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Autos & Shared Mobility | North America

Global Auto Monitor: UAW a Side Show to Bigger Forces at Work

US auto shares have weakened on UAW strike concerns (high probability) but softer used prices, softer China and EV frustration represent bigger challenges.

What Others Are Reading - Our Most Read Reports

[NORTH AMERICA] **CVNA: Raises Guidance and Outlines Structural GPU Benefits... A New Equity Story? (Aug 10)** CVNA raised 3Q guide and detailed GPU gains. While there is room to be incrementally more positive, CVNA still has a lot to prove, in our view. We know the path forward, but can it sustain its progress? Updating our model to guide increases PT to \$37 vs. \$35 previously, reit UW.

[NORTH AMERICA] **Post 2Q Dealer Compendium: Stronger for Longer... But Risk-Reward Keeps Us UW the Group (Aug 08)** Post-2Q, we raise near-term estimates but reit. our UW rating across the 6 dealers. While we acknowledge the soft economic landing has sustained price/mix better than expected, the 40/50%-type rally across the group has expanded multiples, leaving downside to our raised price targets.

[NORTH AMERICA] **Post 2Q Supplier Compendium: The Quarter Was Stronger, But How Much Longer? (Aug 08)** US supplier results largely beat expectations enough to raise forward guidance driven by improving production schedules, reduced supply chain snafus and sustained strong mix. China's new phase of EV dominance over legacy players will challenge the secular content growth story.

[JAPAN] **3 Japanese OEMs' China Sales Volumes (Jul 2023): Steeper YoY Decline, Inventory Correction Concerns Linger (Aug 07)**

[INDIA] **MSIL Board Approves Issuance Of Equity For SMG Acquisition (Aug 08)**

[CHINA] **Nexteer: Project gain, margin pain (Aug 11)** We cut 2023/24 earnings forecasts – persistent margin pressure offsets the revenue resurgence driven by Chinese EV projects and US restocking. Despite likely more stock volatility into the 2Q print, risk-reward looks attractive with a strong 2H project pipeline. Stay OW.

[CHINA] **China EVs - A busy summer (Aug 07)** Investors we talked to are turning marginally more cautious on EV names after the recent rally as near-term sales momentum looks fairly priced in; that said, most are still keeping a close eye on the sector as it seems like an eventful summer for the NEV ecosystem with the industry narrative constantly changing.

[CHINA] **Dealers: Our Thoughts on Recent Share Price Declines (Aug 08)**

[CHINA] **US Marketing Feedback – EV Optimism vs. China Pessimism (Aug**

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08) While US investors stay highly focused on the latest developments in China EV, skepticism of China's stimulus pledge and concerns over geopolitical tensions keep them cautious on China exposure. Discussions focused on policy, competition, and Tesla/Chinese brands snapping at global brands' heels.

Global picks: RACE, Michelin, Zhongsheng, Denso, Mando, and MSIL are our preferred stocks from each major region.

Our global industry views: Our view on India auto is Attractive. We have In-Line views on the North America, Europe, China, Japan, and South Korea industries.

Exhibit 1: What Changed This Past Week?

Company	Rating	Price Target
CVNA	UW	USD 35.00 → USD 37.00
AN	UW	USD 105.00 → USD 117.00
PAG	UW	USD 88.00 → USD 107.00
ABG	UW	USD 128.00 → USD 165.00
GPI	UW	USD 134.00 → USD 200.00
LAD	UW	USD 198.00 → USD 220.00
ADNT	UW	USD 35.00 → USD 38.00
BWA	OW	USD 50.00 → USD 47.00
Nexteer Automotive	OW	HKD 8.40 → HKD 7.50

Source: Morgan Stanley Research estimates

Global Auto Sales Summary

Exhibit2: Global Auto Sales Summary

Country	LIGHT VEHICLE SALES FORECASTS								GROWTH %								CAGR '22-'25E
	2018	2019	2020	2021	2022	2023e	2024e	2025e	2018	2019	2020	2021	2022	2023e	2024e	2025e	
Asia																	
China	23.7	21.4	20.1	21.5	23.7	23.6	22.9	23.4	-4.2%	-9.5%	-6.1%	6.6%	10.2%	0.0%	-3.2%	2.2%	-0.4%
Japan	5.2	5.1	4.5	4.3	4.9	4.9	5.0	5.2	1.0%	-1.5%	-12.7%	-3.1%	13.7%	0.2%	0.8%	5.0%	2.0%
South Korea	1.6	1.5	1.6	1.4	1.4	1.4	1.5	1.5	5.0%	-2.0%	4.4%	-10.4%	-4.5%	5.0%	2.0%	2.0%	3.0%
India	3.4	3.0	2.4	3.1	3.8	4.2	4.5	4.9	5.1%	-12.7%	-17.9%	26.7%	23.0%	9.6%	7.9%	10.0%	9.2%
Indonesia	1.1	0.9	0.5	0.8	0.9	0.9	0.9	0.9	4.9%	-9.8%	-47.8%	65.9%	6.2%	2.3%	1.7%	1.7%	1.9%
Australia	1.1	1.0	0.9	1.0	1.1	1.0	1.0	1.1	-3.2%	-7.7%	-13.9%	15.7%	3.8%	-8.5%	4.1%	2.3%	-0.9%
Thailand	1.0	1.0	0.8	0.7	0.8	0.8	0.9	0.9	19.9%	-3.1%	-21.3%	-5.3%	11.8%	2.5%	3.4%	1.8%	2.6%
Rest of Asia	2.5	2.7	2.2	1.5	1.7	1.8	1.8	1.9	14.1%	7.9%	-19.4%	-29.5%	12.5%	3.9%	0.4%	5.1%	3.1%
Total Asia	39.6	36.8	33.0	34.5	38.3	38.7	38.4	39.8	-0.7%	-7.1%	-10.2%	4.4%	11.0%	1.2%	-0.7%	3.6%	1%
North America																	
US	17.3	17.1	14.6	15.1	14.3	15.0	16.0	16.2	-0.2%	-1.3%	-14.5%	3.4%	-5.1%	4.9%	6.7%	1.0%	4.2%
Canada	2.0	1.9	1.6	1.7	1.7	1.7	1.8	1.8	-2.2%	-3.2%	-18.8%	6.4%	2.6%	-0.7%	5.1%	4.1%	2.8%
Mexico	1.4	1.3	0.9	1.0	1.1	1.1	1.1	1.2	-7.3%	-7.2%	-28.1%	6.4%	8.0%	-0.8%	4.7%	3.0%	2.2%
Total NAFTA	20.7	20.3	17.1	17.7	17.1	17.8	18.9	19.2	-0.9%	-1.9%	-15.8%	3.9%	-3.7%	4.0%	6.4%	1.4%	3.9%
South America																	
Brazil	2.5	2.7	2.0	2.0	2.0	2.2	2.2	2.3	13.7%	7.7%	-26.7%	0.9%	0.0%	10.0%	3.0%	3.0%	5.3%
Argentina	0.6	0.4	0.3	0.4	0.4	0.4	0.4	0.4	-17.4%	-27.1%	-27.2%	9.4%	0.0%	5.0%	5.0%	0.0%	3.3%
Rest of South America	1.2	1.0	0.7	1.1	1.1	1.1	1.1	1.2	10.2%	-18.4%	-30.9%	53.2%	5.0%	0.0%	3.0%	3.0%	2.0%
Total South America	4.3	4.1	3.0	3.4	3.4	3.7	3.8	3.9	7.0%	-4.7%	-27.8%	14.0%	1.6%	6.3%	3.2%	2.7%	4.0%
Eastern Europe																	
Russia	1.9	1.9	1.6	1.7	0.6	0.6	0.7	0.8	12.4%	-3.7%	-12.5%	4.7%	-66.3%	-2.4%	19.4%	18.3%	11.3%
Turkey	0.8	0.6	0.9	0.7	0.9	0.9	0.9	0.9	-20.5%	-24.4%	63.4%	-21.3%	21.6%	0.0%	0.0%	0.0%	0.0%
Romania	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.2	5.4%	38.4%	-21.9%	-2.9%	0.6%	6.5%	5.8%	3.0%	5.1%
Poland	0.6	0.7	0.5	0.5	0.5	0.5	0.5	0.7	3.3%	10.9%	-22.1%	5.9%	-11.2%	5.0%	5.3%	25.5%	11.5%
Other E Europe	0.6	0.7	0.6	1.0	0.7	0.7	0.7	0.8	-4.0%	13.2%	-21.3%	67.4%	-29.1%	5.5%	4.6%	3.1%	4.4%
Total E. Europe	4.1	4.0	3.8	4.1	2.8	2.8	3.0	3.3	0.4%	-1.4%	-5.2%	7.6%	-32.1%	2.1%	6.3%	9.5%	5.9%
Western Europe																	
France	2.5	2.7	2.0	2.1	1.9	2.0	2.2	2.3	1.1%	4.8%	-23.9%	1.0%	-8.6%	7.8%	7.9%	4.3%	6.6%
Germany	4.0	4.2	3.4	3.1	2.9	3.2	3.3	3.4	1.1%	4.6%	-17.8%	-10.0%	-5.5%	8.9%	4.1%	4.2%	5.7%
Italy	2.2	2.1	1.5	1.6	1.4	1.6	1.7	1.7	-0.2%	-2.4%	-27.3%	6.0%	-11.8%	8.6%	5.9%	4.0%	6.1%
Spain	1.5	1.5	1.0	1.0	0.9	1.0	1.1	1.2	2.3%	0.5%	-31.5%	0.1%	-6.6%	10.0%	6.9%	5.1%	7.3%
UK	2.9	2.7	1.9	2.0	1.9	2.0	2.1	2.2	-0.5%	-6.9%	-28.2%	3.7%	-7.0%	4.3%	5.7%	6.5%	5.5%
Other	3.6	3.6	2.8	2.9	2.6	3.0	3.1	3.2	0.8%	-0.9%	-20.5%	0.9%	-7.5%	12.3%	5.8%	2.5%	6.8%
Total W. Europe	16.7	16.7	12.8	12.7	11.7	12.7	13.5	14.0	0.7%	0.2%	-23.5%	-1.0%	-7.6%	8.8%	5.8%	4.2%	6.3%
Total Europe (incl Russia & Turkey)	20.7	20.7	16.6	16.7	14.5	15.6	16.5	17.3	0.6%	-0.1%	-19.9%	1.0%	-13.6%	7.5%	5.9%	5.2%	6.2%
Rest of World	4.8	4.5	4.1	4.3	4.3	4.3	4.3	4.4	-0.1%	-6.5%	-9.3%	5.0%	0.0%	0.0%	0.0%	1.6%	0.5%
RoW (vs US specific countries)	18.0	17.3	13.7	14.7	15.0	15.3	15.7	16.2									
Global PC Total	81.7	78.1	66.9	69.0	69.9	72.1	73.8	76.4	-0.7%	-4.5%	-14.3%	3.2%	1.3%	3.1%	2.3%	3.5%	3.0%
Global LCV Total	8.1	8.0	6.6	7.8	7.6	7.9	8.2	8.3	3.5%	-1.3%	-17.4%	18.5%	-2.7%	4.1%	3.7%	1.5%	3.1%
Global LV Total	89.8	86.1	73.5	76.8	77.6	80.0	82.0	84.7	-0.4%	-4.2%	-14.6%	4.6%	0.9%	3.2%	2.4%	3.3%	3.0%
ICE sales	88.4	84.4	71.2	71.5	69.6	70.3	69.6	69.6	-1.0%	-4.5%	-15.6%	0.4%	-2.7%	1.1%	-1.0%	0.0%	0.0%
EV sales	1.4	1.6	2.3	5.4	8.0	9.7	12.3	15.1	72.0%	17.2%	37.6%	136.5%	49.1%	21.2%	27.4%	22.2%	23.6%

Source: Morgan Stanley Research estimates, IHS Autolinsight

Global Auto Stock Rankings

Exhibit 3: North America Coverage Rankings

North America			2023e EPS		
			MS	Cons	
1	Ferrari	OW	€ 6.40	€ 7.07	(9.4%)
2	Harley-Davidson	OW	4.59	4.61	(0.5%)
3	Ford Motor	OW	2.12	2.06	2.7%
4	General Motors	OW	7.78	7.68	1.3%
5	American Axle	OW	0.47	0.37	24.9%
6	Magna International	OW	5.40	5.28	2.3%
7	BorgWarner Inc.	OW	3.81	3.89	(2.2%)
8	Avis Budget	OW	37.57	36.94	1.7%
9	FREYR Battery	OW	-1.52	-1.12	NM
10	CarMax	OW	3.03	3.02	0.4%
11	Rivian	OW	-5.65	-5.19	NM
12	Tesla	EW	3.26	3.44	(5.2%)
13	Hertz	EW	1.93	2.38	(18.6%)
14	Lear	EW	11.77	11.81	(0.4%)
15	Visteon	EW	6.14	6.74	(9.0%)
16	APTIV	EW	4.78	4.69	2.0%
17	Mobileye Global	EW	0.70	0.71	(1.4%)
18	Carvana	UW	-3.79	-3.71	NM
19	Adient	UW	2.17	2.18	(0.4%)
20	AutoNation	UW	22.76	22.87	(0.5%)
21	Penske Automotive Group	UW	16.79	16.55	1.5%
22	Group 1 Automotive	UW	46.08	44.25	4.1%
23	Lithia Motors	UW	36.92	38.26	(3.5%)
24	Asbury Automotive	UW	33.94	33.50	1.3%
25	Sonic Automotive	UW	6.62	6.67	(0.7%)
26	Lucid	UW	-1.21	-1.40	NM
27	Li-Cycle	UW	-1.01	-0.78	NM
28	QuantumScape	UW	-0.89	-0.82	NM
29	Fisker	UW	-0.96	-0.79	NM

Source: Refinitiv, Morgan Stanley Research estimates

Exhibit 5: Europe Coverage Rankings

Europe			2023e EPS		
			MS	Cons	
1	Michelin	OW	3.15	3.14	0.4%
2	Daimler Truck Holding	OW	4.45	4.45	0.1%
3	Pirelli	OW	0.56	0.50	11.2%
4	Aramis Autos	EW	-0.25	-0.35	NM
5	Volkswagen	EW	31.93	32.03	(0.3%)
6	Mercedes-Benz	EW	13.38	13.06	2.5%
7	Autoliv	EW	6.93	6.71	3.3%
8	BMW	EW	17.14	17.39	(1.4%)
9	Volvo	EW	21.46	25.26	(15.0%)

Source: Refinitiv, Morgan Stanley Research estimates

Exhibit 4: Japan Coverage Rankings

Japan			2023e EPS		
			MS	Cons	
1	Denso	OW	613.07	697.39	(12.1%)
2	NHK Spring	OW	109.93	136.57	(19.5%)
3	NOK	OW	140.52	174.34	(19.4%)
4	Mitsubishi Motors	OW	85.72	90.62	(5.4%)
5	Musashi Seimitsu	OW	136.22	204.94	(33.5%)
6	Suzuki Motor	OW	531.39	557.03	(4.6%)
7	Yokohama Rubber	OW	352.84	358.98	(1.7%)
8	Toyota Motor	EW	246.36	256.89	(4.1%)
9	Unipres	EW	114.67	93.73	22.3%
10	Mazda Motor	EW	280.55	260.47	7.7%
11	Toyota Industries	EW	634.50	742.23	(14.5%)
12	Toyoda Gosei	EW	239.41	297.23	(19.5%)
13	Toyo Tire & Rubber	EW	233.93	276.04	(15.3%)
14	Bridgestone	EW	527.86	538.86	(2.0%)
15	Stanley Electric	EW	164.79	229.72	(28.3%)
16	Honda Motor	EW	547.52	592.16	(7.5%)
17	EXEDY	EW	202.32	243.85	(17.0%)
18	Koito Mfg.	EW	164.71	182.70	(9.8%)
19	Nissan Motor	EW	83.89	101.12	(17.0%)
20	Aisin Seiki	UW	389.58	573.29	(32.0%)
21	Nifco	UW	230.01	289.72	(20.6%)
22	Toyota Boshoku	UW	222.06	282.29	(21.3%)
23	Sumitomo Rubber	UW	90.78	98.85	(8.2%)
24	Subaru Corp	UW	341.94	343.00	(0.3%)

Source: Refinitiv, Morgan Stanley Research estimates

Exhibit 6: China Coverage Rankings

China			2023e EPS		
			MS	Cons	
1	Guangzhou Auto	OW	0.69	0.86	(20.2%)
2	Great Wall	OW	0.62	0.72	(13.7%)
3	Yongda Auto	OW	0.57	0.63	(9.9%)
4	Minth Group	OW	1.88	1.83	2.7%
5	Nexteer Automotive	OW	0.07	0.06	16.7%
6	Dongfeng	EW	1.11	1.05	6.5%
7	BYD	EW	7.45	9.75	(23.6%)
8	Baoxin Auto	UW	0.13	0.15	(15.4%)
9	Zhengtong Auto	UW	0.08	0.08	0.0%
10	BAIC Motor	UW	0.32	0.54	(40.4%)

Source: Refinitiv, Morgan Stanley Research estimates

Exhibit7: India Coverage Rankings

India		2023e EPS		
		MS	Cons	
1	Maruti Suzuki	OW	365.67	430.69 (15.1%)
2	Bharat Forge	OW	25.38	26.79 (5.3%)
3	Ashok Leyland	OW	8.29	9.66 (14.2%)
4	Mahindra & Mahindra	OW	84.92	85.11 (0.2%)
5	Tata Motors	OW	39.48	45.13 (12.5%)
6	Exide Industries	OW	12.08	14.61 (17.3%)
7	Bajaj Auto	OW	240.25	278.40 (13.7%)
8	Apollo Tyres	EW	26.05	25.26 3.1%
9	Eicher Motors Ltd.	EW	106.53	101.83 4.6%
10	TVS Motor	EW	39.86	52.44 (24.0%)
11	Hero MotoCorp	UW	179.33	196.52 (8.7%)
12	Balkrishna Industries	UW	75.31	77.27 (2.5%)
13	Amara Raja	UW	43.44	49.92 (13.0%)

Source: Refinitiv, Morgan Stanley Research estimates

Exhibit8: Taiwan Coverage Rankings

Taiwan		2023e EPS		
		MS	Cons	
1	Macauto Industrial	OW	9.78	9.38 4.3%
2	Hota Industrial	OW	3.32	2.98 11.4%
3	Global PMX	EW	10.93	8.16 33.9%
4	Hu Lane Associates	EW	9.89	9.27 6.7%
5	Cheng Shin Rubber	UW	2.23	2.07 7.9%

Source: Refinitiv, Morgan Stanley Research estimates

Exhibit 9: S.Korea Coverage Rankings

S.Korea		2023e EPS		
		MS	Cons	
1	Mando Corp	OW	4204.74	4719.34 (10.9%)
2	S&T Motiv	OW	7700.40	7236.43 6.4%
3	Kia Motors	OW	21964.60	22402.38 (2.0%)
4	Hyundai MOBIS	EW	31010.45	36278.51 (14.5%)
5	Hyundai Motor	EW	55437.60	46574.47 19.0%
6	Hankook Tire	UW	4071.20	5319.21 (23.5%)
7	Hanon Systems	UW	392.49	502.27 (21.9%)

Source: Refinitiv, Morgan Stanley Research estimates

Note: Coverage Rankings are as of Aug 11, 2023

Global OEM Comps

Exhibit 10: Global OEM Comps - RACE, Guangzhou, Toyota Motors and MSIL are preferred stocks

Company	Currency	Price at	MS	Upside to	MS	Market Cap		MS EPS		Consensus EPS		P / E		EV / EBITDA (3)		EV / Sales (3)		P / B	
		11-Aug	Price Target	PT (%)	Rating	LC	US\$	2023e	2024e	2023e	2024e	2023e	2024e	2023e	2024e	2023e	2024e	2023e	2024e
Europe																			
Mercedes-Benz	EUR	70.33	73.50	5%	EW	75.2	82.9	13.38	12.29	13.06	12.83	5.3x	5.7x	2.9x	3.1x	0.5x	0.5x	0.8x	0.7x
Volkswagen	EUR	117.68	154.00	31%	EW	65.1	71.7	31.93	31.42	32.03	31.76	3.7x	3.7x	0.4x	0.4x	0.1x	0.1x	0.4x	0.3x
Daimler Truck Holding	EUR	34.21	41.00	20%	OW	28.2	31.0	4.45	4.23	4.45	4.23	7.7x	8.1x	6.2x	6.5x	0.7x	0.7x	1.3x	1.2x
Renault	EUR	38.32	42.00	10%	OW	11.3	12.5	12.10	13.01	12.38	12.77	3.2x	2.9x	NA	NA	NA	NA	0.4x	0.3x
Stellantis	USD	17.45	20.00	15%	OW	60.5	60.5	4.28	4.44	5.50	5.10	4.1x	3.9x	NA	NA	NA	NA	0.7x	0.6x
BMW	EUR	101.90	100.00	(2%)	EW	64.6	71.2	17.14	14.55	17.39	16.52	5.9x	7.0x	1.7x	1.7x	0.3x	0.3x	0.7x	0.7x
Europe Weighted Average												5.0x	5.4x	2.3x	2.4x	0.3x	0.3x	0.7x	0.6x
North America																			
Ford Motor	USD	12.16	16.00	32%	OW	47.8	47.8	2.12	1.93	2.06	1.91	5.7x	6.3x	2.0x	1.7x	0.2x	0.2x	1.1x	1.0x
General Motors	USD	34.16	41.00	20%	OW	47.0	47.0	7.78	6.52	7.68	6.77	4.4x	5.2x	1.7x	1.6x	0.2x	0.2x	0.6x	0.5x
North America Weighted Average												5.1x	5.8x	1.8x	1.7x	0.2x	0.2x	0.8x	0.8x
China																			
BYD	HKD	254.40	249.00	(2%)	EW	786.0	100.5	7.45	9.88	9.75	13.39	34.1x	25.7x	13.4x	10.1x	1.1x	0.9x	5.1x	4.2x
Great Wall	HKD	9.86	13.00	32%	OW	210.3	26.9	0.62	0.98	0.72	1.00	15.9x	10.1x	17.1x	11.9x	1.1x	1.0x	1.2x	1.1x
Weichai Power	HKD	10.26	12.00	17%	EW	111.2	14.2	0.75	0.91	0.92	1.12	13.7x	11.3x	4.2x	3.8x	0.4x	0.3x	1.0x	1.0x
SAIC Motor	CNY	14.80	18.00	22%	OW	172.9	24.0	1.67	1.89	1.39	1.56	8.9x	NA	4.2x	3.3x	0.2x	0.1x	0.6x	0.6x
BAIC Motor	HKD	2.10	1.80	(14%)	UW	5.3	0.7	0.32	0.32	0.54	0.54	6.5x	NA	NM	NM	NM	NM	0.3x	0.3x
Anhui Jianghuai	CNY	13.73	12.00	(13%)	UW	30.0	4.2	0.50	0.57	0.12	0.22	27.7x	23.9x	4.4x	3.1x	0.4x	0.2x	1.6x	1.5x
Chongqing Changan	HKD	3.77	5.80	54%	OW	137.0	17.5	0.97	0.59	1.07	1.01	3.9x	6.4x	5.9x	8.8x	0.5x	0.5x	0.5x	0.5x
Jiangling Motors	HKD	6.61	7.20	9%	EW	12.2	1.6	0.53	0.56	NA	NA	12.4x	11.9x	1.1x	0.1x	0.1x	0.0x	0.6x	0.5x
Dongfeng	HKD	3.33	4.10	23%	EW	9.2	1.2	1.11	1.02	1.05	1.02	3.0x	3.3x	0.5x	0.6x	0.1x	0.1x	0.2x	0.2x
Guangzhou	HKD	4.49	8.30	85%	OW	102.6	13.1	1.42	1.56	0.86	0.94	3.2x	2.9x	19.5x	8.3x	0.5x	0.4x	0.4x	0.3x
Zhengzhou Yutong Bus C	CNY	13.00	14.00	8%	EW	28.8	4.0	1.24	NA	0.58	0.82	10.5x	NA	4.8x	NA	0.5x	NA	1.5x	NA
China Weighted Average												21.9x	18.4x	11.4x	8.6x	0.8x	0.7x	2.9x	2.4x
South Korea																			
Hyundai Motor	KRW	190,500.00	230,000.00	21%	EW	46,735.6	35.5	55,437.60	46,280.77	46,574.47	44,508.86	3.4x	4.1x	2.0x	2.2x	0.2x	0.2x	0.4x	0.4x
Kia Motors	KRW	80,300.00	105,000.00	31%	OW	32,284.1	24.5	21,964.60	21,506.88	22,402.38	21,548.34	3.7x	3.7x	2.4x	2.4x	0.3x	0.3x	0.7x	0.6x
South Korea Weighted Average												3.5x	4.0x	2.2x	2.3x	0.3x	0.3x	0.5x	0.5x
Japan																			
Toyota Motor	JPY	2,429.00	2,400.00	(1%)	EW	39,629.1	274.4	246.36	265.38	256.89	268.42	9.9x	9.2x	5.7x	5.3x	0.8x	0.7x	1.1x	1.0x
Mazda Motor	JPY	1,421.00	1,400.00	(1%)	EW	897.8	6.2	280.55	313.45	260.47	276.37	5.1x	4.5x	1.3x	0.9x	0.1x	0.1x	0.6x	0.5x
Nissan Motor	JPY	624.00	560.00	(10%)	EW	2,633.7	18.2	83.89	93.23	101.12	105.49	7.4x	6.7x	2.1x	1.5x	0.1x	0.1x	0.5x	0.4x
Mitsubishi Motors	JPY	574.20	610.00	6%	OW	855.7	5.9	85.72	101.93	90.62	93.87	6.7x	5.6x	2.4x	1.8x	0.2x	0.2x	0.9x	0.8x
Subaru Corp	JPY	2,626.00	2,400.00	(9%)	UW	2,019.9	14.0	341.94	371.75	362.16	363.55	7.7x	7.1x	11.1x	9.4x	0.3x	0.3x	0.9x	0.8x
Suzuki Motor	JPY	5,294.00	5,900.00	11%	OW	2,600.1	18.0	531.39	588.96	557.03	600.00	10.0x	9.0x	3.9x	3.5x	0.5x	0.4x	1.2x	1.1x
Honda Motor	JPY	4,670.00	4,400.00	(6%)	EW	8,459.4	58.6	547.52	628.06	592.16	615.67	8.5x	7.4x	3.2x	2.7x	0.3x	0.2x	0.6x	0.6x
Japan Weighted Average												9.4x	8.6x	5.2x	4.7x	0.6x	0.6x	1.0x	0.9x
India (2)																			
Maruti Suzuki	INR	9,355.3	11,164.0	19%	OW	2,826.0	34.2	365.7	410.7	430.7	472.6	25.6x	22.8x	15.2x	13.3x	1.7x	1.5x	4.3x	3.9x
Bajaj Auto	INR	4,596.5	5,063.0	10%	OW	1,300.6	15.7	240.2	285.0	278.4	310.6	19.1x	16.1x	15.1x	12.4x	2.8x	2.4x	4.8x	4.5x
TVS Motor	INR	1,350.5	1,171.0	(13%)	EW	641.6	7.8	39.9	44.8	52.4	59.6	33.9x	30.1x	19.1x	16.9x	2.2x	1.9x	8.5x	7.0x
Hero MotoCorp	INR	2,995.2	2,344.0	(22%)	UW	598.6	7.2	179.3	197.4	196.5	219.9	16.7x	15.2x	9.5x	8.4x	1.3x	1.1x	3.3x	3.0x
Mahindra & Mahindra	INR	1,546.2	1,697.0	10%	OW	1,922.7	23.3	84.9	95.5	85.1	89.5	18.2x	16.2x	12.7x	11.3x	1.8x	1.6x	3.6x	3.0x
Tata Motors	INR	611.7	711.0	16%	OW	2,235.6	27.0	39.5	48.4	53.0	64.5	11.5x	9.5x	4.6x	4.0x	0.7x	0.6x	3.9x	3.0x
Balkrishna Industries	INR	2,350.5	1,765.0	(25%)	UW	454.4	5.5	75.3	96.5	94.3	108.6	31.2x	24.4x	19.5x	15.5x	4.7x	4.1x	5.3x	4.6x
Ashok Leyland	INR	187.1	214.0	14%	OW	549.3	6.6	8.3	9.1	9.7	10.3	22.6x	20.5x	13.1x	12.0x	1.5x	1.3x	5.6x	4.8x
India Weighted Average												20.5x	17.9x	12.5x	10.8x	1.8x	1.5x	4.4x	3.8x
Global Weighted Average												11.1x	9.9x	6.2x	5.3x	0.7x	0.6x	1.6x	1.4x

Source: Refinitiv, Morgan Stanley Research estimates

Notes: 1) For Renault EV calculation, Nissan and Volvo stakes are subtracted at 20% discount to their current market cap. (2) For Indian companies, 2020 and 2021 estimates refer to the fiscal years ending March 2021 and March 2022, respectively. (3) EV/EBITDA excludes the impact from pension and healthcare liabilities with the exception of Ford. Ford is calculated on an EV/EBITDAP and includes pension and healthcare liabilities. Notes: e = Morgan Stanley Research est. O = Overweight; E = Equal-weight; U = Underweight; NC = Not Covered. Valuation multiples are based on MS est. unless a company is restricted or NC, in which case cons. est. are used 4) PTs & Ratings are as Aug 11, 2023

EV OEMs Comps

Exhibit 11: EV OEM Comps

Company	Currency	Price at 11-Aug	MS Price Target	Upside to PT (%)	MS Rating	Market Cap		Current EV	MS EPS		Consensus EPS		P / E		EV / EBITDA		EV / Sales		P / B	
						LC	USD		LC	2023e	2024e	2023e	2024e	2023e	2024e	2023e	2024e	2023e	2024e	2023e
North America																				
Tesla	USD	245.34	250.00	2%	EW	778.7	778.7	831.1	2.77	3.24	3.38	4.80	88.5x	75.7x	56.3x	41.7x	8.3x	6.3x	15.5x	12.9x
Lucid	USD	6.78	5.00	(26%)	UW	15.5	15.5	10.9	-1.21	-0.76	-1.49	-1.09	NM	NM	NM	NM	13.9x	5.4x	3.1x	4.1x
Flaker	USD	5.71	4.00	(30%)	UW	1.2	1.2	3.2	-0.96	-0.60	-0.79	-0.38	NM	NM	NM	NM	1.6x	1.1x	12.9x	21.2x
Revlon	USD	21.91	24.00	10%	OW	20.4	20.4	19.7	-0.65	-3.49	-0.19	-3.97	NM	NM	NM	NM	4.8x	3.6x	2.8x	3.9x
North America Weighted Average													88.5x	75.7x	56.3x	41.7x	8.3x	6.2x	15.0x	12.5x
China																				
NIO Inc.	USD	13.25	18.70	41%	OW	21.3	21.3	317.9	-5.82	-0.29	-1.23	-0.62	NM	NM	NM	NM	95.0x	4.7x	2.3x	7.8x
Li Auto Inc.	USD	42.85	53.00	24%	OW	38.0	38.0	246.6	3.35	6.83	0.85	1.56	12.8x	6.3x	50.5x	25.6x	2.1x	1.5x	5.3x	4.3x
BYD Company	HKD	254.40	249.00	(2%)	EW	786.0	100.5	699.2	7.45	9.88	9.75	13.39	34.1x	25.7x	13.7x	10.3x	1.2x	0.9x	5.1x	4.2x
Xpeng Inc.	USD	16.78	25.40	51%	OW	12.0	12.0	102.3	-8.21	-7.21	-1.00	-0.66	NM	NM	NM	NM	3.6x	1.8x	3.4x	4.3x
China Weighted Average													28.3x	20.4x	23.8x	25.5x	2.0x	1.3x	5.4x	4.6x
Global Weighted Average													79.4x	67.3x	51.4x	38.9x	7.2x	5.4x	13.3x	11.1x

Source: Refinitiv, Morgan Stanley Research estimates Note: PTs & Ratings are as of Aug 11, 2023

Global Supplier Comps

Exhibit12: Global Supplier Comps: AXL, Valeo, Huayu, Denso, Mando and Tata Motors are preferred stocks

Company	Currency	Price at 11-Aug	MS Price Target	Upside to PT (%)	MS Rating	Market Cap		MS EPS		Consensus EPS		P / E		EV / EBITDA		EV / Sales		P / B	
						LC	US\$	2023e	2024e	2023e	2024e	2023e	2024e	2023e	2024e	2023e	2024e	2023e	2024e
Europe																			
Autoliv	USD	96.72	90.00	(7%)	EW	8.3	8.3	6.93	9.30	6.71	9.38	14.0x	10.4x	7.2x	5.7x	0.9x	0.8x	3.0x	2.7x
Europe Weighted Average												14.0x	10.4x	7.2x	5.7x	0.9x	0.8x	3.0x	2.7x
North America (1)																			
APTIV	USD	103.18	100.00	(3%)	EW	29.2	29.2	4.78	5.54	4.69	6.18	21.6x	18.6x	10.7x	9.2x	1.6x	1.4x	3.0x	2.6x
BorgWarner Inc.	USD	41.47	47.00	13%	OW	9.7	9.7	3.81	4.53	3.89	4.48	10.9x	9.2x	5.8x	4.8x	0.9x	0.8x	1.2x	1.1x
Lear	USD	148.66	140.00	(6%)	EW	8.7	8.7	11.77	14.87	11.81	16.32	12.6x	10.0x	5.4x	4.5x	0.4x	0.4x	3.4x	3.1x
Visteon	USD	142.23	145.00	2%	EW	4.0	4.0	6.14	8.10	6.74	9.73	23.2x	17.6x	10.3x	8.3x	1.0x	0.9x	10.7x	8.3x
Magna International	USD	58.91	65.00	10%	OW	16.9	16.9	5.40	6.70	5.28	6.61	10.9x	8.8x	4.6x	3.6x	0.4x	0.3x	1.2x	1.0x
Adient	USD	42.13	38.00	(10%)	UW	3.9	3.9	2.17	3.01	2.18	3.73	19.4x	14.0x	6.0x	5.5x	0.4x	0.3x	NM	NM
Mobileye Global Inc	USD	38.37	34.00	(11%)	EW	2.1	2.1	0.70	0.75	0.71	0.86	54.4x	50.9x	39.6x	26.3x	7.2x	5.8x	2.1x	2.0x
American Axle	USD	7.69	12.00	56%	OW	0.9	0.9	0.47	0.60	0.37	0.80	16.5x	12.8x	4.0x	3.4x	0.5x	0.4x	1.3x	1.2x
North America Weighted Average												17.6x	14.8x	8.6x	7.0x	1.1x	1.0x	2.7x	2.4x
Japan																			
Denso	JPY	9,803	10,000	2%	OW	7,724	\$3.5	613	714	697	779	16.0x	13.7x	7.9x	6.9x	1.1x	1.0x	1.6x	1.5x
Toyota Industries	JPY	10,270	8,400	(18%)	EW	3,346	23.2	635	683	742	825	16.2x	15.0x	11.7x	11.0x	1.3x	1.2x	0.8x	0.8x
Aisin Seiki	JPY	4,591	3,500	(24%)	UW	1,353	9.4	390	438	573	615	11.8x	10.5x	4.7x	4.3x	0.4x	0.4x	0.7x	0.7x
Koito Mfg.	JPY	2,569	2,500	(3%)	EW	826	5.7	165	209	183	203	15.6x	12.3x	4.7x	3.9x	0.6x	0.5x	1.2x	1.2x
Nifco	JPY	4,239	3,100	(27%)	UW	456	3.2	230	257	290	322	18.4x	16.5x	7.1x	6.4x	1.1x	1.0x	1.7x	1.6x
Stanley Electric	JPY	2,591	2,800	8%	EW	443	3.1	165	234	230	267	15.7x	11.1x	4.6x	3.8x	0.8x	0.7x	0.9x	0.9x
Toyota Boshoku	JPY	2,676	1,800	(33%)	UW	502	3.5	222	241	282	310	12.0x	11.1x	3.7x	3.4x	0.3x	0.2x	1.2x	1.1x
EXEDY	JPY	2,457	1,900	(23%)	EW	119	0.8	202	236	244	253	12.1x	10.4x	3.3x	3.0x	0.4x	0.3x	0.5x	0.5x
NHK Spring	JPY	1,136	1,250	10%	OW	277	1.9	110	157	137	161	10.3x	7.2x	4.3x	3.4x	0.4x	0.3x	0.7x	0.7x
Toyoda Gosei	JPY	3,070	2,200	(28%)	EW	399	2.8	239	276	297	326	12.8x	11.1x	4.7x	3.9x	0.5x	0.4x	0.8x	0.8x
Musashi Seimitsu	JPY	1,784	2,100	18%	OW	117	0.8	136	182	205	242	13.1x	9.8x	6.3x	5.4x	0.6x	0.6x	1.2x	1.1x
Unipres	JPY	1,166	1,100	(6%)	EW	56	0.4	108	182	154	197	10.8x	6.4x	2.8x	2.1x	0.3x	0.2x	0.4x	0.4x
NOK	JPY	1,949	2,250	15%	OW	337	2.3	141	205	174	227	13.9x	9.5x	4.7x	4.1x	0.5x	0.5x	0.6x	0.6x
Japan Weighted Average												15.3x	13.2x	7.7x	6.9x	1.0x	0.9x	1.2x	1.2x
China																			
Fuyao Glass	HKD	34.65	32.00	(8%)	EW	110.6	14.1	1.87	2.45	2.01	2.45	18.5x	14.2x	10.0x	7.9x	2.6x	2.2x	2.6x	2.3x
Huayu Automotive	HKD	18.92	22.70	20%	OW	59.6	8.3	2.06	2.19	2.21	2.44	9.2x	8.6x	3.8x	3.1x	0.2x	0.2x	1.0x	1.0x
Mint Group Limited	HKD	23.15	28.00	21%	OW	29.2	3.7	1.88	2.35	1.83	2.29	12.3x	9.9x	8.8x	6.6x	1.2x	1.0x	1.2x	1.0x
Changzhou Xingyu	HKD	140.12	172.00	23%	OW	40.0	5.6	3.86	5.30	4.10	5.52	36.3x	26.4x	24.2x	18.0x	3.8x	3.1x	4.3x	3.9x
Nexteer Automotive Group	HKD	5.36	7.50	40%	OW	105.2	13.5	0.07	0.09	0.44	0.62	80.5x	60.7x	3.8x	3.4x	0.4x	0.4x	0.9x	0.9x
China Weighted Average												36.9x	28.2x	8.7x	6.8x	1.6x	1.3x	1.9x	1.7x
South Korea																			
Hyundai MOBIS	KRW	233,000	250,000	7%	EW	21,968	16.7	31,010	31,022	36,279	38,792	7.5x	7.5x	6.7x	5.9x	0.4x	0.3x	0.5x	0.5x
LG Chem	KRW	622,000	770,000	24%	EW	46,681	35.5	27,076	56,557	27,228	52,686	23.0x	11.0x	6.8x	5.3x	0.9x	0.9x	1.3x	1.2x
Hanon Systems	KRW	9,610	7,800	(19%)	UW	5,130	3.9	392	490	502	606	24.5x	19.6x	8.3x	7.5x	0.8x	0.8x	2.1x	2.0x
Mando Corp	KRW	44,050	63,000	43%	OW	2,068	1.6	4,205	4,507	4,719	5,899	10.5x	9.8x	5.8x	5.7x	0.4x	0.4x	0.9x	0.8x
South Korea Weighted Average												18.3x	10.5x	6.8x	5.6x	0.7x	0.7x	1.1x	1.0x
Taiwan																			
Hu Lane Associate Inc.	TWD	147	140	(5%)	EW	15	0.5	9.89	10.83	2.10	2.50	14.9x	13.6x	10.6x	9.2x	2.3x	2.1x	2.5x	2.3x
Cub Elecparts Inc	TWD	134	148	11%	EW	15	0.5	10.93	13.30	1.75	2.48	12.2x	10.0x	6.8x	5.6x	1.7x	1.4x	1.7x	1.6x
Hota Industrial Mfg.	TWD	64	85	33%	OW	18	0.6	3.32	3.84	0.67	0.81	19.2x	16.6x	7.4x	6.6x	2.2x	2.0x	1.4x	1.4x
Taiwan Weighted Average												15.6x	13.6x	8.2x	7.1x	2.1x	1.8x	1.8x	1.7x
India																			
Exide Industries	INR	269	212	(21%)	OW	229	2.8	12.08	14.37	14.61	11.53	22.3x	18.7x	12.1x	10.2x	1.4x	1.2x	1.9x	1.8x
Samvardhana Motherson	INR	98	80	(18%)	EW	662	8.0	4.95	6.16	5.72	11.53	19.7x	15.9x	8.9x	7.6x	0.8x	0.7x	2.7x	2.5x
Amara Raja	INR	618	623	1%	UW	106	1.3	47.31	51.94	55.16	55.96	13.1x	11.9x	6.6x	5.6x	0.9x	0.8x	1.8x	1.6x
India Weighted Average												19.6x	16.1x	9.4x	8.0x	1.0x	0.8x	2.4x	2.2x
Global Weighted Average												19.7x	15.3x	8.0x	6.7x	1.1x	1.0x	1.8x	1.6x

Source: Refinitiv, Morgan Stanley Research estimates

Notes: (1) EV/EBITDA excludes the impacts from pension and healthcare liabilities with the exception of our North American coverage, which are calculated using EV/EBITDAP and do include pension and healthcare liabilities. (2) North America weighted averages are calculated without Mobileye. e = Morgan Stanley Research est; O = Overweight; E = Equal-weight; U = Underweight; NC = Not Covered. Valuation multiples are based on MS est. unless a company is restricted or NC, in which case cons. est. are used 3) PTs & Ratings are as of Aug 11, 2023

Global Tire Comps

Exhibit13: Global Tire Comps: Michelin, Bridgestone and Mando are our preferred stocks

Company	Currency	Price at 11-Aug	MS Price Target	Upside to PT (%)	MS Rating	Market Cap		MS EPS		Consensus EPS		P / E		EV / EBITDA		EV / Sales		P / B	
						LC	US\$	2023e	2024e	2023e	2024e	2023e	2024e	2023e	2024e	2023e	2024e	2023e	2024e
Europe																			
Continental	EUR	66.82	NC	NA	NC	13.4	14.7	NA	NA	7.63	9.45	8.8x	7.1x	4.2x	3.8x	0.5x	0.5x	0.9x	0.9x
Pirelli & C. SpA	EUR	4.54	5.50	21%	OW	4.5	5.0	0.56	0.62	0.50	0.57	8.1x	7.3x	4.8x	4.9x	1.1x	1.0x	0.8x	0.8x
Michelin	EUR	28.29	35.00	24%	OW	20.2	22.3	3.15	3.26	3.14	3.25	9.0x	8.7x	4.1x	3.8x	0.8x	0.7x	1.1x	1.0x
Europe Weighted Average												8.8x	7.9x	4.2x	3.9x	0.7x	0.7x	1.0x	1.0x
Japan																			
Bridgestone	JPY	5,659	5,700	1%	EW	4,039	28.0	528	569	539	569	10.7x	10.0x	4.4x	4.0x	0.9x	0.8x	1.2x	1.2x
Toyo Tire & Rubber Co	JPY	1,927	1,850	(4%)	EW	297	2.1	234	265	276	288	8.2x	7.3x	4.3x	4.0x	0.7x	0.7x	0.9x	0.8x
Sumitomo Rubber	JPY	1,412	1,100	(22%)	UW	371	2.6	91	138	99	138	15.5x	10.2x	6.4x	5.4x	0.5x	0.5x	0.7x	0.6x
Yokohama Rubber	JPY	2,930	3,400	16%	OW	497	3.4	353	423	359	422	8.3x	6.9x	6.6x	5.6x	0.9x	0.8x	0.7x	0.6x
Japan Weighted Average												10.7x	9.5x	4.7x	4.2x	0.8x	0.8x	1.1x	1.1x
Korea																			
Hankook Tire	KRW	39,250	33,000	(16%)	UW	4,862	3.7	4,071	4,136	5,319	6,146	9.6x	NA	3.2x	2.8x	0.5x	0.5x	0.5x	0.5x
Korea Weighted Average												9.6x	NA	3.2x	2.8x	0.5x	0.5x	0.5x	0.5x
Global Weighted Average												10.0x	8.7x	4.5x	4.0x	0.8x	0.7x	1.1x	1.0x

Source: Refinitiv, Morgan Stanley Research estimates

Notes: 1) e = Morgan Stanley Research est; O = Overweight; E = Equal-weight; U = Underweight; NC = Not Covered. Valuation multiples are based on MS est. unless a company is restricted or NC, in which case cons. est. are used. 2) ++Rating and price target for this company have been removed from consideration in this report because, under applicable law and/or Morgan Stanley policy, Morgan Stanley may be precluded from issuing such information with respect to this company at this time 3) PTs & Ratings are as of Aug 11, 2023

Global Dealer Comps

Exhibit14: Global Dealer Comps: KMX and Zhongsheng are preferred stocks

Company	Currency	Price at 11-Aug	MS Price Target	Upside to PT (%)	MS Rating	Market Cap		Current EV	MS EPS		Consensus EPS		P / E		EV / EBITDA		EV / Sales		P / B	
						LC	US\$		2023e	2024e	2023e	2024e	2023e	2024e	2023e	2024e	2023e	2024e	2023e	2024e
North America																				
CarMax	USD	83.18	80.00	(4%)	OW	13.2	13.2	20.5	3.03	3.36	3.02	3.75	27.4x	24.8x	18.9x	15.3x	0.7x	0.7x	3.0x	2.7x
Penske Automotive Group	USD	165.60	107.00	(35%)	UW	11.1	11.1	12.4	16.79	17.68	16.55	15.90	9.9x	9.4x	6.2x	6.0x	0.4x	0.4x	2.3x	2.0x
Lithia Motors	USD	307.17	220.00	(28%)	UW	8.5	8.5	14.1	36.92	36.72	38.26	37.64	8.3x	8.4x	7.5x	7.9x	0.5x	0.5x	1.3x	1.2x
Sonic Automotive	USD	50.18	35.00	(30%)	UW	1.2	1.2	4.3	6.62	7.28	6.67	6.79	7.6x	6.9x	5.9x	5.7x	0.3x	0.3x	2.7x	2.2x
Group 1 Automotive	USD	263.23	200.00	(24%)	UW	3.7	3.7	5.9	46.08	43.96	44.25	40.70	5.7x	6.0x	5.6x	5.3x	0.3x	0.3x	1.3x	1.1x
Carvana	USD	39.46	37.00	(6%)	UW	4.2	4.2	12.9	-2.10	-1.69	-3.71	-2.55	NM	NM	69.2x	42.8x	1.2x	1.2x	15.2x	177.4x
Asbury	USD	221.45	165.00	(25%)	UW	4.6	4.6	7.6	33.94	31.70	33.50	30.98	6.5x	7.0x	6.7x	6.6x	0.5x	0.5x	1.4x	1.1x
AutoNation	USD	154.25	117.00	(24%)	UW	6.8	6.8	10.2	22.76	20.26	22.87	21.30	6.8x	7.6x	5.6x	5.2x	0.4x	0.4x	2.6x	2.0x
North America Weighted Average													13.2x	12.6x	14.4x	11.4x	0.6x	0.5x	3.3x	15.7x

Source: Refinitiv, Morgan Stanley Research estimates

Note: 1) e = Morgan Stanley Research est; O = Overweight; E = Equal-weight; U = Underweight; NC = Not Covered. Valuation multiples are based on MS est. unless a company is restricted or NC, in which case cons. est. are used 2) PTs & Ratings are as of Aug 11, 2023

Exhibit15: Auto companies under Morgan Stanley coverage not shown in the comps tables are listed below (with current share price):

Company Name	Volvo	China Motor Corp.	Hotsai Motor	Porsche	Aviz Budget
Price at Aug 10	227.40	34.10	705.00	51.08	223.04
Currency	SEK	T'wD	T'wD	EUR	USD

Company Name	Tong Yang Industry	Yulon Motor	Zhongsheng Group	Tesla	Hertz
Price at Aug 10	60.10	77.30	23.80	7.53	16.78
Currency	T'wD	T'wD	CNY	USD	USD

Source: Refinitiv, Morgan Stanley Research

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Global Stock Ratings Distribution

(as of July 31, 2023)

The Stock Ratings described below apply to Morgan Stanley's Fundamental Equity Research and do not apply to Debt Research produced by the Firm.

For disclosure purposes only (in accordance with FINRA requirements), we include the category headings of Buy, Hold, and Sell alongside our ratings of Overweight, Equal-weight, Not-Rated and Underweight. Morgan Stanley does not assign ratings of Buy, Hold or Sell to the stocks we cover. Overweight, Equal-weight, Not-Rated and Underweight are not the equivalent of buy, hold, and sell but represent recommended relative weightings (see definitions below). To satisfy regulatory requirements, we correspond Overweight, our most positive stock rating, with a buy recommendation; we correspond Equal-weight and Not-Rated to hold and Underweight to sell recommendations, respectively.

Stock Rating Category	Coverage Universe		Investment Banking Clients (IBC)			Other Material Investment Services Clients (MISC)	
	Count	% of Total	Count	% of Total IBC	% of Rating Category	Count	% of Total Other MISC
Overweight/Buy	1347	37%	276	43%	20%	609	39%
Equal-weight/Hold	1659	46%	294	46%	18%	717	46%
Not-Rated/Hold	3	0%	0	0%	0%	1	0%
Underweight/Sell	604	17%	69	11%	11%	227	15%
Total	3,613		639			1554	

Data include common stock and ADRs currently assigned ratings. Investment Banking Clients are companies from whom Morgan Stanley received investment banking compensation in the last 12 months. Due to rounding off of decimals, the percentages provided in the "% of total" column may not add up to exactly 100 percent.

Analyst Stock Ratings

Overweight (O). The stock's total return is expected to exceed the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Equal-weight (E). The stock's total return is expected to be in line with the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Not-Rated (NR). Currently the analyst does not have adequate conviction about the stock's total return relative to the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Underweight (U). The stock's total return is expected to be below the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Unless otherwise specified, the time frame for price targets included in Morgan Stanley Research is 12 to 18 months.

Analyst Industry Views

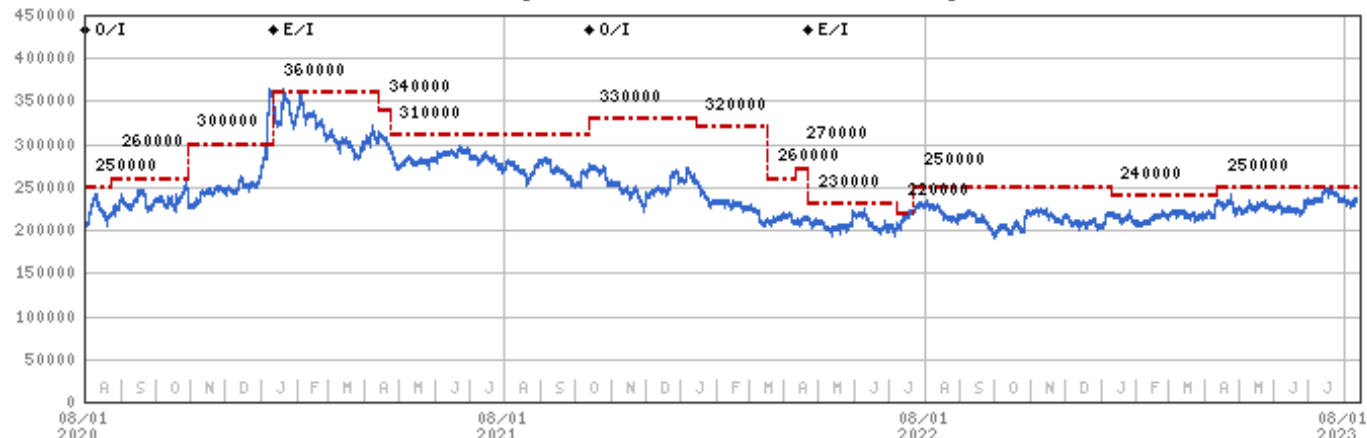
Attractive (A): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be attractive vs. the relevant broad market benchmark, as indicated below.

In-Line (I): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be in line with the relevant broad market benchmark, as indicated below.

Cautious (C): The analyst views the performance of his or her industry coverage universe over the next 12-18 months with caution vs. the relevant broad market benchmark, as indicated below. Benchmarks for each region are as follows: North America - S&P 500; Latin America - relevant MSCI country index or MSCI Latin America Index; Europe - MSCI Europe; Japan - TOPIX; Asia - relevant MSCI country index or MSCI sub-regional index or MSCI AC Asia Pacific ex Japan Index.

Stock Price, Price Target and Rating History (See Rating Definitions)

Hyundai MOBIS (012330.KS) - As of 8/13/23 in KRW
Industry : S. Korea Autos & Shared Mobility



Stock Rating History: 8/1/18 : E/I; 7/24/19 : O/I; 1/12/21 : E/I; 10/14/21 : O/I; 4/22/22 : E/I

Price Target History: 6/23/18 : 250000; 10/11/18 : 230000; 10/29/18 : 210000; 1/9/19 : 200000; 4/29/19 : 220000; 7/24/19 : 280000; 3/9/20 : 260000; 4/8/20 : 210000; 4/27/20 : 200000; 7/10/20 : 230000; 7/24/20 : 250000; 8/24/20 : 260000; 10/29/20 : 300000; 1/12/21 : 360000; 4/13/21 : 340000; 4/23/21 : 310000; 10/14/21 : 330000; 1/14/22 : 320000; 3/17/22 : 260000; 4/11/22 : 270000; 4/22/22 : 230000; 7/8/22 : 220000; 7/22/22 : 250000; 1/10/23 : 240000; 4/12/23 : 250000

Source: Morgan Stanley Research Date Format : MM/DD/YY Price Target --- No Price Target Assigned (NA)
Stock Price (Not Covered by Current Analyst) — Stock Price (Covered by Current Analyst) —
Stock and Industry Ratings (abbreviations below) appear as ♦ Stock Rating/Industry View
Stock Ratings: Overweight (O) Equal-weight (E) Underweight (U) Not-Rated (NR) No Rating Available (NA)
Industry View: Attractive (A) In-line (I) Cautious (C) No Rating (NR)

Effective January 13, 2014, the stocks covered by Morgan Stanley Asia Pacific will be rated relative to the analyst's industry (or industry team's) coverage.

Effective January 13, 2014, the industry view benchmarks for Morgan Stanley Asia Pacific are as follows: relevant MSCI country index or MSCI sub-regional index or MSCI AC Asia Pacific ex Japan Index.

Hyundai Motor (005380.KS) - As of 8/13/23 in KRW
Industry : S. Korea Autos & Shared Mobility



Stock Rating History: 8/1/18 : O/I; 10/11/18 : E/I; 7/24/20 : O/I; 1/12/21 : E/I

Price Target History: 6/23/18 : 170000; 10/11/18 : 135000; 10/25/18 : 120000; 4/24/19 : 150000; 10/3/19 : 140000; 1/9/20 : 120000; 1/23/20 : 130000; 3/9/20 : 120000; 4/8/20 : 100000; 4/24/20 : 90000; 7/10/20 : 110000; 7/24/20 : 160000; 8/24/20 : 190000; 9/16/20 : 220000; 10/27/20 : 230000; 1/12/21 : 280000; 3/22/21 : 240000; 4/13/21 : 250000; 7/7/21 : 260000; 9/7/21 : 240000; 1/25/22 : 220000; 3/17/22 : 190000; 4/11/22 : 200000; 4/26/22 : 210000; 7/8/22 : 200000; 7/22/22 : 210000; 9/15/22 : 220000; 10/24/22 : 180000; 1/10/23 : 170000; 1/26/23 : 180000; 4/12/23 : 220000; 4/26/23 : 230000

Source: Morgan Stanley Research Date Format : MM/DD/YY Price Target - - - No Price Target Assigned (NA)

Stock Price (Not Covered by Current Analyst) - - - Stock Price (Covered by Current Analyst) - - -

Stock and Industry Ratings (abbreviations below) appear as ♦ Stock Rating/Industry View

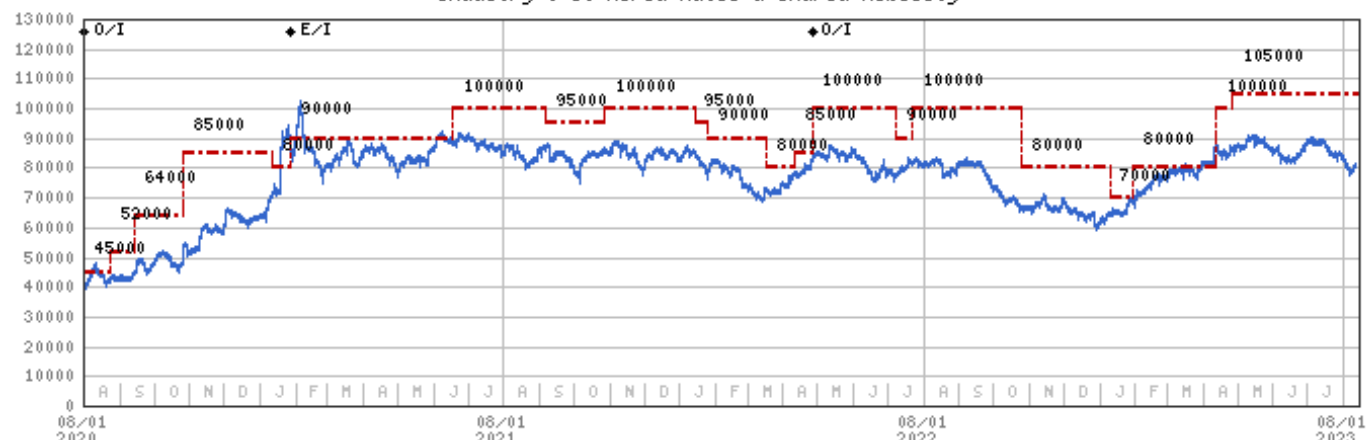
Stock Ratings: Overweight (O) Equal-weight (E) Underweight (U) Not-Rated (NR) No Rating Available (NA)

Industry View: Attractive (A) In-line (I) Cautious (C) No Rating (NR)

Effective January 13, 2014, the stocks covered by Morgan Stanley Asia Pacific will be rated relative to the analyst's industry (or industry team's) coverage.

Effective January 13, 2014, the industry view benchmarks for Morgan Stanley Asia Pacific are as follows: relevant MSCI country index or MSCI sub-regional index or MSCI AC Asia Pacific ex Japan Index.

Kia Corp. (000270.KS) - As of 8/13/23 in KRW
Industry : S. Korea Autos & Shared Mobility



Stock Rating History: 8/1/18 : E/I; 1/9/20 : U/I; 3/26/20 : E/I; 6/2/20 : O/I; 1/28/21 : E/I; 4/26/22 : O/I

Price Target History: 1/26/18 : 30000; 10/11/18 : 35000; 10/26/18 : 31000; 1/9/19 : 34000; 4/9/19 : 37000; 4/25/19 : 40000; 10/24/19 : 45000; 1/9/20 : 34000; 3/9/20 : 32000; 3/26/20 : 29000; 4/8/20 : 28000; 6/2/20 : 40000; 7/24/20 : 45000; 8/24/20 : 52000; 9/14/20 : 64000; 10/27/20 : 85000; 1/12/21 : 80000; 1/28/21 : 90000; 6/18/21 : 100000; 9/7/21 : 95000; 10/28/21 : 100000; 1/14/22 : 95000; 1/26/22 : 90000; 3/17/22 : 80000; 4/11/22 : 85000; 4/26/22 : 100000; 7/8/22 : 90000; 7/22/22 : 100000; 10/25/22 : 80000; 1/10/23 : 70000; 1/30/23 : 80000; 4/12/23 : 100000; 4/26/23 : 105000

Source: Morgan Stanley Research Date Format : MM/DD/YY Price Target -- No Price Target Assigned (NA)
Stock Price (Not Covered by Current Analyst) — Stock Price (Covered by Current Analyst) —
Stock and Industry Ratings (abbreviations below) appear as ♦ Stock Rating/Industry View
Stock Ratings: Overweight (O) Equal-weight (E) Underweight (U) Not-Rated (NR) No Rating Available (NA)
Industry View: Attractive (A) In-line (I) Cautious (C) No Rating (NR)

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Effective January 13, 2014, the industry view benchmarks for Morgan Stanley Asia Pacific are as follows: relevant MSCI country index or MSCI sub-regional index or MSCI AC Asia Pacific ex Japan Index.

Korea Electric Power (015760.KS) - As of 8/13/23 in KRW
Industry : S. Korea Energy & Materials



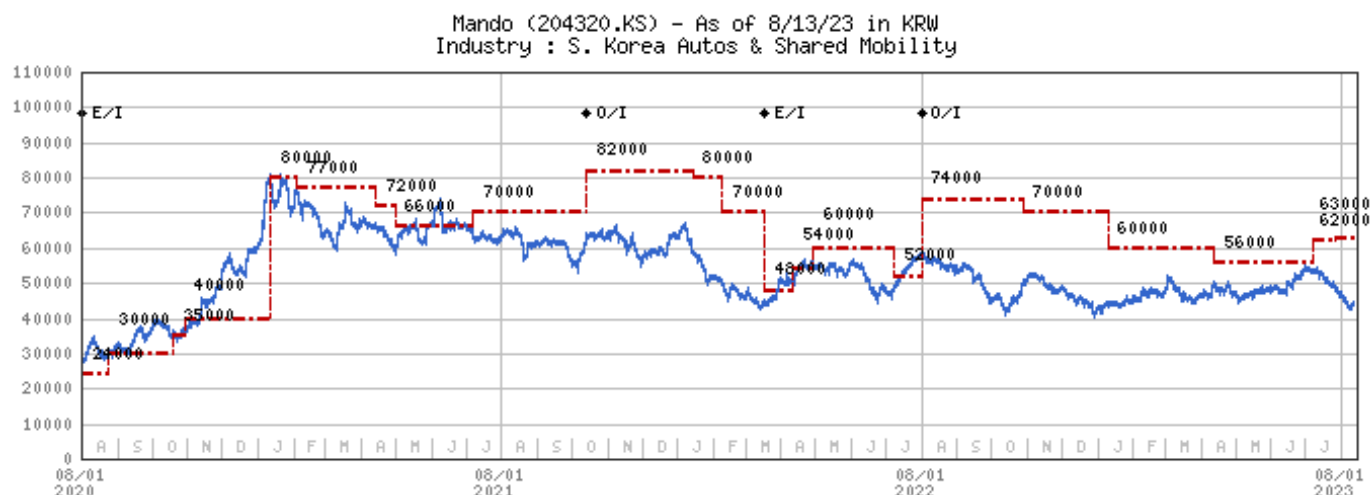
Stock Rating History: 8/1/18 : E/A; 12/7/18 : O/A; 5/14/19 : E/A; 11/5/21 : O/A; 8/12/22 : E/A

Price Target History: 2/13/18 : 34000; 8/13/18 : 33000; 12/7/18 : 39000; 1/4/19 : 45000; 5/14/19 : 30000; 8/15/19 : 28000; 3/2/20 : 24000; 2/20/21 : 26000; 5/14/21 : 25000; 11/5/21 : 33000; 11/12/21 : 32000; 5/13/22 : 29000; 8/12/22 : 22000; 11/14/22 : 20000; 5/15/23 : 22000; 8/11/23 : 21000

Source: Morgan Stanley Research Date Format : MM/DD/YY Price Target -- No Price Target Assigned (NA)
Stock Price (Not Covered by Current Analyst) — Stock Price (Covered by Current Analyst) —
Stock and Industry Ratings (abbreviations below) appear as ♦ Stock Rating/Industry View
Stock Ratings: Overweight (O) Equal-weight (E) Underweight (U) Not-Rated (NR) No Rating Available (NA)
Industry View: Attractive (A) In-line (I) Cautious (C) No Rating (NR)

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Stock Rating History: 8/1/18 : E/I; 1/31/19 : U/I; 7/26/19 : O/I; 4/8/20 : E/I; 10/14/21 : O/I; 3/17/22 : E/I; 8/1/22 : O/I

Price Target History: 6/23/18 : 40000; 10/11/18 : 32000; 1/9/19 : 30000; 1/31/19 : 27000; 7/26/19 : 42000; 9/17/19 : 44000; 3/9/20 : 38000; 4/8/20 : 23000; 7/10/20 : 24000; 8/24/20 : 30000; 10/19/20 : 35000; 10/29/20 : 40000; 1/12/21 : 80000; 2/4/21 : 77000; 4/13/21 : 72000; 4/30/21 : 66000; 7/7/21 : 70000; 10/14/21 : 82000; 1/14/22 : 80000; 2/9/22 : 70000; 3/17/22 : 48000; 4/11/22 : 54000; 4/29/22 : 60000; 7/8/22 : 52000; 8/1/22 : 74000; 10/28/22 : 70000; 1/10/23 : 60000; 4/12/23 : 56000; 7/7/23 : 62000; 7/27/23 : 63000

Source: Morgan Stanley Research Date Format : MM/DD/YY Price Target -- No Price Target Assigned (NA)
Stock Price (Not Covered by Current Analyst) — Stock Price (Covered by Current Analyst) —
Stock and Industry Ratings (abbreviations below) appear as ♦ Stock Rating/Industry View
Stock Ratings: Overweight (O) Equal-weight (E) Underweight (U) Not-Rated (NR) No Rating Available (NA)
Industry View: Attractive (A) In-line (I) Cautious (C) No Rating (NR)

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INDUSTRY COVERAGE: Autos & Shared Mobility

COMPANY (TICKER)	RATING (AS OF)	PRICE* (08/11/2023)
Adam Jonas, CFA		
Adient PLC (ADNT.N)	U (03/17/2021)	\$39.33
American Axle & Manufacturing Holdings Inc (AXL.N)	O (02/28/2022)	\$7.53
Aptiv Plc (APTV.N)	E (11/28/2022)	\$98.70
Asbury Automotive Group Inc (ABG.N)	U (05/20/2022)	\$226.09
AutoNation Inc. (AN.N)	U (01/17/2023)	\$160.03
Avis Budget Group Inc (CAR.O)	O (06/20/2023)	\$231.19
BorgWarner Inc. (BWA.N)	O (05/15/2023)	\$40.76
Carmax Inc (KMX.N)	O (07/10/2018)	\$85.19
Carvana Co (CVNA.N)	U (07/26/2023)	\$41.10
Ferrari NV (RACE.N)	O (05/09/2019)	\$311.19
Fisker Inc (FSR.N)	U (01/25/2023)	\$5.60
Ford Motor Company (F.N)	O (10/05/2022)	\$12.14
FREYR Battery SA (FREY.N)	O (06/28/2023)	\$7.61
General Motors Company (GM.N)	O (05/01/2023)	\$33.89
Group 1 Automotive, Inc (GPI.N)	U (05/20/2022)	\$273.34
Harley-Davidson Inc (HOG.N)	O (03/21/2023)	\$34.27
Hertz Global Holdings Inc (HTZ.O)	E (12/06/2021)	\$17.35
Lear Corporation (LEA.N)	E (02/28/2022)	\$142.80
Li-Cycle Holdings Corp. (LICY.N)	U (01/25/2023)	\$5.49
Lithia Motors Inc. (LAD.N)	U (02/09/2021)	\$316.34
Lucid Group Inc (LCID.O)	U (09/13/2021)	\$6.64
Magna International Inc. (MGA.N)	O (10/14/2021)	\$57.25
Mobileye Global Inc (MBLY.O)	E (07/24/2023)	\$38.35
Penske Automotive Group, Inc (PAG.N)	U (11/17/2021)	\$173.61
Quantumscape Corp (QS.N)	U (11/09/2022)	\$7.50
Rivian Automotive, Inc. (RIVN.O)	O (12/05/2021)	\$21.57

Sonic Automotive Inc (SAH.N)	U (11/17/2021)	\$51.26
Tesla Inc (TSLA.O)	E (06/22/2023)	\$242.65
Visteon Corporation (VC.O)	E (06/01/2022)	\$135.25

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* Historical prices are not split adjusted.

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