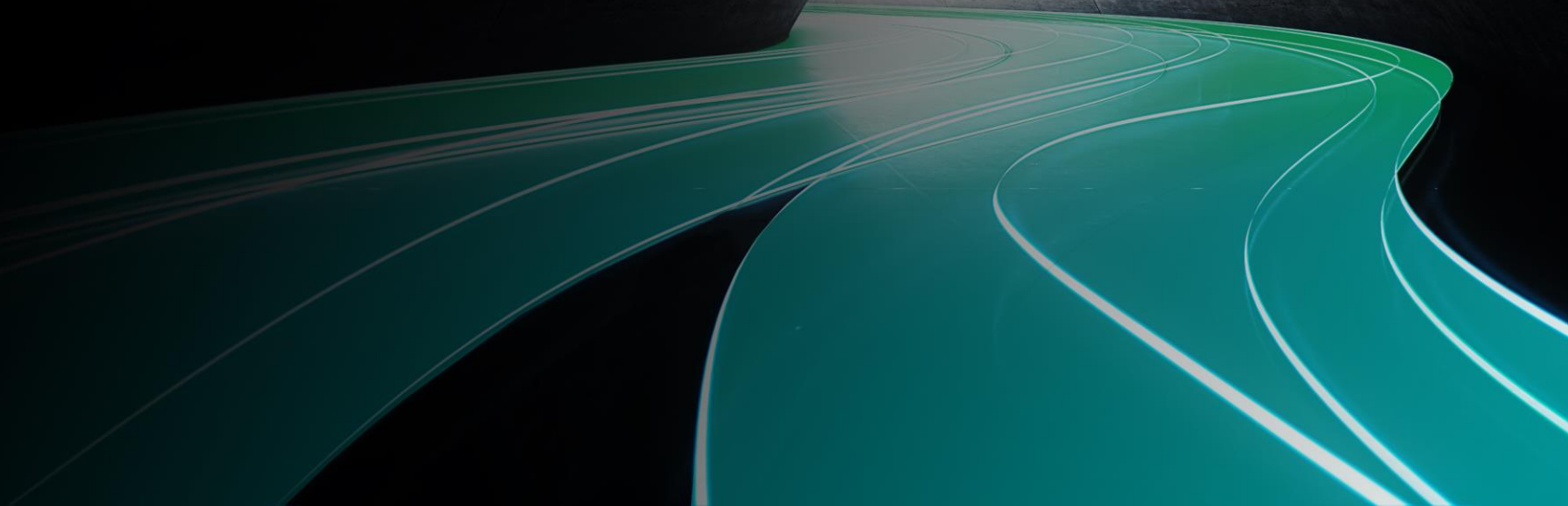




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2019 Management Briefing Seminars

Stephanie Brinley, Principal Analyst
August 8, 2019

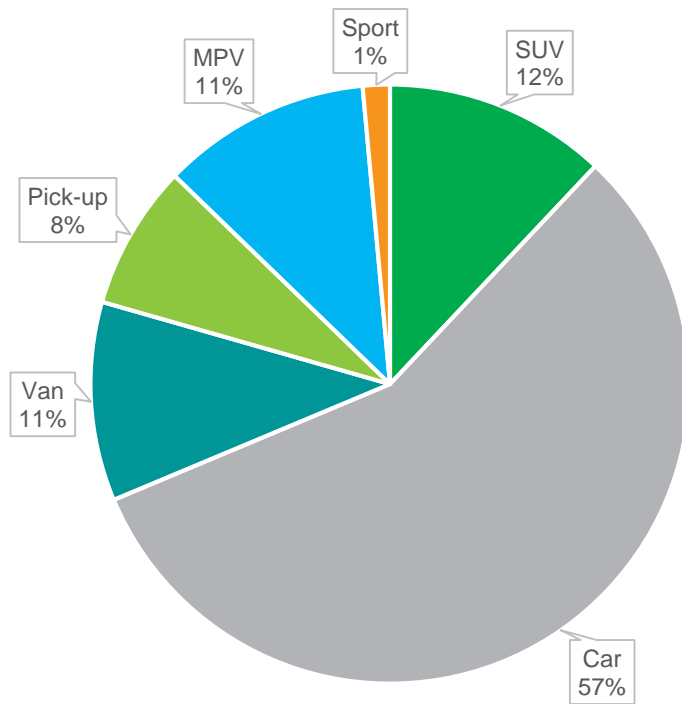


Today

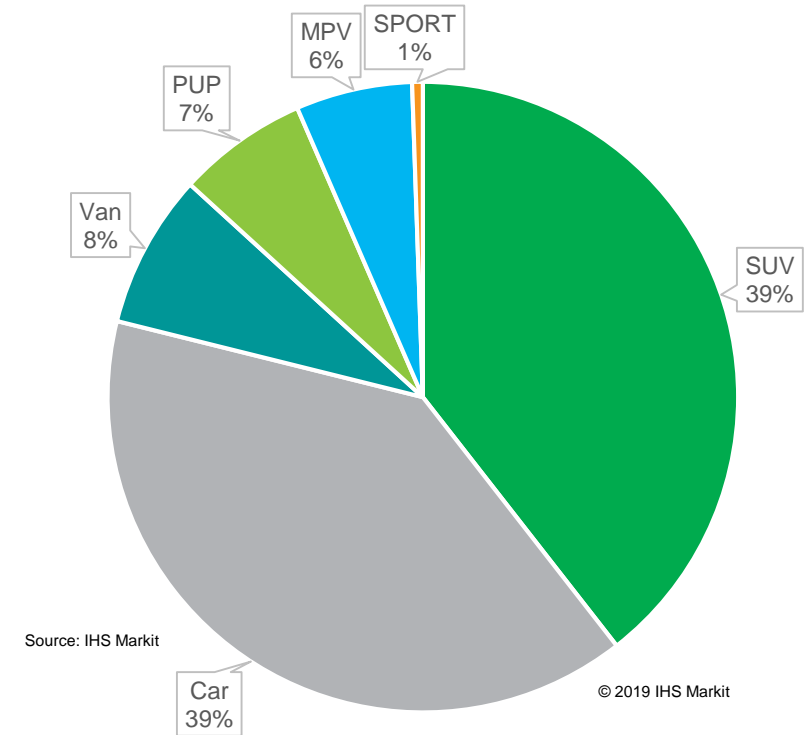
- Sales Outlook: SUV growth continues
- OEM and nameplate proliferation
 - Global and North America
 - US Segment Impacts
 - EV Proliferation: Low volume, nameplate explosion

(Note: Sales, production data from IHS Markit July 2019 Light Vehicle Sales and Production forecasts. EV data from H1 2019 Sales-based Powertrain Forecast)

Sales Outlook: SUV growth continues



2006 Global Sales

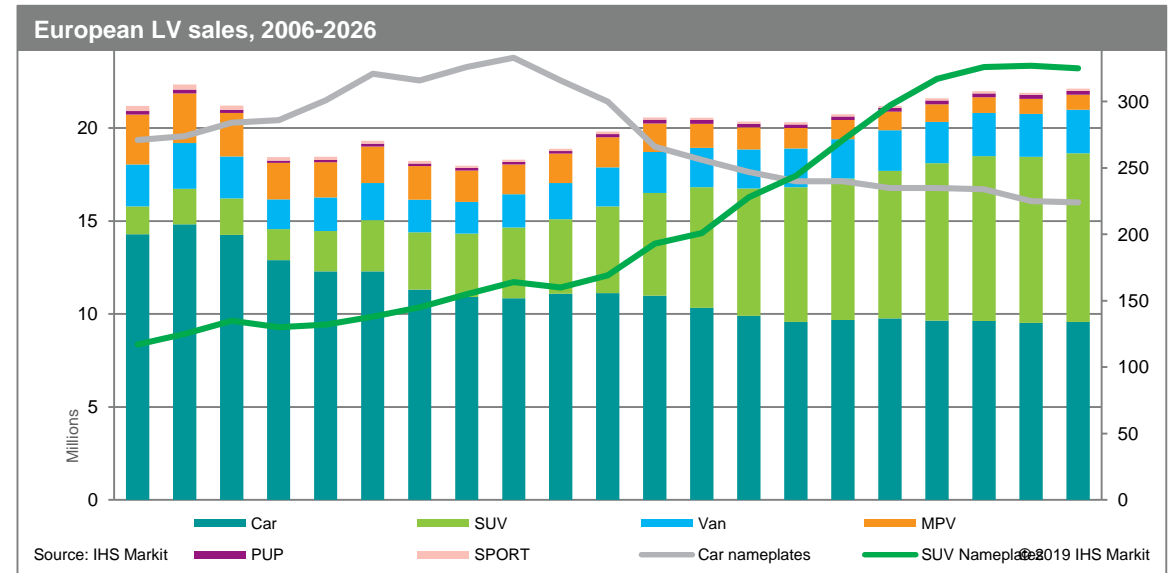
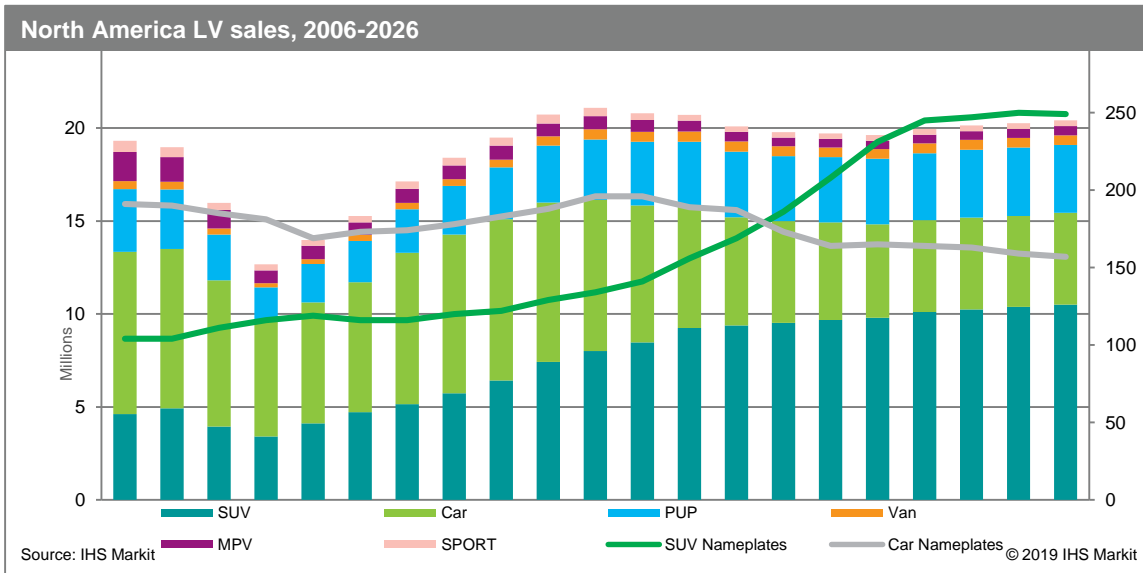
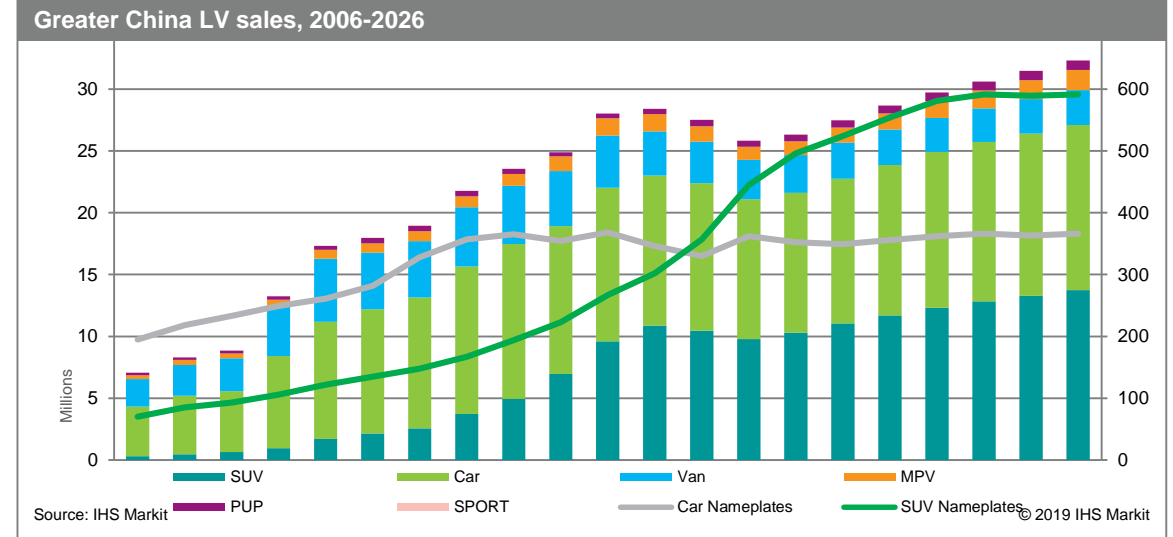
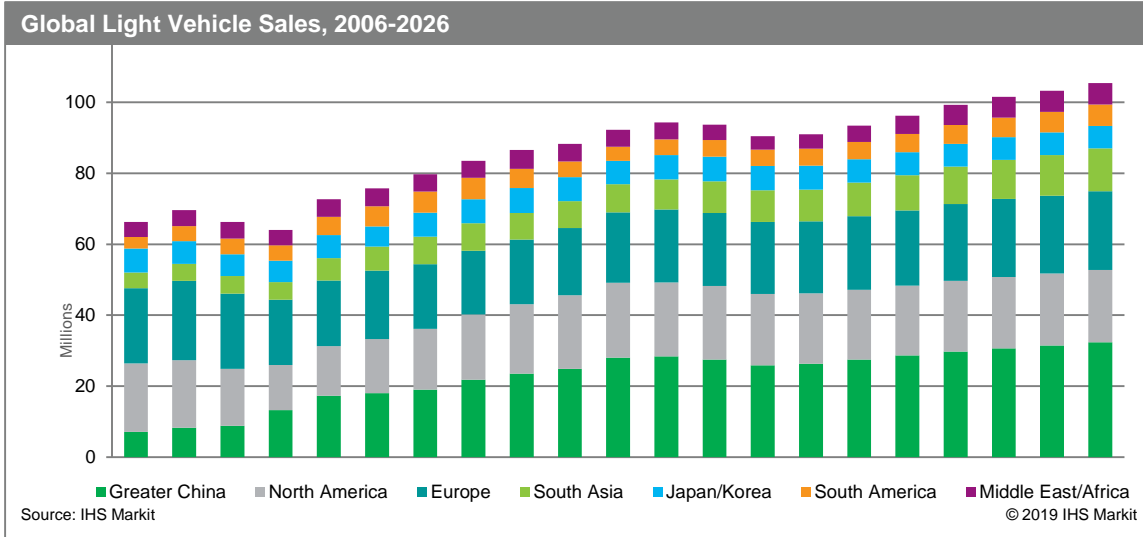


Source: IHS Markit

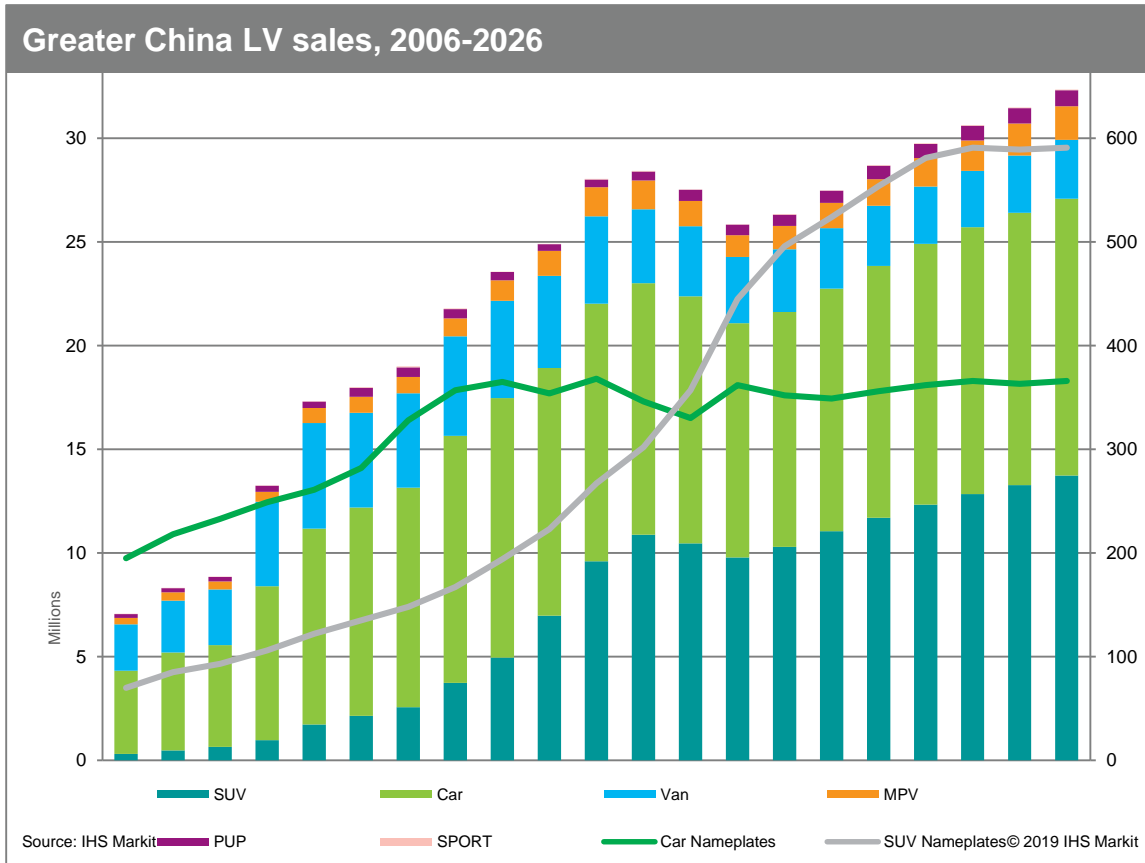
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2026 Global Sales

Sales Outlook



Sales Outlook: Greater China



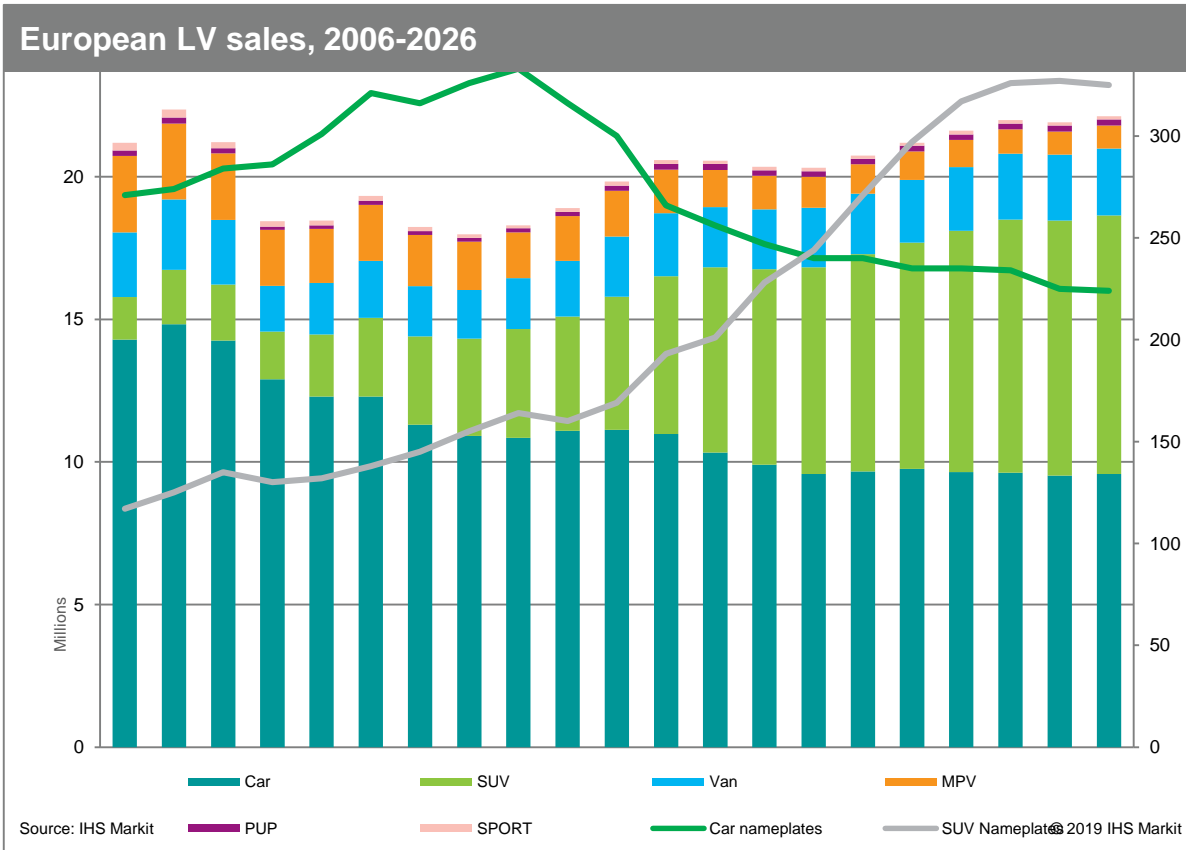
Car and SUV Nameplate Changes: Greater China

	2006	2026		2006	2026
Car Nameplates	195	366	SUV Nameplates	70	591
Car Volume (mil.)	4	13	SUV Volume (mil.)	315K	13.75M
Share (%)	67	41	Share (%)	7	42
Avg sales/nameplate	20,530	36,438	Avg sales/nameplate	4,498	23,252

Source: IHS Markit © 2019 IHS Markit

- China market slowing in the near term, but growth moving forward
 - Current issues include trade uncertainty, impact of emissions regulation change
- SUV sales nearly even with cars by 2026

Sales Outlook: Europe



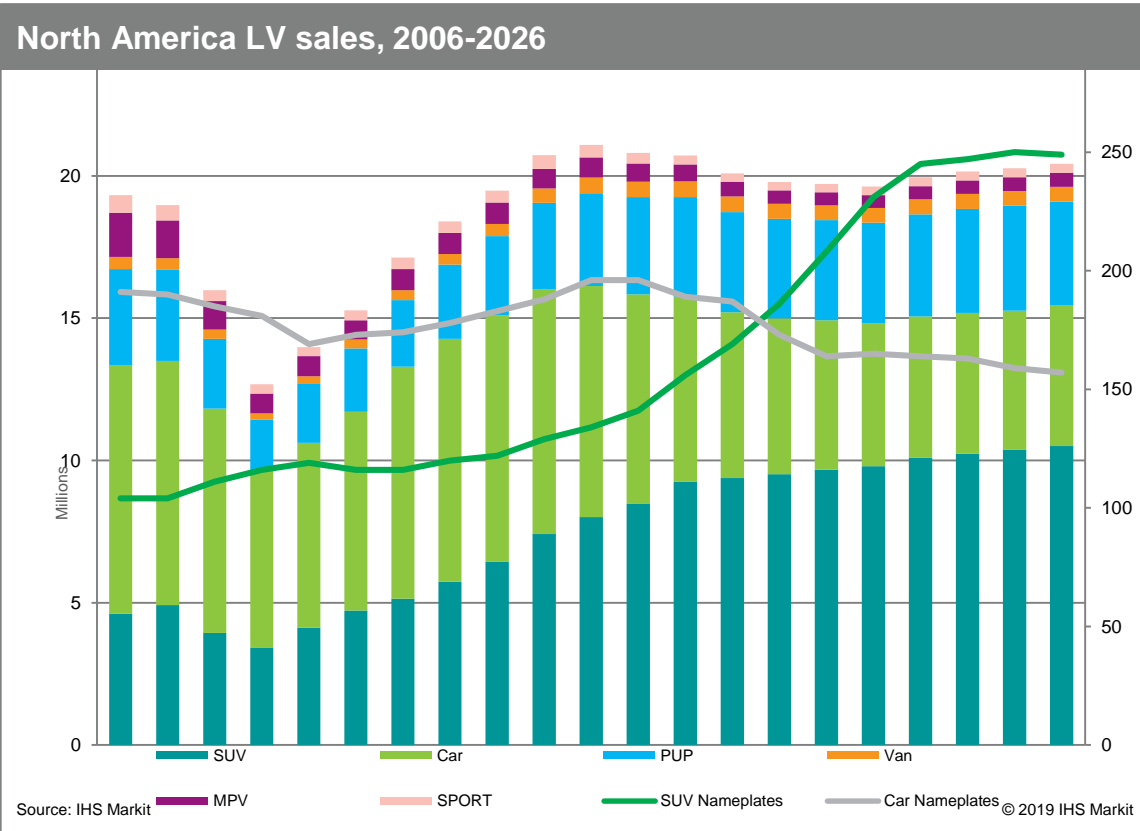
Car and SUV Nameplate Changes: Europe

	2006	2026		2006	2026
Car Nameplates	271	224	SUV Nameplates	117	325
Car Volume (mil.)	14	10	SUV Volume (mil.)	1	9
Share (%)	67	43	Share (%)	7	41
Avg sales/nameplate	52,718	42,760	Avg sales/nameplate	12,818	27,888

Source: IHS Markit © 2019 IHS Markit

- European growth slows
 - Western European volume: Uncertainty in trade and Brexit in near term. Longer term, potential de-motorization in areas
 - Eastern Europe expected to see positive dynamics beginning in 2020
- Europe has begun embracing SUVs
 - Number of new SUV nameplates expected to outpace demand growth

Sales Outlook: North America



Car and SUV Nameplate Changes: North America

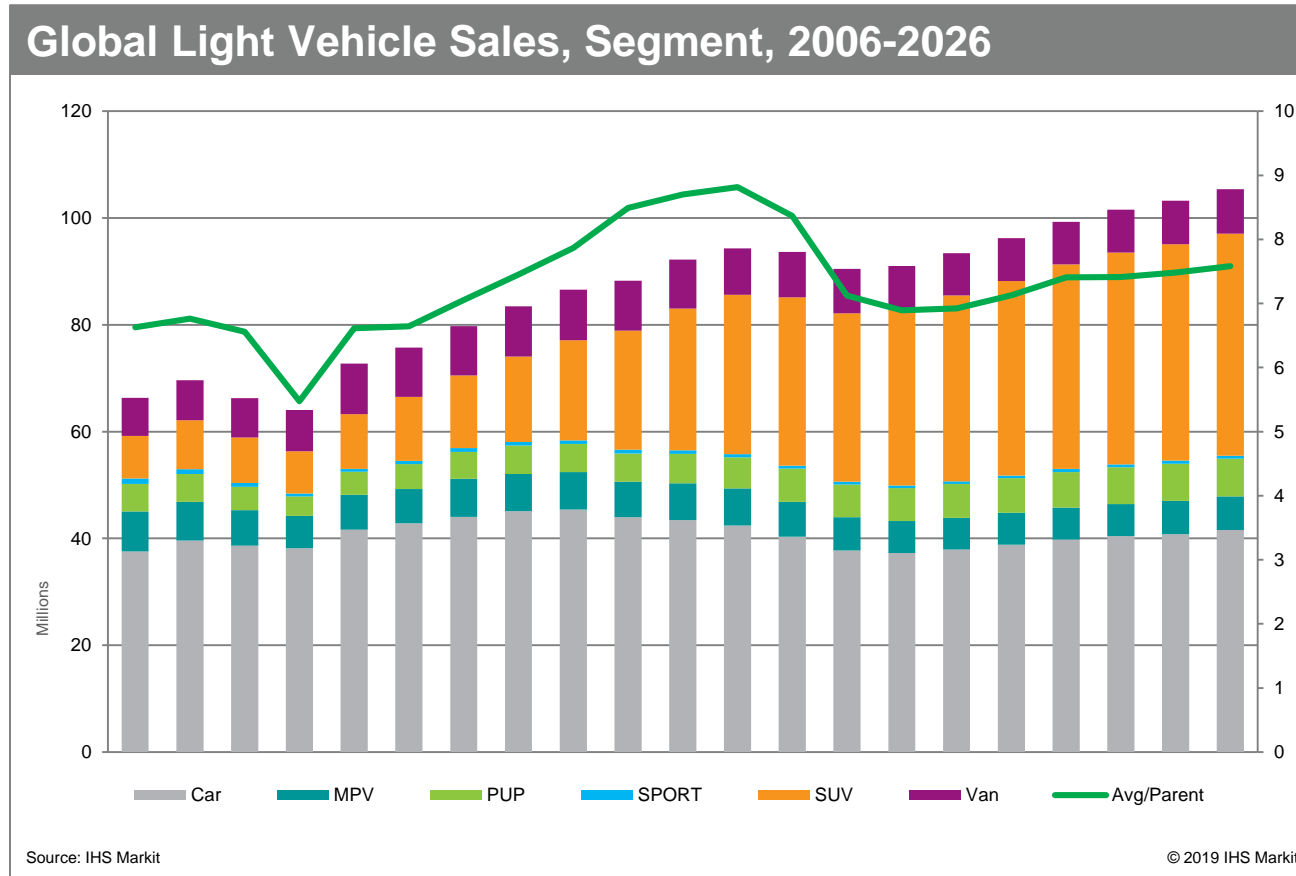
	2006	2026		2006	2026
Car Nameplates	191	157	SUV Nameplates	104	249
Car Volume (mil.)	9	5	SUV Volume (mil.)	5	11
Share (%)	45	24	Share (%)	24	51
Avg sales/nameplate	45,746	31,444	Avg sales/nameplate	44,373	42,195

Source: IHS Markit © 2019 IHS Markit

- North America market maturity means steady sales pace
 - Despite expectations for stable to slightly declining market, number of SUVs continues to grow
 - Car nameplates contracting, but not enough to offset SUV nameplate growth

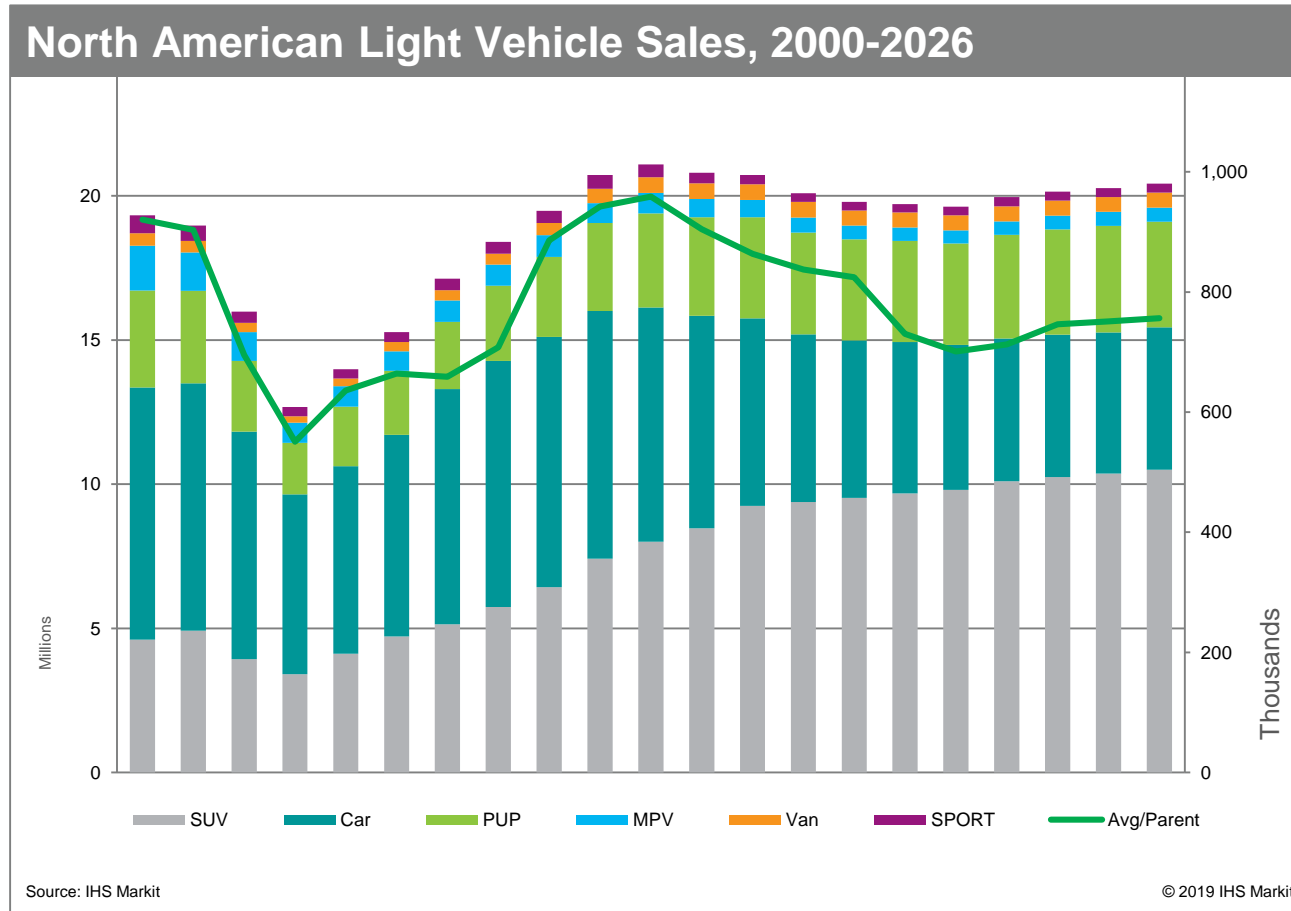
OEM and Nameplate Proliferation

Global Light Vehicle Sales



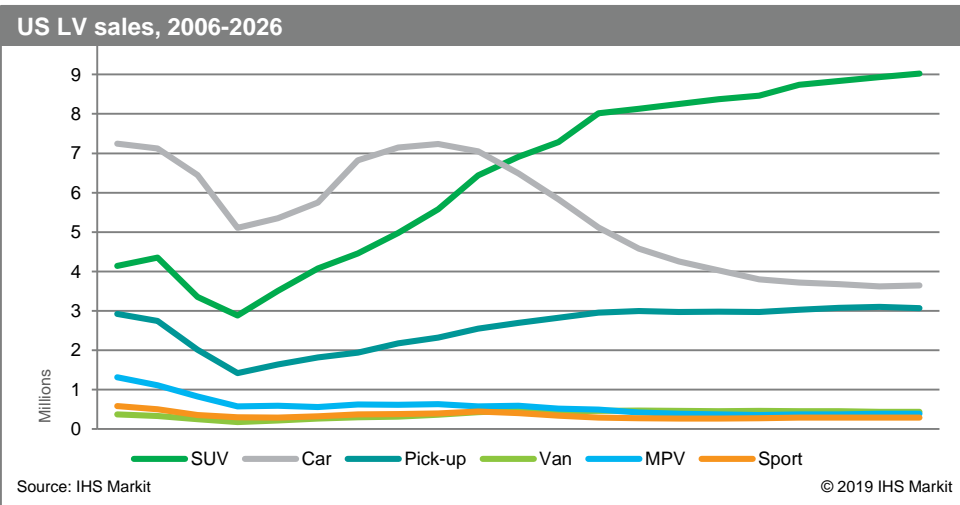
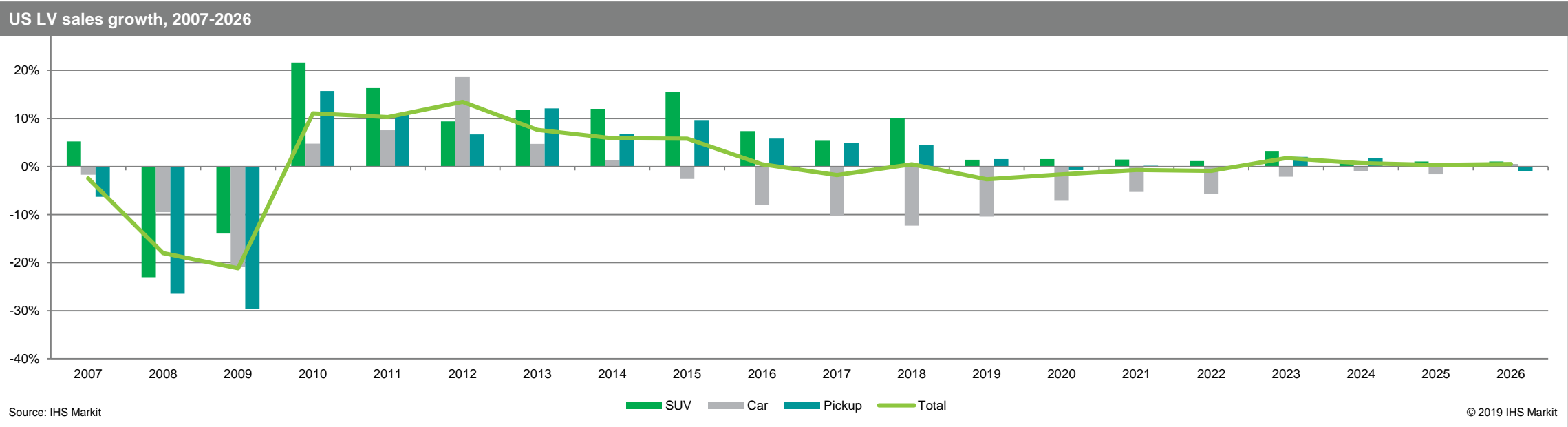
- Number of OEMs increasing
 - 100 in 2006
 - 112 in 2018
 - 139 in 2026
- Average sales per OEM
 - 2006: 663,000 units on 66.2 million units
 - 2018: 836,000 units on 93.7 million units
 - 2026: 741,000 units on 105.4 million units
- Average sales Top 10
 - 2006: 5.36 million units, 81%
 - 2018: 6.75 million units, 72%
 - 2026: 7.73 million units, 69%
- Average sales Others
 - 2006: 141,000 units on 12.7 million units
 - 2018: 270,000 units on 26.2 million units
 - 2026: 242,000 units on 31.3 million units

North America Light Vehicle Sales



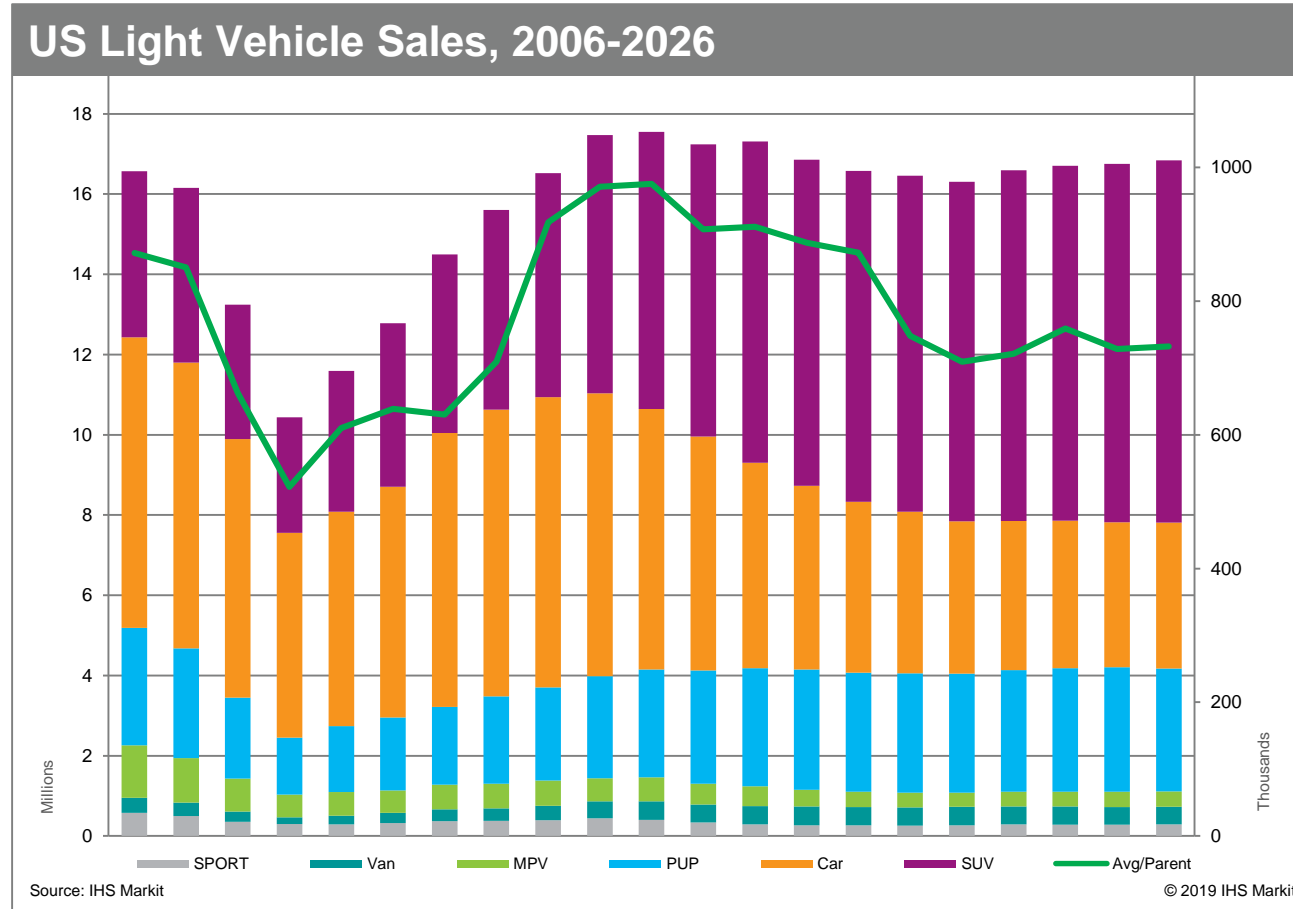
- Number of OEMs increasing
 - 21 in 2006
 - 24 in 2018
 - 27 in 2026
- Average sales per OEM
 - 2006: 920,000 units on 19.3 million units
 - 2018: 863,000 units on 20.7 million units
 - 2026: 757,000 units on 20.4 million units
- Average sales Top 5
 - 2006: 1.48 million units, 77%
 - 2018: 1.38 million units, 67%
 - 2026: 1.28 million units, 63%
- Average sales Others
 - 2006: 281,000 units on 4.50 million units
 - 2018: 496,000 units on 6.9 million units
 - 2026: 446,000 units on 7.6 million units

US Light Vehicle Sales



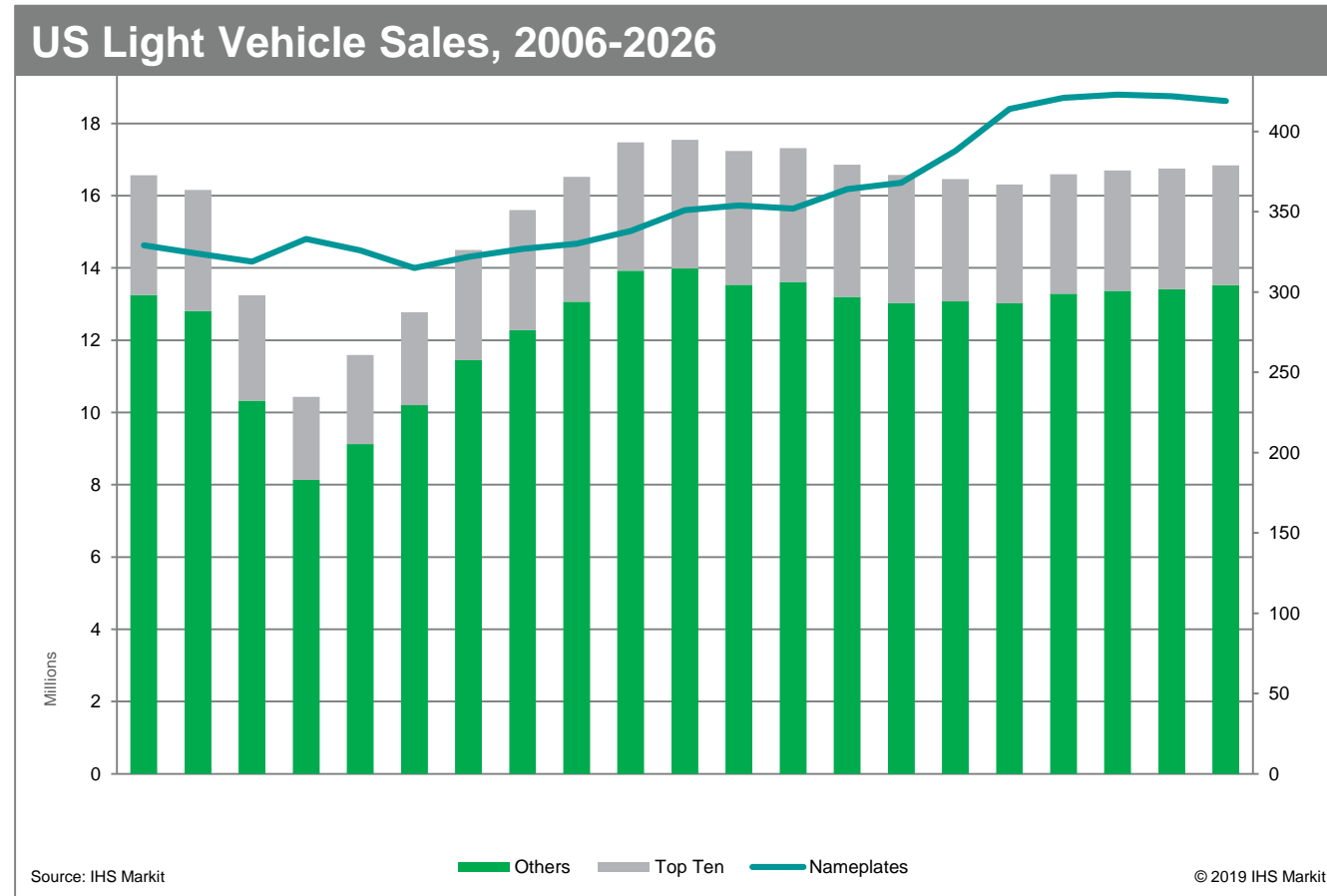
- SUV sales growth slows, nameplates continue to be added
- Passenger car sales decline lessens, some models dropped
- Pick-up truck sales largely flat post-2018 growth, even with new entries
- Average sales 2019-2026 16.6M per year

US market difficult to enter



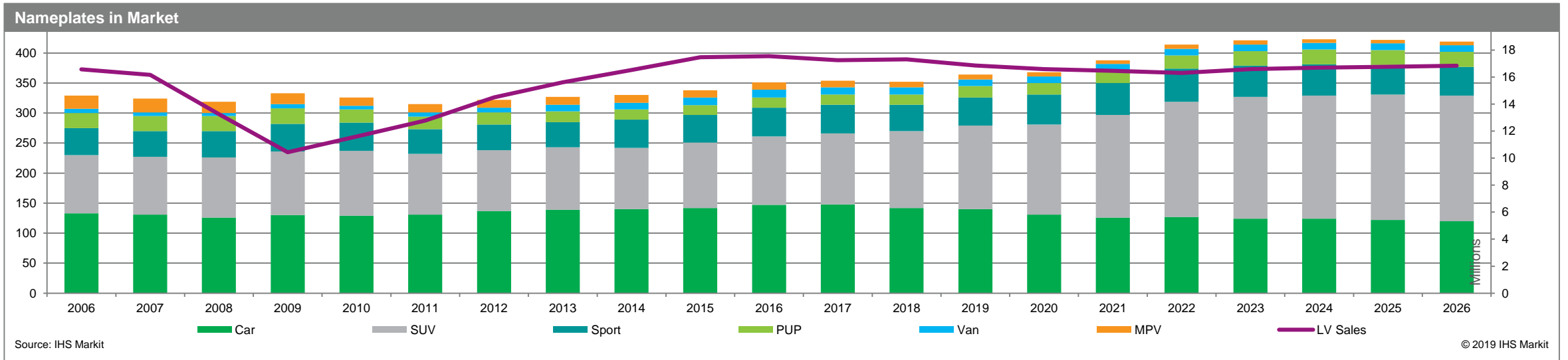
- Number of OEMs increasing
 - 19 in 2006
 - 19 in 2018
 - 23 in 2026
- Average sales per OEM
 - 2006: 872,000 units on 16.5 million units
 - 2018: 911,000 units on 17.3 million units
 - 2026: 732,000 units on 16.8 million units
- Average sales Top 5
 - 2006: 2.59 million units, 78%
 - 2018: 2.34 million units, 68%
 - 2026: 2.15 million units, 64%
- Average sales Others
 - 2006: 259,000 units on 3.63 million units
 - 2018: 399,000 units on 5.59 million units
 - 2026: 338,000 units on 6.08 million units

US: Overall nameplate proliferation



- Number of nameplates increasing
 - 329 in 2006
 - 352 in 2018
 - Est 420 in 2026
- Average sales per nameplate
 - 2006: 50,000 units on 16.6 million units
 - 2018: 49,000 units on 17.3 million units
 - 2026: 40,000 units on 16.8 million units
- Average sales Top 10
 - 2006: 331,000 units, 20%
 - 2018: 370,000 units, 21%
 - 2026: 331,000 units, 20%
- Average sales Others
 - 2006: 50,000 units on 13.3 million units
 - 2018: 49,000 units on 13.6 million units
 - 2026: 33,000 units on 13.5 million units

US: Nameplate proliferation on segment



Segment Average Volume

	2006	2010	2015	2018	2022	2026
SUV	42,651	36,511	64,390	75,619	78,395	89,356
Car	54,491	40,829	55,950	39,337	29,432	27,786
PUP	116,942	65,569	101,784	113,423	134,878	145,989
MPV	59,623	25,660	30,178	27,360	25,127	27,481
Van	52,598	36,362	84,619	65,216	75,946	62,045
Sport	12,900	6,725	10,088	6,261	5,729	7,080
All	50,360	35,553	51,697	49,191	39,390	40,191

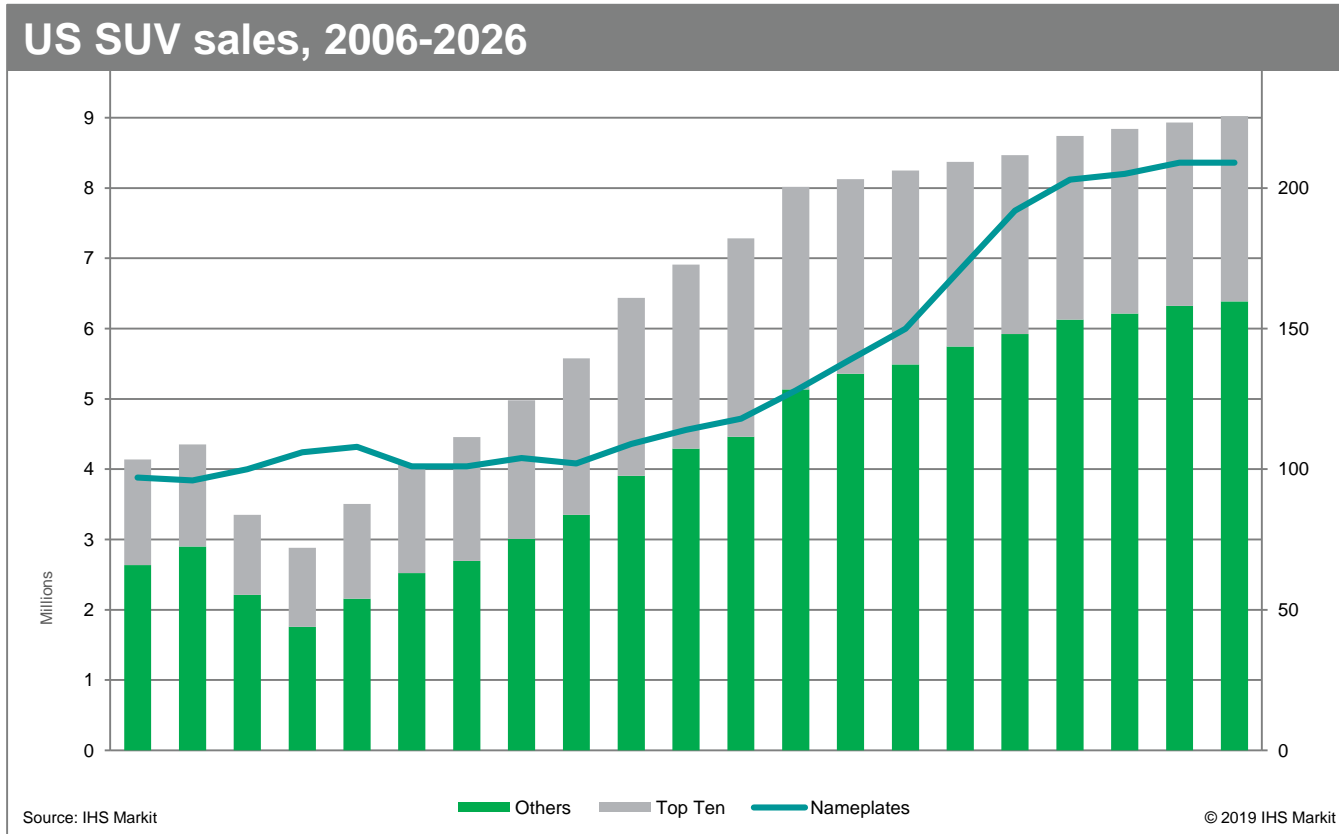
Source: IHS Markit © 2019 IHS Markit

Top-10 Average Volume

	2006	2010	2015	2018	2022	2026
SUV	150,119	134,759	253,191	288,005	254,425	263,908
Car	266,370	229,276	300,232	236,732	192,139	183,137
PUP	233,479	139,702	229,507	257,484	241,249	242,320
MPV	118,285	58,339	57,053	49,248	35,178	38,473
Van	36,819	21,817	40,822	44,530	45,098	42,678
Sport	44,322	25,389	38,412	25,188	22,121	22,868
All	331,179	246,103	354,856	370,196	328,079	330,995

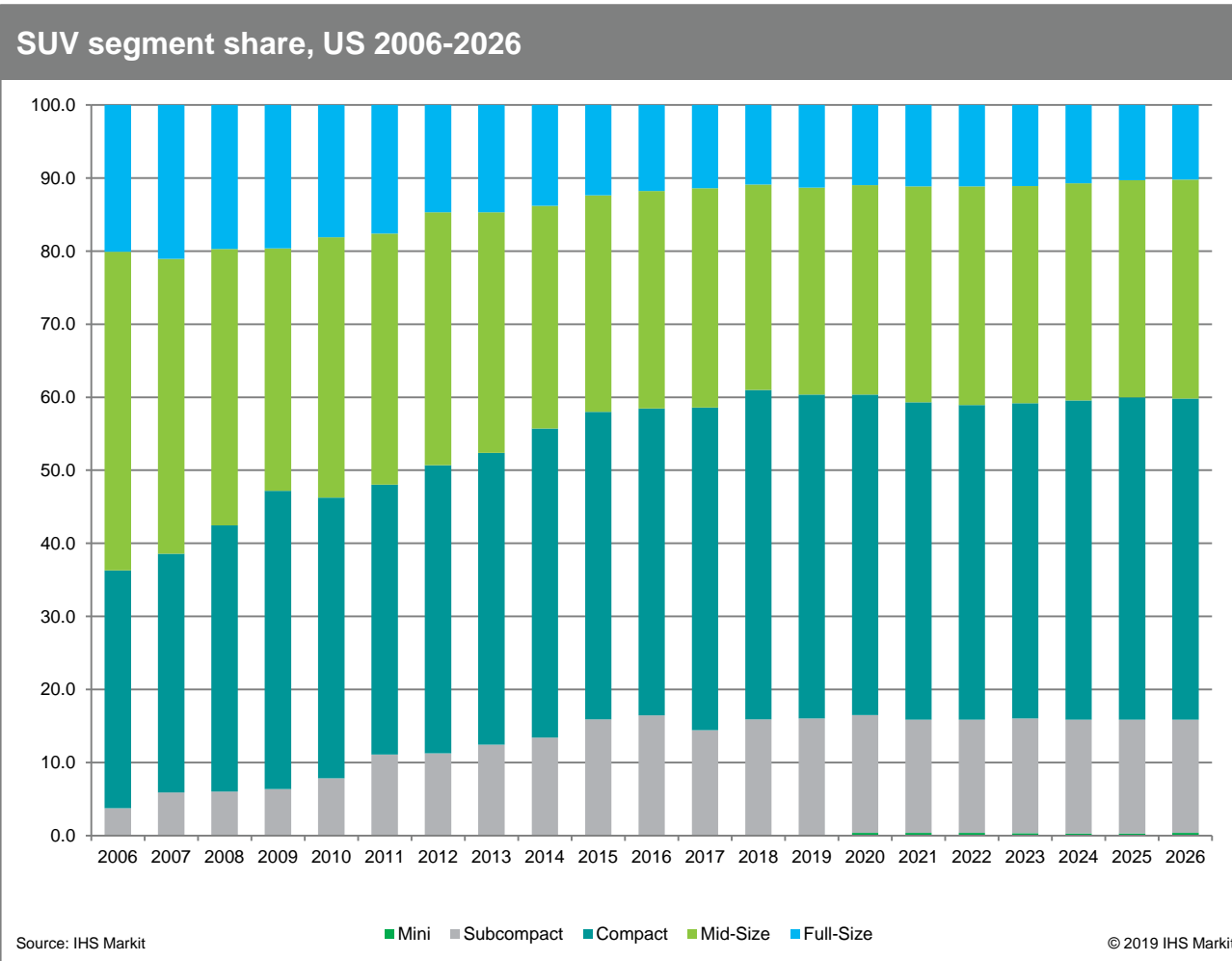
Source: IHS Markit © 2019 IHS Markit

US: SUV nameplate proliferation increasing competition



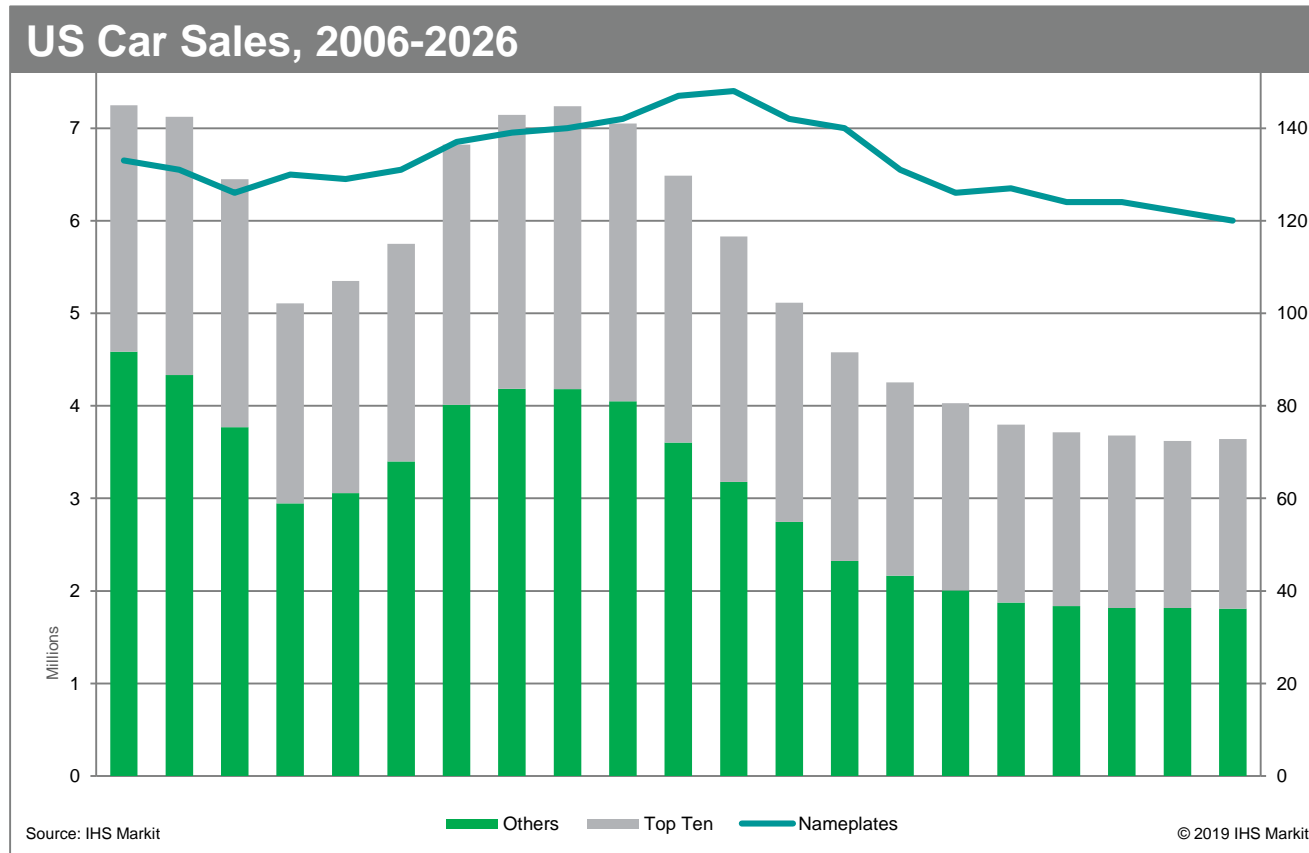
- Number of SUV nameplates increasing
 - 97 in 2006
 - 128 in 2018
 - Est 209 in 2026
- Average sales per nameplate
 - 2006: 46,000 units on 4.14 million units
 - 2018: 62,000 units on 8.05 million units
 - 2026: 43,000 units on 9.02 million units
- Average sales Top 10
 - 2006: 150,000 units, 36%
 - 2018: 282,000 units, 39%
 - 2026: 263,000 units, 29%
- Average sales Others
 - 2006: 30,000 units on 2.63 million units
 - 2018: 43,500 units on 5.13 million units
 - 2026: 32,000 units on 6.39 million units

US: SUV nameplate proliferation segment impact



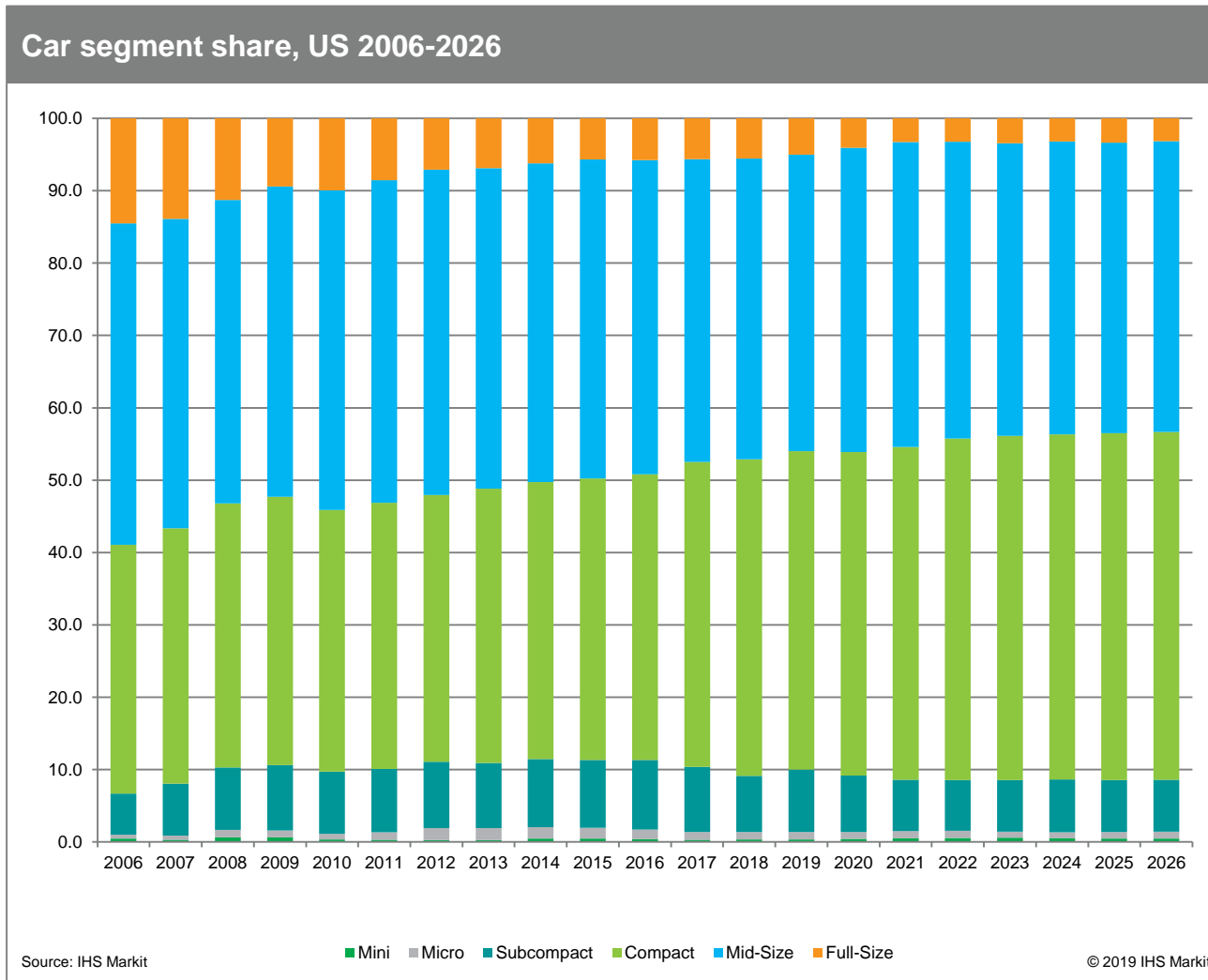
- **Full-Size SUV**
 - New entries 2019-2026 grows count from 27 to 42
 - Segment sales grow 50,000 upa 2018 to 2026
 - Sales per nameplate declining: 32,000 in 2018 to 22,000 in 2026
 - Top 5 average sales per nameplate 2026: 77,000
- **Mid-Size SUV**
 - New entries 2019-2026 grows count from 48 to 68
 - Segment sales grow 448,000 upa 2018 to 2026
 - Sales per nameplate declining: 55,000 in 2018 to 40,000 in 2026
 - Top 5 average sales per nameplate in 2026: 151,000
- **Compact SUV**
 - New entries 2019-2026 grows count from 36 to 70
 - Segment sales grow 356,000 upa 2018 to 2026
 - Sales per nameplate declining: 100,000 in 2018 to 57,000 in 2026
 - Top 5 average sales per nameplate in 2026: 303,000
- **Subcompact SUV**
 - New entries 2019-2026 grows count from 25 to 28
 - Segment sales grow 122,000 upa 2018 to 2026
 - Sales per nameplate decline: 51,000 in 2018 to 50,000 in 2026
 - Top 5 average sales per nameplate in 2026: 116,000

US: Car segments in contraction



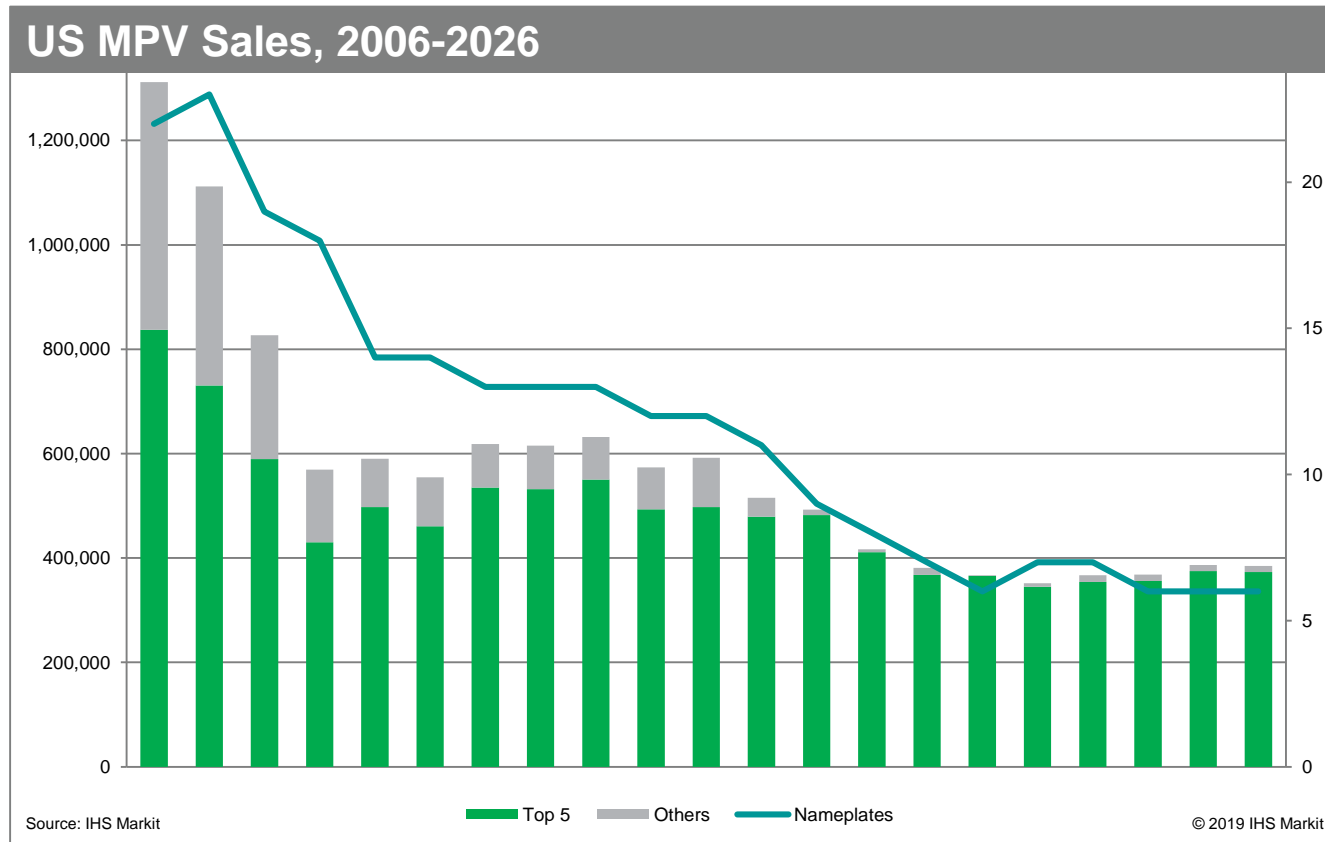
- Number of Car nameplates decreasing
 - 133 in 2006
 - 142 in 2018
 - Est 120 in 2026
- Average sales per nameplate
 - 2006: 54,000 units on 7.24 million units
 - 2018: 36,000 units on 5.1 million units
 - 2026: 30,000 units on 3.6 million units
- Average sales Top 10
 - 2006: 266,000 units, 37%
 - 2018: 237,000 units, 46%
 - 2026: 183,000 units, 50%
- Average sales Others
 - 2006: 30,000 units on 2.63 million units
 - 2018: 43,500 units on 5.13 million units
 - 2026: 32,000 units on 6.39 million units

US: Car sales and nameplate contraction segment impact



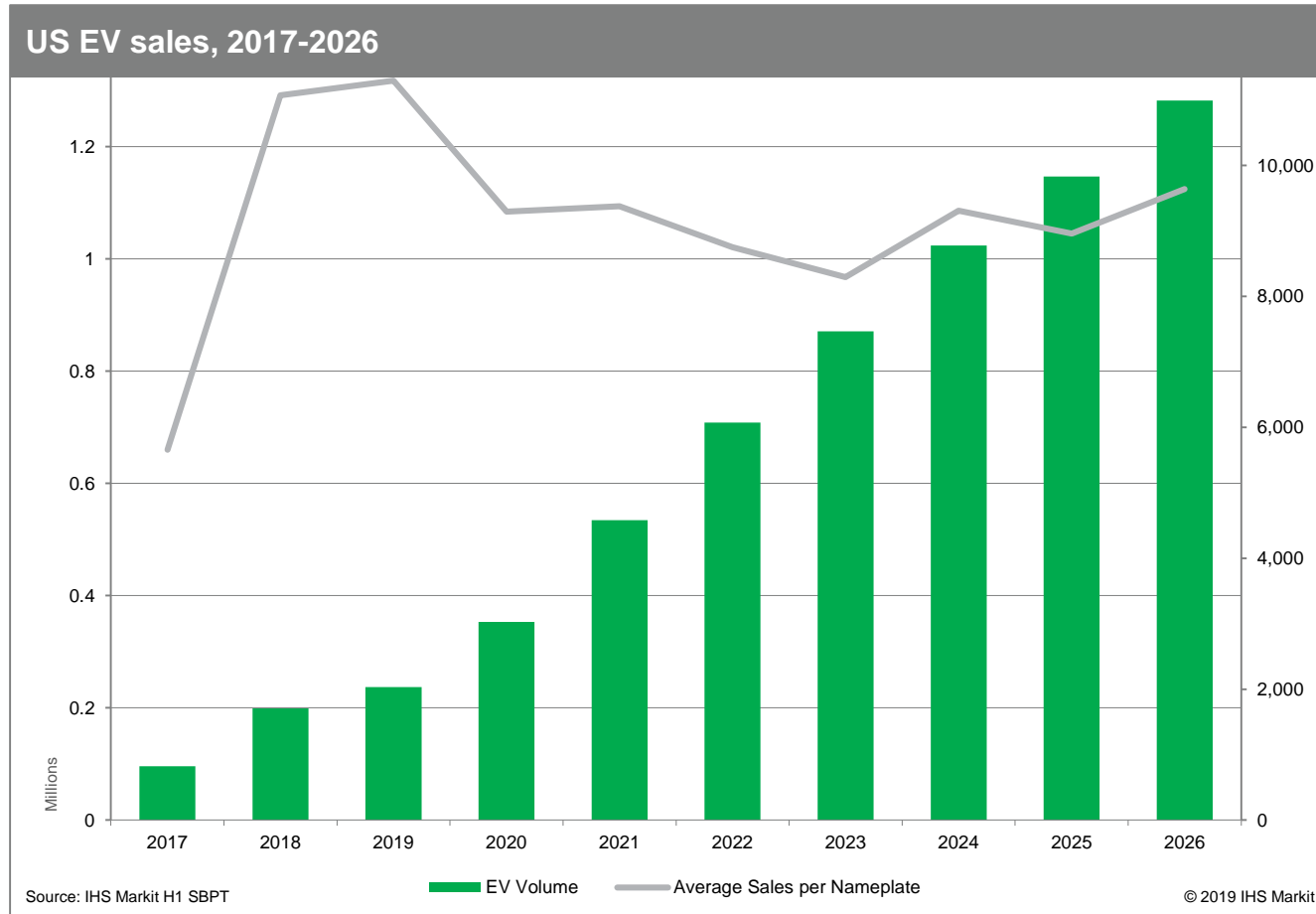
- Full-Size Car
 - Nameplates decline 2019-2026 from 21 to 17
 - Segment sales decline 170,000 upa 2018 to 2026
 - Sales per nameplate declining: 12,000 in 2018 to 4,700 in 2026
 - Top 5 average sales per nameplate 2026: 18,600
- Mid-Size Car
 - Nameplate count drops 2019-2026 from 51 to 45
 - Segment sales decline 660,000 upa 2018 to 2026
 - Sales per nameplate declining: 37,000 in 2018 to 26,000 in 2026
 - Top 5 average sales per nameplate in 2026: 169,000
- Compact Car
 - Nameplate count drops 2019-2026 from 43 to 39
 - Segment sales decline 488,000 upa 2018 to 2026
 - Sales per nameplate declining: 66,000 in 2018 to 51,000 in 2026
 - Top 5 average sales per nameplate in 2026: 198,000
- Subcompact Car
 - Nameplate count drops 2019-2026 from 21 to 14
 - Segment sales decline 137,000 upa 2018 to 2026
 - Sales per nameplate decline: 25,000 in 2018 to 16,000 in 2026
 - Top 5 average sales per nameplate in 2026: 30,000

US: Changes in MPV as nameplates decrease



- Number of MPV nameplates decreasing
 - 22 in 2006
 - 9 in 2018
 - Est 6 in 2026
- Average sales per nameplate
 - 2006: 60,000 units on 1.31 million units
 - 2018: 43,000 units on 515,000 units
 - 2026: 62,000 units on 384,000 units
- Average sales Top 5
 - 2006: 167,000 units, 64%
 - 2018: 96,000 units, 98%
 - 2026: 74,000 units, 97%
- Notes
 - Potential for some car segments to see similar behavior in long term

EVs: Nameplate explosion



- Number of EV nameplates
 - 18 in 2017
 - Est 81 in 2022
 - Est 133 in 2026
- Average sales per nameplate
 - 2017: 5,655 units on 96,000
 - 2022: 8,700 units on 708,000 units
 - 2026: 9,600 units on 1.28 million units
- Average sales Top 5 nameplates
 - 2017: 16,000 units, 88%
 - 2022: 60,000 units, 42%
 - 2026: 79,000 units, 31%
- Average sales Other brands
 - 2017: 766 units on 14,500 units
 - 2022: 5,400 units on 407,000 units
 - 2026: 6,900 units on 885,000 units

So what?

So what?

- OEM profit margins at risk
 - New forces are eroding profitability
 - Increased competition in SUV segments may deliver pricing pressure
 - EV proliferation: Vehicles with less opportunity to be profitable in near term
 - Self-driving vehicles and mobility solutions need capital investment, little expectation for near-term ROI
 - Proliferation affects volume opportunities
 - Top brands and nameplates still dominate, but share is slowly eroded
 - Newcomer brands face difficulty in getting consumer attention
 - EV proliferation
 - EVs are competing with traditional vehicles in OEM showroom
 - Higher-margin traditional vehicle sales at some risk of cannibalization from lower-margin EV
 - EV sales still in Innovator stage of technology adoption lifecycle. Consumer demand may slowly materialize

How to address?

- To manage declining volumes on nameplate basis, vehicles must successfully share more components
- To manage investment in new technologies and unproven mobility businesses, OEMs likely to increase strategic narrow-focus and/or broad-based partnerships
- Sales environment will require more focused marketing efforts
 - Consumers responding to “personalized” products, encouraging nameplate proliferation
 - Everything to everyone products falling out of favor
 - Reaching consumers requires more creativity (or data)
- Recent era of adding nameplates to increase volume and share appears unsustainable
 - This model may revert, and consolidation may begin

thank you!

IHS Markit Customer Care

CustomerCare@ihsmarkit.com

Americas: +1 800 IHS CARE (+1 800 447 2273)

Europe, Middle East, and Africa: +44 (0) 1344 328 300

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