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Autos & Shared Mobility | North America

Global Auto Monitor: Bargains Emerging?

Rising rates, slowing China and a dash of UAW headline risk create a window of opportunity to scoop up some good value across the sector.

What Others Are Reading - Our Most Read Reports

[NORTH AMERICA] **TSLA: China EV Price Cuts: Supply/Demand Still Out of Balance? (Aug 17)** Tesla China effectively cut price on Model Y by 4%, raising questions around excess EV supply relative to slowing demand despite government stimulus. As legacy OEMs recast their China EV strategies with local EV partners, we wonder whether these moves are too little, too late?

[EUROPE] **VW: Searching for an inflection point. Stay EW – PT cut to €130 (Aug 25)** VW acknowledges its challenges and is tasked with convincing the market that cost reductions, a new partnership strategy and lower capex are solutions. Our numbers reflect China market share compression and slow price/mix normalisation. For now, we await evidence solutions are taking effect.

[EUROPE] **Daimler: Where are we in the cycle? Weakness on US durable goods order data (Aug 24)**

[EUROPE] **Stellantis explores China partnerships? (Aug 23)**

[JAPAN] **Subaru: Sell Side Small Meeting: Reiterated Transition to BEVs (Aug 23)**

[S.KOREA] **In Need of EV Price Cuts (Aug 25)** We believe global EV/ EV battery growth is inching towards a growth moderation phase before reaccelerating in later years. Unless we get collective EV price cuts from non-Tesla parties, we believe investors may need to brace for a slower battery demand growth environment in the coming quarters.

[CHINA] **Brilliance: Operational uncertainties but deep in value, move to EW (Aug 23)** Despite operational uncertainties, the company is in deep value territory with an accelerated special dividend payout in 1H23. We see Brilliance as reasonably priced, reflecting uncertainties with dividend policy/corp governance, and potential special dividend. Upgrade to EW.

[CHINA] **Price war into 4Q - The end or the beginning? (Aug 23)** Price war remains in focus as most if not all carmakers indicate volume and cash flow will remain their key concerns in the foreseeable future. Our recent talks with OEM/stores suggest three determinants to their decisions of taking price competition to the next level or not, into the 4Q peak season.

[CHINA] **Sales rebound on more aggressive promotions at store (Aug 22)**

[CHINA] **Cango: Discontinuation of Coverage (Aug 21)** Effective immediately, we are discontinuing coverage of Cango (CANG.N), due to a reallocation of resources. All prior research on Cango should no longer be relied upon.

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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
Brilliance China	UW → EW	HKD 5.00 → HKD 3.30
Cango Inc	EW	USD 3.00 → USD 1.50
VW	EW	€ 154.0 → € 130.00

Source: Morgan Stanley Research estimates

Global Auto Sales Summary

Exhibit2: Global Auto Sales Summary

LIGHT VEHICLE SALES FORECASTS									GROWTH %									CAGR '22-'25E
Country	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	13.9	15.0	16.0	16.2	-0.2%	-1.3%	-14.5%	3.4%	-7.6%	7.7%	6.7%	1.0%	5.1%	
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	16.7	17.8	18.9	19.2	-0.9%	-1.9%	-15.8%	3.9%	-5.7%	6.3%	6.4%	1.4%	4.7%	
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																		
RoW (vs US specific countries)	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%	
Global PC Total	81.7	78.1	66.9	69.0	69.6	72.1	73.8	76.4	-0.7%	-4.5%	-14.3%	3.2%	0.8%	3.7%	2.3%	3.5%	3.2%	
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	77.2	80.0	82.0	84.7	-0.4%	-4.2%	-14.6%	4.6%	0.5%	3.7%	2.4%	3.3%	3.1%	
ICE sales	88.4	84.4	71.2	71.5	69.2	70.3	69.6	69.6	-1.0%	-4.5%	-15.6%	0.4%	-3.2%	1.7%	-1.0%	0.0%	0.2%	
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	€ 7.04	(9.1%)
2	Harley-Davidson	OW	4.59	4.60	(0.2%)
3	Ford Motor	OW	2.12	2.09	1.5%
4	General Motors	OW	7.78	7.68	1.3%
5	American Axle	OW	0.47	0.37	24.6%
6	Magna International	OW	5.40	5.32	1.5%
7	BorgWarner Inc.	OW	3.81	3.82	(0.4%)
8	Avis Budget	OW	37.57	36.94	1.7%
9	FREYR Battery	OW	-1.39	-1.08	NM
10	CarMax	OW	3.03	3.02	0.6%
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	11.91	(1.2%)
15	Visteon	EW	6.14	6.69	(8.3%)
16	APTIV	EW	4.78	4.72	1.4%
17	Mobileye Global	EW	0.70	0.70	0.0%
18	Carvana	UW	-3.79	-3.70	NM
19	Adient	UW	2.17	2.16	0.6%
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	-1.49	NM
27	Li-Cycle	UW	-0.93	-0.91	NM
28	QuantumScape	UW	-0.89	-0.82	NM
29	Fisker	UW	-0.96	-0.84	NM

Source: Refinitiv, Morgan Stanley Research estimates

Exhibit 5: Europe Coverage Rankings

Europe			2023e EPS		
			MS	Cons	
1	Michelin	OW	3.15	3.15	0.2%
2	Daimler Truck Holding	OW	4.45	4.37	1.8%
3	Pirelli	OW	0.56	0.51	10.9%
4	Aramis Autos	EW	-0.25	-0.35	NM
5	Volkswagen	EW	31.05	31.89	(2.6%)
6	Mercedes-Benz	EW	13.38	13.12	2.0%
7	Autoliv	EW	6.93	6.71	3.3%
8	BMW	EW	17.14	17.44	(1.8%)
9	Volvo	EW	24.88	25.44	(2.2%)

Source: Refinitiv, Morgan Stanley Research estimates

Exhibit 4: Japan Coverage Rankings

Japan			2023e EPS		
			MS	Cons	
1	Denso	OW	613.07	713.69	(14.1%)
2	NHK Spring	OW	109.93	136.57	(19.5%)
3	NOK	OW	140.52	173.17	(18.9%)
4	Mitsubishi Motors	OW	85.72	91.44	(6.3%)
5	Musashi Seimitsu	OW	136.22	204.94	(33.5%)
6	Suzuki Motor	OW	531.39	561.30	(5.3%)
7	Yokohama Rubber	OW	352.84	358.98	(1.7%)
8	Toyota Motor	EW	246.36	263.39	(6.5%)
9	Unipres	EW	114.67	93.73	22.3%
10	Mazda Motor	EW	280.55	269.62	4.1%
11	Toyota Industries	EW	634.50	738.27	(14.1%)
12	Toyoda Gosei	EW	239.41	297.23	(19.5%)
13	Toyo Tire & Rubber	EW	233.93	297.45	(21.4%)
14	Bridgestone	EW	527.86	542.00	(2.6%)
15	Stanley Electric	EW	164.79	231.11	(28.7%)
16	Honda Motor	EW	547.52	602.83	(9.2%)
17	EXEDY	EW	202.32	243.85	(17.0%)
18	Koito Mfg.	EW	164.71	181.41	(9.2%)
19	Nissan Motor	EW	83.89	102.51	(18.2%)
20	Aisin Seiki	UW	389.58	574.27	(32.2%)
21	Nifco	UW	230.01	291.68	(21.1%)
22	Toyota Boshoku	UW	222.06	284.63	(22.0%)
23	Sumitomo Rubber	UW	90.78	100.33	(9.5%)
24	Subaru Corp	UW	341.94	346.00	(1.2%)

Source: Refinitiv, Morgan Stanley Research estimates

Exhibit 6: China Coverage Rankings

China			2023e EPS		
			MS	Cons	
1	Guangzhou Auto	OW	0.69	0.84	(17.6%)
2	Great Wall	OW	0.62	0.73	(14.6%)
3	Yongda Auto	OW	0.57	0.62	(9.1%)
4	Minth Group	OW	1.81	1.82	(0.3%)
5	Nexteer Automotive	OW	0.06	0.05	20.0%
6	Dongfeng	EW	1.11	0.97	14.8%
7	BYD	EW	7.45	9.76	(23.7%)
8	Baoxin Auto	UW	0.13	0.15	(15.4%)
9	Zhengtong Auto	UW	0.08	0.08	0.0%
10	BAIC Motor	UW	0.34	0.46	(26.7%)

Source: Refinitiv, Morgan Stanley Research estimates

Exhibit7: India Coverage Rankings

India		2023e EPS		
		MS	Cons	
1	Maruti Suzuki	OW	365.67	431.26 (15.2%)
2	Bharat Forge	OW	25.38	26.73 (5.1%)
3	Ashok Leyland	OW	8.29	9.66 (14.2%)
4	Mahindra & Mahindra	OW	84.92	85.31 (0.5%)
5	Tata Motors	OW	39.48	45.13 (12.5%)
6	Exide Industries	OW	12.08	14.95 (19.2%)
7	Bajaj Auto	OW	240.25	278.23 (13.7%)
8	Apollo Tyres	EW	26.05	26.13 (0.3%)
9	Eicher Motors Ltd.	EW	106.53	101.83 4.6%
10	TVS Motor	EW	39.86	52.47 (24.0%)
11	Hero MotoCorp	UW	179.33	200.61 (10.6%)
12	Balkrishna Industries	UW	75.31	75.20 0.1%
13	Amara Raja	UW	43.44	48.50 (10.4%)

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	7153.57 7.6%
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	46629.97 18.9%
6	Hankook Tire	UW	4071.20	5345.35 (23.8%)
7	Hanon Systems	UW	392.49	515.05 (23.8%)

Source: Refinitiv, Morgan Stanley Research estimates

Exhibit8: Taiwan Coverage Rankings

Taiwan		2023e EPS		
		MS	Cons	
1	Macauto Industrial	OW	9.78	9.78 (0.0%)
2	Hota Industrial	OW	3.32	2.98 11.4%
3	Global PMX	EW	10.93	7.93 37.8%
4	Hu Lane Associates	EW	9.89	8.97 10.3%
5	Cheng Shin Rubber	UW	2.23	2.16 3.6%

Source: Refinitiv, Morgan Stanley Research estimates

Note: Coverage Rankings are as of Aug 25, 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	
		25-Aug	Price Target	PT (%)	Rating	LC	US\$	2023e	2024e	2023e	2024e	2023e	2024e	2023e	2024e	2023e	2024e	2023e	2024e
Europe																			
Mercedes-Benz	EUR	66.99	73.50	10%	EW	71.7	77.7	13.38	12.29	13.12	12.84	5.0x	5.5x	2.7x	2.9x	0.5x	0.5x	0.8x	0.7x
Volkswagen	EUR	112.18	130.00	16%	EW	62.6	67.9	31.05	28.96	31.89	31.52	3.6x	3.9x	0.4x	0.4x	0.1x	0.1x	0.3x	0.3x
Daimler Truck Holding	EUR	32.38	43.00	33%	OW	26.6	28.9	4.45	4.32	4.37	4.25	7.3x	7.5x	6.0x	6.2x	0.7x	0.7x	1.2x	1.1x
Renault	EUR	36.38	44.00	21%	OW	10.8	11.7	12.17	12.70	12.38	12.75	3.0x	2.9x	NA	NA	NA	NA	0.3x	0.3x
Stellantis	USD	16.55	22.00	33%	OW	56.4	56.4	5.46	4.90	5.57	5.12	3.0x	3.4x	NA	NA	NA	NA	0.6x	0.5x
BMW	EUR	96.78	100.00	3%	EW	61.4	66.5	17.14	14.55	17.44	16.49	5.6x	6.7x	1.6x	1.6x	0.3x	0.2x	0.7x	0.6x
Europe Weighted Average												4.6x	5.1x	2.1x	2.2x	0.3x	0.3x	0.6x	0.6x
North America																			
Ford Motor	USD	11.75	16.00	36%	OW	46.2	46.2	2.12	1.93	2.09	1.91	5.5x	6.1x	1.9x	1.7x	0.2x	0.2x	1.0x	0.9x
General Motors	USD	32.88	41.00	25%	OW	45.2	45.2	7.78	6.52	7.68	6.77	4.2x	5.0x	1.6x	1.5x	0.2x	0.2x	0.6x	0.5x
North America Weighted Average												4.9x	5.6x	1.8x	1.6x	0.2x	0.2x	0.8x	0.7x
China																			
BYD	HKD	223.60	249.00	11%	EW	700.0	89.3	7.45	9.88	9.76	13.33	30.0x	22.6x	11.8x	8.9x	1.0x	0.8x	4.6x	3.7x
Great Wall	HKD	9.32	13.00	39%	OW	192.6	24.6	0.62	0.98	0.73	0.98	15.0x	9.5x	15.7x	11.0x	1.0x	0.9x	1.1x	1.0x
Weichai Power	HKD	9.61	12.00	25%	EW	105.7	13.5	0.75	0.91	0.89	1.10	12.8x	10.5x	3.9x	3.6x	0.3x	0.3x	1.0x	0.9x
SAIC Motor	CNY	14.04	18.00	28%	OW	164.0	22.5	1.67	1.89	1.36	1.54	8.4x	NA	3.9x	3.0x	0.2x	0.1x	0.6x	0.5x
BAIC Motor	HKD	1.87	1.80	(4%)	UW	4.7	0.6	0.34	0.33	0.46	0.42	5.5x	NA	0.0x	0.3x	0.0x	0.0x	0.2x	0.2x
Zhengzhou Yutong Bus C	CNY	12.74	14.00	10%	EW	28.2	3.9	1.24	NA	0.57	0.83	10.3x	NA	4.7x	NA	0.5x	NA	1.5x	NA
Chongqing Changan	HKD	3.66	5.80	58%	OW	121.4	15.5	0.97	0.59	1.05	1.03	3.8x	6.2x	4.8x	7.0x	0.4x	0.4x	0.5x	0.5x
Jiangling Motors	HKD	6.45	7.20	12%	EW	11.8	1.5	0.53	0.56	NA	12.1x	11.6x	0.8x	NM	0.0x	NM	0.6x	0.5x	
Dongfeng	HKD	2.93	4.10	40%	EW	8.1	1.0	1.11	1.02	0.97	0.97	2.6x	2.9x	0.3x	0.4x	0.0x	0.1x	0.1x	0.1x
Guangzhou	HKD	4.12	8.30	101%	OW	93.9	12.0	1.42	1.56	0.84	0.88	2.9x	2.6x	17.1x	7.2x	0.5x	0.4x	0.3x	0.3x
Anhui Jianghuai	CNY	11.81	11.60	(2%)	EW	25.8	3.5	0.14	0.22	0.07	0.18	82.0x	54.8x	10.2x	9.6x	0.6x	0.5x	1.9x	1.9x
China Weighted Average												20.5x	17.0x	10.2x	7.7x	0.7x	0.6x	2.6x	2.2x
South Korea																			
Hyundai Motor	KRW	186,200.00	230,000.00	24%	EW	45,822.6	34.6	55,437.60	46,280.77	46,629.97	44,551.48	3.4x	4.0x	2.0x	2.1x	0.2x	0.2x	0.4x	0.4x
Kia Motors	KRW	78,100.00	105,000.00	34%	OW	31,399.7	23.7	21,964.60	21,506.88	22,402.38	21,548.34	3.6x	3.6x	2.3x	2.4x	0.3x	0.3x	0.7x	0.6x
South Korea Weighted Average												3.4x	3.9x	2.1x	2.2x	0.3x	0.3x	0.5x	0.5x
Japan																			
Toyota Motor	JPY	2,395.00	2,400.00	0%	EW	39,074.4	268.3	246.36	265.38	263.39	273.29	9.7x	9.0x	5.6x	5.3x	0.8x	0.7x	1.1x	1.0x
Mazda Motor	JPY	1,469.00	1,400.00	(5%)	EW	928.1	6.4	280.55	313.45	269.62	280.16	5.2x	4.7x	1.4x	1.0x	0.1x	0.1x	0.6x	0.6x
Suzuki Motor	JPY	5,346.00	5,900.00	10%	OW	2,625.7	18.0	531.39	588.96	561.30	602.55	10.1x	9.1x	3.9x	3.5x	0.5x	0.4x	1.2x	1.1x
Mitsubishi Motors	JPY	551.00	610.00	11%	OW	821.1	5.6	85.72	101.93	91.44	95.15	6.4x	5.4x	2.3x	1.7x	0.2x	0.2x	0.9x	0.8x
Subaru Corp	JPY	2,687.50	2,400.00	(11%)	UW	2,067.2	14.2	341.94	371.75	366.42	367.46	7.9x	7.2x	11.5x	9.7x	0.3x	0.3x	0.9x	0.8x
Nissan Motor	JPY	598.00	560.00	(6%)	EW	2,524.0	17.3	83.89	93.23	102.51	106.76	7.1x	6.4x	1.9x	1.4x	0.1x	0.1x	0.4x	0.4x
Honda Motor	JPY	4,550.00	4,400.00	(3%)	EW	8,242.0	56.6	547.52	628.06	602.83	625.17	8.3x	7.2x	3.0x	2.5x	0.2x	0.2x	0.6x	0.6x
Japan Weighted Average												9.2x	8.5x	5.1x	4.6x	0.6x	0.6x	1.0x	0.9x
India (2)																			
Maruti Suzuki	INR	9,508.5	11,164.0	17%	OW	2,872.3	34.8	365.7	410.7	431.3	472.6	26.0x	23.1x	15.6x	13.7x	1.7x	1.5x	4.4x	4.0x
Bajaj Auto	INR	4,588.6	5,063.0	10%	OW	1,298.4	15.7	240.2	285.0	278.2	310.6	19.1x	16.1x	15.2x	12.5x	2.9x	2.4x	4.9x	4.5x
TVS Motor	INR	1,339.3	1,171.0	(13%)	EW	636.3	7.7	39.9	44.8	52.5	59.6	33.6x	29.9x	19.3x	17.0x	2.2x	2.0x	8.6x	7.1x
Hero MotoCorp	INR	2,911.3	2,344.0	(19%)	UW	581.9	7.0	179.3	197.4	200.6	225.8	16.2x	14.7x	9.3x	8.2x	1.2x	1.1x	3.2x	3.0x
Mahindra & Mahindra	INR	1,520.1	1,697.0	12%	OW	1,890.2	22.9	84.9	95.5	85.3	89.5	17.9x	15.9x	12.6x	11.3x	1.8x	1.6x	3.6x	3.0x
Tata Motors	INR	605.5	711.0	17%	OW	2,214.3	26.8	39.5	48.4	53.0	64.5	11.4x	9.4x	4.6x	4.0x	0.7x	0.6x	3.9x	3.0x
Balkrishna Industries	INR	2,373.2	1,765.0	(26%)	UW	458.8	5.6	75.3	96.5	93.9	108.6	31.5x	24.6x	19.7x	15.7x	4.7x	4.2x	5.3x	4.6x
Ashok Leyland	INR	186.1	214.0	15%	OW	546.3	6.6	8.3	9.1	9.7	10.3	22.4x	20.4x	13.0x	11.9x	1.4x	1.3x	5.5x	4.7x
India Weighted Average												20.6x	17.9x	12.6x	10.9x	1.8x	1.6x	4.5x	3.9x
Global Weighted Average												10.7x	9.5x	5.9x	5.1x	0.7x	0.6x	1.5x	1.3x

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 25, 2023

EV OEMs Comps

Exhibit 11: EV OEM Comps

Company	Currency	Price at 21-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	2024e	2023e	2024e				
North America																											
Tesla	USD	230.04	250.00	9%	EW	730.1	730.1	777.8	2.77	3.24	3.36	4.77	83.0x	70.9x	52.7x	38.9x	7.8x	5.9x	14.6x	12.1x							
Lucid	USD	5.86	5.00	(15%)	UW	13.4	13.4	9.2	-1.21	-0.76	-1.49	-1.09	NM	NM	NM	NM	11.8x	4.7x	2.6x	3.5x							
Fisker	USD	5.81	4.00	(31%)	UW	1.2	1.2	3.2	-0.96	-0.60	-0.84	-0.40	NM	NM	NM	NM	1.7x	1.1x	13.2x	21.6x							
Rivian	USD	19.64	24.00	22%	OW	18.5	18.5	17.2	-0.65	-3.49	-0.19	-3.97	NM	NM	NM	NM	4.5x	3.2x	2.4x	2.6x							
North America Weighted Average													83.0x	70.9x	52.7x	38.9x	7.7x	5.8x	14.1x	11.7x							
China																											
NIO Inc.	USD	10.64	18.70	76%	OW	17.4	17.4	261.2	-5.82	-0.29	-1.22	-0.62	NM	NM	NM	77.3x	3.9x	1.9x	6.4x	5.8x							
Li Auto Inc.	USD	38.80	53.00	36%	OW	35.0	35.0	224.7	3.35	6.83	0.90	1.59	11.6x	5.7x	45.7x	23.8x	1.9x	1.3x	4.9x	3.9x							
BYD Company	HKD	223.60	249.00	11%	EW	700.0	89.3	583.0	7.45	9.88	9.76	13.33	30.0x	22.6x	12.1x	9.1x	1.0x	0.8x	4.6x	3.7x							
Xpeng Inc.	USD	16.20	25.40	57%	OW	11.5	11.5	100.2	-8.21	-7.21	-1.13	-0.75	NM	NM	NM	NM	3.5x	1.8x	3.4x	4.3x							
China Weighted Average													24.8x	17.9x	21.6x	21.1x	1.7x	1.1x	4.7x	4.1x							
Global Weighted Average																				74.5x	63.2x	48.1x	36.0x	6.7x	5.0x	12.5x	10.4x

Source: Refinitiv, Morgan Stanley Research estimates Note: PTs & Ratings are as of Aug 25, 2023

Global Supplier Comps

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

Company	Currency	Price at 25-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																			
Hella KGaA Hueck	EUR	64.50	NC	NA	NC	7.2	7.8	NA	NA	3.80	4.80	17.0x	13.4x	6.8x	6.0x	0.9x	0.9x	2.1x	1.9x
Europe Weighted Average												17.0x	13.4x	6.8x	6.0x	0.9x	0.9x	2.1x	1.9x
North America (1)																			
APTIV	USD	96.36	100.00	4%	EW	27.3	27.3	4.78	5.54	4.72	6.22	20.1x	17.4x	10.1x	8.6x	1.5x	1.3x	2.8x	2.4x
BorgWarner Inc.	USD	39.69	47.00	18%	OW	9.3	9.3	3.81	4.53	3.82	4.40	10.4x	8.8x	5.6x	4.6x	0.8x	0.7x	1.2x	1.1x
Lear	USD	139.99	140.00	0%	EW	8.2	8.2	11.77	14.87	11.91	16.37	11.9x	9.4x	5.1x	4.2x	0.4x	0.3x	3.2x	2.9x
Visteon	USD	135.77	145.00	7%	EW	3.8	3.8	6.14	8.10	6.69	9.70	22.1x	16.8x	9.8x	7.9x	0.9x	0.8x	10.2x	7.9x
Magna International	USD	56.23	65.00	16%	OW	16.1	16.1	5.40	6.70	5.32	6.62	10.4x	8.4x	4.4x	3.5x	0.4x	0.3x	1.1x	1.0x
Adient	USD	37.99	38.00	0%	UW	3.6	3.6	2.17	3.01	2.16	3.69	17.5x	12.6x	5.6x	5.1x	0.3x	0.3x	NM	NM
Garrett Motion	USD	8.02	NC	NA	NC	2.1	2.1	NA	NA	0.99	1.22	8.1x	6.6x	3.4x	3.2x	0.6x	0.5x	NA	NA
American Axle	USD	7.16	12.00	68%	OW	0.8	0.8	0.47	0.60	0.37	0.80	15.4x	11.9x	3.9x	3.3x	0.5x	0.4x	1.2x	1.1x
North America Weighted Average												15.3x	12.7x	7.1x	6.0x	0.9x	0.8x	2.6x	2.2x
Japan																			
Denso	JPY	9,565	10,000	5%	OW	7,537	51.8	613	714	714	800	15.6x	13.4x	7.7x	6.8x	1.1x	1.0x	1.6x	1.5x
Toyota Industries	JPY	9,880	8,400	(15%)	EW	3,219	22.1	635	683	738	819	15.6x	14.5x	11.4x	10.7x	1.3x	1.2x	0.8x	0.7x
Aisin Seiki	JPY	4,619	3,500	(24%)	UW	1,361	9.3	390	438	574	613	11.9x	10.6x	4.7x	4.3x	0.4x	0.4x	0.7x	0.7x
Koito Mfg.	JPY	2,395	2,500	4%	EW	770	5.3	165	209	181	201	14.5x	11.4x	4.2x	3.5x	0.5x	0.4x	1.2x	1.1x
Nifco	JPY	4,161	3,100	(25%)	UW	447	3.1	230	257	292	324	18.1x	16.2x	7.0x	6.3x	1.0x	0.9x	1.7x	1.6x
Stanley Electric	JPY	2,541	2,800	10%	EW	435	3.0	165	234	231	271	15.4x	10.9x	4.5x	3.7x	0.7x	0.7x	0.9x	0.8x
Toyota Boshoku	JPY	2,633	1,800	(32%)	UW	494	3.4	222	241	285	315	11.9x	10.9x	3.6x	3.3x	0.2x	0.2x	1.1x	1.1x
EXEDY	JPY	2,544	1,900	(25%)	EW	124	0.8	202	236	244	253	12.6x	10.8x	3.4x	3.1x	0.4x	0.4x	0.5x	0.5x
NHK Spring	JPY	1,110	1,250	13%	OW	271	1.9	110	157	137	161	10.1x	7.1x	4.2x	3.3x	0.4x	0.3x	0.7x	0.7x
Toyoda Gosei	JPY	2,992	2,200	(26%)	EW	389	2.7	239	276	297	326	12.5x	10.9x	4.6x	3.9x	0.5x	0.4x	0.8x	0.7x
Musashi Seimitsu	JPY	1,702	2,100	23%	OW	111	0.8	136	182	205	242	12.5x	9.3x	6.1x	5.2x	0.6x	0.5x	1.1x	1.0x
Unipres	JPY	1,186	1,100	(7%)	EW	57	0.4	108	182	154	197	11.0x	6.5x	2.8x	2.1x	0.3x	0.2x	0.4x	0.4x
NOK	JPY	1,980	2,250	14%	OW	343	2.4	141	205	173	226	14.1x	9.7x	4.7x	4.1x	0.5x	0.5x	0.6x	0.6x
Japan Weighted Average												14.9x	12.9x	7.5x	6.7x	0.9x	0.9x	1.2x	1.1x
China																			
Fuyao Glass	HKD	34.85	32.00	(8%)	EW	109.4	14.0	1.87	2.45	2.11	2.40	18.6x	14.2x	10.2x	8.1x	2.7x	2.3x	2.6x	2.3x
Huayu Automotive	HKD	18.46	25.00	35%	OW	58.2	8.0	2.13	2.30	2.10	2.31	8.7x	8.0x	3.5x	2.9x	0.2x	0.2x	1.0x	0.9x
Mintih Group Limited	HKD	22.80	28.00	23%	OW	28.6	3.6	1.81	2.36	1.82	2.29	12.6x	9.7x	8.0x	5.7x	1.1x	0.9x	1.2x	1.0x
Changzhou Xingyu	HKD	135.34	172.00	27%	OW	38.7	5.3	3.86	5.30	4.15	5.66	35.1x	25.5x	23.3x	17.3x	3.7x	3.0x	4.2x	3.8x
Nexteer Automotive Group	HKD	4.89	7.50	53%	OW	96.3	12.3	0.06	0.09	0.35	0.54	80.1x	55.2x	3.6x	3.0x	0.4x	0.4x	0.8x	0.8x
China Weighted Average												35.8x	25.7x	8.5x	6.6x	1.6x	1.3x	1.9x	1.7x
South Korea																			
Hyundai MOBIS	KRW	227,000	250,000	10%	EW	21,403	16.2	31,010	31,022	36,279	38,792	7.3x	7.3x	6.5x	5.7x	0.4x	0.3x	0.5x	0.5x
LG Chem	KRW	560,000	620,000	11%	EW	42,117	31.8	27,472	50,540	27,246	52,412	20.4x	11.1x	6.6x	5.2x	0.9x	0.9x	1.2x	1.1x
Hanon Systems	KRW	9,130	7,800	(15%)	UW	4,874	3.7	392	490	515	619	23.3x	18.6x	8.0x	7.2x	0.8x	0.8x	2.0x	1.9x
Mando Corp	KRW	41,100	63,000	53%	OW	1,930	1.5	4,205	4,507	4,719	5,899	9.8x	9.1x	5.5x	5.5x	0.4x	0.4x	0.8x	0.8x
South Korea Weighted Average												16.3x	10.4x	6.6x	5.5x	0.7x	0.7x	1.0x	1.0x
Taiwan																			
Hu Lane Associate Inc.	TWD	141	140	(1%)	EW	14	0.4	9.89	10.83	2.04	2.47	14.3x	13.0x	10.3x	8.9x	2.3x	2.0x	2.4x	2.2x
Cub Elecparts Inc	TWD	134	148	11%	EW	15	0.5	10.93	13.30	1.64	2.43	12.2x	10.0x	6.8x	5.6x	1.7x	1.4x	1.7x	1.6x
Hota Industrial Mfg.	TWD	65	85	31%	OW	18	0.6	3.32	3.84	0.68	0.82	19.6x	16.9x	7.6x	6.8x	2.3x	2.0x	1.4x	1.4x
Taiwan Weighted Average												15.6x	13.5x	8.1x	7.0x	2.1x	1.8x	1.8x	1.7x
India																			
Exide Industries	INR	259	212	(18%)	OW	220	2.7	12.08	14.37	14.95	11.53	21.4x	18.0x	11.9x	10.1x	1.4x	1.2x	1.9x	1.7x
Samvardhana Motherson	INR	96	80	(17%)	EW	650	7.9	4.95	6.16	5.80	11.53	19.4x	15.6x	8.6x	7.4x	0.8x	0.7x	2.6x	2.4x
Amara Raja	INR	624	623	(0%)	UW	107	1.3	47.31	51.94	54.50	55.73	13.2x	12.0x	6.6x	5.7x	0.9x	0.8x	1.8x	1.6x
India Weighted Average												19.1x	15.7x	9.2x	7.8x	0.9x	0.8x	2.4x	2.1x
Global Weighted Average												18.5x	14.4x	7.5x	6.3x	1.0x	0.9x	1.7x	1.5x

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 25, 2023

Global Tire Comps

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

Company	Currency	Price at 25-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	67.52	NC	NA	NC	13.5	14.6	NA	NA	7.49	9.53	9.0x	7.1x	4.2x	3.7x	0.5x	0.5x	0.9x	0.9x
Pirelli & C. SpA	EUR	4.52	5.50	22%	OW	4.5	4.9	0.56	0.62	0.51	0.57	8.1x	7.3x	4.7x	4.8x	1.1x	1.0x	0.8x	0.8x
Michelin	EUR	28.49	35.00	23%	OW	20.3	22.1	3.15	3.26	3.15	3.27	9.0x	8.7x	4.1x	3.8x	0.8x	0.7x	1.1x	1.0x
Europe Weighted Average												8.9x	8.0x	4.2x	3.9x	0.7x	0.7x	1.0x	0.9x
Japan																			
Bridgestone	JPY	5,513	5,700	3%	EW	3,935	27.0	528	569	542	571	10.4x	9.7x	4.3x	3.9x	0.9x	0.8x	1.2x	1.2x
Toyo Tire & Rubber Co	JPY	2,136	1,850	(13%)	EW	329	2.3	234	265	297	297	9.1x	8.1x	4.6x	4.3x	0.8x	0.7x	0.9x	0.9x
Sumitomo Rubber	JPY	1,450	1,100	(24%)	UW	381	2.6	91	138	100	139	16.0x	10.5x	6.5x	5.5x	0.5x	0.5x	0.7x	0.7x
Yokohama Rubber	JPY	2,896	3,400	17%	OW	491	3.4	353	423	359	422	8.2x	6.8x	6.5x	5.5x	0.9x	0.8x	0.7x	0.6x
Japan Weighted Average												10.6x	9.4x	4.7x	4.2x	0.8x	0.8x	1.1x	1.0x
Korea																			
Hankook Tire	KRW	37,950	33,000	(13%)	UW	4,701	3.6	4,071	4,136	5,345	6,276	9.3x	NA	3.0x	2.7x	0.5x	0.5x	0.5x	0.5x
Korea Weighted Average												9.3x	NA	3.0x	2.7x	0.5x	0.5x	0.5x	0.5x
Global Weighted Average												9.9x	8.6x	4.4x	3.9x	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 25, 2023

Global Dealer Comps

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

Company	Currency	Price at 25-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\$		LC	2023e	2024e	2023e	2024e	2023e	2024e	2023e	2024e	2023e	2024e	2023e
North America																				
CarMax	USD	78.33	80.00	2%	OW	12.4	12.4	19.4	3.03	3.36	3.02	3.74	25.8x	23.3x	17.8x	14.4x	0.7x	0.6x	2.9x	2.5x
Penske Automotive Group	USD	164.67	107.00	(35%)	UW	11.1	11.1	12.3	16.79	17.68	16.55	15.90	9.8x	9.3x	6.1x	6.0x	0.4x	0.4x	2.3x	1.9x
Lithia Motors	USD	302.59	220.00	(27%)	UW	8.3	8.3	14.0	36.92	36.72	38.26	37.64	8.2x	8.2x	7.5x	7.9x	0.5x	0.5x	1.3x	1.1x
Sonic Automotive	USD	51.77	35.00	(32%)	UW	1.2	1.2	4.4	6.62	7.28	6.67	6.79	7.8x	7.1x	6.0x	5.8x	0.3x	0.3x	2.8x	2.3x
Group 1 Automotive	USD	257.79	200.00	(22%)	UW	3.6	3.6	5.8	46.08	43.96	44.25	40.70	5.6x	5.9x	5.5x	5.2x	0.3x	0.3x	1.3x	1.0x
Carvana	USD	37.76	37.00	(2%)	UW	4.0	4.0	12.6	-2.10	-1.69	-3.70	-2.52	NM	NM	67.6x	41.8x	1.2x	1.2x	14.5x	169.8x
Asbury	USD	217.57	165.00	(24%)	UW	4.5	4.5	7.5	33.94	31.70	33.50	30.98	6.4x	6.9x	6.6x	6.5x	0.5x	0.4x	1.3x	1.1x
AutoNation	USD	155.76	117.00	(25%)	UW	6.9	6.9	10.3	22.76	20.26	22.87	21.30	6.8x	7.7x	5.7x	5.3x	0.4x	0.4x	2.7x	2.0x
North America Weighted Average													12.6x	12.0x	13.8x	11.0x	0.5x	0.5x	3.1x	14.8x
China																				
China Yongda Auto	HKD	3.32	5.10	54%	OW	6.5	0.8	5.8	0.57	0.81	0.62	0.86	5.9x	4.1x	2.9x	2.2x	0.1x	0.1x	0.4x	0.4x
MeiDong	HKD	5.87	14.80	152%	OW	7.9	1.0	7.6	0.49	0.80	0.56	0.88	12.1x	7.3x	4.2x	3.2x	0.2x	0.2x	1.5x	1.3x
Baoxin Auto	HKD	0.24	0.27	12%	UW	0.7	0.1	5.1	0.13	0.14	0.15	0.18	1.9x	1.7x	3.2x	2.9x	0.2x	0.2x	0.1x	0.1x
Zhongsheng Group	HKD	23.90	37.00	55%	OW	57.2	7.3	63.0	2.50	3.04	2.83	3.33	9.6x	7.9x	5.1x	4.2x	0.3x	0.3x	1.2x	1.1x
China Zhengtong Auto	HKD	0.43	0.39	(9%)	UW	1.2	0.2	18.5	0.08	0.23	-0.36	-0.26	5.2x	1.9x	9.5x	7.9x	0.7x	0.7x	2.6x	1.1x
China Weighted Average													9.4x	7.3x	4.9x	3.9x	0.3x	0.3x	1.2x	1.0x
Global Weighted Average													12.0x	11.2x	12.5x	9.9x	0.5x	0.5x	2.8x	12.7x

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 25, 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.	Hesai Motor	Porsche	Avis Budget
Price at Aug 24	217.65	64.30	632.00	48.68	223.16
Currency	SEK	TWD	TWD	EUR	USD

Company Name	Tong Yang Industry	Yulon Motor	Zhongsheng Group	Tesla	Hertz
Price at Aug 24	61.50	74.50	23.25	6.71	17.19
Currency	TWD	TWD	CNY	USD	USD

Source: Refinitiv, Morgan Stanley Research

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Global Stock Ratings Distribution

(as of July 31, 2023)

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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.

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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.

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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.

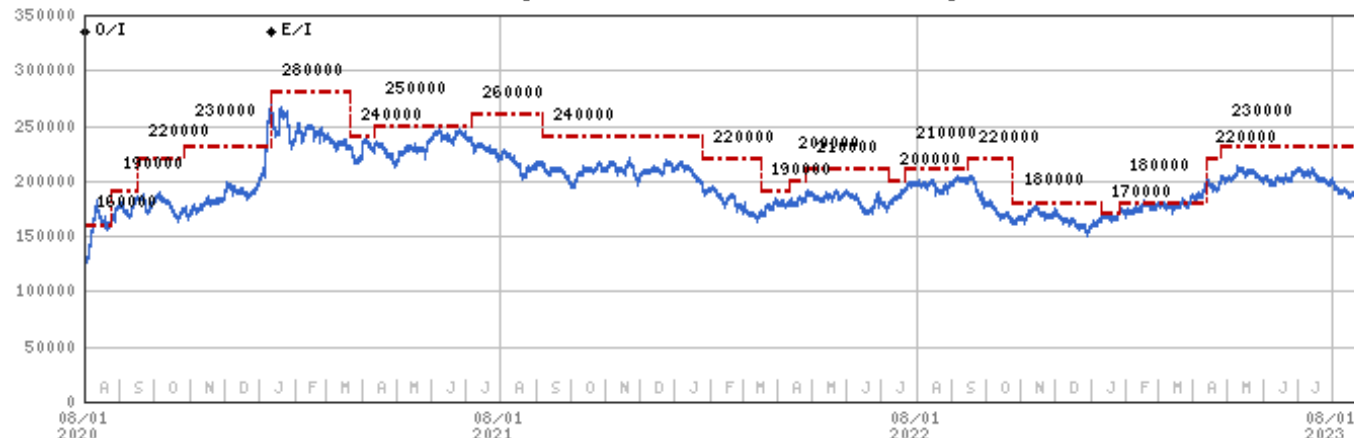
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Stock Price, Price Target and Rating History (See Rating Definitions)

Hyundai MOBIS (012330.KS) - As of 8/24/23 in KRW
Industry : S. Korea Autos & Shared Mobility



Hyundai Motor (005380.KS) - As of 8/24/23 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.

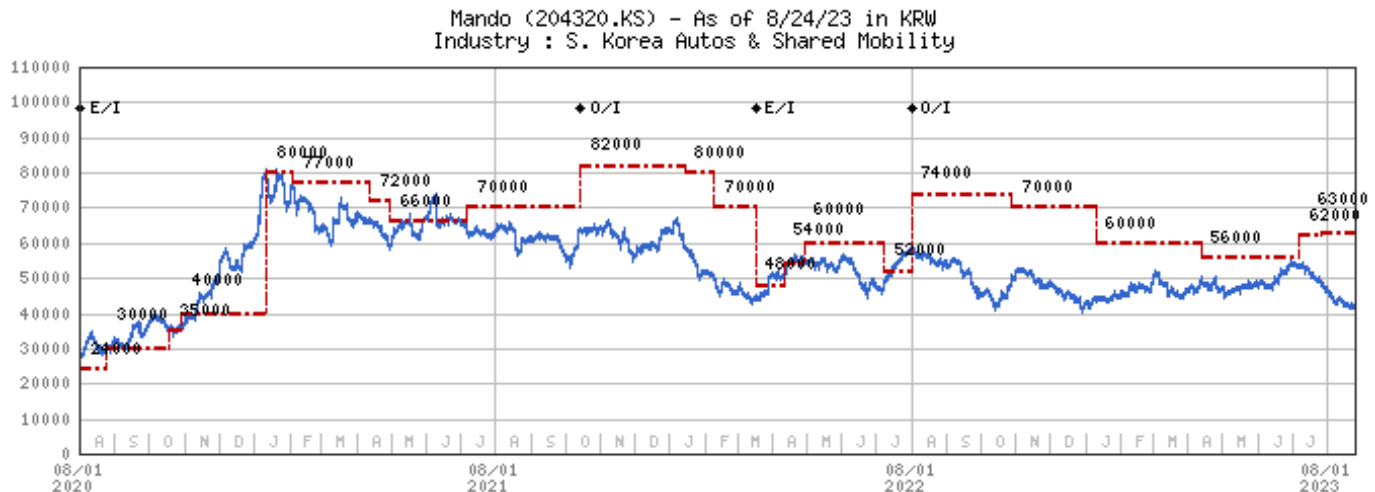
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Kia Corp. (000270.KS) - As of 8/24/23 in KRW
Industry : S. Korea Autos & Shared Mobility



Korea Electric Power (015760.KS) - As of 8/24/23 in KRW
Industry : S. Korea Energy & Materials





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* (08/24/2023)
Adam Jonas, CFA		
Adient PLC (ADNT.N)	U (03/17/2021)	\$37.99
American Axle & Manufacturing Holdings Inc (AXL.N)	O (02/28/2022)	\$7.16
Aptiv Plc (APTV.N)	E (11/28/2022)	\$96.36
Asbury Automotive Group Inc (ABG.N)	U (05/20/2022)	\$217.57
AutoNation Inc. (AN.N)	U (01/17/2023)	\$155.76
Avis Budget Group Inc (CAR.O)	O (06/20/2023)	\$229.16
BorgWarner Inc. (BWA.N)	O (05/15/2023)	\$39.69
Carmax Inc (KMX.N)	O (07/10/2018)	\$78.33
Carvana Co (CVNA.N)	U (07/26/2023)	\$37.76
Ferrari NV (RACE.N)	O (05/09/2019)	\$307.53
Fisker Inc (FSR.N)	U (01/25/2023)	\$5.81
Ford Motor Company (F.N)	O (10/05/2022)	\$11.75
FREYR Battery SA (FREY.N)	O (06/28/2023)	\$6.19
General Motors Company (GM.N)	O (05/01/2023)	\$32.88
Group 1 Automotive, Inc (GPI.N)	U (05/20/2022)	\$257.79
Harley-Davidson Inc (HOG.N)	O (03/21/2023)	\$33.19
Hertz Global Holdings Inc (HTZ.O)	E (12/06/2021)	\$17.19
Lear Corporation (LEA.N)	E (02/28/2022)	\$139.99
Li-Cycle Holdings Corp. (LICY.N)	U (01/25/2023)	\$4.14
Lithia Motors Inc. (LAD.N)	U (02/09/2021)	\$302.59
Lucid Group Inc (LCID.O)	U (09/13/2021)	\$5.86
Magna International Inc. (MGA.N)	O (10/14/2021)	\$56.23
Mobileye Global Inc (MBLY.O)	E (07/24/2023)	\$34.13
Penske Automotive Group, Inc (PAG.N)	U (11/17/2021)	\$164.67
Quantumscape Corp (QS.N)	U (11/09/2022)	\$6.71
Rivian Automotive, Inc. (RIVN.O)	O (12/05/2021)	\$19.64
Sonic Automotive Inc (SAH.N)	U (11/17/2021)	\$51.77

Tesla Inc (TSLA.O)	E (06/22/2023)	\$230.04
Visteon Corporation (VC.O)	E (06/01/2022)	\$135.77

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