Global and U.S. Automotive Outlook

2018-2019

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Global and North America Outlook

Global Light-Vehicle Sales Forecast by Region

Global volume tops 95 million in 2018, and 97 million in 2019, based on projected solid economic growth. Most strength in emerging markets – i.e., China, India, East Europe – and continued rebound in South America after hitting rock-bottom in 2016.

Units in Millions

	2016	2017	2018 (FORECAST)	2019 (FORECAST)	% Change 2017-18	% Change 2018-19
China	26.88	27.35	27.99	28.59	2.3%	2.1%
North America/NAFTA	21.01	20.70	20.18	20.00	-2.5%	-0.9%
Europe	19.75	20.53	21.25	21.80	3.5%	2.6%
(EU)	(16.59)	(17.19)	(17.59)	(18.05)	2.3%	2.6%
Rest of Asia	14.30	14.84	15.33	15.86	3.3%	3.4%
(ASEAN)	(3.16)	(3.12)	(3.27)	(3.44)	4.7%	5.5%
South America	3.57	4.04	4.56	4.84	12.9%	6.2%
(MERCOSUR)	(2.74)	(3.12)	(3.54)	(3.80)	13.5%	7.4%
Rest of World	6.16	5.98	6.11	6.29	2.1%	2.9%
TOTAL	**91.67**	**93.45**	**95.43**	**97.38**	**2.1%**	**2.0%**

Rest of World includes Africa, Central America/Caribbean, Middle East and Oceania/Central Pacific.

Source: Wards Intelligence

Regional Breakdown:

- **China:** Sales continue to rise, but with growth expected to slow rest of year and in 2019 due to expected slowdown in economic growth
- **North America:** Expected slowdowns at the end of the year in Canada and U.S. cause it to be only region to record a downturn in 2018; also in 2019
- **Europe:** Growth continues with eastern sector (Russia) growing faster than west
- **Asia (less China):** Continue strength, led by India and Japan, which rebounds from slow start to 2018
- **South America:** Significant growth in 2018-19 but mostly dependent on continued economic recovery in Brazil, as it rebounds from severe 2015-2016 downturns; still far from previous peak totals

Note: Economic comments based on analyses and data from IMF, OECD, U.S. Federal Reserve, Bank of Canada and other available resources.

Global Light-Vehicle Production Forecast by Region

Global production rises faster than sales in 2018, followed by slower growth in 2019, as supply balances out. Production posts record 98.3 million in 2018; flirts with 100 million in 2019.

Units in Millions

	2016	2017	2018 (FORECAST)	2019 (FORECAST)	% Change 2017-18	% Change 2018-19
China	26.88	27.54	27.90	28.21	1.3%	1.1%
Rest of Asia	22.21	22.69	23.93	24.19	5.5%	1.1%
(ASEAN)	(4.17)	(4.18)	(4.41)	(4.45)	5.7%	0.8%
Europe	21.57	22.40	22.97	23.11	2.5%	0.6%
(EU)	(18.70)	(19.06)	(19.45)	(19.57)	2.0%	0.6%
North America/NAFTA	17.73	16.99	17.12	17.51	0.8%	2.3%
South America	2.74	3.26	3.22	3.28	-1.0%	1.8%
(MERCOSUR)	(2.57)	(3.08)	(3.05)	(3.10)	-1.2%	1.9%
Rest of World	2.47	2.51	3.13	3.27	24.5%	4.5%
TOTAL	**93.60**	**95.39**	**98.27**	**99.57**	**3.0%**	**1.3%**

Rest of World includes Africa, Middle East and Australia.

Source: Wards Intelligence/AutoForecast Solutions

Regional Breakdown:

- **China:** Production slows as economic growth, and sales, back off the average gains of recent years
- **Asia (less China):** Strong growth in 2018, followed by pullback in gains in 2019 (except for India and South Korea)
- **Europe:** Growth continues sparked by East Europe volume
- **North America:** Production grows with increased domestic sourcing at the expense of factories in Europe and Asia
- **South America:** Production nearly flat as local manufacturing footprint catches up with retail demand

North America Light-Vehicle Sales Forecast by Country

Demand cools after recent record years in all three markets, but remains at historically high levels

Units in Millions

	2016	2017	2018 (FORECAST)	2019 (FORECAST)	% Change 2017-18	% Change 2018-19
North America	**21.01**	**20.70**	**20.18**	**20.00**	**-2.5%**	**-0.9%**
Domestic	15.98	15.59	15.00	15.24	-3.8%	1.6%
Import	5.03	5.11	5.18	4.76	1.5%	-8.1%
US Total	**17.46**	**17.14**	**16.78**	**16.60**	**-2.1%**	**-1.0%**
Domestic	13.59	13.26	12.78	12.98	-3.6%	1.5%
Import	3.88	3.88	3.99	3.62	3.1%	-9.3%
Canada Total	**1.95**	**2.03**	**2.00**	**1.90**	**-1.6%**	**-5.1%**
Domestic	1.49	1.54	1.52	1.49	-1.2%	-1.9%
Import	0.46	0.50	0.48	0.41	-2.9%	-15.2%
Mexico Total	**1.60**	**1.53**	**1.41**	**1.50**	**-8.1%**	**6.8%**
Domestic	0.90	0.79	0.70	0.77	-11.9%	10.3%
Import	0.70	0.73	0.70	0.73	-4.0%	3.2%

Note: Domestic indicates any vehicle built in North America; Import is any vehicle sourced from overseas.

Source: Wards Intelligence

Market Breakdown:

- **U.S.:** Volume turns downward yr/yr in second-half 2018 and declines in 2019
- **Canada:** Mimics U.S., with downward turn at end of year, and slowdown in 2019. Still sound economic fundamentals but headwinds, such as rising interest rates and consumer debt – coupled with five straight record years of light-vehicle sales – catch up
- **Mexico:** Growth stalled in 2017 after record highs previous three years. As with Canada, underlying economic fundamentals sound, but light-vehicle demand continues sluggish, with possibility of picking up after July elections. Annual growth resumes in 2019. Continued strong U.S. economy a plus.

North America Light-Vehicle Production Forecast by Country

Increased domestic sourcing (see previous slide), and larger footprint for trucks, increases production despite market slowdown.

Units in Millions

	2016	2017	2018 (FORECAST)	2019 (FORECAST)	% Change 2017-18	% Change 2018-19
PRODUCTION						
North America	17.73	16.99	17.12	17.51	0.7%	2.3%
US	11.92	10.91	11.18	11.25	2.5%	0.6%
Mexico	3.46	3.91	3.93	4.26	0.6%	8.5%
Canada	2.36	2.18	2.01	1.99	-7.7%	-0.7%
AVAILABLE STRAIGHT-TIME PRODUCTION						
North America	18.12	18.09	18.16	18.63	0.4%	2.6%
US	12.12	11.57	11.55	11.66	-0.2%	0.9%
Mexico	3.71	4.32	4.46	4.81	3.2%	7.9%
Canada	2.29	2.19	2.15	2.16	-2.0%	0.4%
CAPACITY UTILIZATION						
North America	100.6%	94.1%	93.6%	94.1%	-	-
US	102.8%	93.3%	94.3%	94.5%	-	-
Mexico	99.8%	102.7%	99.0%	99.6%	-	-
Canada	103.0%	99.2%	93.4%	92.4%	-	-

Available Straight-Time Production is an aggregation of estimated output each vehicle plant can produce annually, based on their actual and projected weekly straight-time hours worked, less typical holiday and vacation downtime, as well as extended shutdowns for retooling. **Capacity Utilization** is production as a percent of estimated straight-time capacity, which is based on what each plant can build annually on a typical weekly schedule of five workdays with two 8-hour shifts per day over 52 weeks - no downtime – regardless of its actual weekly schedule.

Source: Wards Intelligence/AutoForecast Solutions

Country Breakdown:

- **U.S.:** Increasing production mix of trucks improves outlook
- **Mexico:** After respite in 2017-18 from heated growth in previous years, additional capacity and full utilization of recently added capacity, including more trucks, leads to resumption of production juggernaut in 2019
- **Canada:** Production continues decline, as all additional capacity goes to U.S. and Mexico

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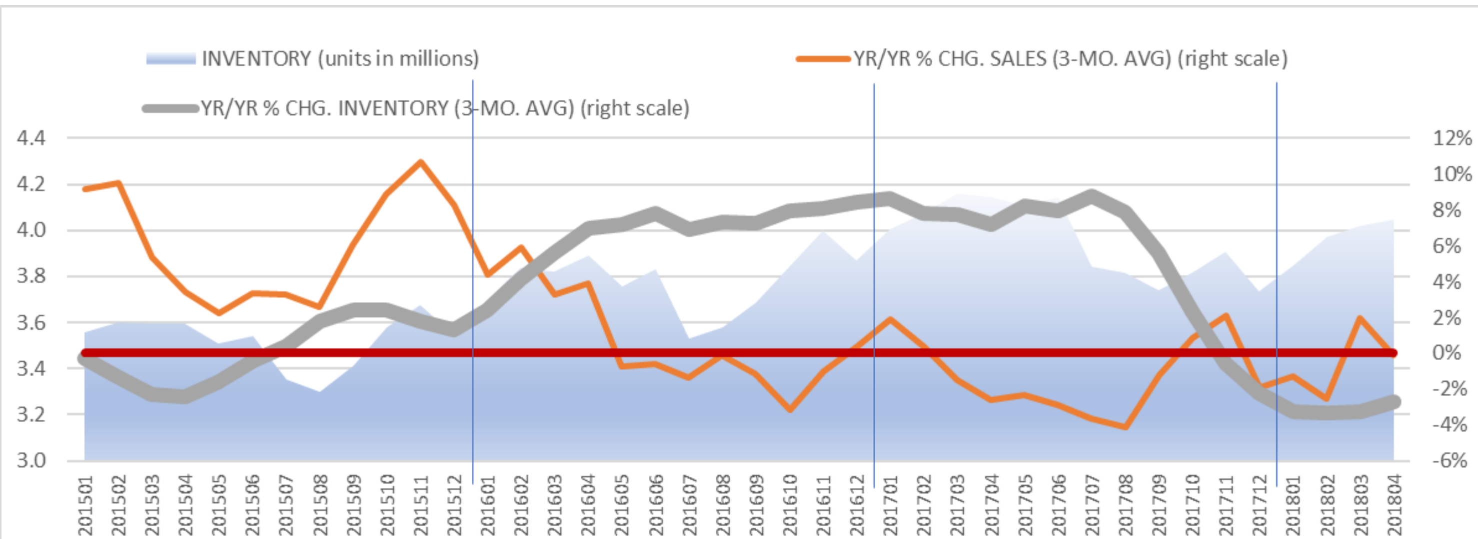
U.S. Outlook

U.S. Market Right Now is Flat

- Looking at to-date 2018 results purely based on volume, the market is flat
- Headlines that April was soft because volume was down 5% from April 2017 did not take into account the year-ago month had an extra weekend in its selling period; otherwise volume would have been roughly the same (**Lesson:** Use the SAAR when comparing an individual month with same period in prior years)
- The calendar in 2018 will be more accommodating to volume in May and June than in 2017, meaning first-half volume probably end a little above last year
- Inventory down 2% at end of April but robust enough to easily support a 17 million-plus market
  - Abundant truck inventory, the strong part of the market, in essence more than offsets the overall decline – in fact, total inventory arguably still too high
- May expected to finish at 16.6 million SAAR vs. 16.7 million year-ago; volume up though
  - Could see same pattern in June: SAAR roughly flat, volume higher



Although down from year-ago, plenty of inventory to support 17 million-plus market, with the mix of trucks at nearly 70% vs 62% a year ago

YTD Stats (through April)

- Flat YTD sales: 5.4 million
  - Car down 14%
  - Truck up 8%
  - Retail down 2%
  - Fleet up 6%
- YTD SAAR: 17.1 million (flat)
- April inventory: down 2% (4.04 million)
  - Car down 20%
  - Truck up 8%

Four-month averages through April

- Average transaction prices: up 2%
- Average incentives: up 7%
- Average loan term: 69.3 months vs. 69.0 year-ago
- Average monthly loan payment: $528 vs. $512

Incentive and pricing data: ALG
Loan terms data: Edmunds

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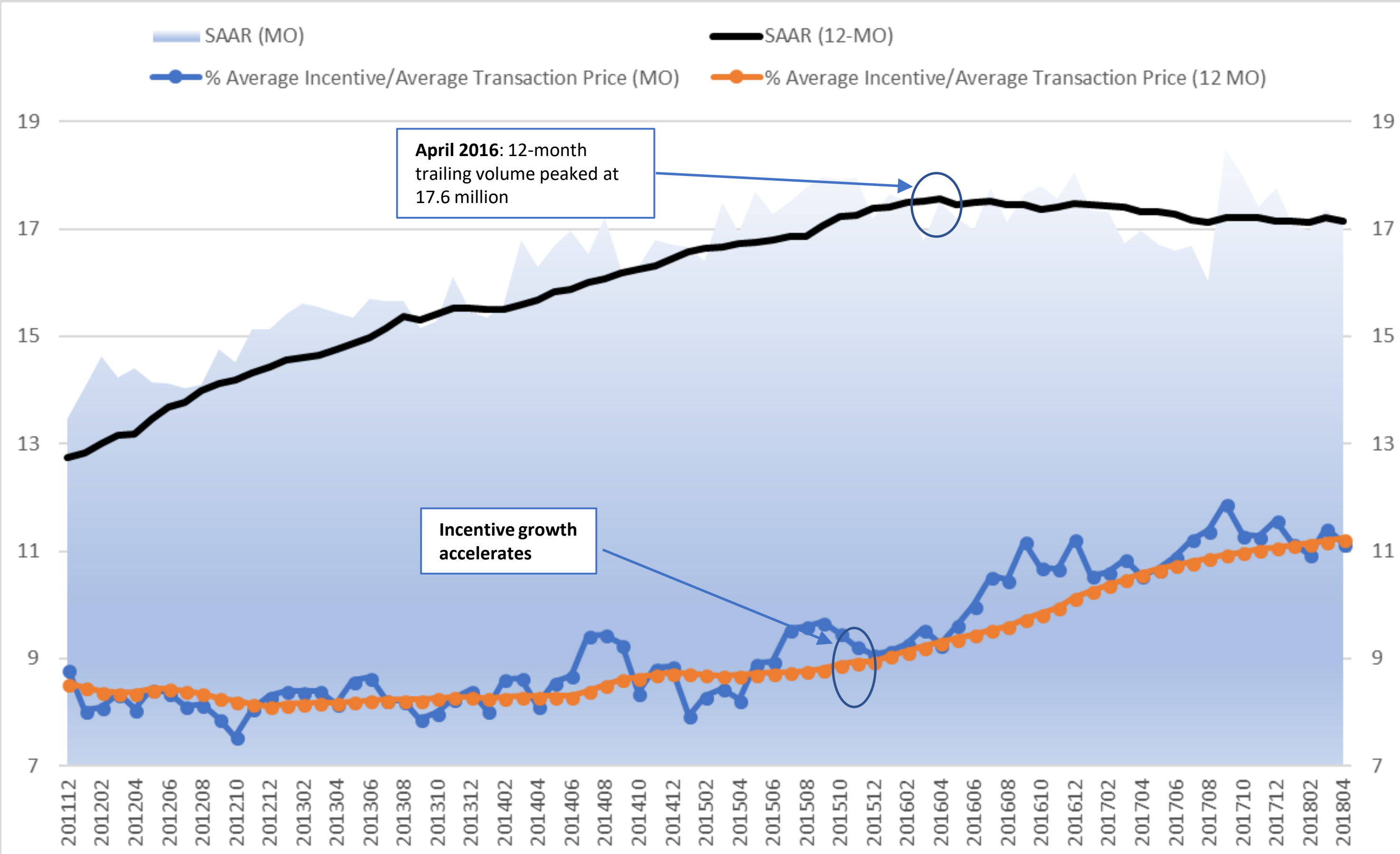
U.S. Light-Vehicle Sales vs. Incentives

However, there is underlying softness: Despite a strong economy and positive market indicators, such as a willingness to pay more in terms of transaction prices and monthly payments, there are signs of weakness



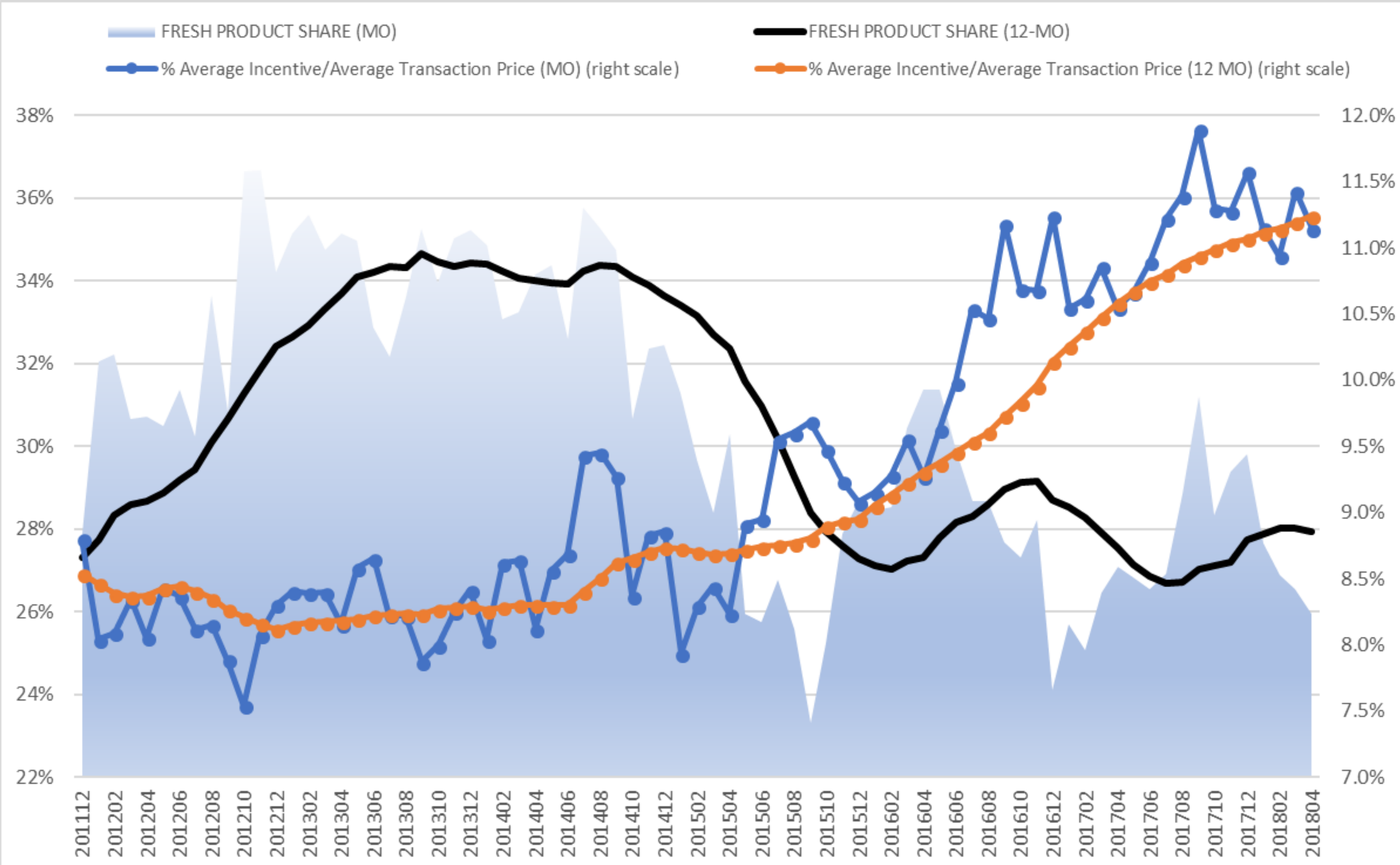
SAAR is seasonally adjusted annual rate of sales in millions

Source: SAAR based on factors provided by the Bureau of Economic Analysis; Incentives: ALG

- ❑ Automakers and dealers appear to be stretching more to keep vehicles affordable, highlighted by the acceleration in rising incentives that began when recession-caused excess replacement demand was satisfied in late-2015/early 2016.
- ❑ Furthermore:
- A higher mix of the vehicles in demand - trucks, especially CUVs - likely is the reason average transaction prices (ATPs) still tracking higher for now
- Incentives still rising faster than ATPs
- Lease deals have gotten more generous
- The average number of months in loan contracts continues to rise
- Retail YTD (nearly 80% of the market) is down, despite higher incentives and more generous leasing packages
- Inconsistencies in the month-to-month results in some truck segments indicate weakness in that sector (further explanation next slide)

Fresh Product vs. Incentives

Fresh Product Percent Share of Total Light-Vehicle Sales



Vehicles that are all-new or underwent a major redesign are considered "fresh" for the first 24 months they are on sale.

Incentive Data: ALG

Also contributing to lower retail volume (and higher incentives) is the low level of new or recently redesigned vehicles in the sales mix, which has fallen from the most recent peak penetration during 2012-2014.

- The strongest segment group, CUVs, which makes up 38% of sales, accounts for <u>half</u> of the fresh product currently in the market
- Other truck groups – pickups, SUVs, vans – which comprise 30% of the market, account for 14% fresh-product volume
- As individual groups, Pickups, SUVs and Vans each are selling better YTD over 2017, but with less consistency:
  - ➢ Fewer vehicles in those groups are posting yr/yr gains
  - ➢ Several with YTD gains are showing more volatility – not steady gains month-to-month, or a higher mix of ups and downs
    - ▪ Indicates retail weakness: gains are due to more competitive pricing in a particular month or a temporary surge in fleet volume

Underlying Weakness Catches Up in Second-Half 2018

- ❑ Forecast volume below year-ago and below first-half 2018 – first time since 2013
- Replacement demand further diminished by pull-ahead volume that began last September
  - ➢ And can't count on more hurricane-caused replacement demand
- Fleet volume gains might not continue, especially in Q4 – hurricane replacement pumped volume in Q4-2017
- Interest rates expected to continue rising
  - ➢ Pullback in subprime – there is some evidence of increased risk aversion
- Higher fuel prices in the second half could dampen total demand *(our assumption is fuel prices stop rising later in the year)* through consumers/fleet customers postponing purchases
  - ➢ Vehicles most affected by sales postponements will be bigger trucks: fullsize pickups, SUVs and vans
  - ➢ Market penetration improves for small and midsize CUVs
  - ➢ Cars benefit – most likely subcompact, compact and lower-priced midsize sedans – by pulling some sales away from trucks but not enough to stall growth in CUVs *(…a potential early indicator cars are pulling from trucks will be the first month truck penetration does not improve over the year-ago share)*
- Rising mix of late-model off-lease vehicles increases competition for new vehicles
  - ➢ Also, scrappage rates running low past few years not helping alleviate excess used-vehicle inventory
- Fresh-product mix remains a negative (penetration starts to reverse in Q4 but from just a few vehicles)
- Uncertainty caused both by international politics and the political atmosphere in the U.S., which we expect to continue at least through the November elections, could be a hindrance to demand
- Although still rising, yr/yr incentive growth appears to be slowing and could flatten or decline in July-December

Second-Half 2018 – continued

- **On the plus side**
- If the economy continues the rest of the year with 2.5-3.0% RGDP growth, could create more new-vehicle demand than forecast
- Consumers still benefitting from lower taxes
- Looming increases in interest rates could cause more potential buyers to enter the market ahead of perceived or real future higher prices
- Trucks with better fuel efficiency, and that dealers still will be relatively well-stocked with cars, could negate the potential negative impact to total demand from higher fuel prices

- **What to watch for: Inventory Levels**
  - Flat or declining yr/yr production over the summer could be an indicator the industry wants to head into Q4 without an excess of '18-model inventory

U.S. Inventory Gauge

Inventory pressure is helping prop sales volume: Inventory in 2016 and 2017, and so far in 2018, running roughly 10% on average above 2015, which mostly mirrored the estimated optimum level for a year tracking at 17 million-plus

- If inventory still tracking at ~10% above 2015 in September, could indicate another 17 million SAAR at year-end (or significant production slowdowns in Q4)

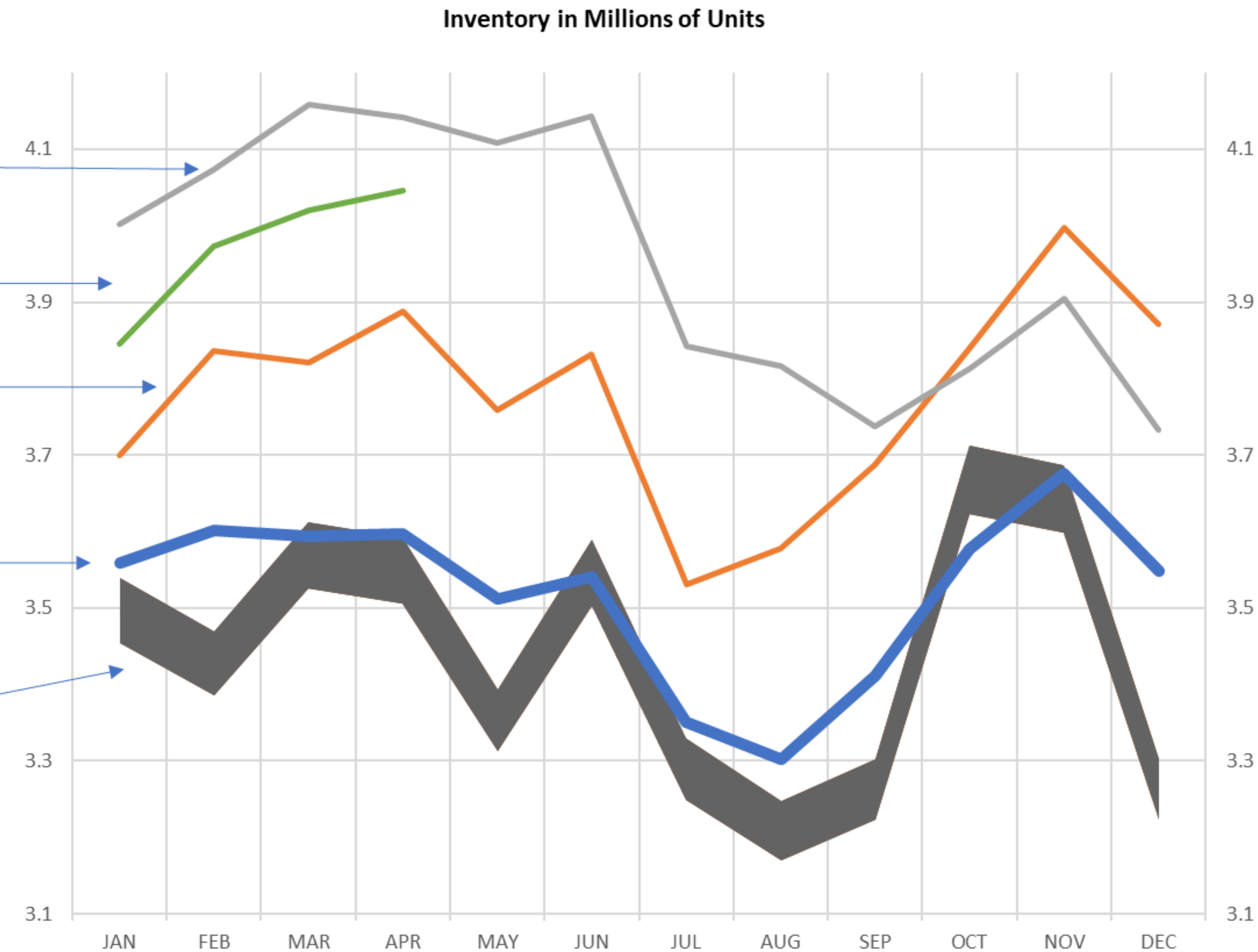
2017 Inventory; CYR sales 17.1 million
Q4 2017 SAAR: 17.7 million
(Inventory selloff; hurricane replacement demand)

2018 Inventory; CYR sales ?

2016 Inventory; CYR sales 17.5 million
Q4 2016 SAAR: 17.8 million
(Price competitveness more aggressive after industry demand stalled earlier in year; some inventory selloff)

2015 Inventory; CYR sales 17.4 million
Q4 2015 SAAR: 17.7 million
(Industry still in growth mode, though sales momentum since recession close to stalling)

Inventory Band: Estimated optimum inventory levels for 2018 if sales ran the entire year between 16.7 million (bottom) to 17.1 million (top)



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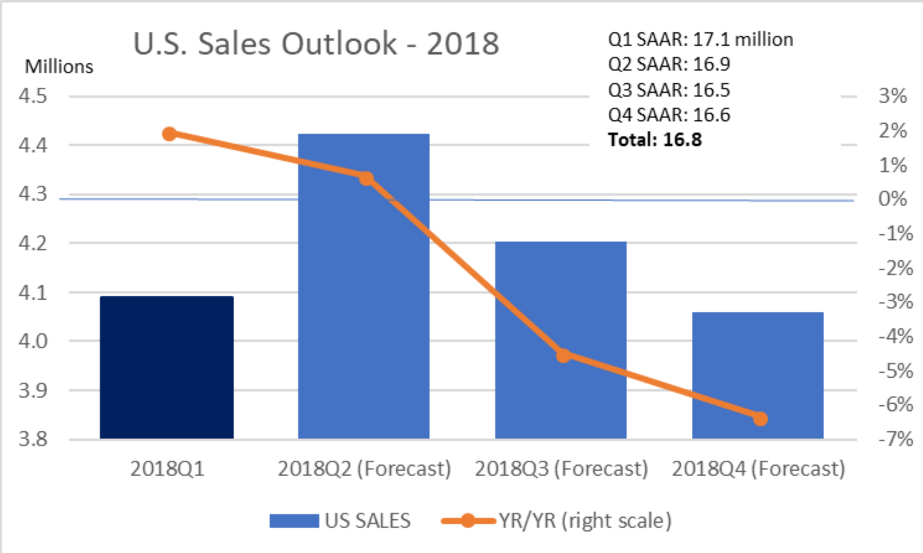
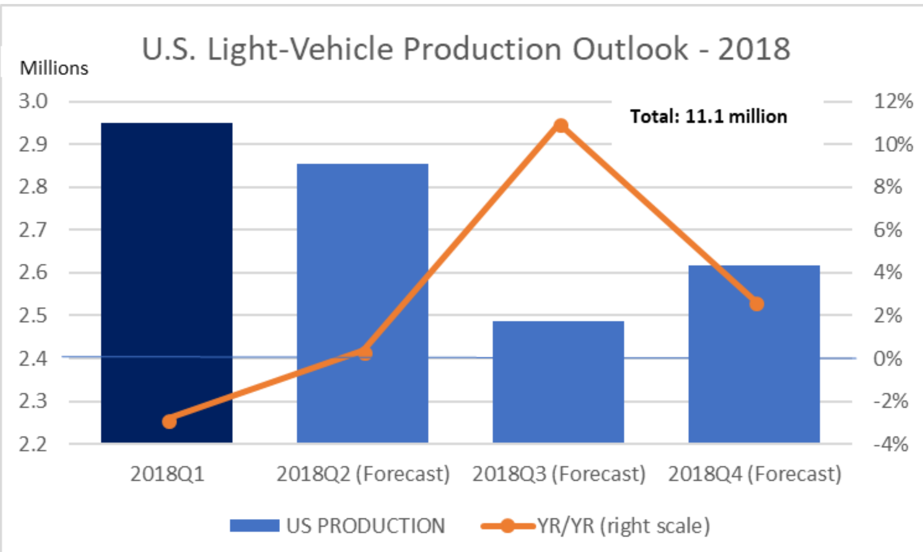
The 2018 U.S. Outlook by Quarter





❑ **Sales slow noticeably in Q3**

- Q3 sales could be higher if automakers push discounting further to keep inventory in balance heading into Q4 and new model year
- As in recent years, expect a rebound (SAAR) in Q4 from Q3

❑ **Production fares better than sales yr/yr**

➢ *Have a downward bias to production*

- Comparison with year-ago Q3 production somewhat skewed

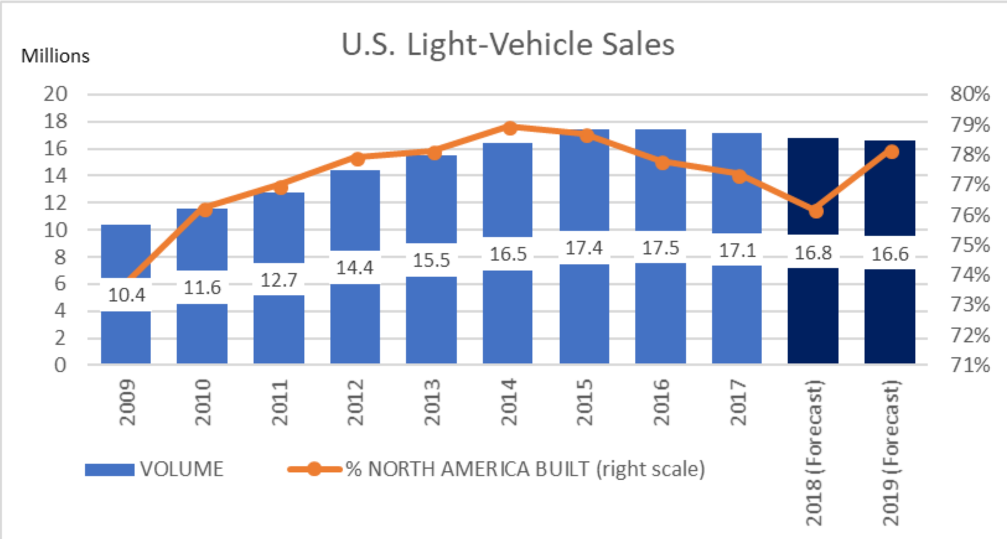
➢ With sales sliding last year – 3-Mo. SAAR dropped to 16.3 million by September - manufacturers started getting serious cutting inventory with production slowdowns – especially cars

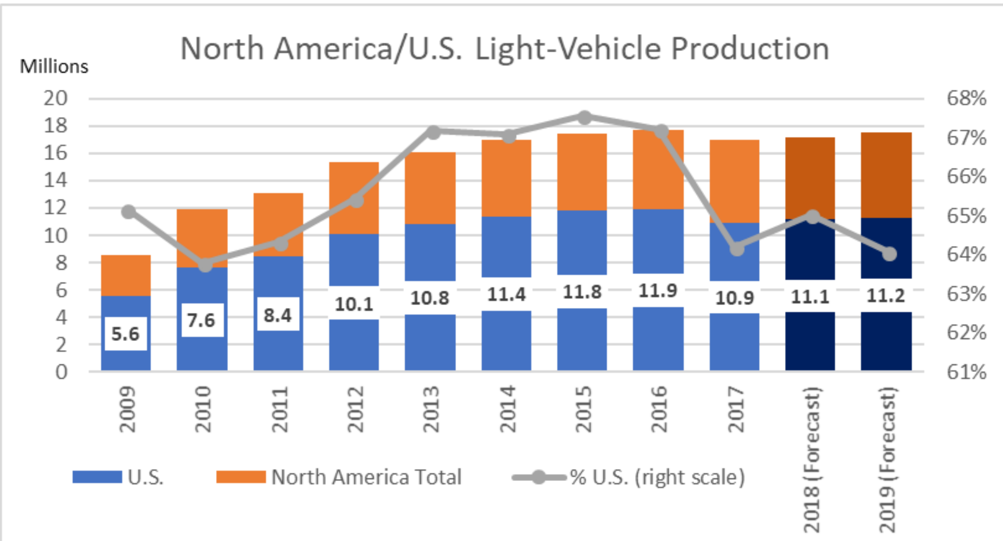
➢ Q3 2017 production was down 10% yr/yr – cars down 23%

➢ Not as much inventory cutting this year

- Higher mix of truck output props production volume

2019: U.S. Sales Down; Production Up





Sales decline in 2019

- Still no excess replacement demand – three to four years for a significant buildup
- Interest rates higher entire year
  - ➢ Might curtail lease penetration, as well as put pressure on monthly loan payments
- Even more late-model vehicles entering used-vehicle inventory

❑ On the plus side:

- Even more consumers coming off lease – most go into a new vehicle
- Fresh-product mix begins to rebound

Production rises

- Additional truck products and first full-year volume at new Volvo plant more than offset negatives from slower sales

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