

READING THE METER

*A look inside a cleaner, safer,
smarter auto industry.*



ALLIANCE FOR AUTOMOTIVE INNOVATION

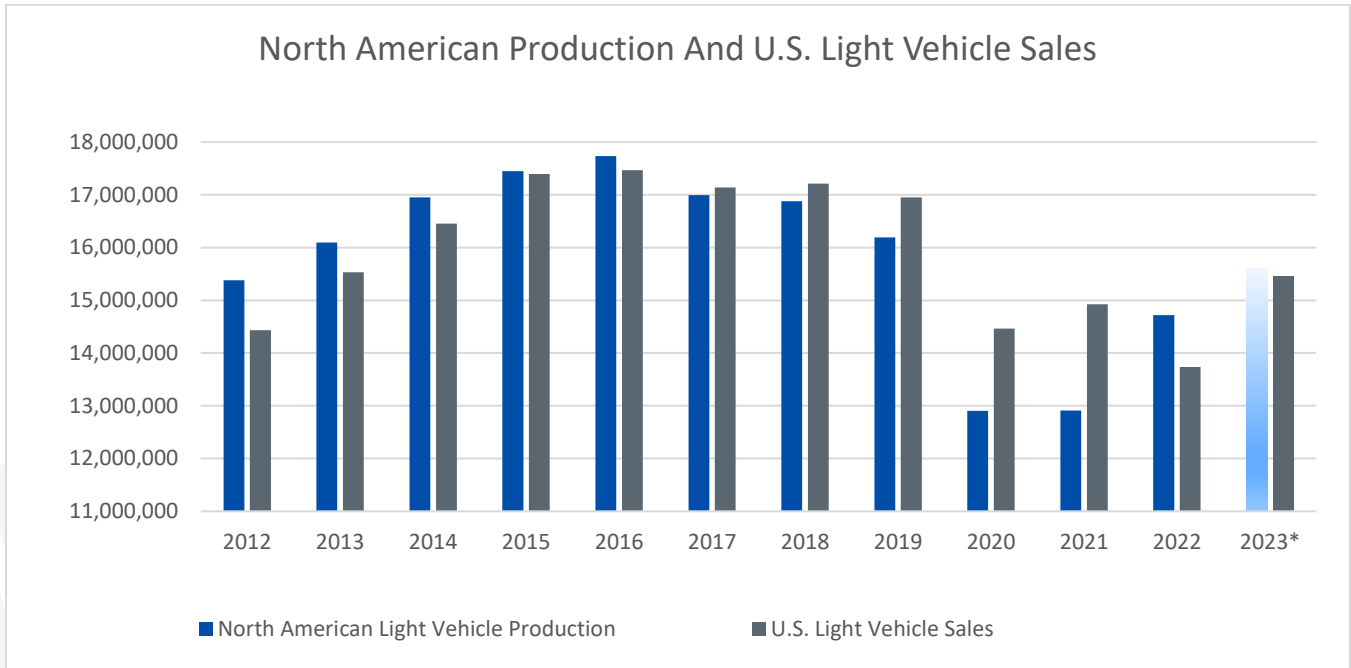
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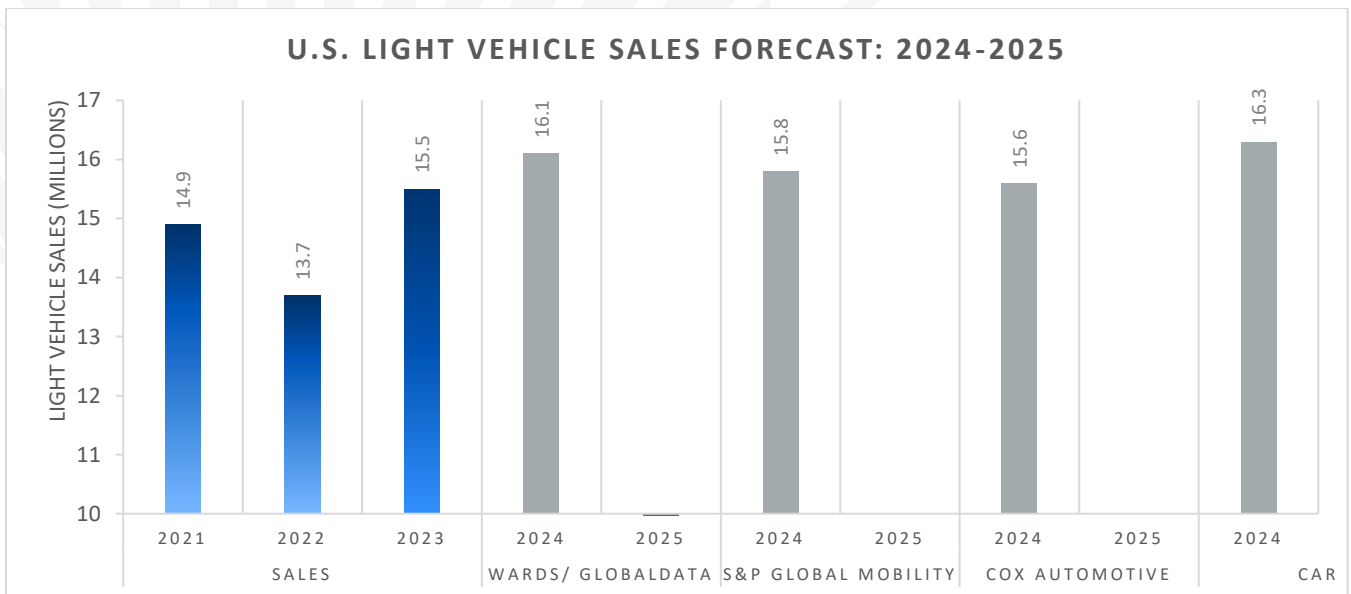
Forecast Meter

Sales & Production Summary and Forecast (Updated 1/5)

2022-2023 Sales,¹ Extended Sales Forecast,² and Production Forecasts.³		
	U.S. Sales & Forecasts	North American Production
January '22	991,156 (-10% YoY)	1,111,390 (-4% YoY)
February '22	1,052,524 (-11.8% YoY)	1,112,429 (-1% YoY)
March '22	1,246,336 (-22% YoY)	1,350,102 (-.1% YoY)
April '22	1,226,950 (-22% YoY)	1,177,851 (+8% YoY)
May '22	1,104,993 (-23.8% YoY)	1,215,000 (+20.4% YoY)
June '22	1,126,724 (-16.8% YoY)	1,259,515 (+13.8% YoY)
July '22	1,129,371 (-8.4% YoY)	977,485 (+7% YoY)
August '22	1,128,200 (-.7% YoY)	1,413,262 (+29 %)
September '22	1,112,245 (+3.9% YoY)	1,258,501 (+38% YoY)
October '22	1,151,774 (+13.8% YoY)	1,299,707 (+12.4% YoY)
November '22	1,120,067 (+6% YoY)	1,200,244 (+5.5% YoY)
December '22	1,263,268 (+4.9% YoY)	1,074,938 (+3.4% YoY)
January '23	1,033,002 (+4.2% YoY)	1,195,548 (+12.9% YoY)
February '23	1,136,332 (+8.7% YoY)	1,257,482 (+15% YoY)
March '23	1,365,966 (+8.6% YoY)	1,442,991 (+6.7% YoY)
April '23	1,347,159 (+13.1% YoY)	1,281,626 (+8.6% YoY)
May '23	1,362,019 (+18.0% YoY)	1,462,273 (+25.5% YoY)
June '23	1,370,976 (+19.9% YoY)	1,387,090 (+13.8% YoY)
July '23	1,299,199 (+19.9% YoY)	1,173,342 (+15.6 YoY)
August '23	1,328,526 (+12.8% YoY)	1,467,284 (+4.5% YoY)
September '23	1,331,952 (+13.9% YoY)	1,353,072 (+7.6% YoY)
October '23	1,200,286 (+5.7% YoY)	1,388,720 (+4.5% YoY)
November '23	1,218,647 (+7.3% YoY)	1,372,253 (+8.1 YoY)
December '23	1,433,266 (+17.3 YoY)	
2022 Full Year	13,734,203 (-8.1% YoY)	14,721,053 (+9.8% YoY) (U.S. 10,019,791)
2023 Estimate	15,457,447 (+12.4% YoY)	15.6 million units (WardsIntelligence)



U.S. Light Vehicle Sales Outlook (Updated 1/5)



Wards Intelligence Outlook (12/6)⁴: “Initial modeling puts December sales at a 14.9 million-unit seasonally adjusted annual rate, a decline from the prior month’s 15.3 million, and the lowest for any month since the same total in March.

“Rising inventory and incentives – estimated by J.D. Power at \$2,247 per vehicle in November, more than double the year-ago period – should put upside to December’s outlook.

“Missing from the past two years due to the dearth of inventory caused by the supply-chain disruptions that hit manufacturers in early 2021 was the historically tried and true end-of-year holiday surge. Sharply rising inventory could put some spark back into the holidays if automakers bite and goose deals enough in the week between Christmas and New Years, if not sooner.

“Wards Intelligence partner GlobalData expects U.S. light-vehicle sales to total 15.4 million units for entire 2023, followed by 16.1 million in 2024.”

North American Production & Inventory Outlook (Updated 1/5)

Wards Intelligence Production Outlook (1/5)⁵: “The fourth quarter is tracking to output of 3.874 million units, 4.5% above like-2022’s 3.706 million. The October-December total is 0.6% below Q4-2019’s pre-pandemic total.

Production in entire 2023 is pegged at 16.19 million units, 9.7% above 2022’s 14.76 million and highest since 16.80 million in 2019.

“In a first look at 2024, Q1 production of total vehicles is projected to continue gains, rising 4.2% year-over-year to 4.179 million units. Light-vehicle output is forecast to total 4.049 million units in Q1-2024, up 4.2% year-over-year. However, growth will entirely come from a 7.2% increase in trucks more than offsetting a 9.1% decline in cars.

“Growth in the first three months of 2024 will be hindered by a smattering of long-term shutdowns at plants retooling for all-new products, mostly battery-electric vehicles.

“Long-term closures include Ford’s Oakville, Ont., facility, where it builds the Ford Edge and Lincoln Nautilus, in March until 2025; GM’s Orion, MI plant (Chevrolet Bolt, Bolt EUV) in January until late-2025; Stellantis’s Brampton, Ont., plant (Chrysler 300, Dodge Challenger, Charger) in January until late-2025.

“Additionally, Stellantis’s Belvidere, IL, plant, shuttered since February, remains closed until 2027 and GM’s plant in Ingersoll, Ont., (BrightDrop) is closed until March for inventory control. There also are some plants at GM and Stellantis slated for short-term shutdowns in Q1 to cull inventory.”

S&P Global Mobility Outlook (1/5)⁶: “North America: The outlook for North America light vehicle production was increased by 77,000 units and reduced by 161,000 units for 2023 and 2024, respectively (and reduced by 51,000 units for 2025). The North America light vehicle production outlook for 2023 was revised higher by 0.5% to 15.59 million units on stronger post-strike volumes from the Detroit 3 and continued gains by the Asian manufacturers that finally appear to have resolved their semiconductor supply chain issues. The short-term forecast moves increasingly towards being derived from market fundamentals with the wide array of issues that have hampered production in recent years dissipating. As a result, the forecast is built around a new, lower level of inventory carrying that works to maintain North American inventory at around 2.5 million units or a 45-day supply compared to historical inventory levels between 3.0 to 4.0 million units. With stronger post-strike volumes from the Detroit 3, the outlook for 2024 was revised down a further 1.0% to total 15.67 million units to reduce excess inventory levels that were only marginally impacted by the low-pressure UAW strikes. As a result, production for the Detroit 3 in 2024 was revised down 163,000 units spanning a broad

array of vehicles, most notably among the truck and SUV profit centers. Despite the cuts, production in North America in 2024 is projected to increase 0.5% or 82,000 units relative to 2023.

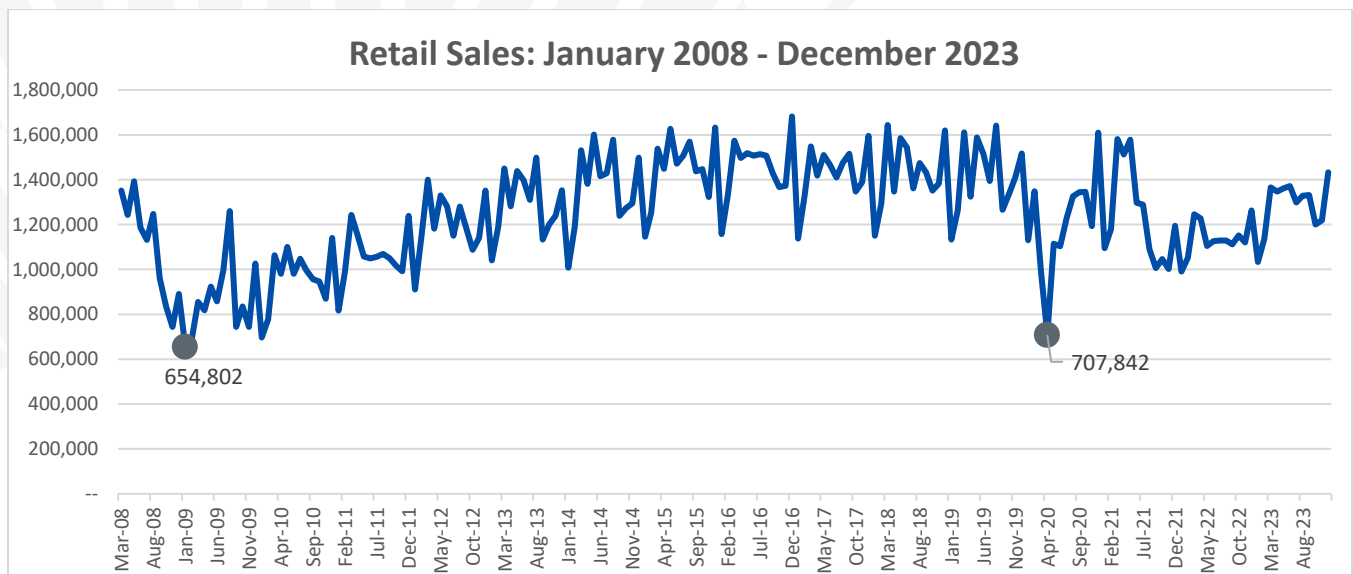
Wards Intelligence Inventory Outlook (12/6)⁷: “Based on the initial outlook for sales, December inventory is forecast to rise slightly from November to 2.35 million units. A bigger draw from dealer lots, if demand proves stronger than expected, could lead to a month-to-month decline. A November-to-December drop was typical pre-2021, as holiday shutdowns at all automakers cut production, thereby reducing shipments to dealers in what was usually one of the highest volume sales months of the year.”

Market Meter

U.S. Light Vehicle Sales (Updated 1/5)

Monthly Sales (Updated 1/5)

This chart helps to put into context the monthly retail sales due to the COVID pandemic and showing the relative drop in sales compared to the 2008 financial crisis.



December Sales (Updated 1/5)

WardsIntelligence⁸: “U.S. light-vehicle sales ended 2023 with December results slightly higher than expected, as increased availability, more discounting and a rebound in fleet deliveries lifted the seasonally adjusted annual rate to 15.8 million units.

“December’s SAAR was the highest since July’s 15.9 million units and well above like-2022’s 13.5 million.

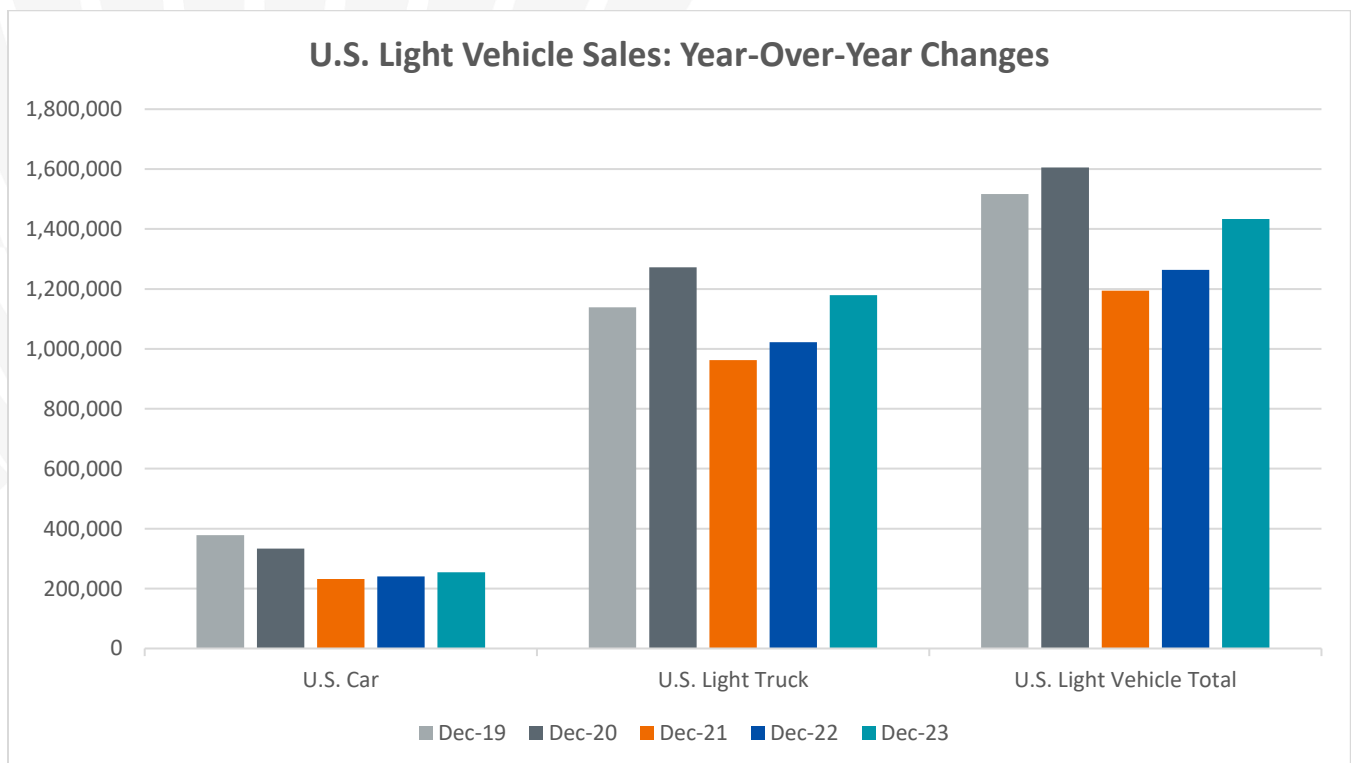
“Raw volume in December totaled 1.433 million units, up 13.0% year-over-year, while the daily selling rate of 55,126 over the month’s 26 selling days was 17.3% above like-2022’s 46,996 – 27 selling days.

“Sales in 2023 totaled 15.46 million units, highest since 16.96 million in 2019 and 12.4% above inventory-depleted 2022’s 13.75 million, which was an 11-year low. Fourth-quarter 2023 totaled a 15.5 million-unit SAAR, down from Q3’s 15.6 million, but significantly above Q4-2022’s 14.1 million. Volume in Q4 totaled 3.85 million units, up 7.3% from like-2022’s 3.59 million.

“In 2023, light-truck sales increased 13.5% from 2022 to 12.4 million units. Truck penetration hit a new high of 80.0% in 2023, beating 2022’s 79.2%. Truck penetration in December rose to an any-month record 82.3%, beating the previous high of 80.9% in same-month 2022.

“Trucks deliveries in 2023 were led by a 31.9% increase in CUVs, which also posted record penetration of 47.9%, capped by Q4 share of 51%.

“Accordingly, car share fell to its lowest – 20.0% - calendar-year total, even though volume increased 8.3% to 3.1 million units.”

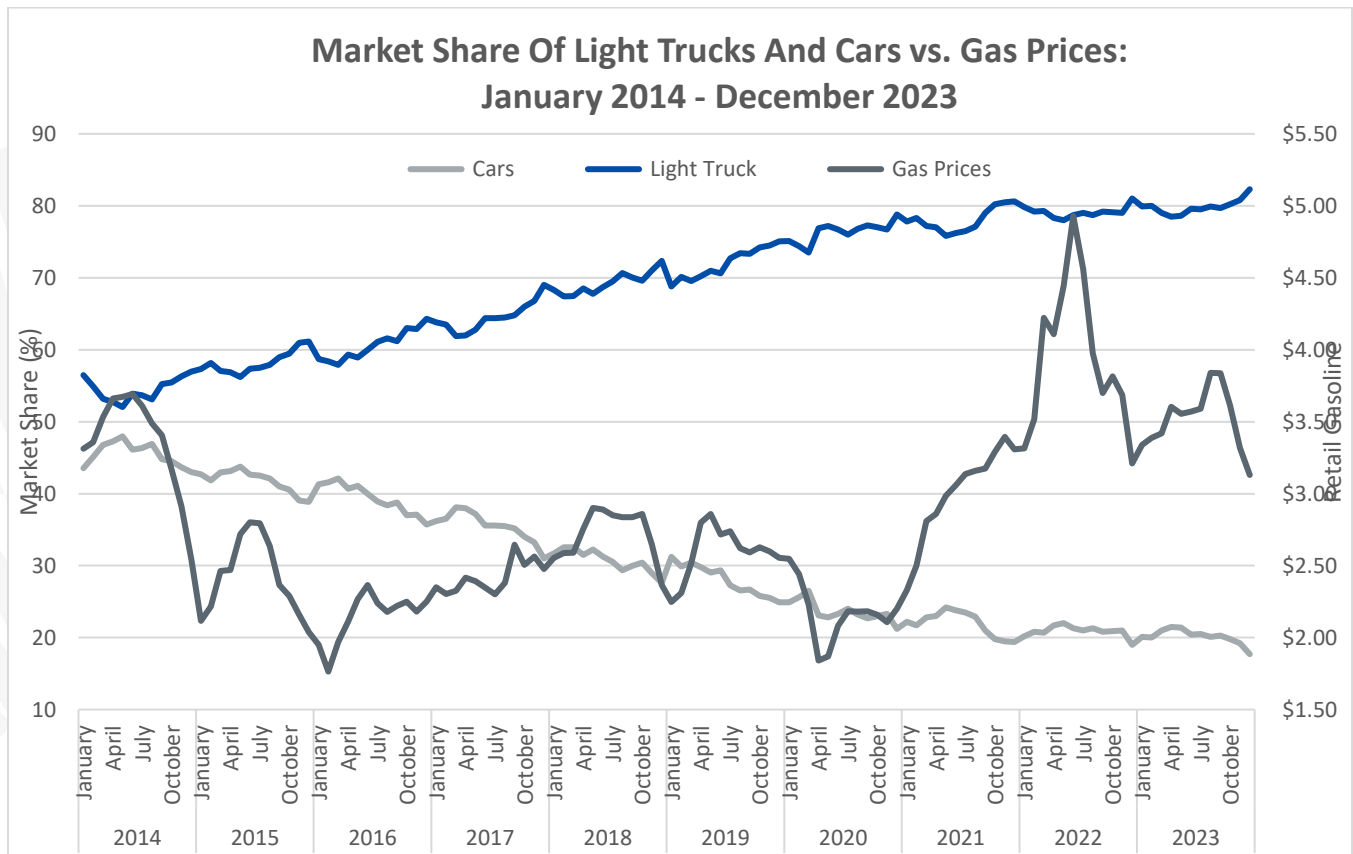


Segments vs. Gas Prices (Updated 1/5)

Monthly Sales For December: Light trucks accounted for 82.3 percent of sales in December, up slightly from the market share a year ago. Compared to the same period in 2022, sales of cars are down by 14,000 units,

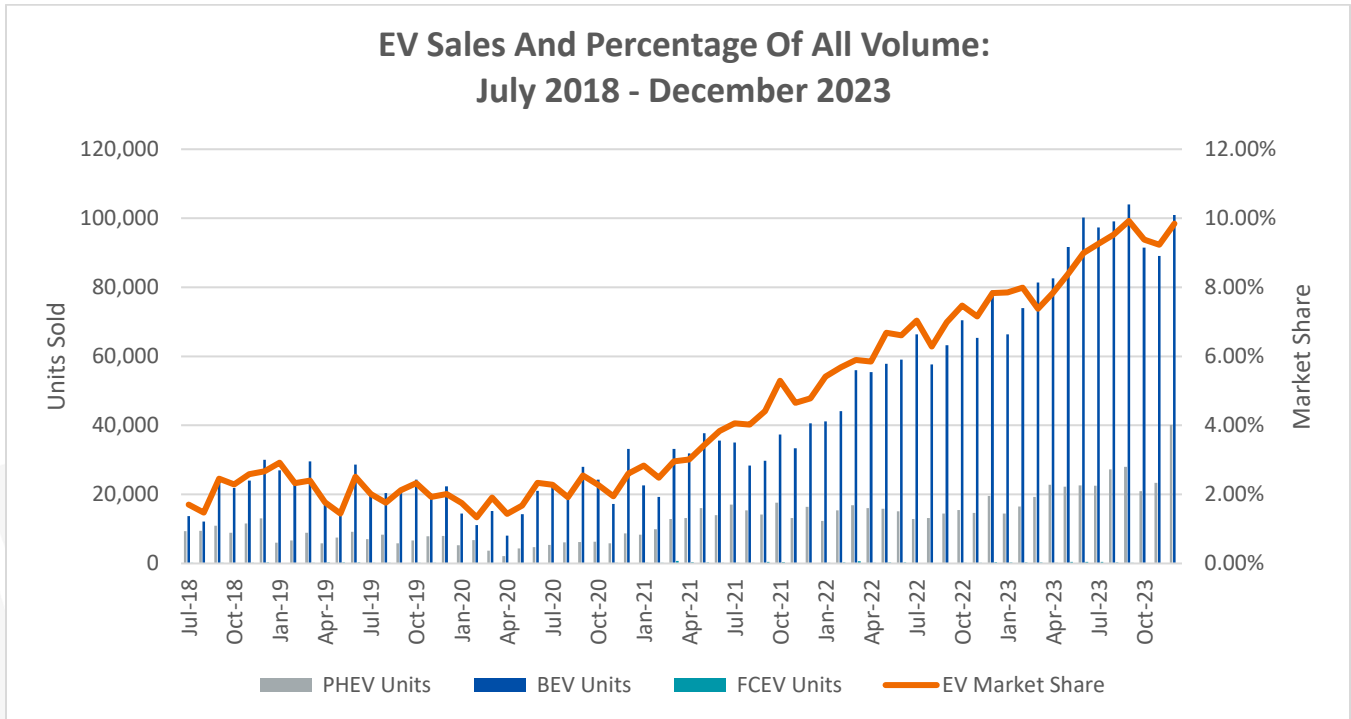
and down more than 123,000 from December 2019, when cars comprised 25% of the market as opposed to the 17.3 percent of the market passenger cars have now.

Historic Perspective: The upward trend in the popularity of light trucks over cars has been steady since 2013, when only 2% of annual market share separated the two segments...⁹ and gas was over \$3.00...¹⁰ a gallon. As fuel prices dropped below the \$3.00 mark in mid-September 2014, light truck sales began to take off. Gas prices since have averaged only \$2.83 a gallon (through December 2022) and when combined with increased fuel economy for light trucks, an increase of 4 mpg since 2013, the perfect conditions existed to continue fueling light truck market growth...¹¹



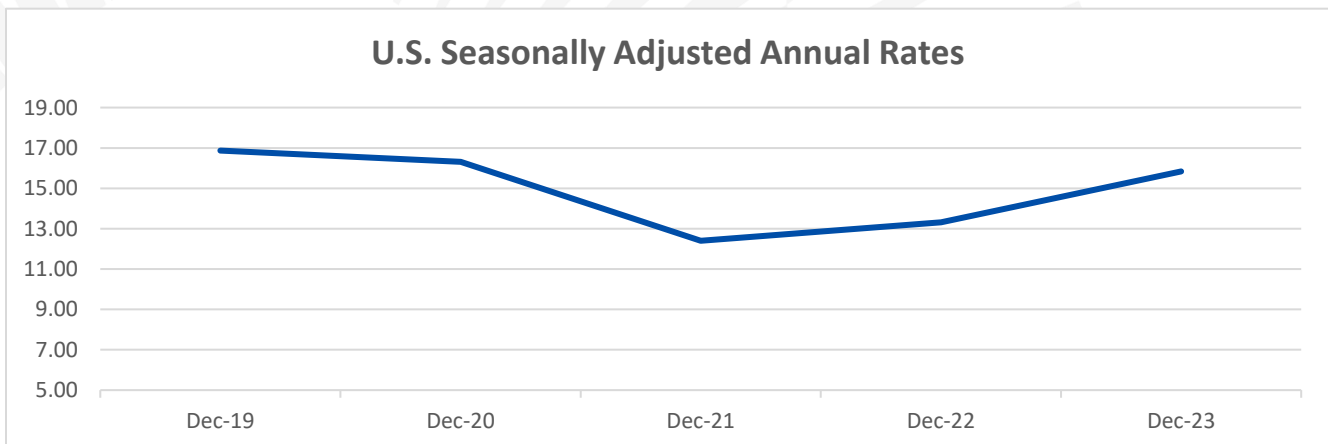
EV Powertrain Sales (Updated 1/5)

Sales of electric vehicles (BEV, PHEV, & Fuel Cell) accounted for 9.8 percent of total vehicle sales in December 2023 (141,103), per Wards estimates. Market share increased 0.6 percentage points (pp) from November 2023. December's EV market share is up 2.0 pp from a year ago. Sales of battery electric vehicles led the way for EVs, accounting for 7.0 percent of total sales, up 0.78 pp from December 2022. Plug-in hybrids accounted for 2.8 percent, up 1.2 pp from the same time last year...¹²



Seasonally Adjusted Annual Rates (Updated 1/5)

WardsIntelligence¹³: “U.S. light-vehicle sales ended 2023 with December results slightly higher than expected, as increased availability, more discounting and a rebound in fleet deliveries lifted the seasonally adjusted annual rate to 15.8 million units. December’s SAAR was the highest since July’s 15.9 million units and well above like-2022’s 13.5 million.



Average Transaction Price (Updated 1/5)

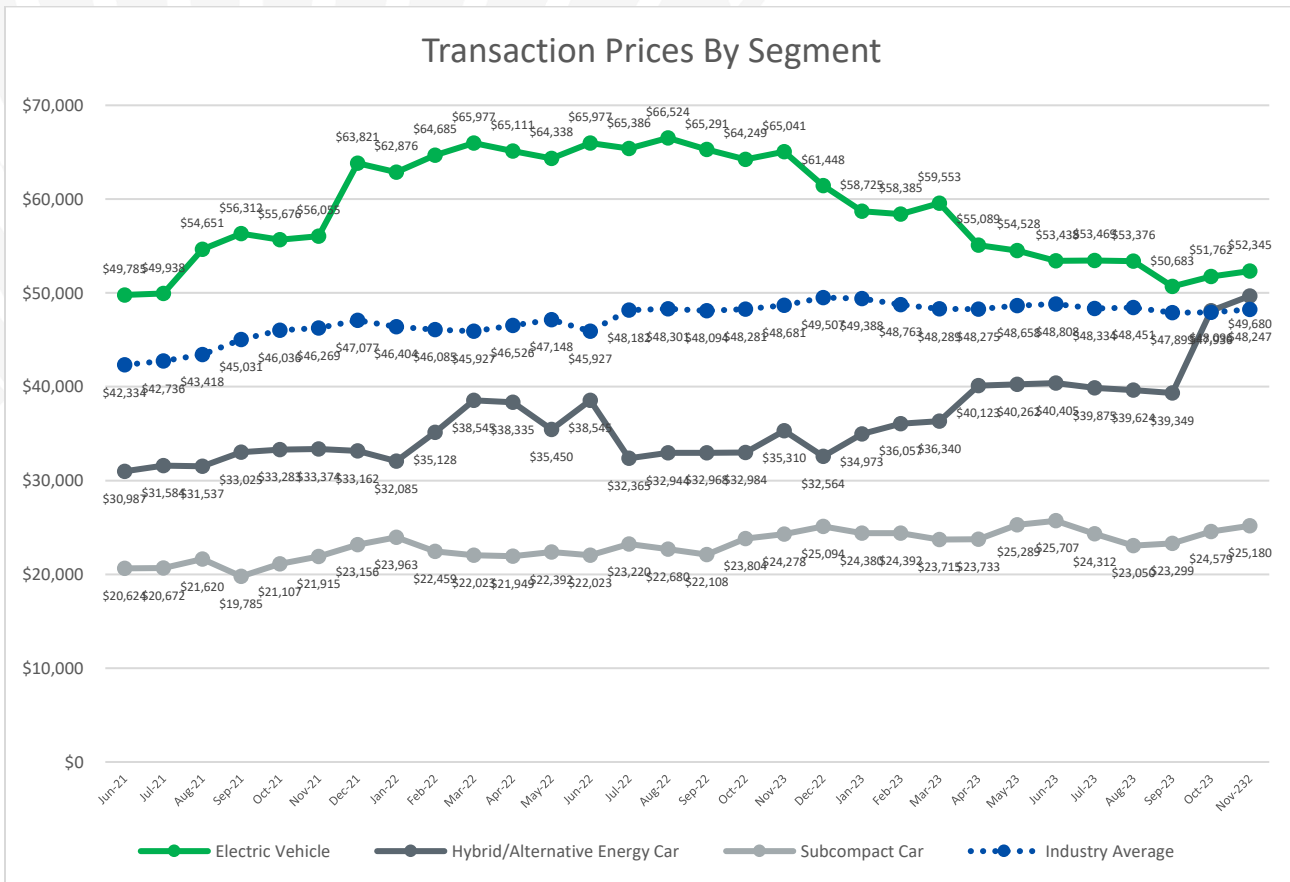
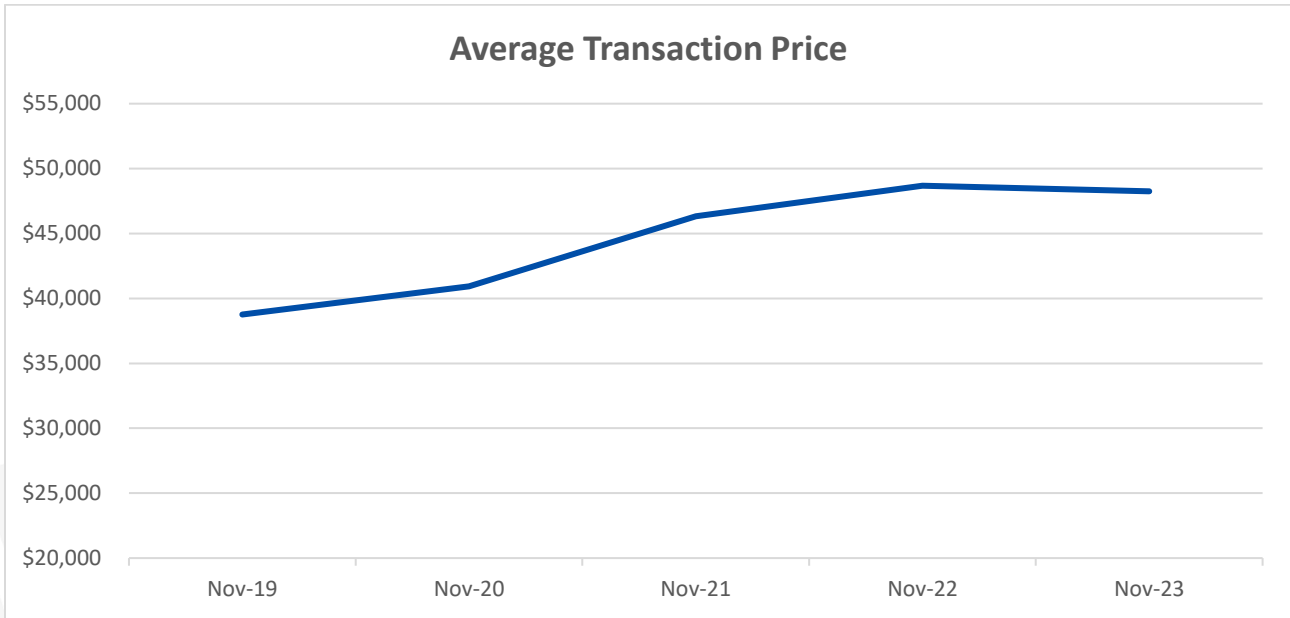
J.D. Power (Updated 1/5)¹⁴: “As inventory improves, the average new-vehicle retail transaction price is declining. Transaction prices in December are trending towards \$46,055, down \$1,274—or 2.7%—from December 2022. . . . Manufacturer discounts in December are expected to be up \$145 from November and have materially increased from a year ago when incentives were at record lows. The average incentive spend per vehicle has grown 90.7% from December 2022 and is currently on track to reach \$2,458. Expressed as a percentage of MSRP, incentive spending is currently at 4.9%, an increase of 2.3 percentage points from December 2022.”

Kelley Blue Book (November) (Updated 1/5)¹⁵: “The U.S. new-vehicle average transaction price in November 2023 was \$48,247, an increase of less than 1% month over month and down year over year by 1.5%, according to data released today from Kelley Blue Book, a Cox Automotive company. November marks the third consecutive month that new-vehicle transaction prices were lower year over year, a unique milestone for the industry. In fact, the past three months mark the only time in the past decade that the monthly new-vehicle ATPs did not increase year over year.

“In addition, new-vehicle sales incentives climbed further in November 2023 after retreating slightly in October, surpassing 5% of the average transaction price (ATP) for the first time since September 2021. New-vehicle sales incentives were up 136% year over year in November, indicating the new-vehicle market is shifting to a buyer's market, not a seller's market.

“The average price paid for a new electric vehicle in November was \$52,345, up from a revised \$51,715 in October and supported by incentive levels well above the industry average. In November, EV incentives reached their highest point of 2023 at 8.9% of ATP. A year ago, EV incentives were less than 2% of ATP. Thanks in part to discounts and above-average inventory levels, EV transaction prices last month were only 8.5% higher than the industry average price of \$48,247.

““In recent months, price parity between EVs and ICE has almost seemed possible,’ added Stephanie Valdez-Streaty, director of Strategic Planning at Cox Automotive. ‘It is a complicated measure with plenty of variables, but newer products and higher discounts have brought down average EV prices, even before potential tax incentives. A year ago, the EV premium was more than 30%. Today, it's less than 10%.”

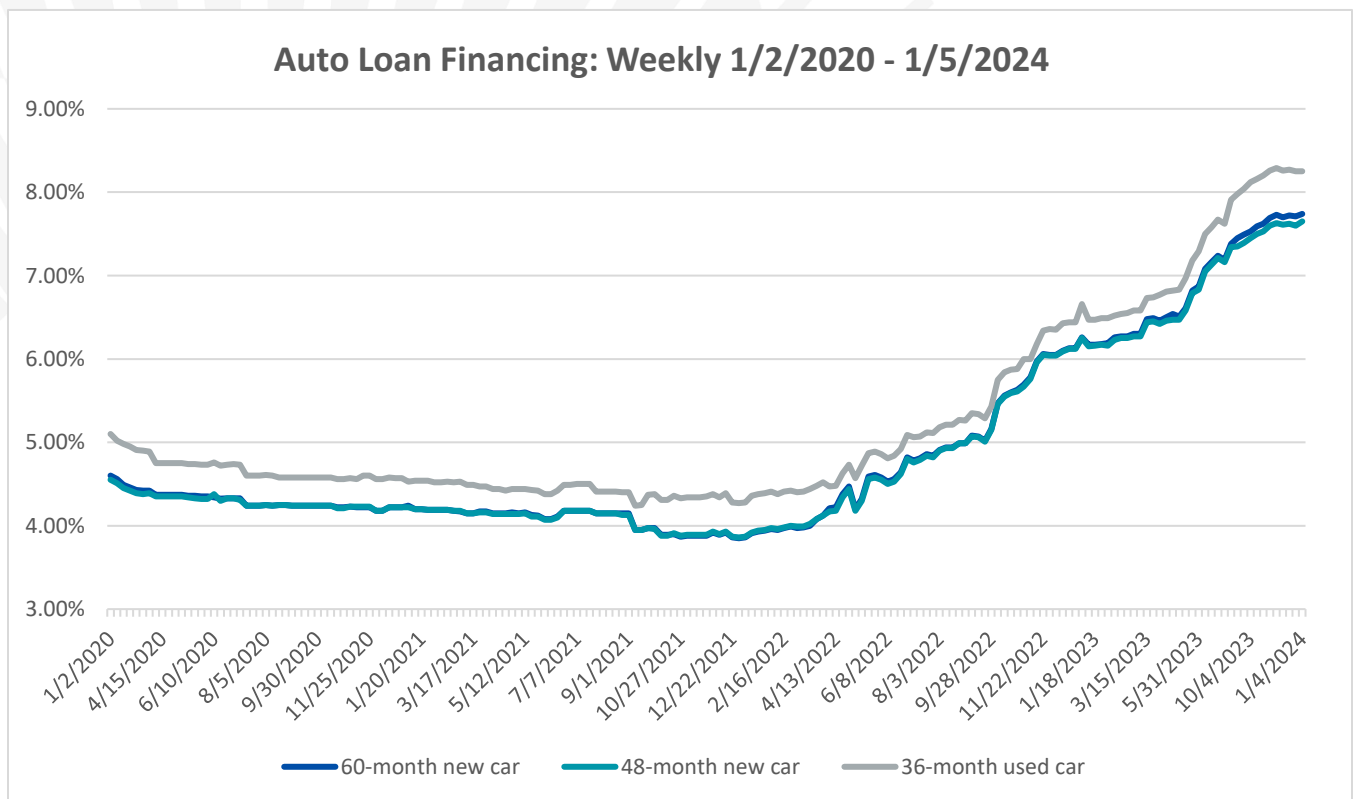


Auto Loan Financing (Updated 1/5)

Interest Rates (updated 1/5): Interest rates continued their steady increase on the 60-month, 48-month and 36-month used car loans. Rates now stand at 7.7%, 7.6%, and 8.3%, respectively. Since the beginning of 2020, 60-month rates are up 3.1 pp, and are up 1.48 pp since the same time a year ago...¹⁶

JD Power (1/5)¹⁷: “Despite falling transaction prices, higher interest rates and reduced trade equity are contributing to the escalation of monthly loan installments. The average monthly finance payment in December is on pace to be \$739, up \$9 from December 2022. That translates to a 1.1% increase in monthly payments from a year ago. The average interest rate for new-vehicle loans is expected to be 6.9%, an increase of 46 basis points from a year ago.”

Dates	60-month new car	48-month new car	36-month used car
1/2/2020	4.60%	4.55%	5.10%
1/4/2023	6.26%	6.25%	6.66%
12/20/2023	7.71%	7.60%	8.25%
1/4/2024	7.74%	7.65%	8.25%
Two Week Change	0.03%	0.05%	0.00%
Change since 1/3/20	3.14%	3.10%	3.15%
One Year Change	1.48%	1.40%	1.59%

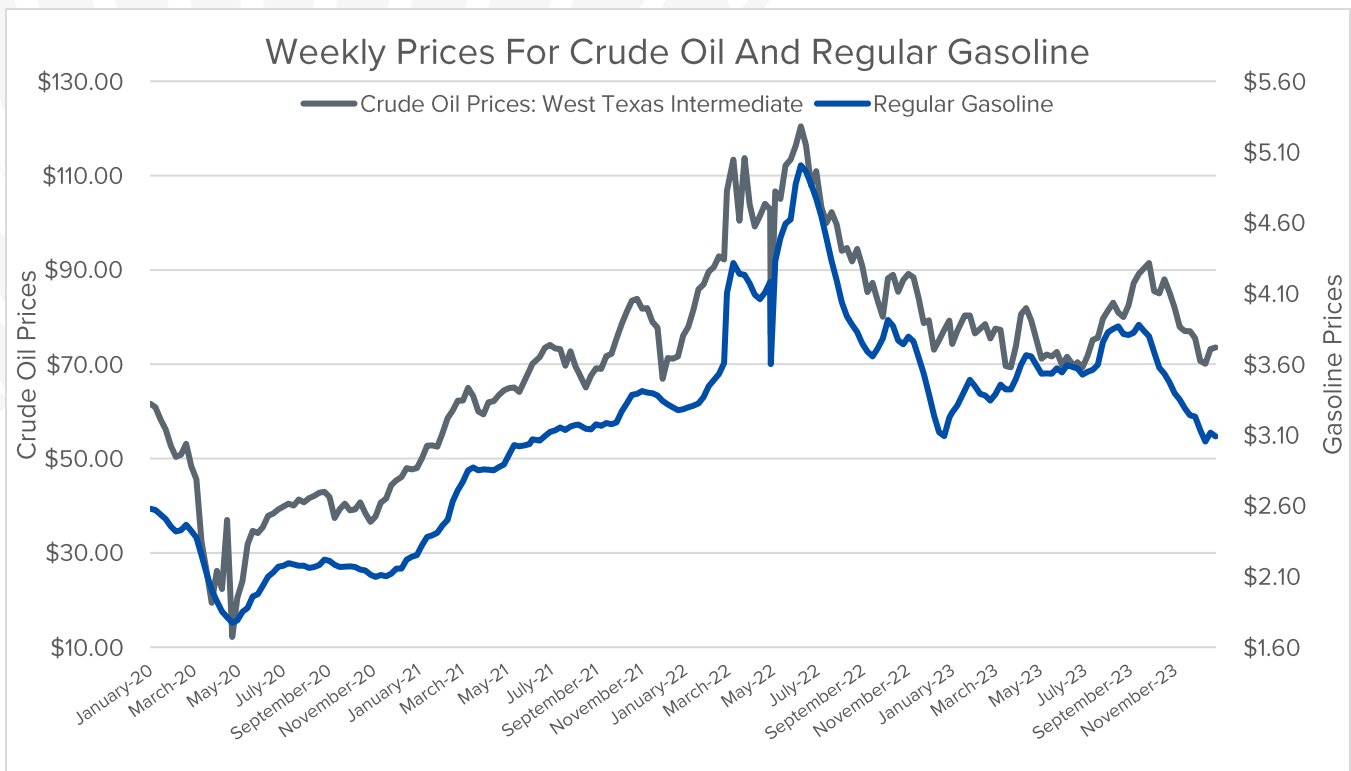


Crude Oil and Gas Prices (Updated 1/5)

Gas And Oil Remain Elevated (12/6): Oil prices, as benchmarked at West Texas Intermediate remained mostly flat at \$73 a barrel. Since election day 2020, oil prices are \$37 a barrel higher. Gas prices are down \$0.03 from last week. Gas is 20% higher than the beginning of 2020....¹⁸

EIA Outlook For Oil (1/5):¹⁹ “The United States will remain a net importer of crude oil next year, averaging about 2.2 million barrels per day (b/d). However, net crude oil imports will decline slightly from 2023. Growing U.S. crude oil production continues to support increased crude oil exports, which averaged more than 4.0 million b/d in 2023 through September. Although some U.S. refiners have added capacity to process additional light and sweet crude oil, such as the ExxonMobil Beaumont expansion, demand for U.S.-produced crude oil increasingly comes from refiners in Europe and Asia. Growth in refinery processing from overseas refiners means the growth in U.S. crude oil production in 2024 will mostly be exported, increasing net U.S. petroleum exports.”

EIA Outlook For Gasoline (1/5)²⁰: “We expect more gasoline in U.S. inventories to contribute to U.S. gasoline crack spreads falling by 15 cents/gal in 2024 compared with 2023. Lower crack spreads reduce our forecast of the annual average U.S. retail gasoline price from more than \$3.50/gal this year to less than \$3.40/gal in 2024.”



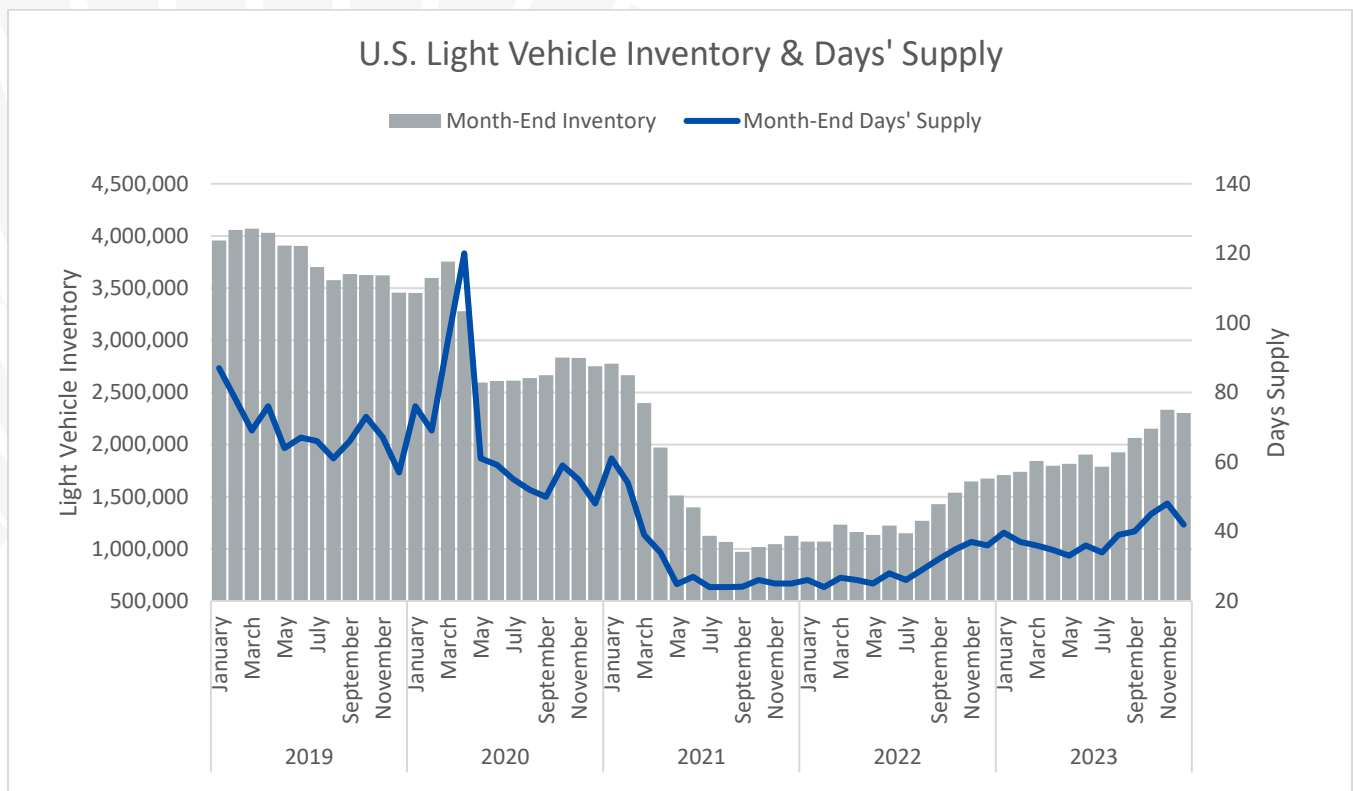
Production Meter

U.S. Light Vehicle Inventory and Days' Supply (Updated 1/5)

WardsIntelligence Inventory Update (10/6)²¹: “In another sign industry trends are returning to normal, U.S. light-vehicle inventory declined month-to-month to end 2023 at 2.30 million units.

“December inventory, despite falling 1.3% from November, was up 37.8% from same-month 2022’s 1.64 million units and was the highest December total since 2.75 million in 2020. The total was well below the 3.68 million units averaged in the five years through 2019.

“December days’ supply totaled 42, down from November’s 48 but above like-2022’s 36. The total was the highest for the month since 48 in 2020 – the 5-year pre-pandemic average for December was 60. Inventory is expected to rise in January from the prior month.”



North American Production (Updated 1/5)

Wards Intelligence²²: “Production in North America is bouncing back after labor-related shutdowns limited growth in September and October’s output, as automakers in November in total built slightly above expectations for the month.

“November production of light vehicles and medium-/heavy-duty trucks totaled 1.372 million units, 26,500 above month-ago’s expectations for the period and an 8.1% year-over-year increase, the 32nd straight gain and strongest since July’s 15.5% rise.

“The fourth quarter is tracking to output of 3.874 million units, 4.5% above like-2022’s 3.706 million. The October-December total is 0.6% below Q4-2019’s pre-pandemic total.

“Production in entire 2023 is pegged at 16.19 million units, 9.7% above 2022’s 14.76 million and highest since 16.80 million in 2019.

“Excluding medium- and heavy-duty trucks, light-vehicle output in 2023 is tracking to 15.62 million units, 9.8% above 2022’s 14.22 million.

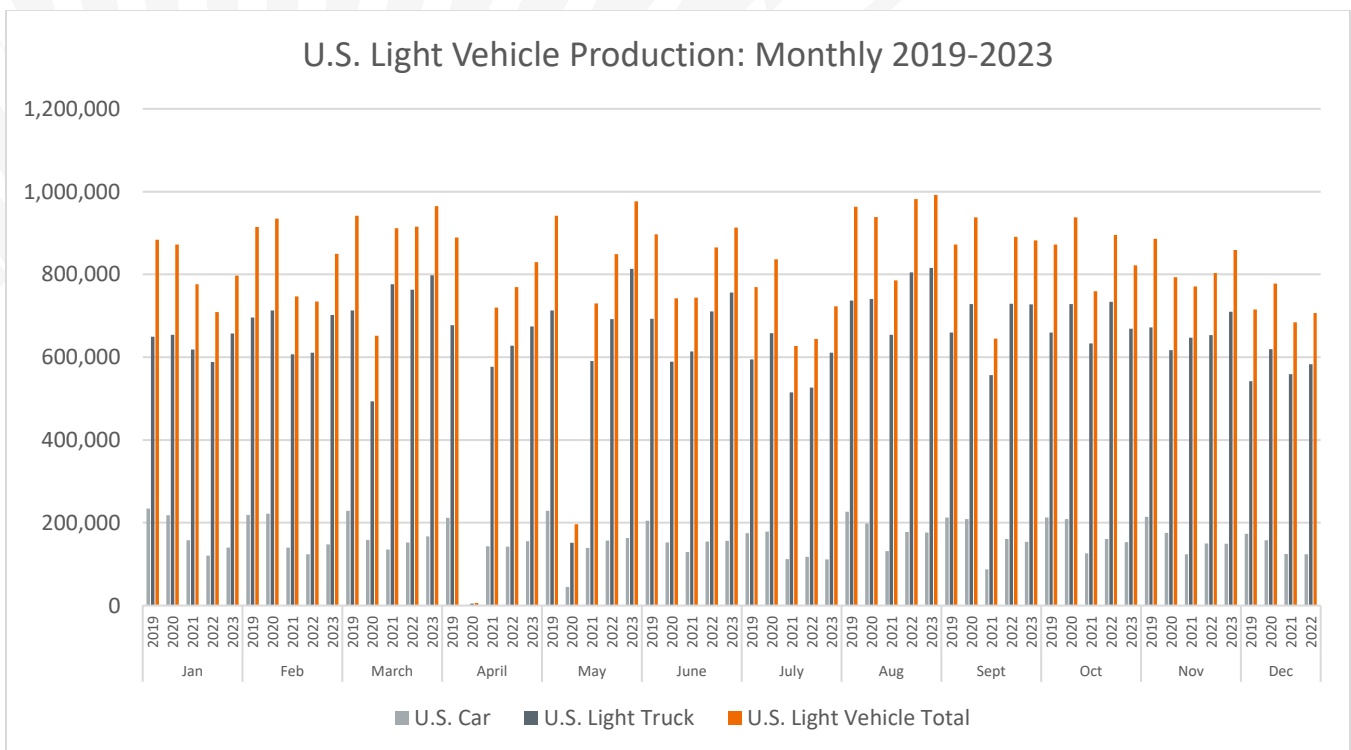
“By country, U.S. light-vehicle production is heading to a 2023 total of 10.28 million units, up 5.6% year-over-year, while output in Mexico will rise 16.2% to 3.79 million and Canada increases 26.6% to 1.55 million.”

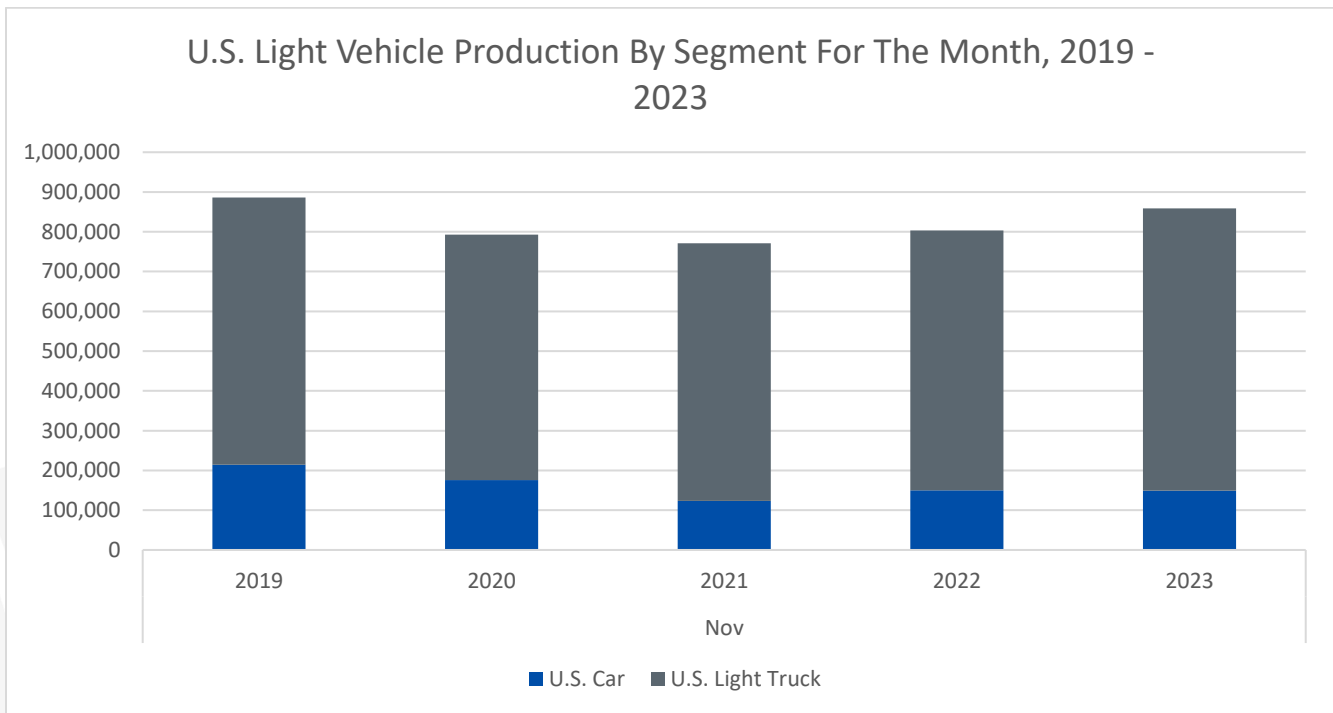
U.S. Light Vehicle Production (Updated 1/5)

Monthly Production (Updated 1/5)

U.S. Light vehicle production for November 2023 increased month-over-month by 4.5 percent, totaling 858,670 vehicles (149,042 cars, 709,628 light trucks), year-over-year, production is up 4.1 percent from 2022.

23



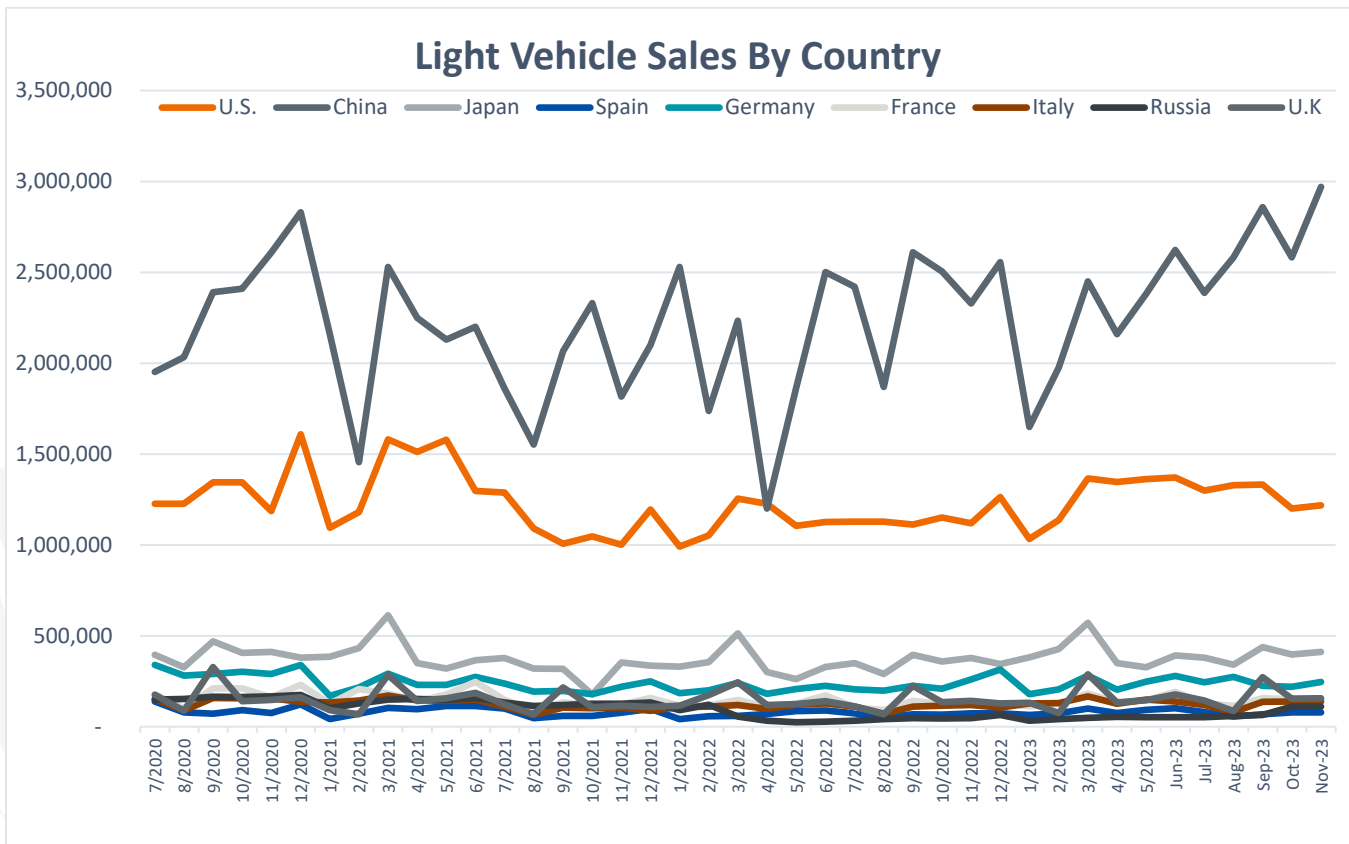


Global Meter

Global Light Vehicle Sales (Updated 1/5)

Wards Intelligence²⁴: “Global sales are tracking to a 4-year high in 2023, as November deliveries of light vehicles and medium-/heavy-duty trucks rose 12.0% year-over-year, the 10th straight gain and largest since May’s 20.4% increase.

November’s total-vehicle volume of 8.11 million units lifted year-to-date 2023 volume to 83.67 million units, 10.7% above like-2022’s 75.58 million. Sales in December were expected to have easily out-performed the year-ago total of 7.33 million units, meaning calendar-year 2023 volume topped 90 million for the first time since 2019. December results for most markets will be reported by the end of January.



Global Light Vehicle Production (Updated 1/5)

S&P Global Mobility Forecast (11/29)²⁵: “As 2023 draws to a close, the auto industry continues to benefit from ongoing relative production strength. Vehicle output remains healthy in the near term, exceeding expectations in several regions, further building on implied inventory restocking. The state of consumer demand remains in focus given elevated vehicle pricing and interest rates; yet, consumers remain engaged in the light vehicle market in many regions. As we transition to 2024, with inventories reaching equilibrium in many markets, global production growth is expected to level off a bit as the industry navigates recovery after a tumultuous several years. We continue to see a general production outlook that is reliant on a more traditional demand-driven model in the context of an elevated interest rate environment and vehicle affordability concerns, among other influences. The December 2023 forecast update reflects some noteworthy upgrades in the near-term, particularly for Greater China given ongoing strength in export activity and improving demand and Europe, North America, Japan/Korea and South Asia on a mix of residual inventory restocking and improved demand fundamentals depending on the market. The more noteworthy regional adjustments with the latest forecast update are detailed below:

“Europe: The outlook for Europe light vehicle production was increased by 93,000 units and by 12,000 units for 2023 and 2024, respectively (and increased by 24,000 units for 2025). The European production outlook for 2023 was upgraded as relative production strength carries into Q4-2023. For this month’s update, Q3-2023 production was upgraded by 17,000 units while Q4-2023 was increased by 71,000 units. The demand outlook for the remainder of the year has also been raised, and as a result, our position that the inventory

rebuild cycle will largely be complete at the end of the year remains intact. The end of support from the sales backlog and the beginning of the re-correlation between production and demand are expected for next year, leading to a 1.8% reduction in production for 2024, while sales continue to grow, albeit at a reduced rate relative to 2023. Looking to 2024, the trend is rather stable with only a modest overall upgrade with the December forecast update related to CIS country production. In line with the trend of the last few months, we have reduced our projection for locally produced EVs next year, especially at VW group. The next significant step in BEV penetration is expected to occur in 2025, supported by emissions regulations. The revised outlook for 2025 is similar to 2024: CIS production was raised by 48,000 units owing to incoming Chinese OEM production while production across the rest of the region was revised down by around 24,000 units.

“Greater China: The outlook for Greater China light vehicle production was increased by 376,000 units and by 338,000 for 2023 and 2024, respectively (and increased by 193,000 units for 2025). Supported by continued strong export activity, government incentives and rebounding domestic demand, production has continued solid momentum into Q4-2023. Automakers have established ambitious full-year targets and are working to achieve them with a strong close to the year. We expect continued robust export activity in the near-term, supported by Chinese brands such as Chery as the second best sold brand in Russia and SAIC with high brand strength in Europe. For the December forecast update, we upgraded October and November production by 147,000 units and 168,000 units, respectively due to rebounding demand and ongoing export strength. However, we continue to monitor increasing inventory levels which influence our production outlook through the near-term. Given expectations for continued fiscal and monetary policy support to serve as a hedge against ongoing real estate risk and support GDP growth and vehicle demand, the production outlook for next year has improved relative to last month yet is expected to remain fairly flat relative to 2023. Production growth is projected to return in 2025 at 3.5% versus 2024.

“Japan/Korea: Japan production volumes were increased by 48,000 units and by 134,000 units for 2023 and 2024, respectively. For 2023, stronger actualized production and improved K-car output for Suzuki and Daihatsu contributed to the increased forecast outlook. Looking ahead to 2024, the upgrade reflects a stronger outlook for internal combustion engine vehicles for export and improved domestic demand prospects all amid slower battery electric vehicle growth in the near-term. The longer-term production forecast was boosted by around 150,000 units per year. The newly added Toyota BEV offerings under the GA-E platform are expected to support the domestic production volume profile. Full-year 2023 production in South Korea remained roughly in-line with the previous forecast, but production in 2024 and 2025 increased by 34,000 units and 40,000 units, respectively. Domestic demand is expected to be sluggish due to strong base effects and economic slowdown, but exports remain steady with sentiment of easing inflation, especially in the US, even if we do not achieve the significant growth experienced this year. Longer-term output was reduced by around 130,000 units per year mainly due to the US localization of the Hyundai Ioniq 5 and a reduction in global demand for the Kia EV8 and the Hyundai Ioniq 6.

“North America: The outlook for North America light vehicle production was increased by 77,000 units and reduced by 161,000 units for 2023 and 2024, respectively (and reduced by 51,000 units for 2025). The North America light vehicle production outlook for 2023 was revised higher by 0.5% to 15.59 million units on stronger post-strike volumes from the Detroit 3 and continued gains by the Asian manufacturers that finally appear to have resolved their semiconductor supply chain issues. The short-term forecast moves increasingly towards being derived from market fundamentals with the wide array of issues that have hampered production in recent years dissipating. As a result, the forecast is built around a new, lower level of inventory carrying that works to maintain North American inventory at around 2.5 million units or a 45-day supply compared to historical inventory levels between 3.0 to 4.0 million units. With stronger post-strike volumes from the Detroit 3, the outlook for 2024 was revised down a further 1.0% to total 15.67 million units to reduce excess inventory levels that were only marginally impacted by the low-pressure UAW strikes. As a result,

production for the Detroit 3 in 2024 was revised down 163,000 units spanning a broad array of vehicles, most notably among the truck and SUV profit centers. Despite the cuts, production in North America in 2024 is projected to increase 0.5% or 82,000 units relative to 2023.

“South America: The outlook for South America light vehicle production was reduced by 5,000 units and by 11,000 units for 2023 and 2024, respectively (and reduced by 8,000 units for 2025). The outlook for 2023 for the region was reduced only marginally, although we do expect some slowdown in December as many automakers enter the vacation period. The production downgrade for 2024 and 2025 is primarily the result of a somewhat reduced demand outlook for the broader region. Further, with regard to the change in political leadership in Argentina, the current expectation is that some of the more disruptive policies announced by president-elect Milei may not be easily and/or quickly implemented. As a result, significant changes to the production outlook have not been reflected at this time.

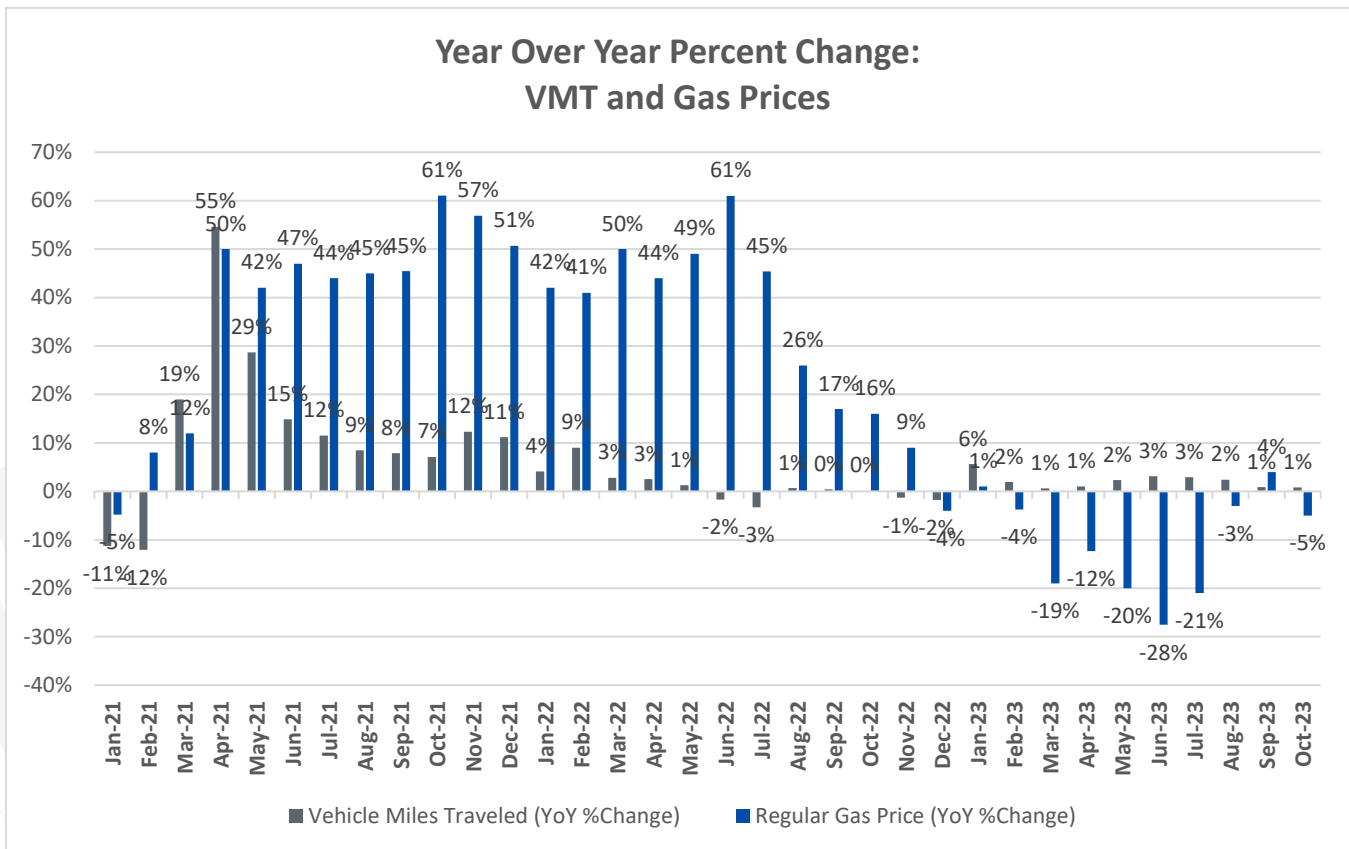
“South Asia: The outlook for South Asia light vehicle production was increased by 9,000 units and by 163,000 units for 2023 and 2024, respectively (and increased by 210,000 units for 2025). In the extreme near-term, production for the region was only modestly upgraded for 2023 on improved actualized production. The more meaningful production upgrades for 2024 and 2025 are focused primarily on the India market as output is driven by a stronger demand outlook and ongoing export prospects. With regard to the ASEAN market, for 2024 and 2025 the outlook for the market is largely unchanged as downward revisions for Indonesia and Thailand are offset by increases for Malaysia and the Philippines, particularly for 2024.”

Recovery Meter

Roadway Travel (Updated 1/5)

According to the U.S. Department of Transportation, seasonally-adjusted vehicle miles traveled in October increased .8 percent from the same time a year ago. The cumulative travel estimate for 2023 is 2,711.7 billion vehicle miles.²⁶

- Travel on all roads and streets changed by +1.3% (+3.5 billion vehicle miles) for October 2023 as compared with October 2022. Travel for the month is estimated to be 281.6 billion vehicle miles.
- The seasonally adjusted vehicle miles traveled for October 2023 is 269.5 billion miles, a +0.8% (+2.0 billion vehicle miles) change over October 2022. It also represents a -0.2% change (-0.6 billion vehicle miles) compared with September 2023.
- Cumulative Travel for 2023 changed by +2.1% (+55.9 billion vehicle miles). The cumulative estimate for the year is 2,711.7 billion vehicle miles of travel.



Economic News (Updated 1/5)

The ISM Index Drops to 46.7 Percent In October – Twelfth Consecutive Month of Contraction. “The manufacturing economy finished full-year 2023 in contraction, registering a PMI of 47.4% in December the Institute for Supply Management (ISM) reported today. That’s makes for a 0.7-point increase from the 46.7% recorded in November, and 14 consecutive months of contraction following a 28-month period of growth.

Demand remains soft and production execution is stable compared to November, as panelists’ companies continue to manage outputs, material inputs and labor costs. Suppliers continue to have capacity.” says Timothy Fiore, chair of ISM’s Manufacturing Business Survey Committee.

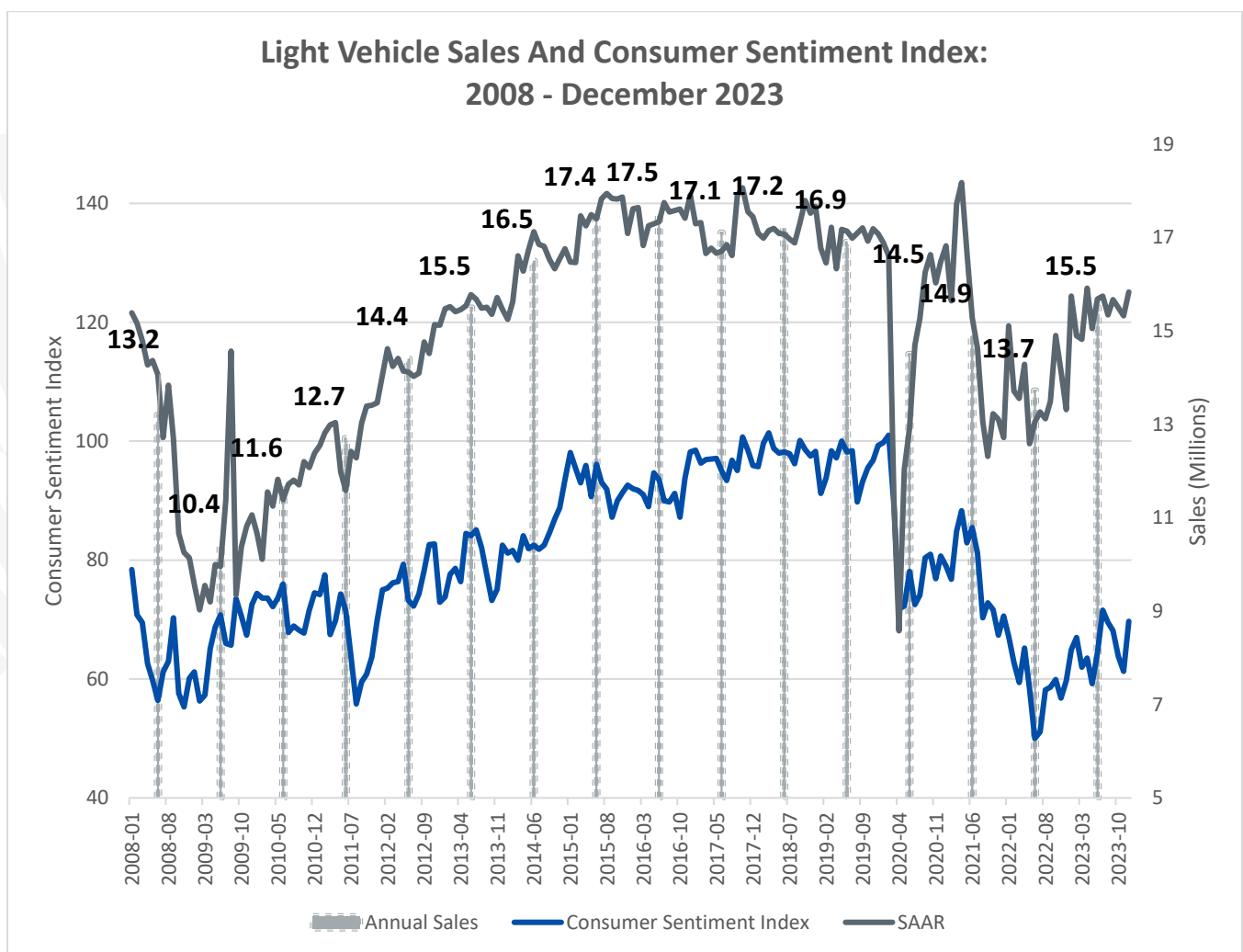
None of the six biggest manufacturing industries registered growth in December.”²⁷

Consumer Confidence and Sales (Updated 1/5)

Surveys of Consumers Director Joanne Hsu²⁸: “Consumer sentiment confirmed its mid-month reading and soared 14% in December, reversing all declines from the previous four months. These trends are rooted in substantial improvements in how consumers view the trajectory of inflation. All five index components rose this month, which has only occurred in 10% of readings since 1978. Expected business conditions surged over 25% for both the short and long run. All age, income, education, geographic, and political identification

groups saw gains in sentiment this month. The index is now just shy of the midpoint between the pre-pandemic reading and the historic low reached in June 2022.

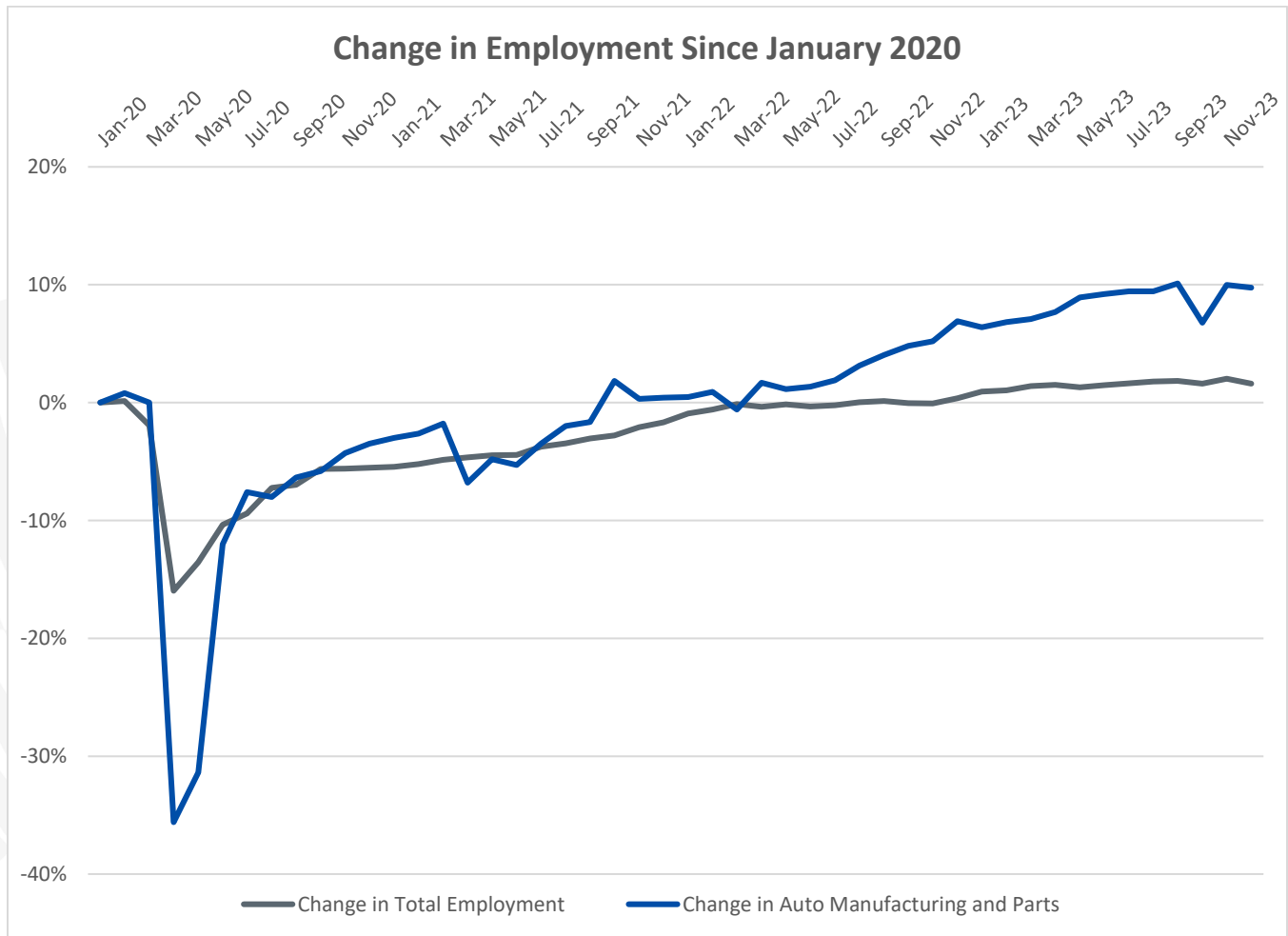
Year-ahead inflation expectations plunged from 4.5% last month to 3.1% this month. The current reading is the lowest since March 2021 and sits just above the 2.3-3.0% range seen in the two years prior to the pandemic. Long-run inflation expectations fell from 3.2% last month to 2.9% this month, staying within the narrow 2.9-3.1% range for 26 of the last 29 months. Long-run inflation expectations remain elevated relative to the 2.2-2.6% range seen in the two years pre-pandemic.”



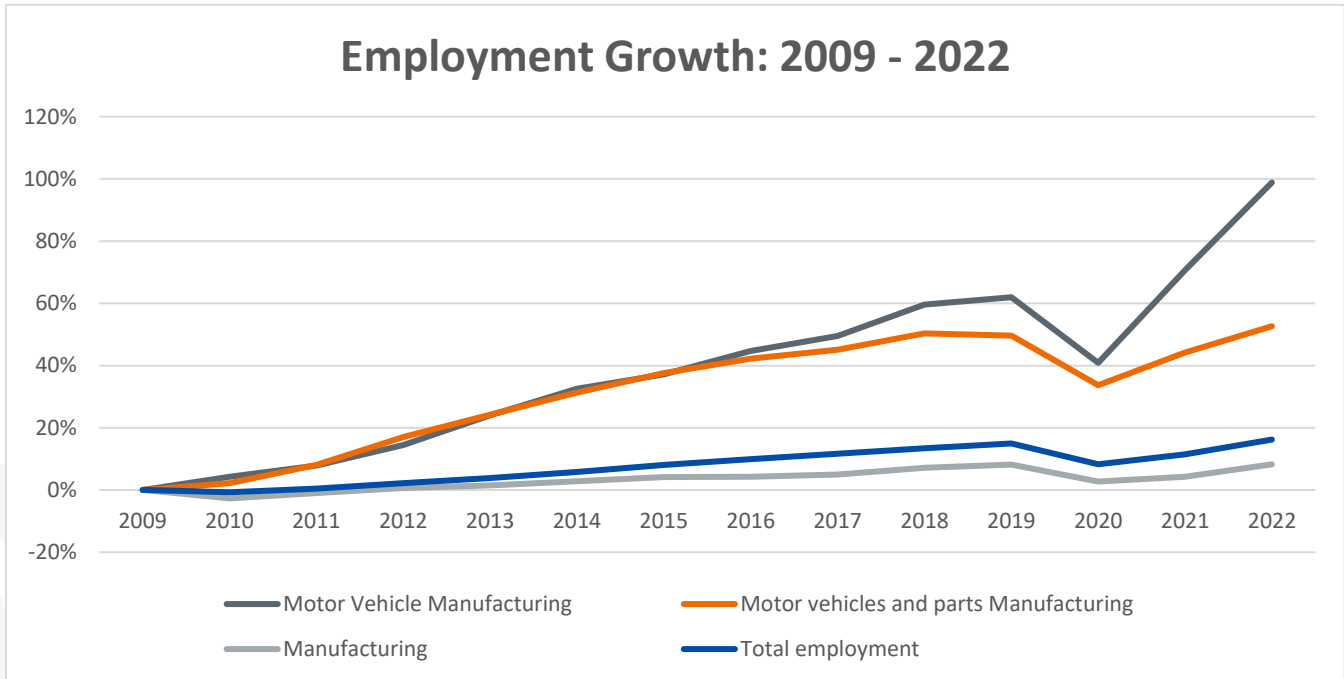
Employment (Updated 1/5)

Motor Vehicle And Parts Manufacturing Lost 2,100 Jobs In December.

After a loss of nearly 350,000 employees (about 35% of the workforce) in the height of the pandemic, employment in the Automobile Manufacturing and Parts sectors raced back but is now fighting losses due to supply chain disruptions with semiconductors.²⁹



After the recession in 2009, the auto industry was credited with being on the leading edge of the recovery, which began a ripple effect through other parts of the country.³⁰ Additionally, the chart below shows how the recovery of jobs in motor vehicle manufacturing alone and motor vehicle and parts manufacturing far outpaced the recovery of manufacturing and total jobs.



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