

## Debrief of Shanghai Auto Show

Our 10 observations

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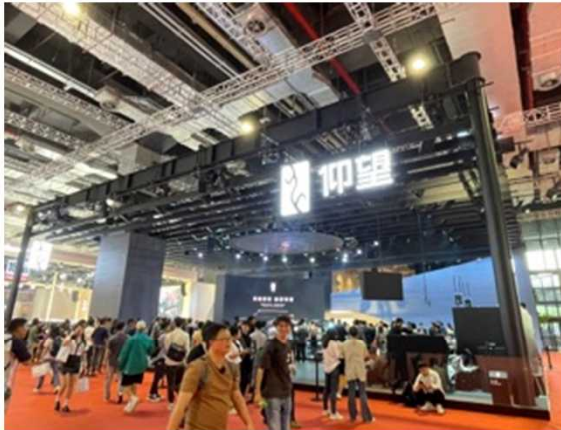
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# Observation 1: EV, EV and EV

Figure 1: BYD Yangwang booth



Source: J.P. Morgan.

Figure 2: GAC booth



Source: J.P. Morgan.

Figure 3: NIO booth



Source: J.P. Morgan.

Figure 4: BMW iX1



Source: J.P. Morgan.

Figure 5: Benz EQE



Source: J.P. Morgan.

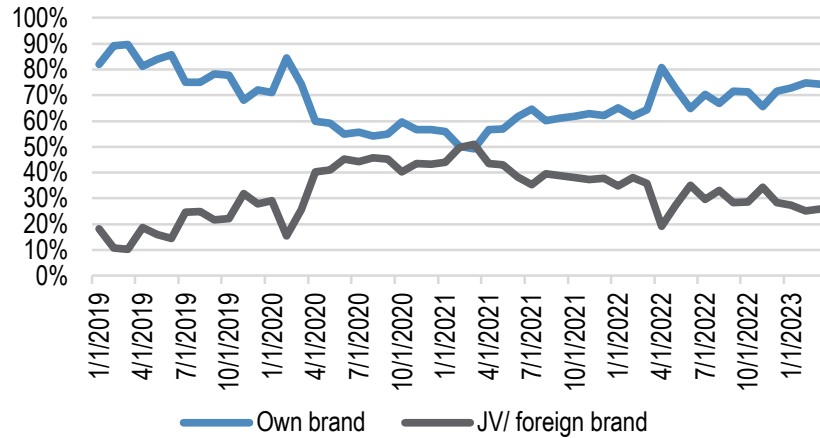
Figure 6: Volkswagon ID.7



Source: J.P. Morgan.

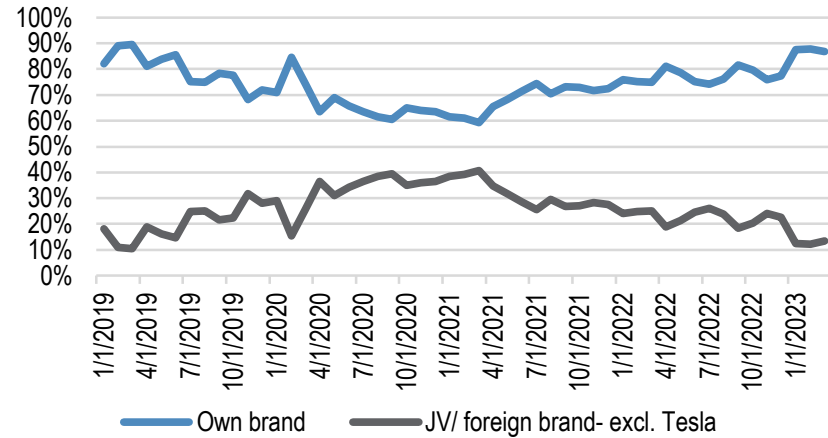
# Observation 1: EV, EV and EV (ctd)

Figure 7: NEV market share by own brand/JV



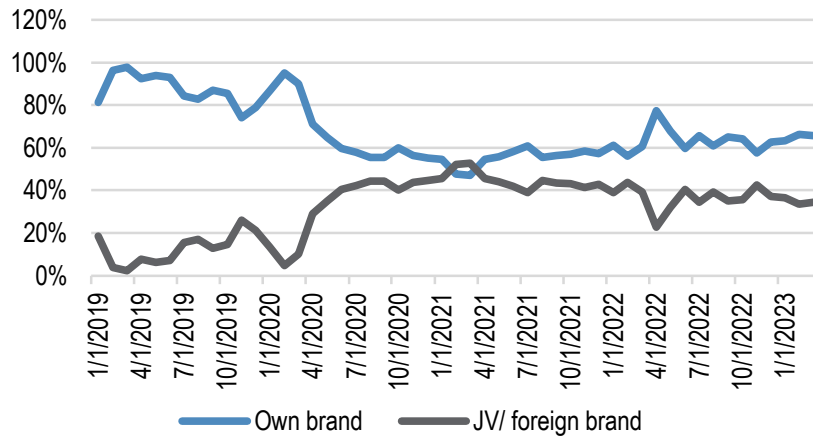
Source: Bloomberg Finance L.P.

Figure 8: NEV market share by own brand/JV excl. Tesla



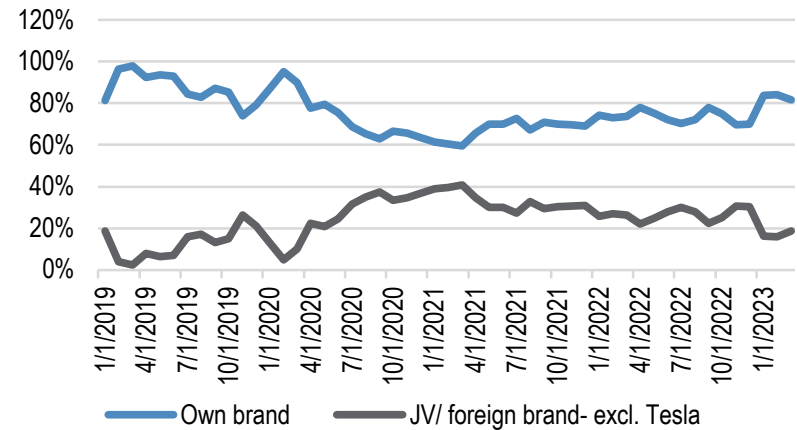
Source: Bloomberg Finance L.P.

Figure 9: BEV market share by own brand/JV



Source: Bloomberg Finance L.P.

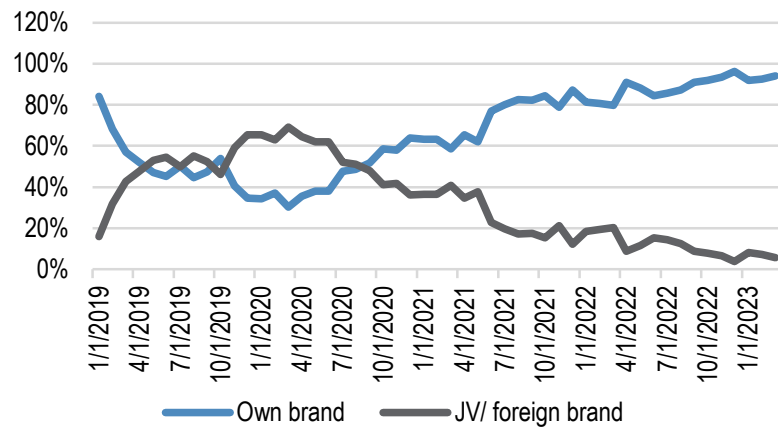
Figure 10: BEV market share by own brand/JV excl. Tesla



Source: Bloomberg Finance L.P.

# Observation 1: EV, EV and EV (ctd)

Figure 11: PHEV market share by own brand/JV



Source: Bloomberg Finance L.P.

## Observation 2: Differentiation becoming homogeneity?

Figure 12: SAIC IM Motor LS7



Source: J.P. Morgan.

Figure 13: SAIC Feifan F7



Source: J.P. Morgan.

Figure 14: SAIC Buick E5



Source: J.P. Morgan.

Figure 15: Changan Deepal S7



Source: J.P. Morgan.

Figure 16: BAIC X7



Source: J.P. Morgan.

Figure 17: GAC Aion Hyper GT



Source: J.P. Morgan.

## Observation 2: Differentiation becoming homogeneity? (ctd)

Figure 18: Geely Livan



Source: J.P. Morgan.

Figure 19: Dongfeng Lantu



Source: J.P. Morgan.

Figure 20: Haval Xiaolong Max



Source: J.P. Morgan.

Figure 21: Geely Galaxy L7



Source: J.P. Morgan.

Figure 22: Haval Xiaolong Max Dashboard



Source: J.P. Morgan.

Figure 23: Dongfeng Lantu Dashboard



Source: J.P. Morgan.

## Observation 3: More entrants despite several exits

Figure 24: Dayun booth



Source: J.P. Morgan.

Figure 25: Karlmann King



Source: J.P. Morgan.

**Examples of those who had exited, filed bankruptcy or financial restructuring in the past few years include**

- **Foreign brands: Guangzhou Auto-FCA JV and Dongfeng Motor-Renault JV**
- **Chinese brands: Borgward (宝沃), Evergrande (恒大), Byton (拜腾), Zhongtai (众泰), Lifan (力帆), Nutron (自游家 under Niu Technology or 小牛) and Huatai (华泰)**

## Observation 4: Dividing subsegment into further sub-subsegment thru multi-brand strategy

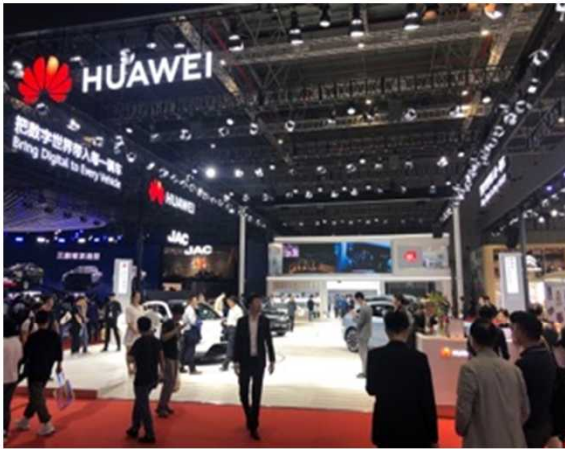
OEM	Brand	Multi-brand strategy and corresponding underlying addressable mkt
BYD	BYD	Dynasty and Ocean series target mainstream mass market
	Denza	Denza is mid-to-high-end brand. It was previous BYD-Benz JV and currently BYD holds 90% holding of Denza
	F brand (likely to be launched in mid-23)	Positioned between Denza and Yangwang, and the F brand products will likely include pickup trucks
	Yangwang	High-end luxury brand targeting price segment of ~Rmb 1mn
Chang'an	Changan V mark/ CS series	ICE series under Changan own brand, targeting the mainstream mass market and oriented to families
	Auchan	Positioned lower than Changan V mark/ CS series, targeting low-end segment
	Changan UNI series	Focusing on younger customers with good appearance, design and performance
	Changan Qiyuan/ OX series	NEV series under Changan own brand, differentiating from V mark
	Shenlan	NEV brand, positioned higher than Changan V mark with EREV and pure BEV products
	Avatr	Mid-to-high-end smart EV brand, co-operating with Huawei
Geely	Geely brand	Targeting the mainstream mass market
	Geely Geometry	Lower end EV brand priced below Rmb 150k
	Geely Galaxy	Mid-to-high-end NEV (EV+PHEV) brand priced at Rmb 150-300k
	Lynk	Mid-to-high-end JV brand
	Zeekr	Higher-end EV brand priced above Rmb 300k
	Livan	Mass market brand focusing on battery swap model
GWM	Haval	Targeting the mainstream mass market
	WEY	Mid-to-high-end brand
	Tank	Focusing on off-road vehicles
	Ora	Low-to-mid-end EV brand/ female customer
	Shalong	Mid-to-high-end EV brand
	Pao	Pickup brand
SAIC Own brand	Roewe	Targeting domestic mainstream mass market
	MG	Targeting mainstream mass segment in both domestic and overseas markets
	Rising auto	Mid-end NEV brand
	IM Motor	Mid-to-high-end EV brand

**Challenges of multi-brand strategy: Building brand awareness/ recognition, cannibalization, and cost/ capex related to new channel**



## Observation 5: Technology giants' explicit shift in strategy

Figure 26: Huawei booth



Source: J.P. Morgan.

Figure 27: "Huawei Inside"



Source: J.P. Morgan.

Figure 28: Baidu booth



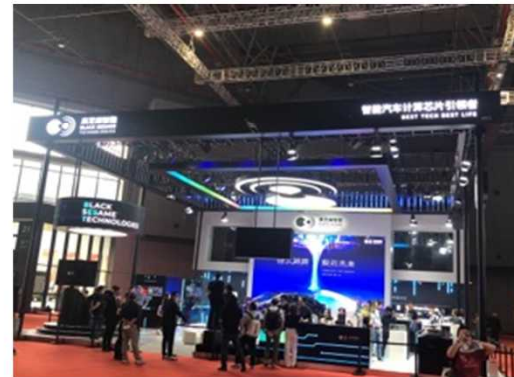
Source: J.P. Morgan.

Figure 29: Ecarx booth



Source: J.P. Morgan.

Figure 30: Black Sesame



Source: J.P. Morgan.

- At Huawei's booth, the company is displaying three car models under AVATR (阿维塔), ArcFox (极狐) and AITO (问界) brands.
- In Baidu's case, it is showcasing products under Dongfeng's Lantu, Hyundai Motor and Lynk&Co brands

## Observation 6: “Go Premium” by Chinese OEMs

Figure 31: BYD Yangwang U8



Source: J.P. Morgan.

Figure 32: BYD Yangwang U9



Source: J.P. Morgan.

Figure 33: GAC Hyper SSR



Source: J.P. Morgan.

Figure 34: Chery i-Car



Source: J.P. Morgan.

*Demographically, the average age of car buyers in China is around 10 years younger than that in the US or EU. This distinction and demographical feature offer Chinese OEMs including start-ups a unique opportunity*

## Observation 7: New marketing tactics through livestreaming?

Figure 35: Live streaming in SH auto show



Source: J.P. Morgan.

Figure 36: Live streaming in SH auto show



Source: J.P. Morgan.

## Observation 8: Rising MPV demand?

China Auto demand breakdown by segment (the MPV's share fell from the peak of 10% in 2015/16 to 4% last year)

PV sales breakdown	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Sedan	69%	67%	63%	55%	50%	48%	49%	48%	46%	46%	47%
MPV	3%	7%	10%	10%	10%	8%	7%	6%	5%	5%	4%
SUV	13%	17%	21%	29%	37%	41%	42%	44%	47%	47%	47%
Crossover	15%	9%	7%	5%	3%	2%	2%	2%	2%	2%	1%
Total PV	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: CAAM

Figure 37: Zeekr 009



Source: J.P. Morgan.

Figure 38: Denza D9



Source: J.P. Morgan.

# Other observations on industry trends

## Concentration and also fragmentation in the NEV space

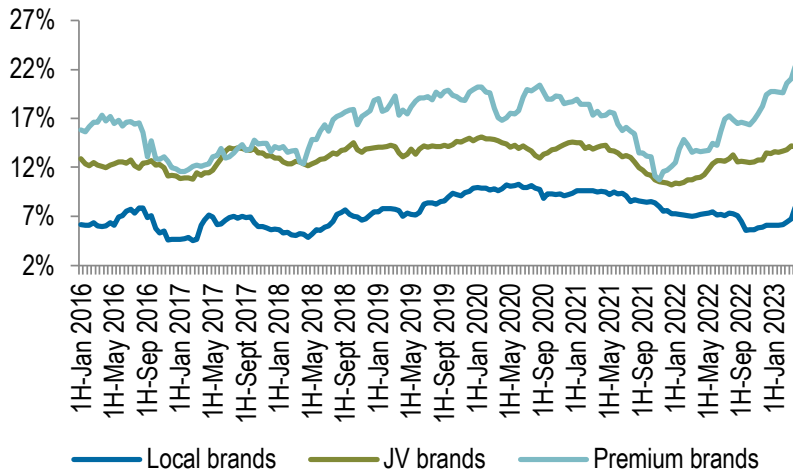
### ❑ Concentration” toward Chinese brands:

- Chinese brands collectively increased market share in the NEV market from 60% in 2021 to 69% in 2022
- Excluding Tesla, Chinese brands dominated with 70%/77% NEV market share in 2021/2022
- In BEVs, Chinese brands now lead with slightly over 60% share (excluding Tesla, 80%) vs. PHEV at >90%.

### ❑ But “fragmentation” within Chinese brands: the top 10 BEV brands’ share slipped, to 69% in 2022 from 72% in 2021

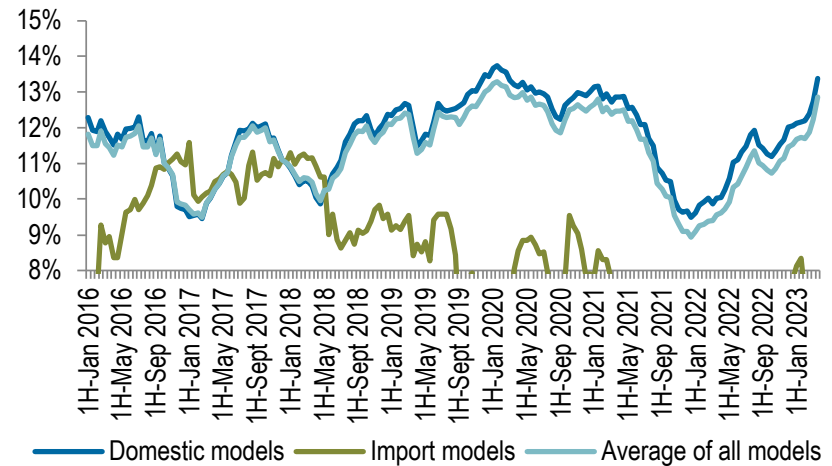
## Pricing discounts on the rise

Figure 39: Average discount of domestic-made models by segments



Source: China Auto Market.

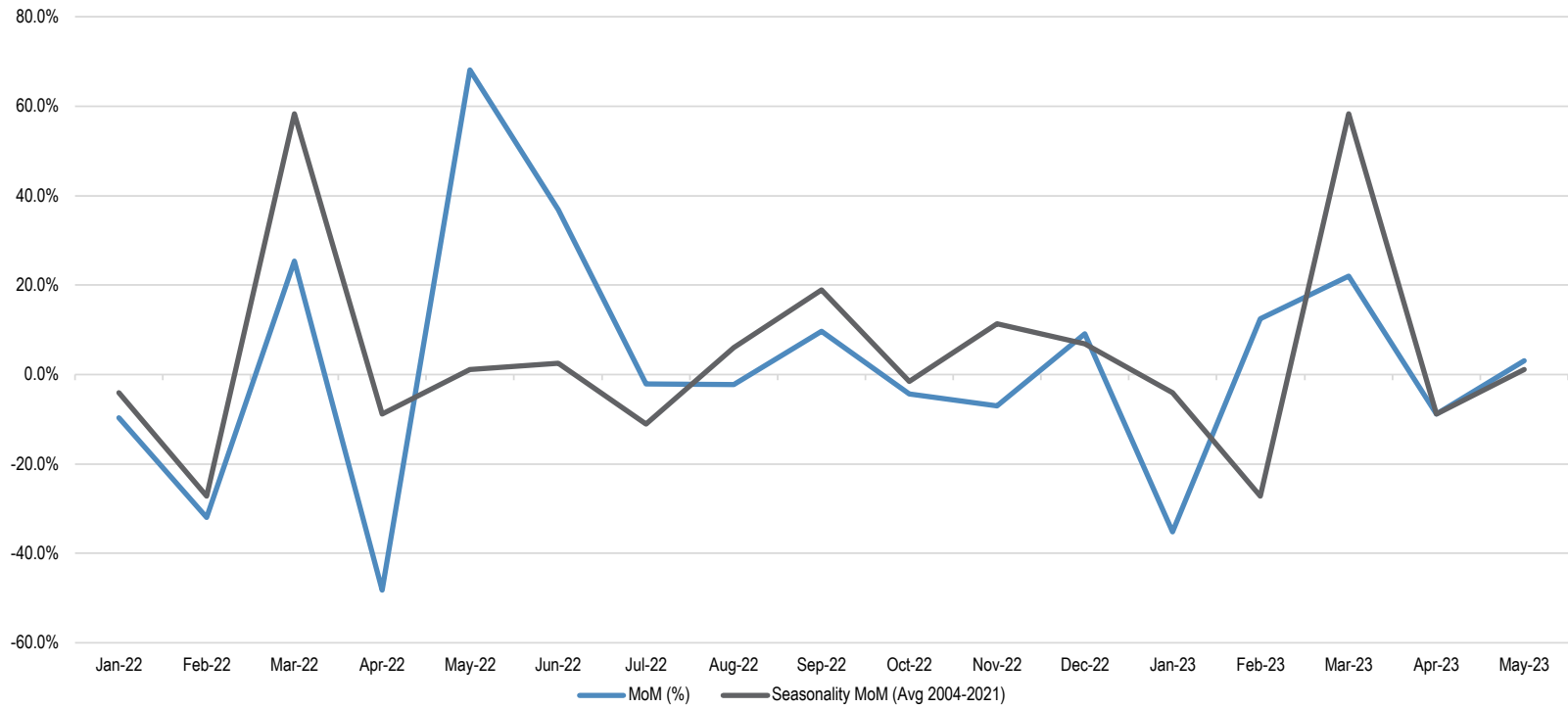
Figure 40: Average discount of domestic made and imported models



Source: China Auto Market.

# Near-term PV sales forecasts

Figure 41: PV sales MoM trend vs seasonality



Source: CAAM, J.P. Morgan estimates

## 2023 China NEV sales expectation

### 2023 China NEV sales forecasts

#### China NEV sales forecasts breakdown

'000 units	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>China auto sales (wholesales)</b>	<b>25,311</b>	<b>26,274</b>	<b>26,864</b>	<b>26,739</b>	<b>27,639</b>	<b>28,706</b>	<b>29,820</b>	<b>30,631</b>	<b>31,466</b>	<b>32,326</b>	<b>33,211</b>
PV	20,178	21,481	23,563	23,562	24,578	25,637	26,743	27,546	28,372	29,223	30,100
CV	5,133	4,793	3,300	3,177	3,060	3,069	3,077	3,086	3,094	3,103	3,111
<b>Y/Y Growth</b>											
<b>China auto sales</b>	<b>-2%</b>	<b>4%</b>	<b>2%</b>	<b>0%</b>	<b>3%</b>	<b>4%</b>	<b>4%</b>	<b>3%</b>	<b>3%</b>	<b>3%</b>	<b>3%</b>
PV	-6%	6%	10%	0%	4%	4%	4%	3%	3%	3%	3%
CV	19%	-7%	-31%	-4%	-4%	0%	0%	0%	0%	0%	0%
<b>China NEV forecast</b>	<b>1,367</b>	<b>3,519</b>	<b>6,883</b>	<b>8,481</b>	<b>11,407</b>	<b>13,545</b>	<b>15,302</b>	<b>16,970</b>	<b>18,717</b>	<b>20,402</b>	<b>22,103</b>
PV NEV	1,247	3,334	6,548	8,223	11,036	13,049	14,682	16,224	17,846	19,404	21,040
BEV	1,000	2,734	5,033	6,103	8,332	9,973	11,205	12,368	13,590	14,728	15,923
PHEV	247	600	1,515	2,121	2,704	3,076	3,477	3,856	4,256	4,676	5,117
CV NEV	120	185	335	258	372	496	620	745	871	998	1,063
BEV	116	182	331	254	367	491	615	741	866	993	1,058
PHEV	4	3	4	4	4	5	5	5	5	5	5
<b>Y/Y Growth</b>											
<b>China NEV</b>	<b>14%</b>	<b>157%</b>	<b>96%</b>	<b>23%</b>	<b>34%</b>	<b>19%</b>	<b>13%</b>	<b>11%</b>	<b>10%</b>	<b>9%</b>	<b>8%</b>
PV NEV	18%	167%	96%	26%	34%	18%	13%	11%	10%	9%	8%
BEV	20%	173%	84%	21%	37%	20%	12%	10%	10%	8%	8%
PHEV	9%	143%	153%	40%	27%	14%	13%	11%	10%	10%	9%
CV NEV	-15%	54%	81%	-23%	44%	33%	25%	20%	17%	15%	7%
<b>Penetration</b>											
<b>China NEV</b>	<b>5.4%</b>	<b>13.4%</b>	<b>25.6%</b>	<b>31.7%</b>	<b>41.3%</b>	<b>47.2%</b>	<b>51.3%</b>	<b>55.4%</b>	<b>59.5%</b>	<b>63.1%</b>	<b>66.6%</b>
PV NEV	6.2%	15.5%	27.8%	34.9%	44.9%	50.9%	54.9%	58.9%	62.9%	66.4%	69.9%
BEV	5.0%	12.7%	21.4%	25.9%	33.9%	38.9%	41.9%	44.9%	47.9%	50.4%	52.9%
PHEV	1.2%	2.8%	6.4%	9.0%	11.0%	12.0%	13.0%	14.0%	15.0%	16.0%	17.0%
CV NEV	2.3%	3.9%	10.2%	8.1%	12.1%	16.1%	20.2%	24.2%	28.2%	32.2%	34.2%
<b>Of which: retail vs exports</b>											
NEV PV retail sales	1,109	2,990	5,674	7,117	9,460	11,079	12,346	13,510	14,716	15,846	17,015
NEV exports (PV+CV)	77	310	678	1,011	1,413	1,836	2,047	2,174	2,433	2,590	2,627
<b>Y/Y Growth</b>											
NEV PV retail	10%	170%	90%	25%	33%	17%	11%	9%	9%	8%	7%
NEV exports (PV+CV)	n/a	304%	-119%	49%	40%	30%	11%	6%	12%	6%	1%

Source: CAAM, CPCA, J.P. Morgan estimates.

## China NEV sales breakdown by type

### EV sales breakdown by price points: 2022 vs 2021

#### FY22 China EV sales breakdown by price points

Green color means YoY increase; red color means YoY decline

Price range (Rmb)	<80k	80-100k	100-150k	150-200k	200-250k	250k-300k	300-350k	350-400k	400k-500k	>500k	Total
PV (units, 000)	2,809	2,063	6,595	4,633	2,325	1,338	1,433	1,091	1,003	276	23,563
EV PV (units, 000)	1,077	319	811	1,855	650	408	563	552	253	60	6,716
EV PV penetration%	38%	15%	12%	40%	28%	31%	39%	51%	25%	22%	28%
% contribution	16%	5%	12%	28%	10%	6%	9%	8%	4%	1%	100%

Source: CAAM, J.P. Morgan.

#### FY21 China EV sales breakdown by price points

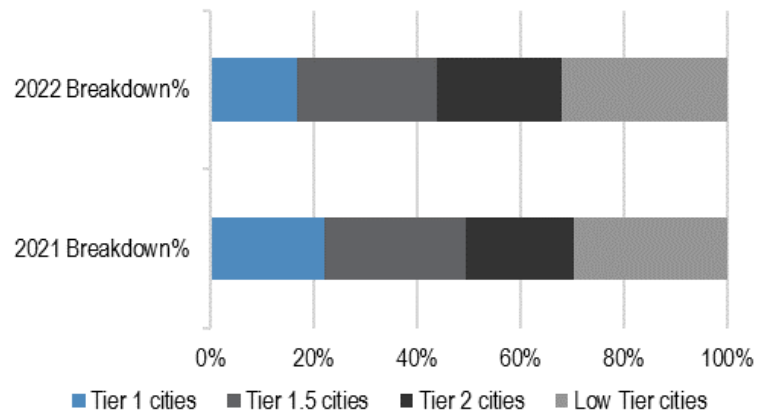
Price range (Rmb)	<80k	80-100k	100-150k	150-200k	200-250k	250k-300k	300-350k	350-400k	400k-500k	>500k	Total
PV (units, 000)	2,779	2,394	6,753	3,378	1,872	1,248	1,146	777	958	214	21,482
EV PV (units, 000)	708	235	501	599	269	187	465	207	139	62	3,371
EV PV penetration%	25%	10%	7%	18%	14%	15%	41%	27%	15%	29%	16%
% contribution	21%	7%	15%	18%	8%	6%	14%	6%	4%	2%	100%

Source: CAAM, J.P. Morgan.

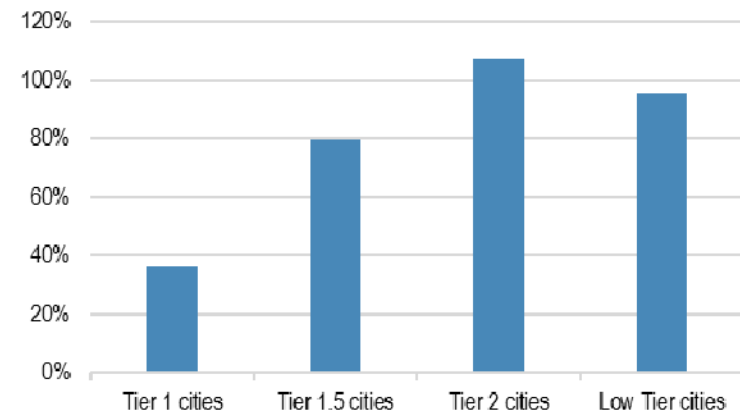


# China NEV Sales trend by cities

NEV sales breakdown by tier 1-2 cities vs lower tier cities



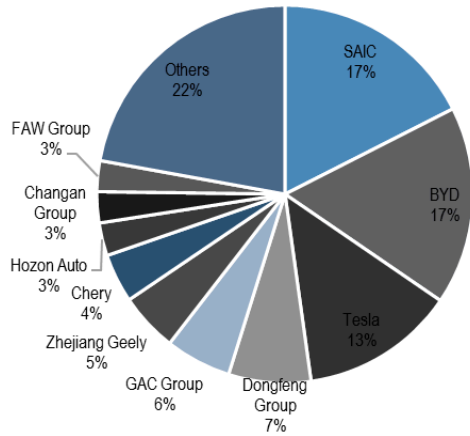
NEV sales YoY Growth rate% (2021-2022)



Source: CIRC, JP. Morgan.

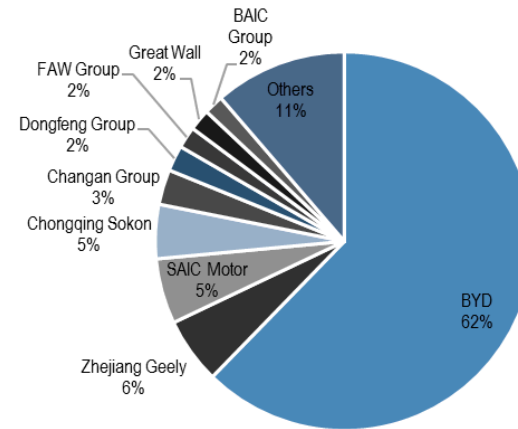
# China's New Energy Vehicle (NEV) - Market share by OEM

China 2022 EV PV market share by player



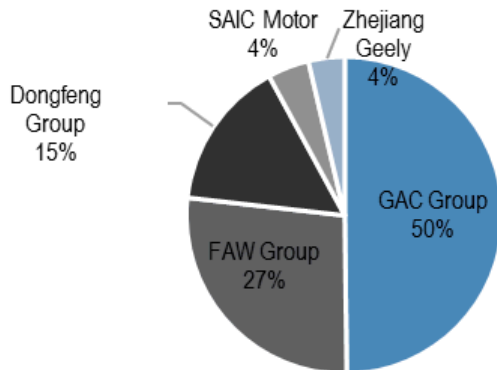
Source: CAAM, J.P. Morgan.

China 2022 PHEV PV market share by player



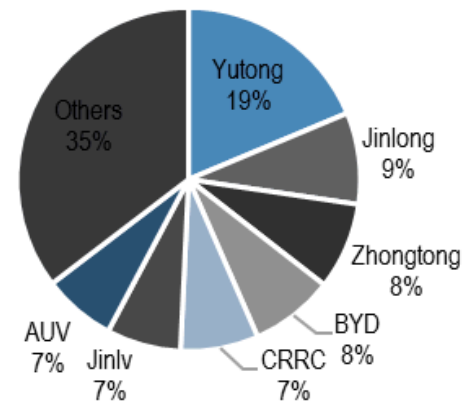
Source: CAAM, J.P. Morgan.

China passenger vehicle HEV sales by player (2022)



Source: CAAM, J.P. Morgan

China new energy bus sales (EV + PHEV) by OEM (2022)



Source: CAAM, J.P. Morgan.

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