75	\$44.65	\$72.45	\$97.66	\$109.84	\$102.40	\$72.26	\$75.77	\$61.00	\$61.00
KMX	CarMax	\$66.58	\$53.97	\$64.39	\$64.13	\$62.73	\$78.07	\$94.46	\$130.23	\$60.89	\$76.74	\$68.56	\$68.56
KAR	KAR Auction Services	nm	nm	nm	nm	nm	\$19.41	\$18.61	\$15.62	\$13.05	\$14.81	\$13.89	\$13.89

Source: Company filings, Bloomberg, BofA Global Research estimates

Notes: 2023-2025e are based off of actual prices as of 1/18/2024, CRMT & KMX calendar years equated to 1-forecast fiscal years (CY2024 = FY2025)

BofA GLOBAL RESEARCH

Stock performance

Exhibit 22: Stock performance

On average within our stock coverage, traditional original equipment manufacturers (OEMs) are down 7%, electric vehicle (EV) OEMs are down 28%, suppliers are down 9%, and dealers are down 9% YTD

1/18/2024	Price	Absolute Perf.			Relative to Sector			Relative to Market			52 Week		% Down vs. High	% Up vs. Low	Year-to-Date		
		-1M	-3M	-12M	-1M	-3M	-12M	-1M	-3M	-12M	High	Low			Absolute	Rel./Sec.	Rel./Mkt.
Suppliers																	
Adient	\$32.79	-7.6%	-6.0%	-22.3%	1.0%	9.7%	-2.6%	-8.4%	-15.2%	-36.1%	\$47.50	\$30.11	-31.0%	8.9%	-9.8%	1.5%	-10.0%
American Axle	\$7.40	-11.9%	5.6%	-13.2%	-3.7%	23.2%	8.7%	-12.6%	-4.7%	-28.7%	\$10.12	\$6.29	-26.9%	17.6%	-16.0%	-5.5%	-16.2%
Aptiv	\$79.01	-9.5%	-14.1%	-23.0%	-1.0%	0.2%	-3.5%	-10.3%	-22.5%	-36.7%	\$124.88	\$71.01	-36.7%	11.3%	-11.9%	-0.9%	-12.1%
BorgWarner	\$32.75	-5.7%	-14.9%	-15.1%	3.1%	-0.7%	6.4%	-6.5%	-23.2%	-30.2%	\$47.05	\$31.63	-30.4%	3.5%	-8.6%	2.8%	-8.9%
Gentex	\$32.60	2.7%	7.1%	14.3%	12.3%	25.0%	43.2%	1.8%	-3.4%	-6.1%	\$34.33	\$25.77	-5.0%	26.5%	-0.2%	12.3%	-0.4%
Luminar	\$2.16	-29.6%	-44.6%	-65.8%	-23.1%	-35.3%	-57.1%	-30.2%	-50.0%	-71.9%	\$10.55	\$2.14	-79.5%	0.9%	-35.9%	-27.9%	-36.1%
Lear	\$130.82	-5.7%	-1.1%	-3.9%	3.1%	15.5%	20.4%	-6.5%	-10.7%	-21.0%	\$157.91	\$117.79	-17.2%	11.1%	-7.4%	4.2%	-7.6%
Magna	\$53.97	-5.4%	5.0%	-15.5%	3.4%	22.6%	5.9%	-6.2%	-5.2%	-30.5%	\$68.92	\$46.71	-21.7%	15.5%	-8.6%	2.8%	-8.9%
Mobileye	\$28.07	-32.3%	-21.7%	-16.2%	-26.0%	-8.6%	5.1%	-32.9%	-29.3%	-31.1%	\$48.11	\$27.29	-41.7%	2.9%	-35.2%	-27.1%	-35.4%
Visteon Corp	\$117.36	-8.2%	-7.7%	-17.5%	0.4%	7.7%	3.3%	-9.0%	-16.7%	-32.2%	\$171.66	\$108.66	-31.6%	8.0%	-6.0%	5.7%	-6.3%
BofA Supplier Universe Average	nm	-6.4%	-3.3%	-12.0%	2.3%	12.9%	10.2%	-7.2%	-12.7%	-27.7%	nm	nm	-25.1%	12.8%	-8.6%	2.9%	-8.8%
Traditional OEMs																	
Ford	\$10.99	-7.9%	-6.5%	-6.9%	7.9%	4.8%	-37.1%	-8.7%	-15.6%	-23.5%	\$15.42	\$9.63	-28.7%	14.1%	-9.8%	4.5%	-10.1%
GM	\$34.58	-2.4%	17.3%	-5.1%	14.3%	31.4%	-35.9%	-3.3%	5.9%	-22.0%	\$43.63	\$26.30	-20.7%	31.5%	-3.7%	11.6%	-4.0%
Ferrari	\$347.10	0.1%	14.4%	44.8%	17.2%	28.1%	-2.2%	-0.8%	3.2%	19.0%	\$372.42	\$236.67	-6.8%	46.7%	2.6%	18.9%	2.3%
BofA Traditional OEM Universe Average	nm	-5.2%	5.4%	-6.0%	11.1%	18.1%	-36.5%	-6.0%	-4.9%	-22.8%	nm	nm	-24.7%	22.8%	-6.8%	8.1%	-7.0%
EV OEMs																	
Lucid Motor	\$2.65	-44.0%	-41.5%	-67.5%	-34.4%	-34.5%	-78.1%	-44.4%	-47.2%	-73.3%	\$17.81	\$2.55	-85.1%	3.9%	-37.1%	-27.0%	-37.2%
Rivian Automotive	\$15.74	-33.9%	-13.0%	-4.6%	-22.5%	-2.6%	-35.6%	-34.4%	-21.5%	-21.6%	\$28.06	\$11.68	-43.9%	34.8%	-32.9%	-22.2%	-33.1%
Tesla	\$211.88	-15.9%	-12.7%	64.5%	-1.5%	-2.2%	11.2%	-16.7%	-21.2%	35.2%	\$299.29	\$124.31	-29.2%	70.4%	-14.7%	-1.1%	-14.9%
BofA EV OEM Universe Average	nm	-31.3%	-22.4%	-2.5%	-19.5%	-13.1%	-34.2%	-31.8%	-30.0%	-19.9%	nm	nm	-52.7%	36.4%	-28.2%	-16.8%	-28.4%
Auto Dealers																	
Asbury Automotive	\$203.40	-8.8%	-4.4%	10.3%	6.8%	7.0%	-25.5%	-9.6%	-13.8%	-9.3%	\$256.39	\$178.40	-20.7%	14.0%	-9.6%	4.8%	-9.8%
AutoNation	\$140.71	-4.2%	2.4%	27.6%	12.2%	14.7%	-13.8%	-5.0%	-7.6%	4.9%	\$182.08	\$107.70	-22.7%	30.6%	-6.3%	8.6%	-6.5%
Group 1	\$273.54	-6.7%	7.5%	41.9%	9.3%	20.4%	-4.1%	-7.5%	-3.0%	16.6%	\$310.08	\$183.94	-11.8%	48.7%	-10.2%	4.1%	-10.4%
Lithia Motors	\$292.30	-4.3%	9.3%	26.4%	12.1%	22.4%	-14.6%	-5.1%	-1.4%	3.9%	\$331.96	\$203.65	-11.9%	43.5%	-11.2%	2.9%	-11.4%
Sonic Automotive	\$51.30	-6.4%	11.7%	6.6%	9.6%	25.1%	-28.0%	-7.2%	0.8%	-12.4%	\$62.26	\$39.02	-17.6%	31.5%	-8.7%	5.8%	-8.9%
Penske Auto Group	\$151.33	-5.4%	-0.7%	31.4%	10.8%	11.2%	-11.2%	-6.2%	-10.4%	8.0%	\$180.84	\$112.31	-16.3%	34.7%	-5.7%	9.3%	-5.9%
America's Car-Mart	\$61.00	-13.6%	-20.1%	-19.2%	1.3%	-10.5%	-45.4%	-14.3%	-27.9%	-33.6%	\$127.96	\$58.12	-52.3%	5.0%	-19.5%	-6.7%	-19.7%
CarMax	\$68.56	-9.1%	5.7%	8.1%	6.5%	18.4%	-27.0%	-9.8%	-4.6%	-11.1%	\$87.50	\$55.77	-21.6%	22.9%	-10.7%	3.6%	-10.9%
KAR Auction Services	\$13.89	-5.0%	-1.9%	2.4%	11.3%	9.9%	-30.8%	-5.8%	-11.5%	-15.8%	\$16.49	\$12.19	-15.8%	13.9%	-6.2%	8.7%	-6.4%
BofA Dealer Universe Average	nm	-6.4%	4.5%	21.8%	9.6%	17.0%	-17.7%	-7.2%	-5.7%	0.1%	nm	nm	-17.5%	32.3%	-8.9%	5.6%	-9.1%
BofA Auto Universe Average	nm	-12.7%	-8.1%	-4.1%	-0.4%	4.5%	-16.9%	-13.5%	-17.1%	-21.2%	\$117.76	\$70.40	-31.4%	21.5%	-14.5%	-2.0%	-14.7%
S&P 500 Auto Components Index	\$172.03	-8.6%	-14.3%	-20.2%	nm	nm	nm	-9.3%	-22.7%	-34.4%	\$257.49	\$158.95	-33.2%	8.2%	-11.1%	nm	-11.3%
S&P 500 Automobiles Index	\$87.45	-14.6%	-10.7%	48.0%	nm	nm	nm	-15.4%	-19.4%	21.6%	\$121.08	\$57.13	-27.8%	53.1%	-13.7%	nm	-13.9%
S&P 500	\$4,780.94	0.9%	10.8%	21.7%	nm	nm	nm	nm	nm	nm	\$4,802.40	\$3,808.86	-0.4%	25.5%	0.2%	nm	nm

Source: Bloomberg as of 1/18/2024

Notes: Supplier sector relatives are calculated using the S&P 500 Auto Components Index, OEM sector relatives and auto renters are calculated using the S&P 500 Automobiles Index, Market relatives are calculated using the S&P 500 Index.

Past performance should not and cannot be viewed as an indicator of future performance. The BofA performance data in this exhibit relates to BofA covered companies that have been aggregated into a BofA sector by us for purposes of this report. This performance data is not intended to be

representative of the larger market sectors or sub-sectors, which may include the companies not covered by BofA Global Research. The performance data for sector presented does not represent and is not intended to represent the performance of any BofA analyst's ratings over the relevant periods

BofA GLOBAL RESEARCH



Price objective basis & risk

Adient Plc (ADNT)

Our price objective of \$50 for ADNT is based on an EV/EBITDA multiple of roughly 6.0x on our FY2024 estimates, slightly above the historical average of roughly 5.5x as the company successfully completed debt refinancing and secured its capital structure, and continues to improve in performance with its turnaround efforts.

Downside risks: 1) inability to win sufficient and profitable new business, expand the backlog, and reaccelerate top line growth, 2) inability to complete restructuring programs or cost rationalization initiatives, 3) decline in new vehicle production, 4) inability to consistently execute financially, 5) raw material cost inflation, 6) inability to handle OEM price downs, 7) failure to maintain a lean cost structure, 8) new program/platform launch risk.

Upside risks: 1) ADNT successfully wins back business, expands its backlog and reaccelerates its top line growth, 2) better than expected operating leverage from continued growth in global auto production, 3) significant progress made on restructuring programs and cost rationalization actions, 4) material market share gains in China market, 5) wind-down of non-recurring items boosts ongoing cash flow power.

American Axle (AXL)

Our price objective of \$8 is based on an EV/EBITDA multiple of roughly 4x on our 2024 estimates, which is somewhat lower than the historical average of roughly 4.5x, but in range of recent trading ranges and reflective of the forthcoming US/NA and Global production volume recovery.

Upside risks: 1) Continued strength in large truck volume growth, 2) resolution of plant issues, 3) labor cost inflation doesn't materialize

Downside risks: 1) a slowdown in large truck volume growth, particularly at key customers, 2) failure to diversify its customer base, geographic, and product exposure, 3) expansion into new segments could significantly reduce operating margins, 4) continued sharp rise in raw material and labor costs, 5) loss of business at key customers, and 6) disruption at AXL's suppliers.

America's Car-Mart, Inc. (CRMT)

Our price objective of \$55 is based on a P/E multiple of approximately 15x on our FY2025 (CY2024) EPS estimates, which is about in line with an average through-cycle multiple. We believe this is appropriate given emerging macroeconomic headwinds to CRMT's business including tight inventory in the used vehicle market and weakening of lower-income consumers.

Upside risks: 1) economic conditions improve and income disparity narrows, providing an outsized benefit to CRMT's lower-income bracket consumers, 2) interest rates remain high, used vehicle prices decline and CRMT resumes its role as a lender of last resort as competitive pressures abate, 3) used vehicle supply improves, 4) greater cost containment and operating leverage than forecast, 5) credit metrics improve (collections, defaults, loss rate, etc.)

Downside risks: 1) stalled economic improvement, particularly in rural markets where CRMT is overexposed, 2) interest rates decline quickly and used vehicle values rise, keeping competitive pressure from dealers and lenders high, 3) Inflation remains elevated, 4) used vehicle supply remains restricted, 5) inability to cover fixed costs and achieve operating leverage, 6) deterioration of credit metrics (collections, defaults, loss rate, etc.) and 7) increasing scrutiny by state legislators and/or the CFPB.



Aptiv PLC (APTV)

Our PO of \$125 for APTV is based on an EV/EBITDA multiple of roughly 12x on our 2024 estimates. Our assumed valuation metrics are in line with the average historical trading multiple, but well above the traditional automotive suppliers, which trade in ranges of 3x to 6x. We believe a valuation premium to the group is warranted, as APTV is more of a pure-play electrification / autonomy / connectivity / mobility-centric company, unencumbered by factor risks from other non-future tech businesses/products. However, we see the stock trading in line with its historical average given the hurdles on the semiconductor supply front, which are not completely resolved yet.

Downside risks: 1) sustained volatility in international markets, 2) a longer than expected decline or flatline in US/global automotive volumes, 3) a continued rise in raw material costs and semiconductors disruptions, 4) loss of key customers or suppliers, 5) inability to win new business, 6) competitive pricing pressure.

Upside risks: 1) strength in global auto production volumes, particularly in North America, 2) increased business wins as a result of Safe, Green, Connected portfolio that continue to support growth above market, 3) shareholder-friendly actions, including accretive M&A and share repurchases, support earnings and the stock.

Asbury Auto (ABG)

Our price objective of \$350 is based on a P/E multiple of roughly 11x on our 2024 estimates, which is about in line with an average dealer through-cycle multiple. We believe this is appropriate in light of the ongoing recovery in the US/NA automotive cycle following the COVID-induced trough in 2020, which should translate into revenue and earnings growth across the dealer vertical over our forecast period.

Downside risks: 1) a swift and/or material downturn in US sales, 2) market share losses by the brands to which ABG is overexposed, 3) higher interest rate environment causes material demand deterioration and/or repossessions, 4) consumer dissatisfaction with auto retailing, and 5) the potential for franchise law and/or consumer finance law changes.

Upside risks: 1) US/North America cycle recovers and plateaus at a high level of sales, continues growing, or even declines less than expected, 2) ABG is able to gain back and/or maintain some gross profit per unit in its new and used vehicles businesses, 3) used vehicle focus dries demand, top line and earnings growth beyond the peak in new vehicle sales, and 4) interest rates decline quicker than expected, stimulating demand in 2H23.

AutoNation, Inc. (AN)

Our price objective of \$255 is based on a P/E multiple of roughly 11x on our 2024 estimates, which is about in-line with an average dealer through-cycle multiple. We believe this is appropriate in light of the ongoing recovery in the US/NA automotive cycle following the COVID-induced trough in 2020, which should translate into revenue and earnings growth across the dealer vertical over our forecast period.

Downside risks: 1) a swift and/or material downturn in US sales, 2) poorer-than-expected cost performance and margin compression, 3) a stoppage in share repurchase activity or material sell-off by key shareholders, 4) higher interest rate environment causes material demand deterioration and/or repossessions 5) consumer dissatisfaction with auto retailing, and 6) the potential for franchise law and/or consumer finance law changes.

Upside risks: 1) US/NA cycle recovers and plateaus at a high level of sales, continues growing, or even declines less than expected, 2) AN is able to gain or even just maintain gross profit per unit in its new and used vehicles businesses, 3) standalone used vehicle stores capture some demand and drives top line and earnings growth beyond the peak in

new vehicle sales, and 4) interest rates decline quicker than expected, stimulating demand in 2H23.

BorgWarner (BWA)

Our price objective of \$52 is based on an EV/EBITDA multiple of roughly 7.0x on our 2024 estimates, which we believe reflects the higher growth trajectory on which the company positioned itself after the spin-off of the Fuel Systems and Aftermarket segments in July 2023.

Downside risks: 1) relaxed fuel-efficiency regulations, 2) increased competition in the turbocharger industry, 3) a longer than expected decline or flatline in US/global automotive volumes, 4) a continued rise in raw material costs, 5) slower electric vehicle adoption.

Upside risks: 1) strength in global auto production volumes, particularly in North America, 2) faster adoption of electric and hybrid vehicles, 3) BWA regains lost investor confidence through continued execution and performance.

CarMax, Inc. (KMX)

Our price objective of \$44 is based on a P/E multiple of roughly 12x on our FY2025 (CY2024) estimates, which is the lower end of the average P/E multiple historical range, which we view as appropriate as it reflects challenges presented by the short supply of used vehicles.

Upside risks: 1) used vehicle pricing remains range bound as supply increases and KMX effectively manages its inventory to drive total profits, 2) reversal in the trend of consumers opting for new vehicles rather than late-model used, 3) greater than anticipated store growth, 4) increase in customer interaction/footprint through online presence.

Downside risks: 1) extreme fluctuations in used vehicle pricing, which would have a big impact on sentiment towards the stock, 2) an extensive trend of customers opting for new vehicles rather than late-model used, 3) deterioration in credit availability and decline in the ABS market, 4) disruption from newer tech-oriented entrants, 5) potential demand destruction stemming from macro pressures.

Ferrari (RACE / XJHKF)

Our \$456 PO for RACE US (EUR416 for RACE IM) is based on an adj. EV/EBITDA multiple of roughly 31x on our 2024 estimates, which is a slight premium to RACE's current trading level due to ongoing volume, sales, and earnings growth. This valuation is also supported by a DCF analysis. The multiples used for our valuation framework are a premium to the current trading range of a number of luxury companies we classify as RACE's peer group, but warranted, in our view, given RACE's outsized growth opportunity and stability.

Downside risks: 1) devaluation of the brand due to overproduction or licensing expansion, 2) a decline in the wealth/size of the HNWI community, 3) degradation in perceived vehicle quality or performance, 4) impairment of its Formula 1 reputation or perceived racing pedigree, 5) F-1 losses persist or accelerate, 6) deterioration in adjacent businesses, 7) intensifying competition in the luxury vehicle market, 8) dependence on certain large volume suppliers, 9) significant rise in raw material costs, 10) significant voting power and control attributable to Piero Ferrari & Exor S.p.A.

Upside risks: 1) modest volume expansion, 2) an upward bias on pricing, 3) growth in adjacent businesses, 4) gradual brand and licensing extension, 5) moderation or rationalization of F-1 losses, 6) execution & cost efficiency realization, and 7) management commitment to preserving the exclusive luxury culture.



Ford Motor (F)

Our price objective of \$19 is based on an EV/EBITDAP multiple (EV/EBITDA adjusted for pension) of roughly 4x on our 2024 estimates. This valuation methodology reflects a multiple within Ford's historical range (3-6x). We believe a multiple at this level is warranted considering the timing of the cycle and as the company is on the verge of executing something analogous to our Core to Future transition framework, by which it will strengthen its core business pillars to fund its future business.

Downside risks: 1) a more swift and/or material downturn in US auto sales, 2) a sharp and sustained rise in input costs, 3) disruption in the supply base, 4) significant increase in gas prices, 5) new vehicle pricing deteriorates, 6) market share losses pressure results, 7) unwillingness of dealers to shoulder inventory risk, 8) suppliers gain significant pricing power, 9) stress in capital markets makes borrowing more expensive, 10) Incremental execution risk as management ramps up.

Upside risks: 1) continued strength in US auto cycle, 2) growth in China remains robust, which Ford is able to leverage with product launches, 3) mix and pricing remain favorable, 4) capital allocation is directed towards shareholder returns (special dividend, etc.).

General Motors Company (GM)

Our price objective of \$75 is based on an EV/EBITDAP multiple (EV/EBITDA adjusted for pension) of roughly 4x on our 2024 estimates. This valuation methodology reflects a multiple within GM's historical range (3-6x). We believe a multiple at this level is warranted considering the timing of the cycle and as GM's Core business is being well managed even amidst a choppy macro, while the accelerating focus on Future-proofing the business with the development of the necessary components of the future of mobility services, including an autonomous electric vehicle fleet (Cruise Anywhere) and connectivity (OnStar), may provide upside.

Downside risks: 1) a more swift and/or material downturn in US auto sales, 2) a sharp and sustained rise in input costs, 3) disruption in the supply base, 4) significant increase in gas prices, 5) new vehicle pricing deteriorates, 6) market share losses pressure results, 7) unwillingness of dealers to shoulder inventory risk, 8) suppliers gain significant pricing power, 9) stress in capital markets makes borrowing more expensive, 10) key members of management leave.

Upside risks: 1) continued strength in US auto cycle, 2) growth in China remains robust, which benefits GM through its established market position, 3) mix and pricing remain favorable, 4) capital allocation is directed towards shareholder returns (share repurchases, etc.).

Gentex (GNTX)

Our \$34 price objective on GNTX shares is based on an EV/EBITDA multiple of roughly 10x on our 2024 estimates, which reflects a well above average supplier multiple, and in line with the company's historical trading range. However, we believe a lower multiple could be applied given longer-term structural headwinds for its core products unless new product lines are added to the portfolio.

Upside risks: 1) new program wins that drive higher-than-expected shipment growth, 2) a successful launch of new technology that allows the company to avoid losing market share and re-accelerate growth, 3) stronger-than-expected positive operating leverage, and 4) any regaining of pricing power with the automakers.

Downside risks: 1) a further slowdown in global auto shipments, 2) softer-than-expected operating leverage, 3) a continued rise in raw materials costs, and 4) increased

competition from other suppliers 5) risk of management pursuing large and potentially dilutive M&A.

Group 1 Auto (GPI)

Our price objective of \$455 is based on a P/E multiple of roughly 11x on our 2024 estimates, which is about in-line with an average dealer through-cycle multiple. We believe this is appropriate in light of the ongoing recovery in the US/NA automotive cycle following the COVID-induced trough in 2020, which should translate into revenue and earnings growth across the dealer vertical over our forecast period.

Downside risks: 1) weaker demand than expected in the US, and/or UK, 2) the loss of key management, 3) the possibility that GPI is unable to achieve the operating leverage we forecast, 4) higher interest rate environment causes material demand deterioration and/or repossessions, 5) consumer dissatisfaction with auto retailing, and 6) the potential for franchise law and/or consumer finance law changes.

Upside risks: 1) US/NA cycle recovers and plateaus at a high level of sales, continues growing, or even declines less than expected, 2) GPI is able to gain back some gross profit per unit in its new and used vehicles businesses, 3) growth in international markets helps to offset weakness in the US market, and 4) interest rates decline quicker than expected, stimulating demand in 2H23.

Lear Corp. (LEA)

Our \$220 price objective on LEA shares is based on an EV/EBITDA multiple of roughly 7.0x on our 2024 estimates. This multiple is a slight premium to the company's historical average since we believe adjustment to a lower volume environment and the company's vertical integration will bolster already strong cash flow that is being returned to shareholders through dividends and growing share buybacks.

Downside risks: 1) a slower or further decline in US/global automotive volume growth, 2) disruption from the re-emergence in the Seating market of LEA's largest competitor (ADNT), 3) increased pricing pressure from OEM customers, 4) loss of business at key customers, 5) fierce competition in the automotive supply base, 6) a new rise in raw material costs, 7) execution risk of restructuring, operations, and acquisitions.

Upside risks: 1) faster recovery than expected in global auto production volumes, 2) continued execution and progress on margin expansion, 3) shareholder-friendly actions including accretive M&A and share repurchases support earnings and the stock.

Lithia Motors A (LAD)

Our price objective of \$440 is based on a P/E multiple of roughly 11x on our 2024 estimates, which is a slight premium to an average dealer through-cycle multiple. We believe this is appropriate in light of the company's track record of strong earnings and recent strong execution of M&A growth actions.

Downside risks: 1) a swift and/or material downturn in US sales, 2) slower improvement in operating leverage than forecast, 3) substantial market share loss by domestic brands, to which LAD is exposed, 4) higher interest rate environment causes material demand deterioration and/or repossessions, 5) consumer dissatisfaction with auto retailing, and 6) the potential for franchise law and/or consumer finance law changes.

Upside risks: 1) acquisition activity above current forecasts, 2) continued recovery in US auto sales beyond current estimates, 2) LAD is able to gain back/maintain some gross profit per unit in its new and used vehicles businesses, and 3) interest rates decline quicker than expected, stimulating demand in 2H23.

Lucid Group (LCID)



Our price objective of \$7 is based on 6x EV/Sales on our 2025 estimates, which implies roughly 0.5x EV/Sales and 3x EV/EBITDA on pro-forma capital-induced 2030 estimates. Our valuation framework for LCID is relatively consistent with TSLA and includes the following steps: 1) What the current stock price affords to LCID in incremental plants/units. 2) What the incremental units translates into in incremental revenue/profits. 3) What the incremental revenue/profits translates into in terms of multiples on theoretical pro-forma 2030 metrics.

Downside risks: 1) inability to continue to raise low cost capital to fund business ventures, 2) inability to convert refundable reservations into contracted orders, unit sales, and revenue, 3) greenfield/clean-sheet approach to EV manufacturing introduces risk of successful execution, 4) direct-to-consumer sales and service model may create challenges for business to scale, 5) inability to reach sustainable positive EBITDA/FCF.

Upside risks: 1) significant and better than expected customer traction for introduced/unveiled products, 2) successful execution of go-to-market strategy via direct-to-consumer sales and service model, 3) better than expected progress on start and ramp of production with clean-sheet manufacturing approach, 4) breakthrough in advanced battery technology to drive ICE/EV parity, 5) incremental government/regulatory support/stimulus for EV market.

Luminar Technologies (LAZR)

Our PO of \$4 is based on an EV/Sales multiple of 5.5x on our 2025 estimates. This is above the average EV/Sales multiple of 4.0x for the Auto/Tech companies we include in LAZR's peer group. We believe the premium to peers is warranted given LAZR significantly stronger growth profile. Recall, LAZR is at a more nascent stage than the peer group.

Upside risks: 1) Continued strong execution on securing series production contracts, 2) Progress on Level 2+ autonomous driving and market penetration may be faster than projected, 3) Technological breakthrough on Level 4+ autonomous capabilities and systems, 4) Market consolidation eases competitive pressures and leaves more room expansion, 5) Better than expected cost reduction and quicker scaling of operation, 5) Prices hold up better-than expected.

Downside risks: 1) Slower pace of securing series production contracts, 2) Progress on Level 2+ autonomous driving and market penetration may be slower than projected, 3) Pushout of Level 4+ autonomous capabilities and systems, 4) Necessity for LIDAR at varying levels of autonomy could change as new technology is developed, and preferences may shift to alternative sensors, 5) Inability to establish or maintain technological leadership over competition, 6) Inability to drive down cost effectively to preserve margins as ASPs decline with volume, 7) Macro/market volatility could impact customer demand and launch schedules, 8) LAZR may need to raise additional capital.

Magna Intl (MGA / YMG)

Our \$77 price objective on MGA US (CAD105.49 for MG CN) is based on an EV/EBITDA multiple of roughly 6x on our 2024 estimates, above the historical average of roughly 5.0x, which we believe reflects MGA's superior long-term positioning, and expertise of the complete vehicle/components that provides the company with a competitive advantage amid the ongoing industry evolution and technological advancement (Big Bang).

Downside risks: 1) a flatline or decline in the US SAAR and NA production volumes for longer than expected, 2) inability to deliver on projected growth targets in emerging markets, 3) stress at key customers, most notably the Detroit Three.

Upside risks: 1) strength in global auto production volumes, particularly in North

America, 2) expansion into China market, 3) continued execution and progress on restructuring programs and margin expansion, 4) shareholder-friendly actions including accretive M&A and share repurchases support earnings and the stock.

Mobileye (MBLY)

Our PO of \$22 is based on 5.5x EV/Sales on 2025E, which is below the average of its four closest peers (NVDA, QCOM, LAZR, AMBA) and lower than the range of the two Tier 2+ ADAS/AV hardware companies in the comp set. This reflects our slower growth outlook, specifically following the company's initial guidance for 2024.

Downside risks: 1) Market penetration of Level 2+ ADAS may take longer than expected and pathway/timing of Level 4+ autonomous vehicle (AV) capabilities is unclear, 2) inability to maintain technological leadership over competition, 3) standardization of ADAS/AV technology could make it challenging to maintain gross and operating margins, 4) macro/market volatility could impact demand and product launches, 5) export control limitations of key semiconductor technology and restriction of US citizens/greencard holders from working in certain Chinese entities, 6) lack of liquidity in the stock and/or future stock sales.

Upside risks: 1) Mega-trend towards ADAS & autonomy, 2) timing and go-to-market strategy of MBLY's Level 4+ offerings could exceed expectations, 3) MBLY may be more successful in winning new customers/contracts, 4) barriers to entry could prove more formidable, 5) industry consolidation in ADAS/AV, 6) better operating performance and/or changes to strategy.

OPENLANE (KAR)

Our price objective of \$16 is based on an adjusted EV/EBITDA multiple of roughly 8x on our 2024 estimates. Although KAR's longer-term historical average EV/EBITDA multiple range is somewhat illustrative, it is not directly applicable because of significant changes in the company since it was last public. We believe recent management changeover will catalyze a broader turnaround effort and result in more sustainable improved operating performance. However, the lack of wholesale vehicle supply in the short term may usurp management's best efforts.

Upside risks: 1) supply of wholesale vehicles bounces back faster than currently expected, 2) execution of a large, transformational acquisition, 3) development of relationships with new suppliers and customers.

Downside risks: 1) supply of new vehicles does not recover or further declines 2) failure to maintain relationships with key customers, 3) failure to maintain key managers.

Penske Auto Group (PAG)

Our price objective of \$200 is based on a P/E multiple of roughly 12x on our 2024 estimates, which is about in line with an average dealer through-cycle multiple. We believe this is appropriate in light of the ongoing recovery in the US/NA automotive cycle following the COVID-induced trough in 2020, which should translate into revenue and earnings growth across the dealer vertical over our forecast period.

Downside risks: 1) the loss of Roger Penske's leadership, 2) a swift and/or material downturn in US sales, 3) slower recovery in Europe sales, 4) higher interest rate environment causes material demand deterioration and/or repossessions 5) unfavorable foreign exchange rates, 6) consumer dissatisfaction with auto retailing, and 7) the potential for franchise law and/or consumer finance law changes.

Upside risks: 1) acquisition activity above current forecasts, 2) continued recovery in US auto sales beyond current estimates, 3) significant improvement in cost leverage beyond



our estimates. 4) interest rates decline quicker than expected, stimulating demand in 2H23.

Rivian Automotive (RIVN)

Our price objective of \$40, based on 3x EV/Sales on our 2025 estimates, implying 0.5x EV/Sales and 3x EV/EBITDA on pro-forma capital-induced 2030 estimates. Our valuation framework for RIVN is relatively consistent with its peer and includes the following steps: 1) What the current stock price affords to RIVN in incremental plants/units. 2) What the incremental units translates into in incremental revenue/profits. 3) What the incremental revenue/profits translates into in terms of multiples on theoretical pro-forma 2030 metrics.

Downside risks: 1) inability to continue to raise low cost capital to fund business ventures, 2) inability to convert pre-orders and orders into unit sales, revenue, and eventually earnings, 3) termination of or amendment to sales and service agreement with anchor customer, 4) direct-to-consumer sales and service model may create challenges for business to scale, 5) inability to reach sustainable positive EBITDA/FCF with investment across numerous business areas.

Upside risks: 1) significant and better than expected customer traction for introduced/unveiled products, 2) successful execution of go-to-market strategy via direct-to-consumer sales and service model, 3) better than expected progress ramp of production and successful build-out of incremental capacity, 4) breakthrough in advanced battery technology to drive ICE/EV parity, 5) incremental government/regulatory support/stimulus for EV market.

Sonic Automotive (SAH)

Our price objective of \$60 is based on a P/E multiple of roughly 9x on our 2024 estimates, which is just below an average dealer through-cycle multiple. We believe this is appropriate in light of the somewhat stalled recovery in the US/NA automotive cycle following the COVID-induced trough in 2020, as well as SAH's over exposure to the Used market via its standalone EchoPark stores.

Upside risks are 1) prolonged upside in the US cycle beyond our forecasts, 2) material accretive M&A activity, 3) market share gains as a result of successful initiatives. 4) interest rates decline quicker than expected, stimulating demand in 2H23.

Downside risks are 1) a swift and/or material downturn in US sales, 2) higher interest rate environment causes material demand deterioration and/or reposessions, 3) consumer dissatisfaction with auto retailing, and 4) the potential for franchise law and/or consumer finance law changes.

Tesla Motors (TSLA)

Our price objective of \$290 is based on 8.5x EV/Sales and 48x EV/EBITDA on our 2024 estimates, which implies roughly 3x EV/Sales and 22x EV/EBITDA on pro-forma capital-induced 2025 estimates. Our valuation framework for TSLA includes the following steps: 1) What the current stock price affords to TSLA in incremental plants/units. 2) What the incremental units translates into in incremental revenue/profits. 3) What the incremental revenue/profits translates into in terms of multiples on theoretical pro-forma 2025 metrics.

Downside risks: 1) inability to continue raising low-cost capital to fund business ventures, 2) inability to generate positive earnings/FCF, 3) slower ramp in electric vehicle demand, 4) setbacks or lack of advancements in battery technology, 5) fierce competition from incumbent OEMs, 6) inability to execute efficiently with higher volume, 7) low gasoline prices, and 8) loss of management.

Upside risks: 1) better execution and cost containment, 2) a sharp/sustained rise in gasoline prices, 3) a breakthrough in advanced battery technology, 4) increase in federal or state incentives, 5) short covering.

Visteon (VC)

Our PO of \$180 is based on an EV/EBITDA multiple of 10x on our 2024 estimates, which is consistent with a P/E multiple of roughly 20x. This is slightly above the mid-point of where the stock has traded (6-12x) since 2016, excluding the Covid-19 period. Our assumed multiple is a premium to the current trading multiple of 7x for the suppliers in our coverage and our average assumed multiple of 8x underlying our POs, given VC's growth-over-market is above most suppliers and in consideration of its exposure to key mega-trends.

Downside risks: 1) Competition is intense and likely to heat up further as suppliers aggressively position their product portfolio to benefit from high growth markets, 2) Inability to maintain a technological edge amidst the rapidly evolving auto sector, 3) Inability to win new business across its product lines, or gain higher content per vehicle on new business wins, 4) Inability to drive growth-over-market and margin expansion as expected, 5) UAW strike poses a near-term risk to volumes and earnings.

Upside risks: 1) Stronger than expected recovery in automotive sales/production, 2) Higher-than-expected content per vehicle across newer product areas, 3) Market share gains with new product launches, 4) Successfully achieve 2026 growth and margin targets, 5) Shareholder-friendly actions like M&A and share repurchases.

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US - Automotives Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	Adient Plc	ADNT	ADNT US	John Murphy, CFA
	Aptiv PLC	APTV	APTV US	John Murphy, CFA
	Asbury Auto	ABG	ABG US	John Murphy, CFA
	AutoNation, Inc.	AN	AN US	John Murphy, CFA
	BorgWarner	BWA	BWA US	John Murphy, CFA
	Ferrari	RACE	RACE US	John Murphy, CFA
	Ferrari NV	XJHKF	RACE IM	John Murphy, CFA
	Ford Motor	F	F US	John Murphy, CFA
	General Motors Company	GM	GM US	John Murphy, CFA
	Group 1 Auto	GPI	GPI US	John Murphy, CFA
	Lear Corp.	LEA	LEA US	John Murphy, CFA
	Lithia Motors A	LAD	LAD US	John Murphy, CFA
	Magna Intl	MGA	MGA US	John Murphy, CFA
	Magna Intl	YMG	MG CN	John Murphy, CFA
	Penske Auto Group	PAG	PAG US	John Murphy, CFA
	Rivian Automotive	RIVN	RIVN US	John Murphy, CFA



US - Automotives Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
	Visteon	VC	VC US	John P. Babcock
NEUTRAL				
	Gentex	GNTX	GNTX US	John Murphy, CFA
	Lucid Group	LCID	LCID US	John Murphy, CFA
	Luminar Technologies	LAZR	LAZR US	John P. Babcock
	Tesla Motors	TSLA	TSLA US	John Murphy, CFA
UNDERPERFORM				
	American Axle	AXL	AXL US	John Murphy, CFA
	America's Car-Mart, Inc.	CRMT	CRMT US	John Murphy, CFA
	CarMax, Inc.	KMX	KMX US	John Murphy, CFA
	Mobileye	MBLY	MBLY US	John Murphy, CFA
	OPENLANE	KAR	KAR US	John Murphy, CFA
	Sonic Automotive	SAH	SAH US	John Murphy, CFA
RVW				
	Fisker	FSR	FSR US	John P. Babcock

Disclosures

Important Disclosures

Equity Investment Rating Distribution: Autos Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	67	55.83%	Buy	39	58.21%
Hold	30	25.00%	Hold	15	50.00%
Sell	23	19.17%	Sell	12	52.17%

Equity Investment Rating Distribution: Distributors Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	5	71.43%	Buy	2	40.00%
Hold	0	0.00%	Hold	0	0.00%
Sell	2	28.57%	Sell	1	50.00%

Equity Investment Rating Distribution: Global Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	1895	53.62%	Buy	1083	57.15%
Hold	832	23.54%	Hold	454	54.57%
Sell	807	22.84%	Sell	383	47.46%

^{R1} Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster ^{R2}
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

^{R2} Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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