

READING THE METER

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



ALLIANCE FOR AUTOMOTIVE INNOVATION

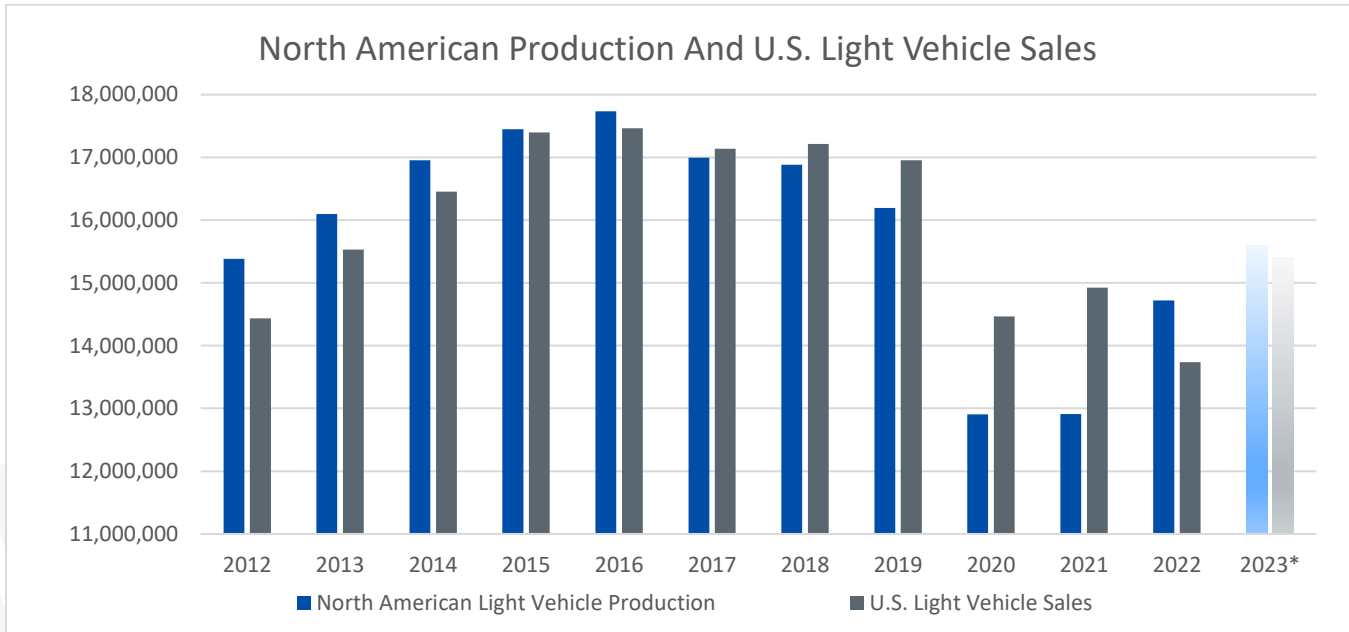
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Forecast Meter

Sales & Production Summary and Forecast (Updated 12/6)

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)	
2022 Full Year	13,734,203 (-8.1% YoY)	14,721,053 (+9.8% YoY) (U.S. 10,019,791)
2023 Estimate	15.4 million units (WardsIntelligence)	15.6 million units (WardsIntelligence)



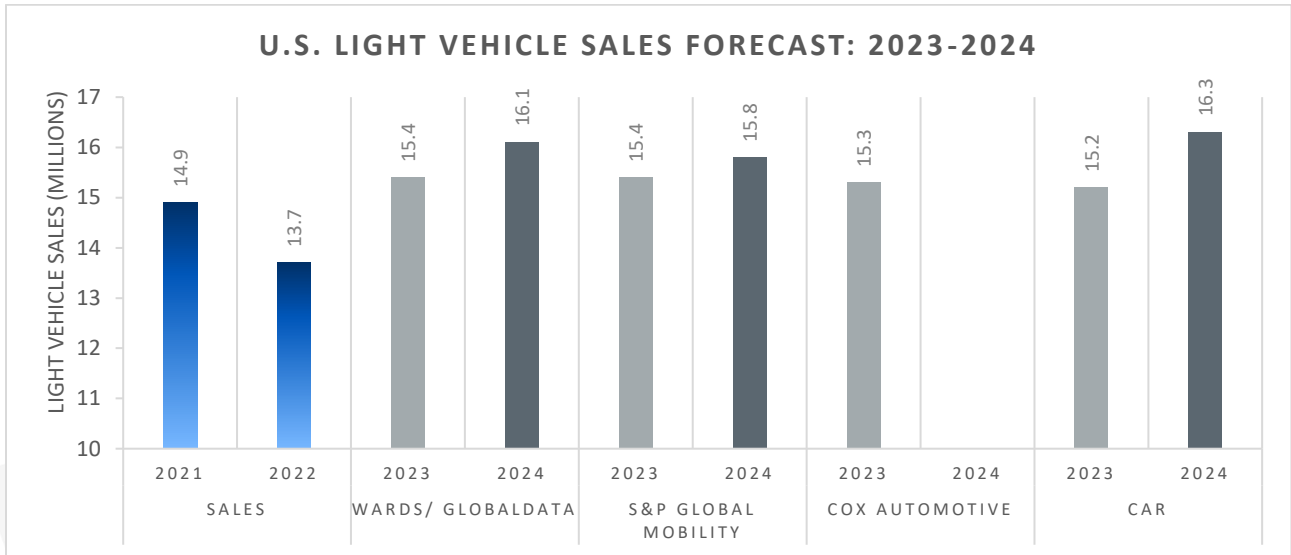
U.S. Light Vehicle Sales Outlook (Updated 12/6)

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 12/6)

Wards Intelligence Inventory Outlook (12/6)⁵: “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.”

Wards Intelligence Production Outlook (11/29)⁶: “Production in Q4 is tracking to 3.819 million units, 3.0% above October-December 2022’s 3.706 million. The Q4 projection is 82,600 units higher than month-ago’s expectations for the period.”

“For entire 2023, North America production is pegged at 16.140 million units, 9.3% above 2022’s 14.765 million and highest since 16.802 million in 2019.”

“Excluding medium- and heavy-duty trucks, light vehicles are projected to total 15.56 million units in entire 2023, 9.4% above 2022’s 14.218 million and highest since 16.216 million in 2019. Fourth-quarter 2023 light-vehicle output is tracking to 3.682 million, 3.4% above year-ago’s 3.561 million.”

“Very little of the strike-related lost output can be made up in 2023, and some plants, because they were already at full capacity prior to being shut down, might not be able to make up any at all in 2024. December’s outlook was increased 5,000 units from month-ago’s revision, but almost entirely from non-organized automakers.”

“Production for December is tracking to 1.114 million units, 0.5% above same-month 2022, but there is upside to that outlook.”

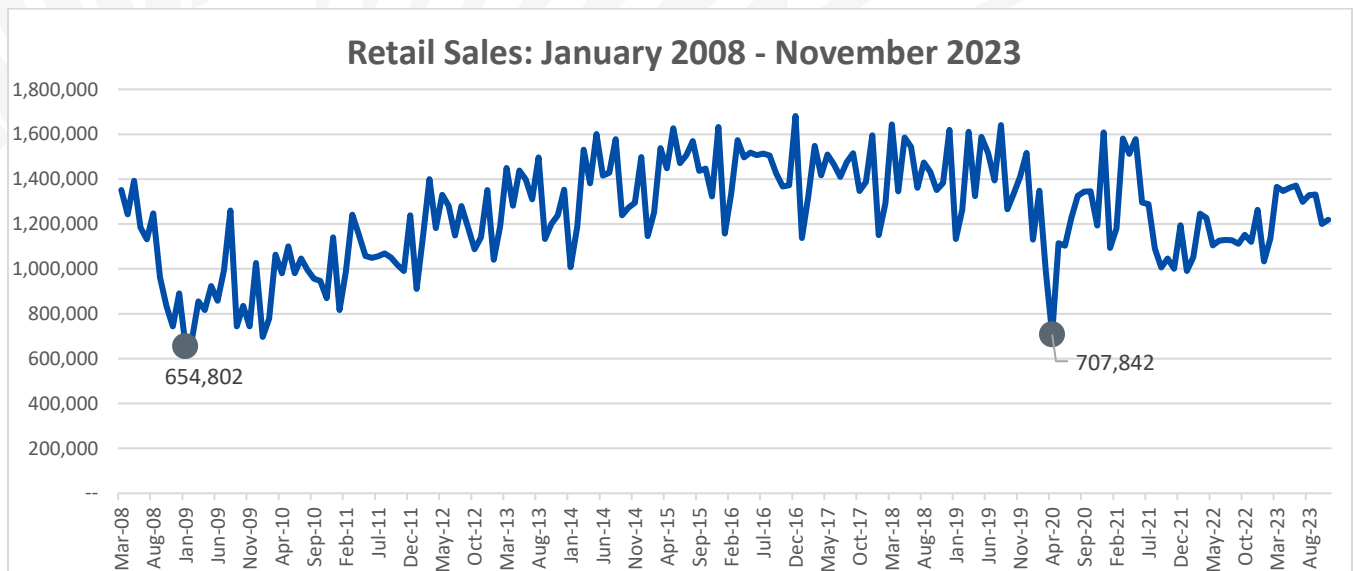
S&P Global Mobility Outlook (11/29)⁷: “North America: The outlook for North America light vehicle production was increased by 314,000 units and reduced by 455,000 units for 2023 and 2024, respectively (and reduced by 332,000 units for 2025). After six weeks of tactical strikes at select plants spanning GM, Ford and Stellantis, the UAW in the US reached tentative agreements with each OEM. Voting on these new contracts continues to take place with mixed results that could derail the tentative agreements. Nevertheless, the current forecast assumes ratification of the labor agreements between the Detroit 3 and the UAW with no additional plant disruptions. The November forecast includes material revisions with the strike ending earlier than previously expected. As a result, production for the remainder of 2023 was revised higher totaling 15.51 million units. Production for the Detroit 3 was revised higher by 364,000 units with reductions spanning the remaining manufacturers tempering the forecast. With elevated inventory levels for key vehicles among the Detroit 3, the outlook for 2024 was cut 2.8% to total 15.83 million units. Detroit 3 production was reduced a collective 380,000 units as the previously expected volume recovery is no longer required. Of note, downward revisions for 2024 and 2025 were made to several BEV vehicle programs including GM (Silverado/Sierra EV), Ford (F-150 Lightning) and Tesla (Cybertruck) to reflect announced production delays and/or expected slower production ramp-ups.”

Market Meter

U.S. Light Vehicle Sales (Updated 12/6)

Monthly Sales (Updated 12/6)

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.



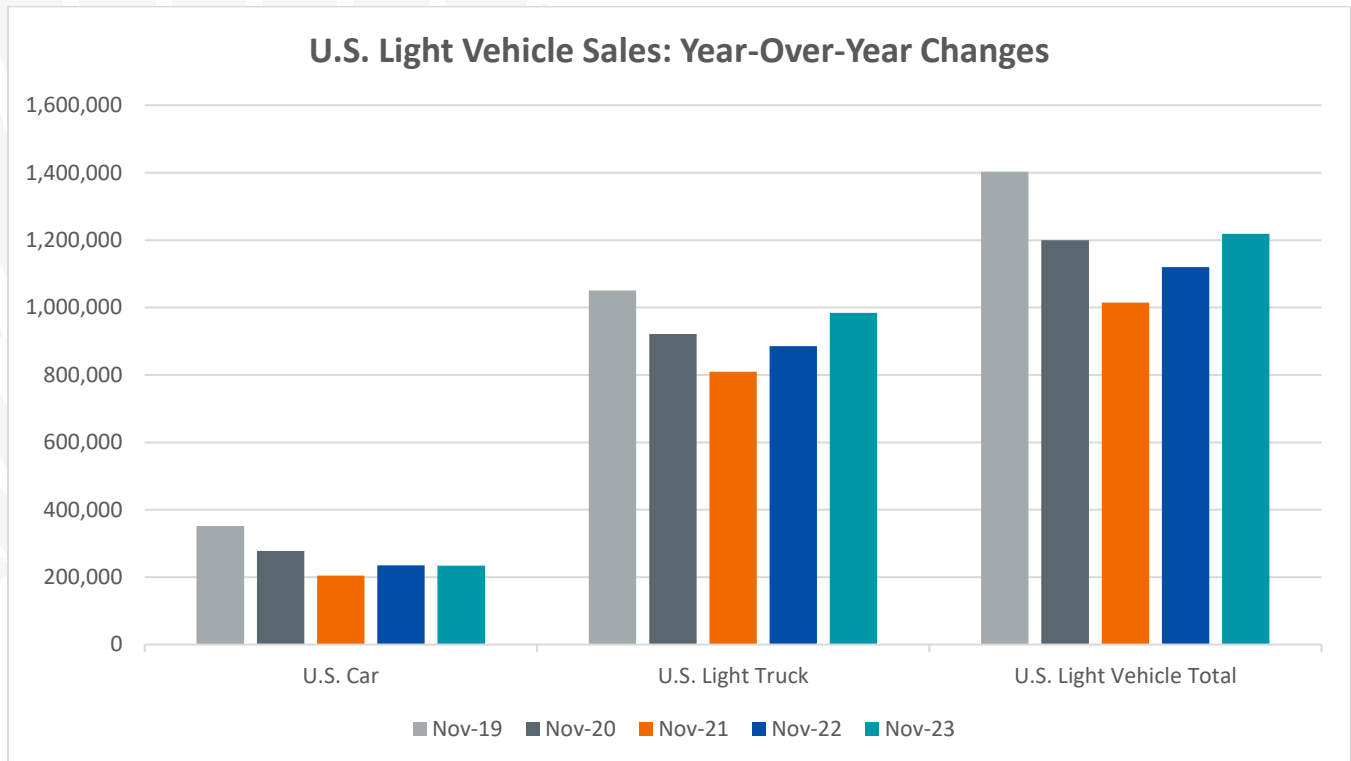
November Sales (Updated 12/6)

WardsIntelligence⁸: “An expected post-holiday bump did not happen and U.S. light-vehicle sales in November finished below expectations.

“Pent-up demand being fed by 19-month high inventory entering the month, combined with rising incentives, apparently was not as much an offset as thought to the high prices of vehicles on dealer lots, worsened by higher interest rates affixed to financed purchases.

“November sales posted a 15.3 million-unit seasonally adjusted annual rate, down from the prior month’s 15.5 million, but still well above like-2022’s 14.3 million. Sales were expected to total a 15.8 million-unit SAAR, under the assumption of a post-Thanksgiving holiday uptick.

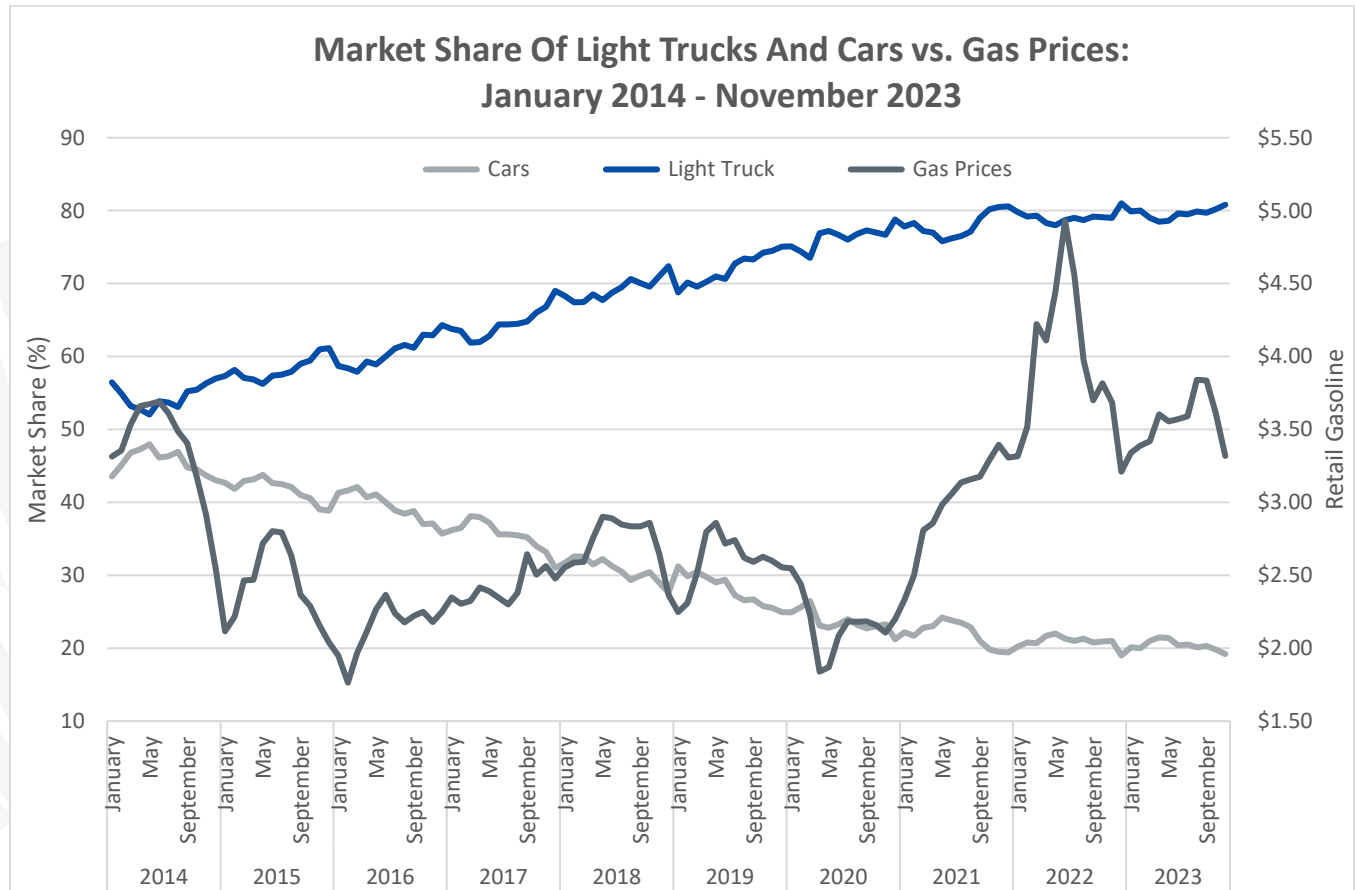
“Raw volume totaled 1.219 million units, up 7.3% from November 2022’s 1.135 million. The daily selling rate equated to 48,746, up from like-2022’s 45,419 – 25 selling days both periods.”



Segments vs. Gas Prices (Updated 12/6)

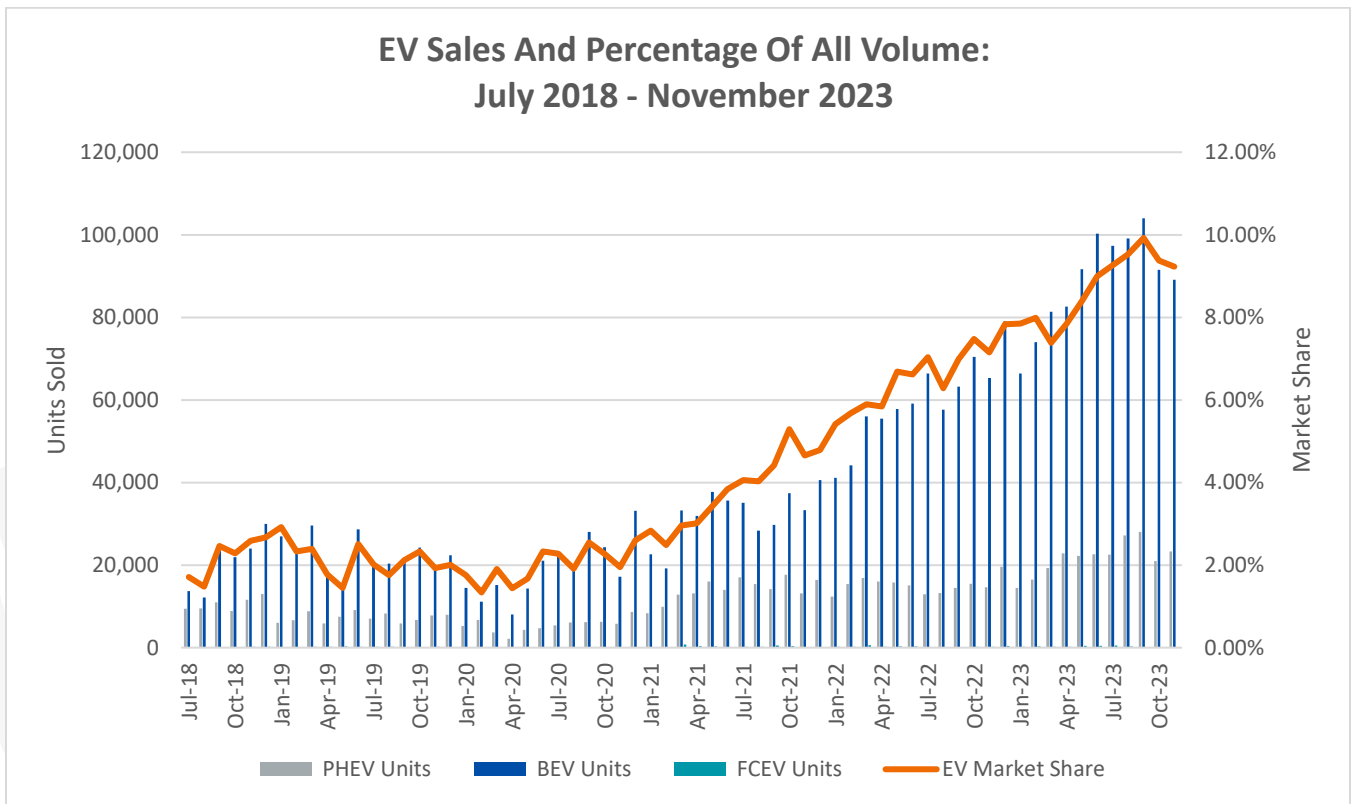
Monthly Sales For November: Light trucks accounted for 80.8 percent of sales in November, up slightly from the market share a year ago. Compared to the same period in 2022, sales of cars are down by 700 units, and down more than 118,000 from November 2019, when cars comprised 25% of the market as opposed to the 19 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



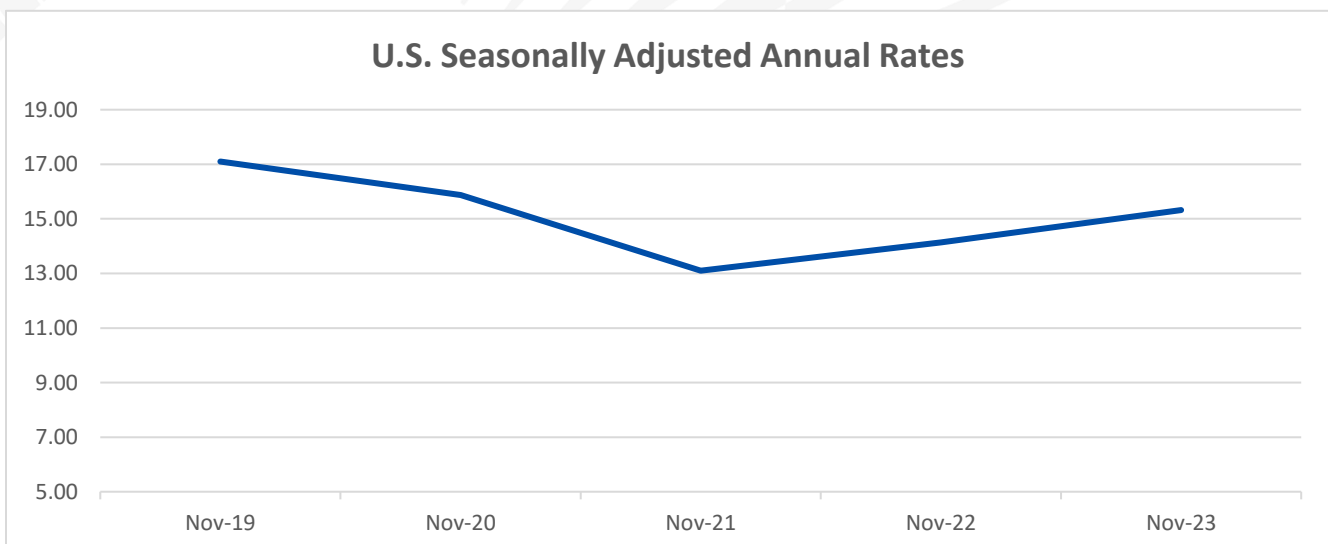
EV Powertrain Sales (Updated 12/6)

Sales of electric vehicles (BEV, PHEV, & Fuel Cell) accounted for 9.2 percent of total vehicle sales in November 2023 (112,494), per Wards estimates. Market share decreased 0.1 percentage points (pp) from October 2023. October's EV market share is up 1.5 pp from a year ago. Sales of battery electric vehicles led the way for EVs, accounting for 7.3 percent of total sales, up 1.5 pp from November 2022. Plug-in hybrids accounted for 1.9 percent, up 0.6 pp from the same time last year...¹²



Seasonally Adjusted Annual Rates (Updated 12/6)

WardsIntelligence¹³: “November sales posted a 15.3 million-unit seasonally adjusted annual rate, down from the prior month’s 15.5 million, but still well above like-2022’s 14.3 million. Sales were expected to total a 15.8 million-unit SAAR, under the assumption of a post-Thanksgiving holiday uptick.”



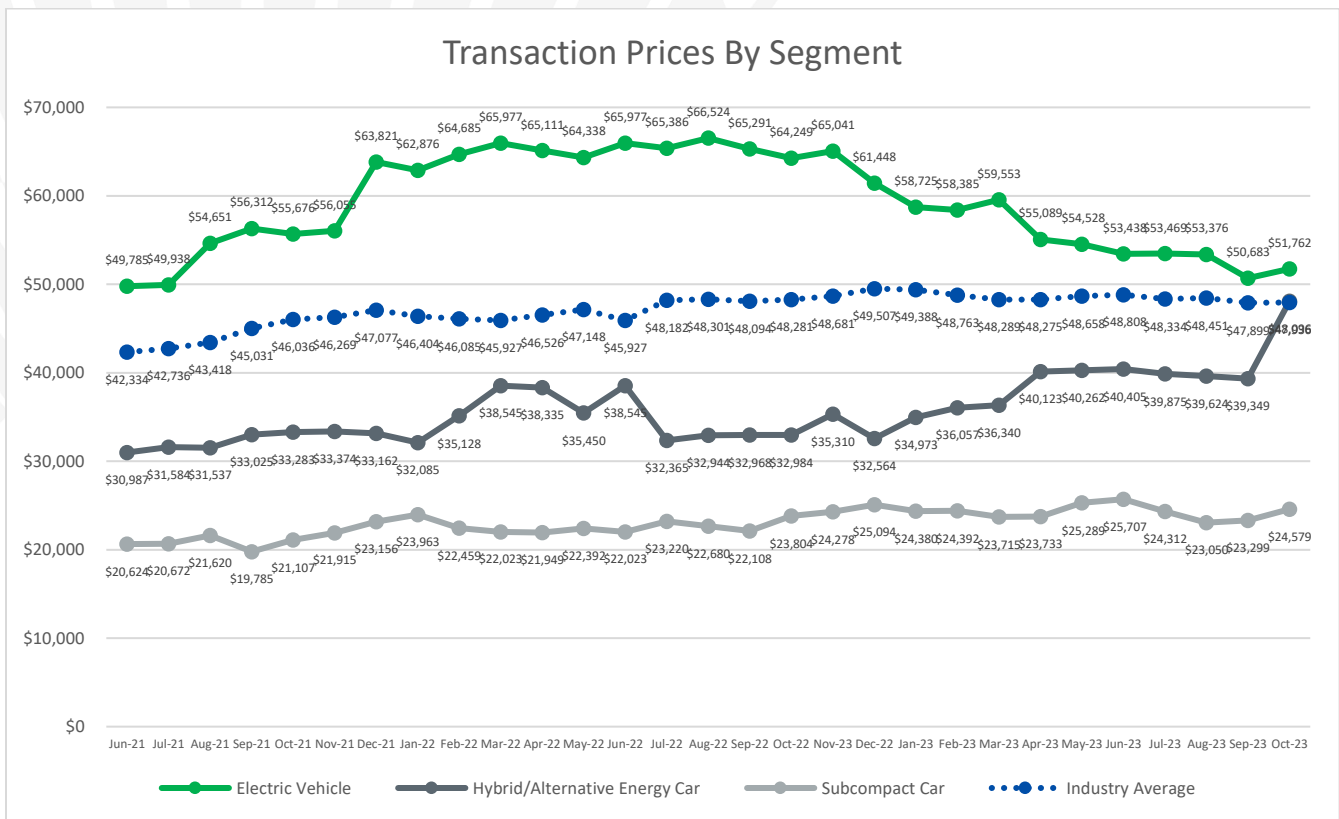
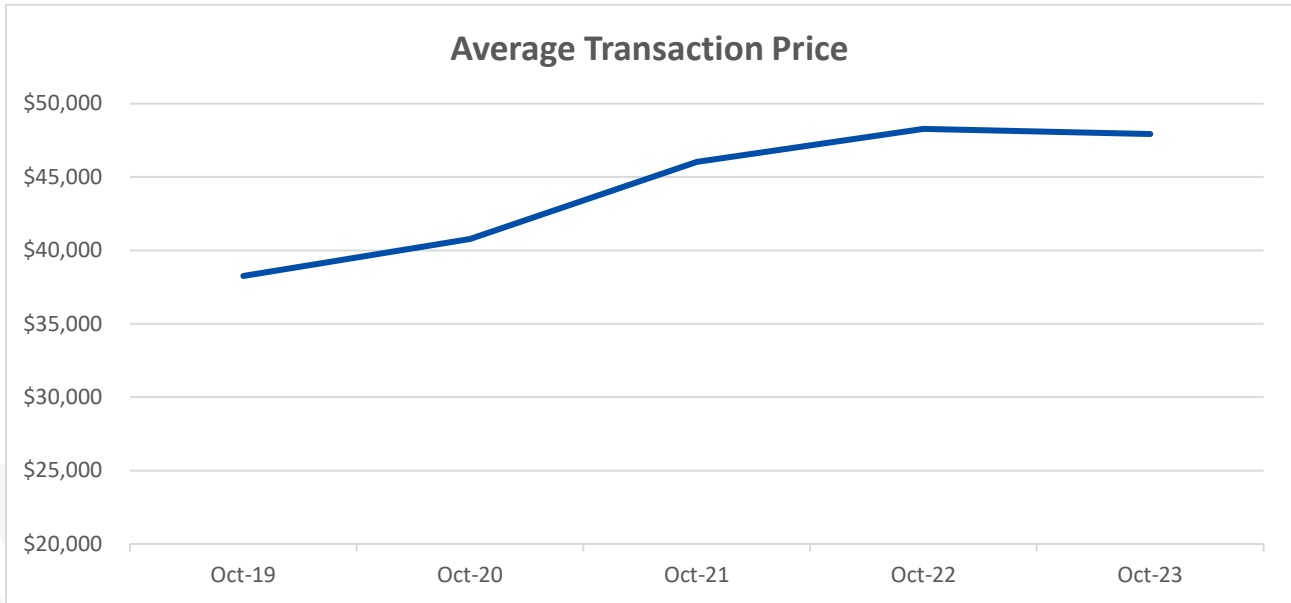
Average Transaction Price (Updated 12/6)

J.D. Power (Updated 12/6)¹⁴: “As inventory and sales volumes improve, the average new-vehicle retail transaction price is declining to \$45,332, down \$873—or 1.9%—from November 2022. . . . Manufacturer discounts in November are expected to be up \$400 from October and have increased materially from a year ago when incentives were at record lows. The average incentive spend per vehicle has grown 106.4% from November 2022 and is on track to reach \$2,247. Expressed as a percentage of MSRP, incentive spending is currently at 4.6%, an increase of 2.3 percentage points from November 2022.”

Kelley Blue Book (October) (Updated 11/29)¹⁵: “In October, with a UAW strike underway but new-vehicle inventories on the rise, the average price paid for a new vehicle in the U.S. was \$47,936, less than 1% more than the month earlier (revised to \$47,797), according to Kelley Blue Book, a Cox Automotive company. Compared to one year ago, when incentives were near historic lows, average new-vehicle transaction prices in October were lower by 1.4%, or approximately \$670. Year to date, new-vehicle transaction prices have fallen more than 3.5% as downward price pressure continues to favor buyers in the market.

“After increasing rapidly through the spring and early summer, new-vehicle incentive growth has taken a pause. Average incentive packages have stayed mostly unchanged over the past three months at just under 5% of ATP. New-vehicle sales incentives are significantly higher than one year ago but remain muted by historical standards. Through much of 2023, luxury vehicle incentive packages have been higher than non-luxury incentives. However, that trend flipped in October, when non-luxury incentives averaged 4.9% of ATP while luxury incentives averaged 4.6%.

“The average price paid for a new electric vehicle in October was \$51,762, up from a revised \$50,326 in September. The month-over-month price increase was driven by transaction price gains with Tesla Model 3 (up 10%) and Model Y (up 3%). Still, even with the gains in October, average EV prices are down more than \$13,000 year over year. Notably, the average price paid for a Tesla Model X is down more than 23% year over year.”

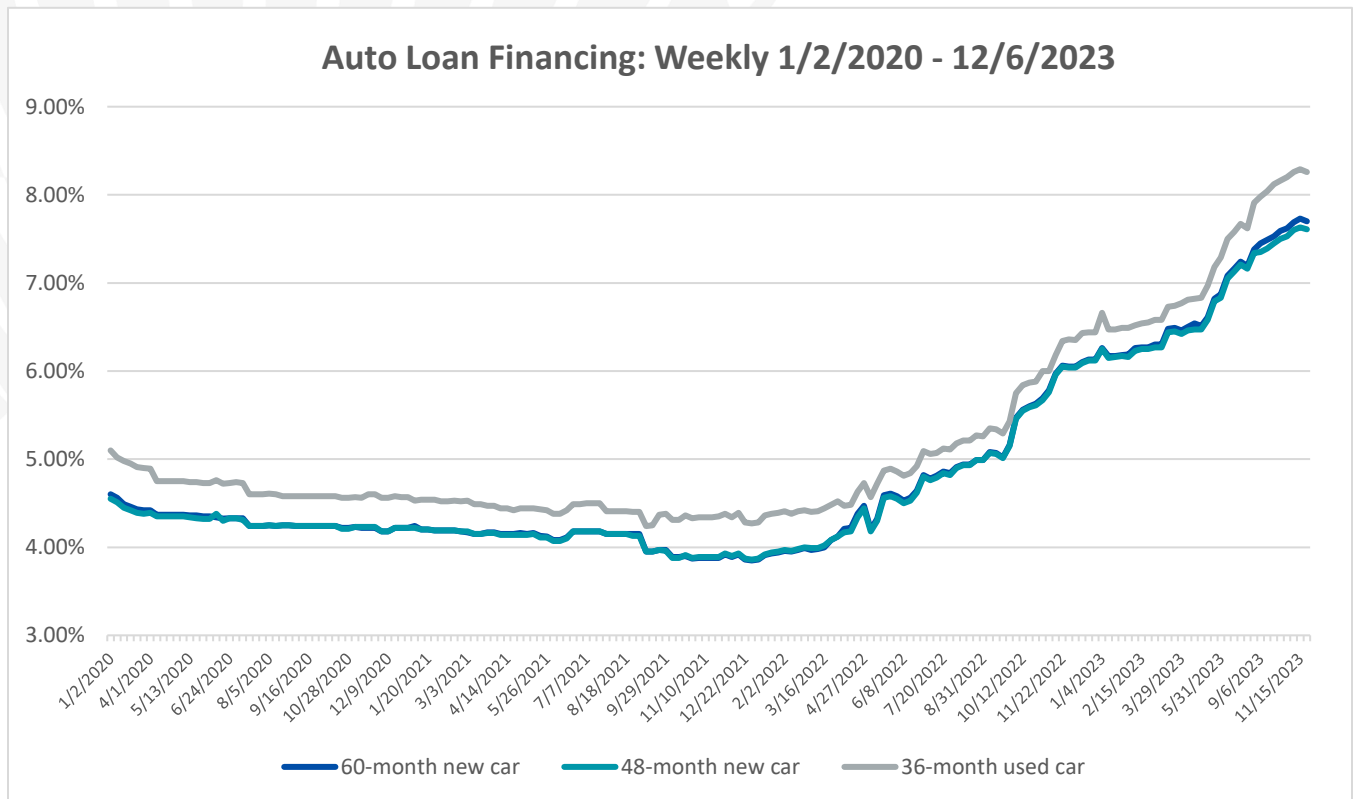


Auto Loan Financing (Updated 12/6)

Interest Rates (updated 12/6): 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 1.65 pp since the same time a year ago...¹⁶

JD Power (12/6)¹⁷: “Elevated pricing, combined with rising interest rates, are contributing to the escalation of monthly loan installments. The average monthly finance payment in November is on pace to be \$727, up \$11 from November 2022. The average interest rate for new-vehicle loans is expected to be 7.3%, an increase of 95 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%
11/30/2022	6.05%	6.04%	6.36%
11/15/2023	7.73%	7.63%	8.29%
11/29/2023	7.70%	7.61%	8.26%
Two Week Change	-0.03%	-0.02%	-0.03%
Change since 1/3/20	3.10%	3.06%	3.16%
One Year Change	1.65%	1.57%	1.90%

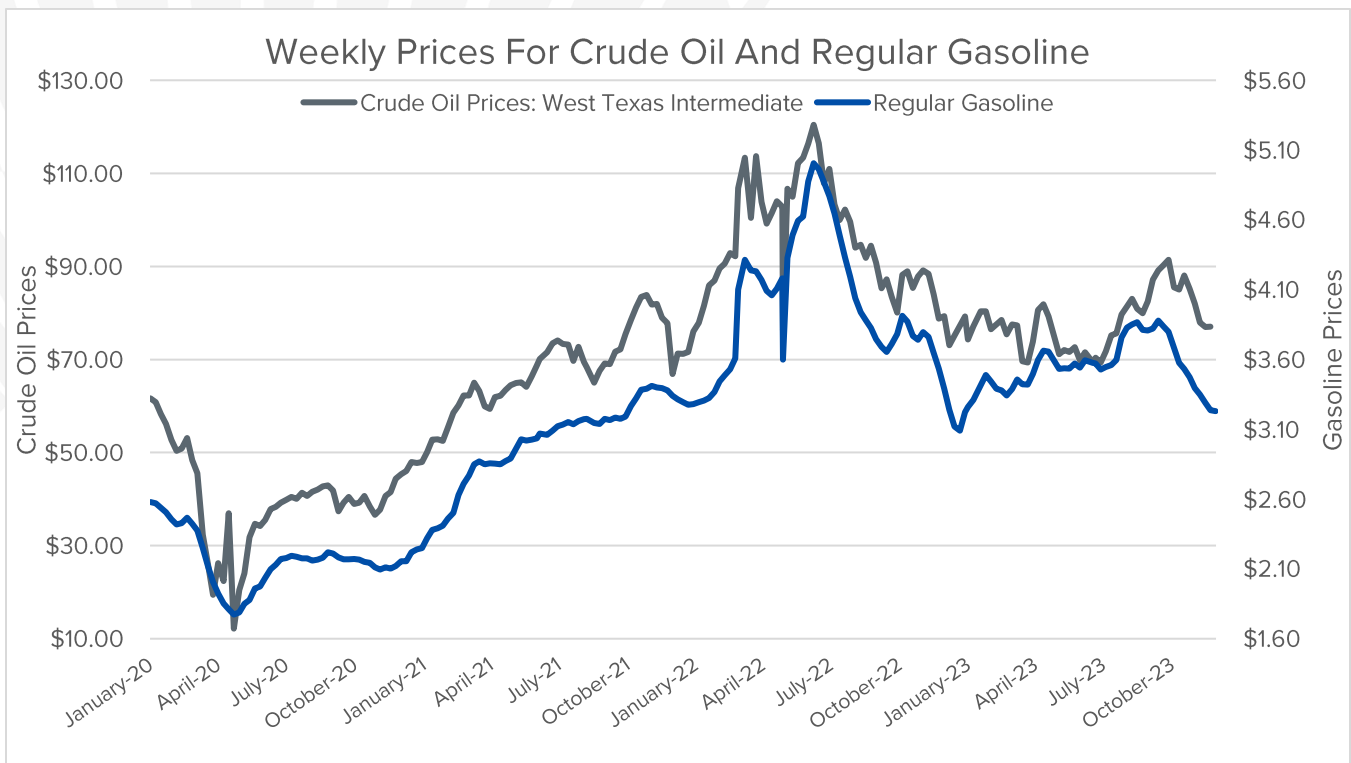


Crude Oil and Gas Prices (Updated 12/6)

Gas And Oil Remain Elevated (12/6): Oil prices, as benchmarked at West Texas Intermediate remained mostly flat at \$77.02 a barrel over the last week. Since election day 2020, oil prices are \$36 a barrel higher. Gas prices are down \$0.01 from last week. Gas is 35% higher than the beginning of 2020.¹⁸

EIA Outlook For Oil (12/6):¹⁹ We forecast global liquid fuels production will increase by 1.0 million barrels per day (b/d) in 2024. Ongoing OPEC+ production cuts will offset production growth from non-OPEC countries and help maintain a relatively balanced global oil market next year. Although the conflict between Israel and Hamas has not affected physical oil supply at this point, uncertainties surrounding the conflict and other global oil supply conditions could put upward pressure on crude oil prices in the coming months. We forecast the Brent crude oil price will increase from an average of \$90 per barrel (b) in the fourth quarter of 2023 to an average of \$93/b in 2024.”

EIA Outlook For Gasoline (12/6):²⁰ “U.S. regular gasoline retail prices declined throughout October, falling from \$3.80 per gallon (gal) on October 2 to \$3.47/gal on October 30 because of a sharp decline in wholesale gasoline margins that began in late September. We forecast retail gasoline prices to remain near \$3.40/gal for the remainder of 2023, resulting in an average 2023 price of \$3.55/gal. We forecast a similar average near \$3.60/gal for 2024.”



Production Meter

U.S. Light Vehicle Inventory and Days' Supply (Updated 12/6)

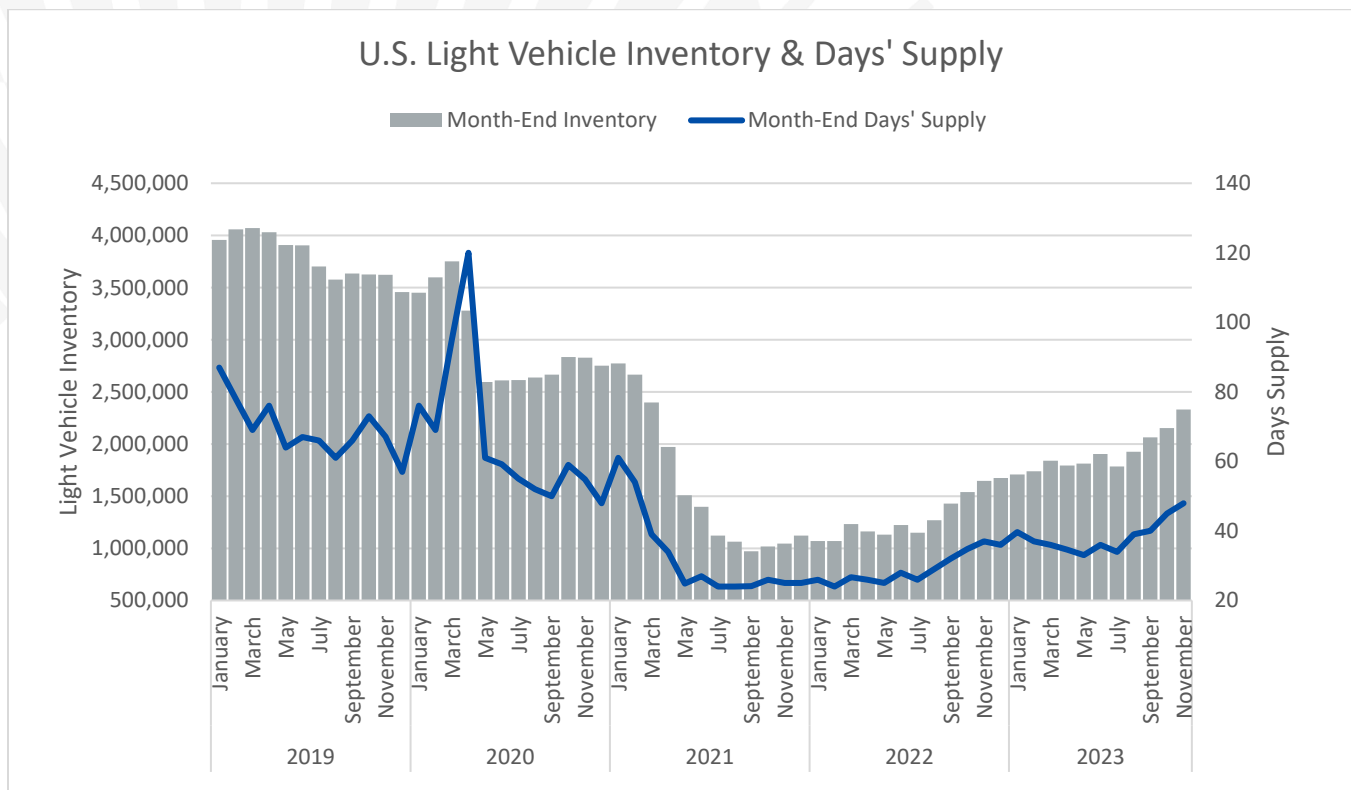
WardsIntelligence Inventory Update (10/6)²¹: “U.S light-vehicle inventory jumped 8.3% from the prior month in November, totaling 2.33 million units, up 42.0% from like-2022.

“Manufacturers in North America, as well as overseas, producing for the U.S. market appear to have shaken off most of the shackles to the supply-chain flow of the past three years and dealers are seeing a surge in shipments.

“Days’ supply ended November at 48, highest for any month since 54 in February 2021, and highest for the month since 55 in 2020. The November days’ supply compared with 45 the prior month and 36 in the same year-ago month.

“Inventory remains at historic lows and is the main headwind to stronger sales. Pre-pandemic, or pre-2020, a days’ supply of 70 was normal for November.

“Dealer stocks remain heavily loaded with high-cost fullsize trucks and luxury-brand CUVs and SUVs, keeping the mix of available vehicles pricier on average. However, raw volume and mix of more affordable vehicles is rising, albeit slowly.”



North American Production (Updated 11/29)

Wards Intelligence²²: “North America vehicle production in October recorded a year-over-year gain despite the negative impact of strike-related plant shutdowns at Ford, General Motors, Stellantis and Mack Trucks, as several other automakers beat expectations.

“Production in October of light vehicles and medium-/heavy-duty trucks combined totaled 1.389 million units, 4.5% above like-2022’s 1.328 million. The gain was despite an estimated 166,000 units of lost output at the UAW and Unifor organized automakers.

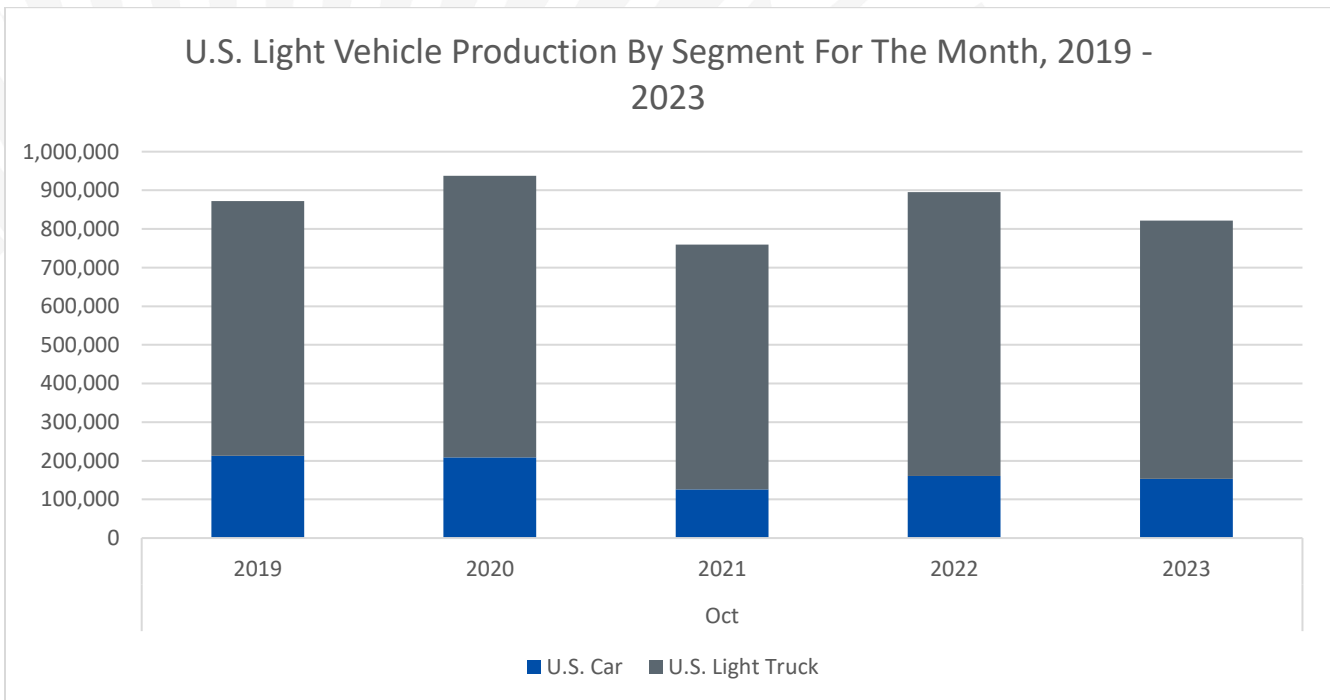
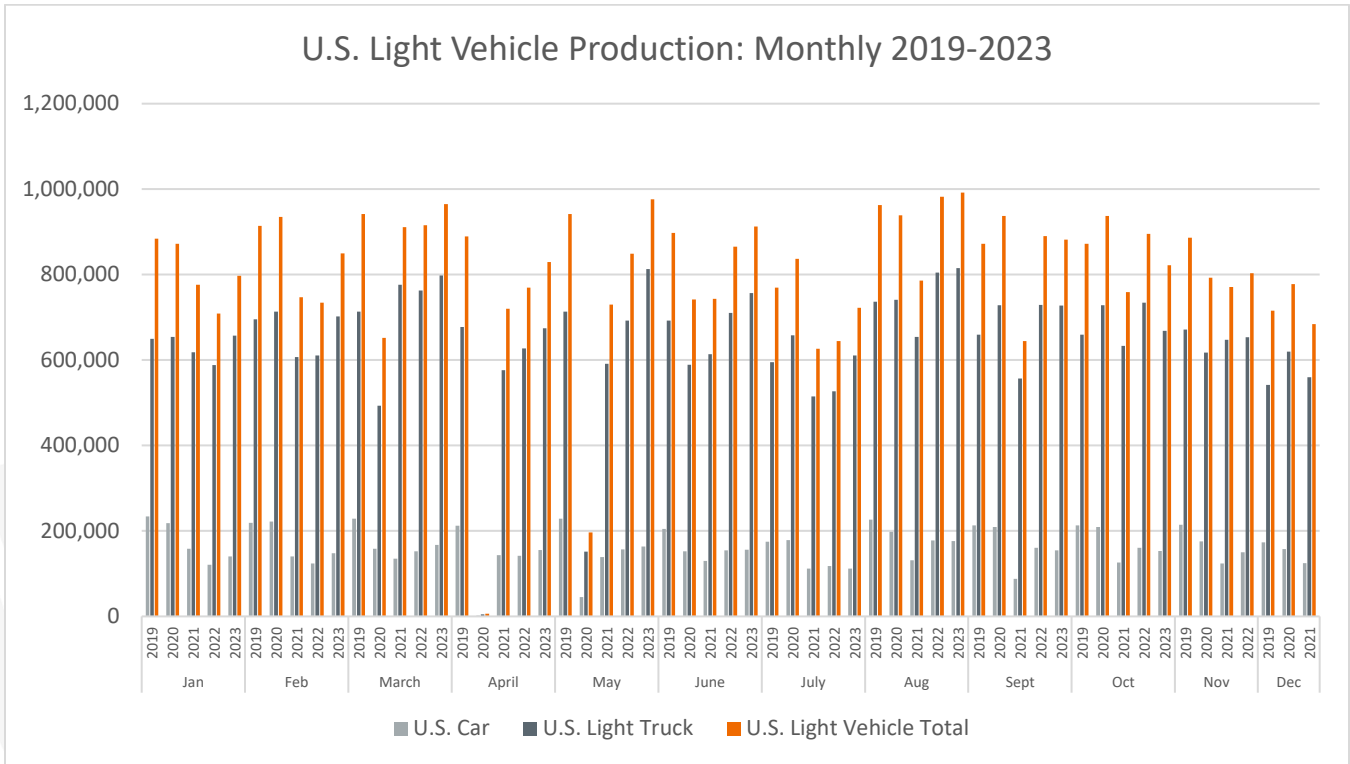
“In October, overbuilds were recorded at Ford and GM, as several of their plants unaffected by the labor negotiations exceeded projections, as well as at Honda, Nissan and Volkswagen, among others. In total, October finished 106,100 units above expectations.

“However, mainly due to expectations plants impacted by strikes in parts the past two months will take time to ramp up to full speed, 29,700 units have been shaved from November’s month-ago revision, putting its total at 1.316 million units, 3.7% above like-2022.”

U.S. Light Vehicle Production (Updated 11/29)

Monthly Production (Updated 11/29)

U.S. Light vehicle production for October 2023 decreased month-over-month by 6.1 percent, totaling 821,918 vehicles (153,308 cars, 668,610 light trucks), year-over-year, production is down 10.8 percent from 2022. ...²³

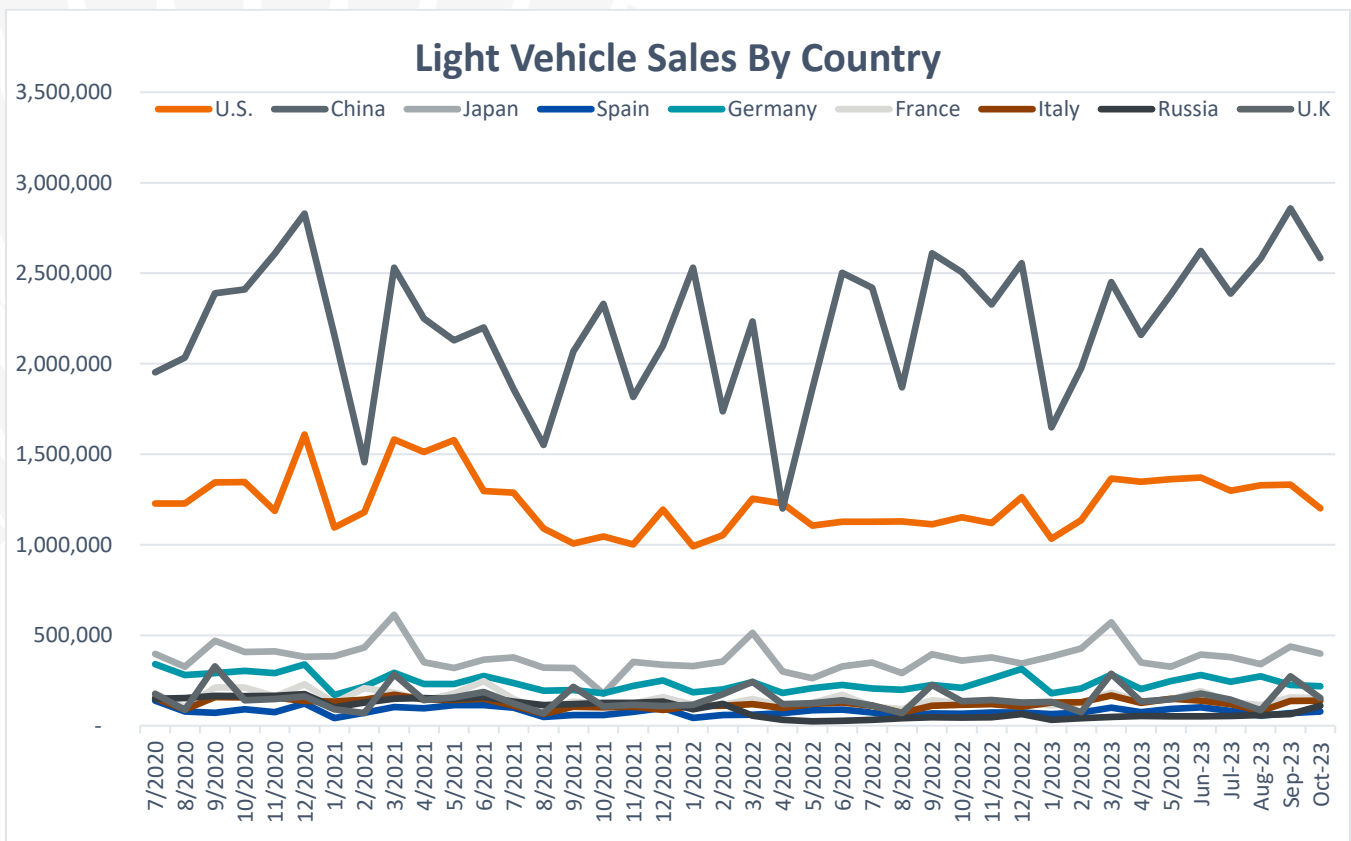


Global Meter

Global Light Vehicle Sales (Updated 12/6)

Wards Intelligence²⁴: “Global sales of light vehicles and medium-/heavy-duty trucks continued solid growth in October, rising 10.6% from the same year-ago period, which matched the year-to-date 10-month increase. October’s year-over-year gain marked the 9th straight increase, with volume totaling 7.99 million units, vs. like-2022’s 7.23 million.

“Year-to-date volume through October totaled 75.6 million units, well above same-period 2022’s 68.3 million. Excluding medium- and heavy-duty trucks, calendar year-to-date deliveries of light vehicles totaled 72.8 million units, 10.5% above 10-month 2022’s 65.9 million. Wards Intelligence partner GlobalData expects global light-vehicle sales to total 86.9 million units in entire 2023, 7.2% above 2022’s 81.1 million and highest since 90.2 million in 2019. Sales in 2024 are forecast to rise 3.8% to 90.2 million units.



Global Light Vehicle Production (Updated 11/29)

S&P Global Mobility Forecast (11/29)²⁵: “Light vehicle production remains constructive in the near term, exceeding expectations in several regions and further building on implied inventory restocking. In addition, the release of pent-up demand continues to support output gains. 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. Looking beyond 2023, as inventory levels achieve equilibrium in several markets, 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 November 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 North America on revised near-term production expectations given an earlier than forecasted tentative labor agreement between the Detroit 3 and the UAW. Of note, the labor contracts are currently progressing through the ratification process with some early mixed results. Nevertheless, the current forecast assumes ratification of the labor agreements between the Detroit 3 and the UAW with no additional plant disruptions. The more noteworthy regional adjustments with the latest forecast update are detailed below:

“Europe: The outlook for Europe light vehicle production was reduced by 34,000 units and by 13,000 units for 2023 and 2024, respectively (and increased by 32,000 units for 2025). The production revisions for Europe in November are fairly limited. In the near-term, Q3-2023 production was upgraded by 46,000 units while Q4-2023 was revised down by 91,000 units. Looking to 2024, the trend is rather stable with only a modest downgrade. We continue to believe that support from the sales backlog will not lift production next year and that the inventory rebuild period is essentially already over. Thus, in a context of overall soft demand and competition from imported vehicles, we expect European OEMs to release pressure on vehicle prices, especially on EVs, in order to keep production afloat next year. Nevertheless, we still expect the annual trend to turn negative next year, after achieving growth of 12% in 2023. From an OEM standpoint, the highlights reflect a reduction for Stellantis in 2023 (93,000 units), and a reduction for Tesla in 2024 (41,000 units). After producing a bit more than 200,000 units in 2023, the Tesla-Berlin plant is now expected to reach only 299,000 units in 2024, as opposed to 340,000 units with the previous forecast. Looking at the longer term, the upgrades come from the addition of models that were previously understood to be imported from Asia, specifically the Volvo EX30 and the successor to the Renault Twingo.

“Greater China: The outlook for Greater China light vehicle production was increased by 375,000 units and by 177,000 for 2023 and 2024, respectively (and increased by 96,000 units for 2025). Supported by continued strong export activity, September production rose by 4.6% year-over-year. According to the CPCA, a total of 2.5 million passenger vehicles have been exported abroad, achieving over 60% year-over-year growth in first three quarters of 2023. In addition, domestic demand is starting to improve, supported by increasing consumer confidence. For the November forecast update, we upgraded September and October production by 200,000 units and 170,000 units, respectively due to rebounding demand and ongoing export strength. We continue to monitor increasing inventory levels which influence our production outlook for the balance of the year, yet a low comparative base should still result in relatively strong year-over-year production growth for November and December. Given expectations for continued fiscal policy support and an improving inflation rate, 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 4.1% versus 2024.

“Japan/Korea: Japan production volumes were reduced by 1,000 units and increased by 19,000 units for 2023 and 2024, respectively. In October 2023, a supplier plant explosion resulted in a partial production halt at Toyota which is expected to result in an over 40,000 unit loss, however, Nissan and Suzuki are expected to offset the loss in the near-term given continued strong production results. There were no major changes in the long-term outlook for Japan production. Full-year 2023 production in South Korea was increased by 33,000 units relative to the previous forecast. Although domestic sales are sluggish, exports are expected to continue to lead production output in South Korea at least until the first quarter of next year mainly due to steady shipments to the US. Accordingly, production in 2024 was also raised by 45,000 units. Meanwhile,

reflecting Geely's announcement that Renault Korea will produce the Polestar 4 from 2025, production was increased by 43,000 units for 2025. Long-term output has few significant changes except for the addition of the Polestar 4, resulting in an increase of around 10,000 units per year.

“North America: The outlook for North America light vehicle production was increased by 314,000 units and reduced by 455,000 units for 2023 and 2024, respectively (and reduced by 332,000 units for 2025). After six weeks of tactical strikes at select plants spanning GM, Ford and Stellantis, the UAW in the US reached tentative agreements with each OEM. Voting on these new contracts continues to take place with mixed results that could derail the tentative agreements. Nevertheless, the current forecast assumes ratification of the labor agreements between the Detroit 3 and the UAW with no additional plant disruptions. The November forecast includes material revisions with the strike ending earlier than previously expected. As a result, production for the remainder of 2023 was revised higher totaling 15.51 million units. Production for the Detroit 3 was revised higher by 364,000 units with reductions spanning the remaining manufacturers tempering the forecast. With elevated inventory levels for key vehicles among the Detroit 3, the outlook for 2024 was cut 2.8% to total 15.83 million units. Detroit 3 production was reduced a collective 380,000 units as the previously expected volume recovery is no longer required. Of note, downward revisions for 2024 and 2025 were made to several BEV vehicle programs including GM (Silverado/Sierra EV), Ford (F-150 Lightning) and Tesla (Cybertruck) to reflect announced production delays and/or expected slower production ramp-ups.

“South America: The outlook for South America light vehicle production was reduced by 21,000 units and increased by 15,000 units for 2023 and 2024, respectively (and increased by 20,000 units for 2025). The near-term outlook for the region was reduced due to weaker production results for both Brazil and Colombia. Our general production outlook continues to reflect an earlier return to inventory normalization and consequently is more reliant on demand fundamentals going forward. The production upgrade for 2024 and 2025 is primarily the result of Future Product Plan (FPP) changes, including more favorable timing for select vehicles in the region.

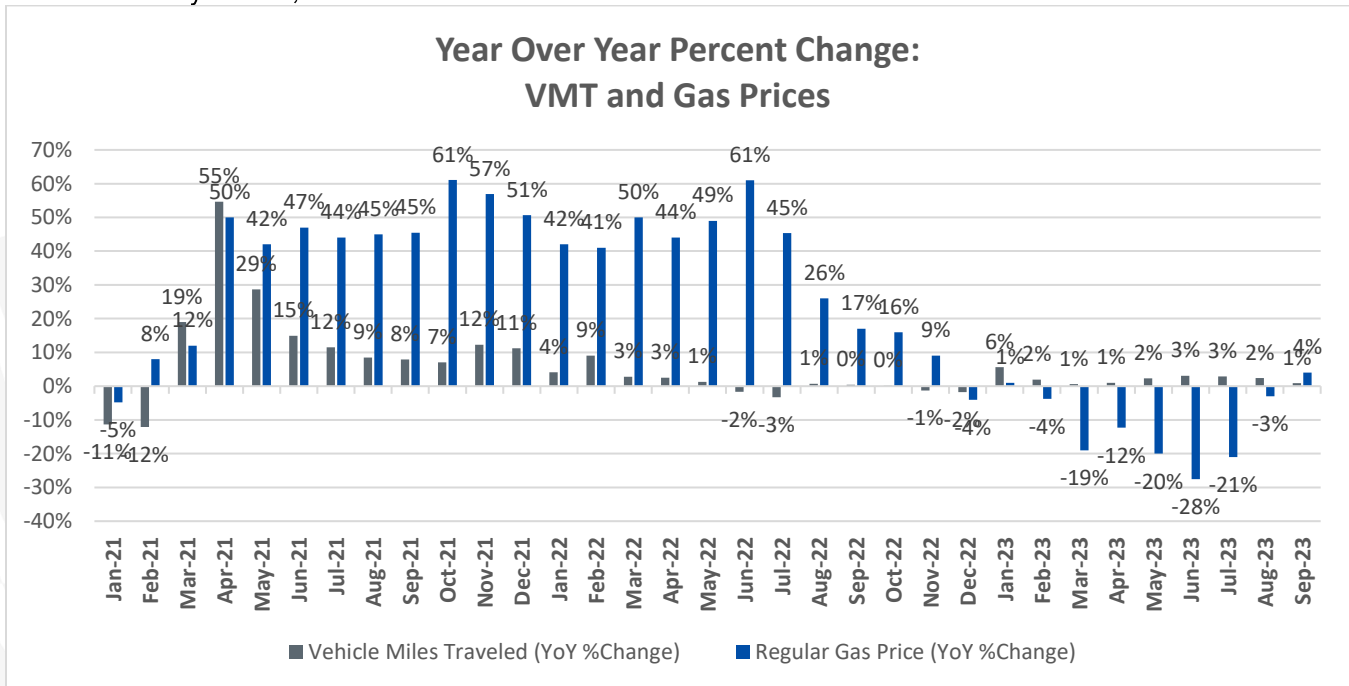
“South Asia: The outlook for South Asia light vehicle production was reduced by 46,000 units and by 6,000 units for 2023 and 2024, respectively (and increased by 11,000 units for 2025). In the near-term, India subcontinent production was reduced by 36,000 units, primarily due to elevated inventory levels in India starting in Q4-2023 as dealers report slower new vehicle order activity. Looking beyond 2023, production for the subcontinent was revised only slightly for 2024 as Pakistan production weakness is offset by modestly improved expectations for India. With regard to the ASEAN market, modest downgrades are reflected in the November update. The reductions are focused primarily on reduced outlooks for Indonesia and Thailand amid reports of ongoing weakness and deteriorating demand conditions exacerbated by relatively high inflation and interest rate hikes impacting the general market environment for both countries.”

Recovery Meter

Roadway Travel (Updated 11/29)

According to the U.S. Department of Transportation, seasonally-adjusted vehicle miles traveled in September increased .9 percent from the same time a year ago. The cumulative travel estimate for 2023 is 2,430 billion vehicle miles.²⁶

- Travel on all roads and streets changed by +0.9% (+2.4 billion vehicle miles) for September 2023 as compared with September 2022. Travel for the month is estimated to be 275.6 billion vehicle miles.
- The seasonally adjusted vehicle miles traveled for September 2023 is 270.3 billion miles, a 1.3% (3.5 billion vehicle miles) change over September 2022. It also represents a -0.30% change (-0.8 billion vehicle miles) compared with August 2023.
- Cumulative Travel for 2023 changed by +2.2% (+52.4 billion vehicle miles). The cumulative estimate for the year is 2,430.2 billion vehicle miles of travel.



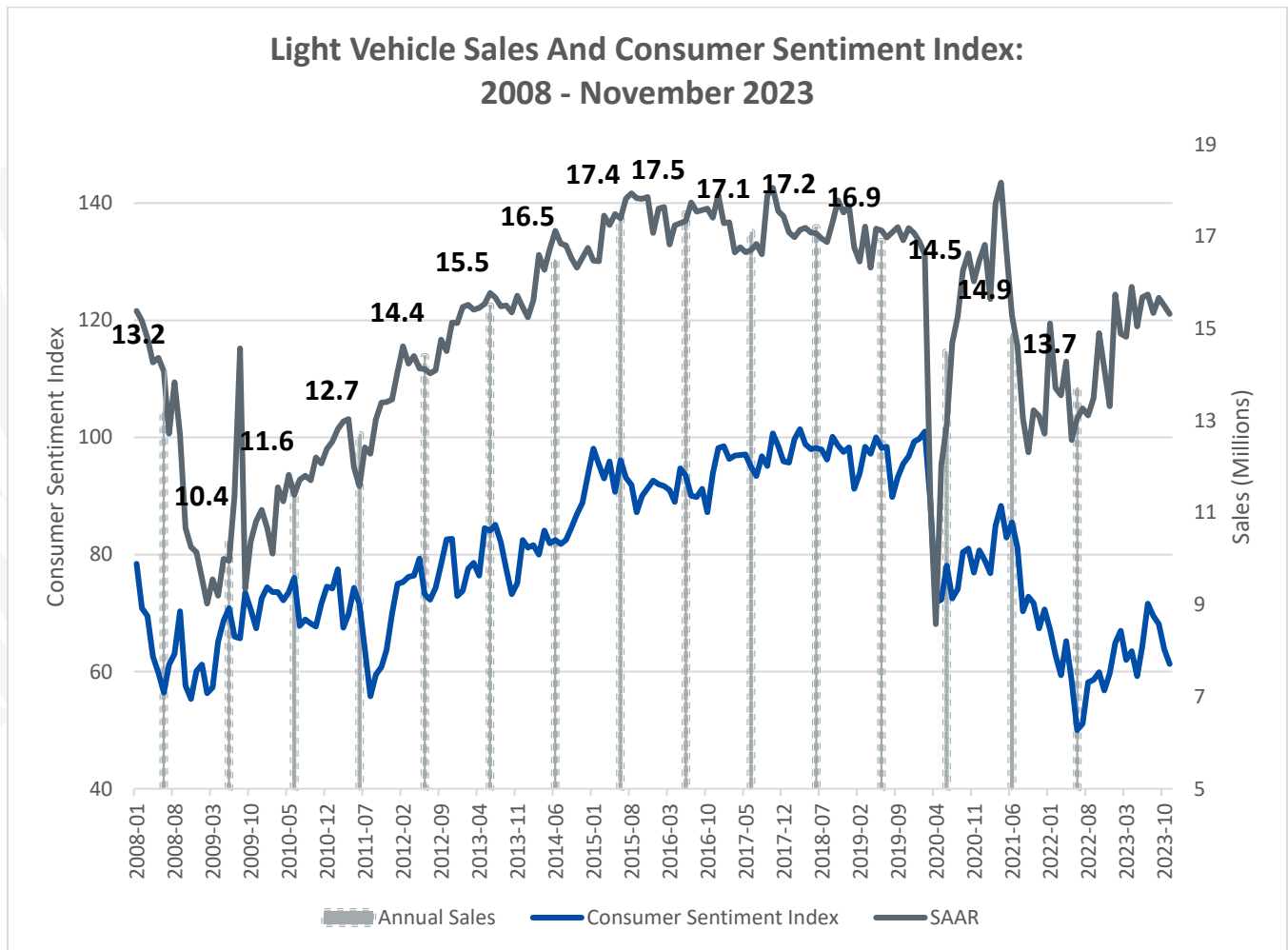
Economic News (Updated 11/3)

The ISM Index Drops to 46.7 Percent In October – Twelfth Consecutive Month of Contraction. “Economic activity in the manufacturing sector contracted for the 12th consecutive month in October. According to the latest Manufacturing ISM Report On Business, the Manufacturing PMI registered 46.7%, down 2.3 percentage points from the previous month. This contraction followed a brief period of weak expansion and preceded nine months of contraction, indicating a return to economic contraction after a 30-month expansion phase. Anything below 50% indicates contraction..”²⁷

Consumer Confidence and Sales (Updated 12/6)

Surveys of Consumers Director Joanne Hsu²⁸: “Consumer sentiment fell a modest 2.5 index points, or 4%, from October. While this marks the fourth consecutive month of declines, November’s reading reflects a balance of factors, some of which improved while others worsened. More-favorable current assessments and expectations of personal finances were offset by a notable deterioration in expected business conditions. In particular, long-run business conditions plunged by 15% to its lowest since July 2022. Younger and middle-aged consumers exhibited strong declines in economic attitudes this month, while sentiment of those age 55 and older improved from October.

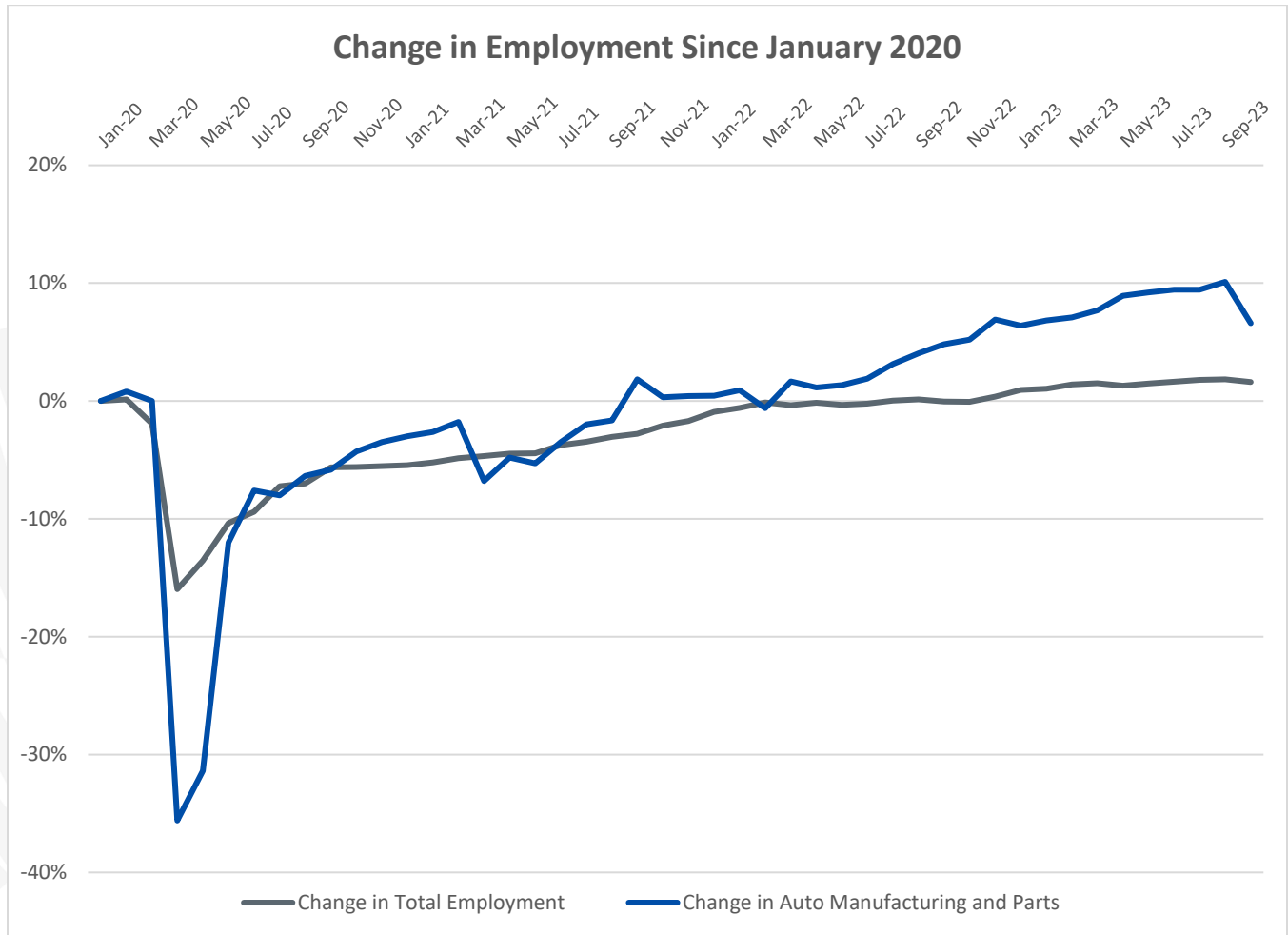
Year-ahead inflation expectations rose to 4.5% this month, up from 4.2% in October, reaching its highest reading since April 2023. Long-run inflation expectations rose from 3.0% last month to 3.2% this month, a reading last seen in 2011. These expectations have risen in spite of the fact that consumers have taken note of the continued slowdown in inflation; consumers appear worried that the softening of inflation could reverse in the months and years ahead.”



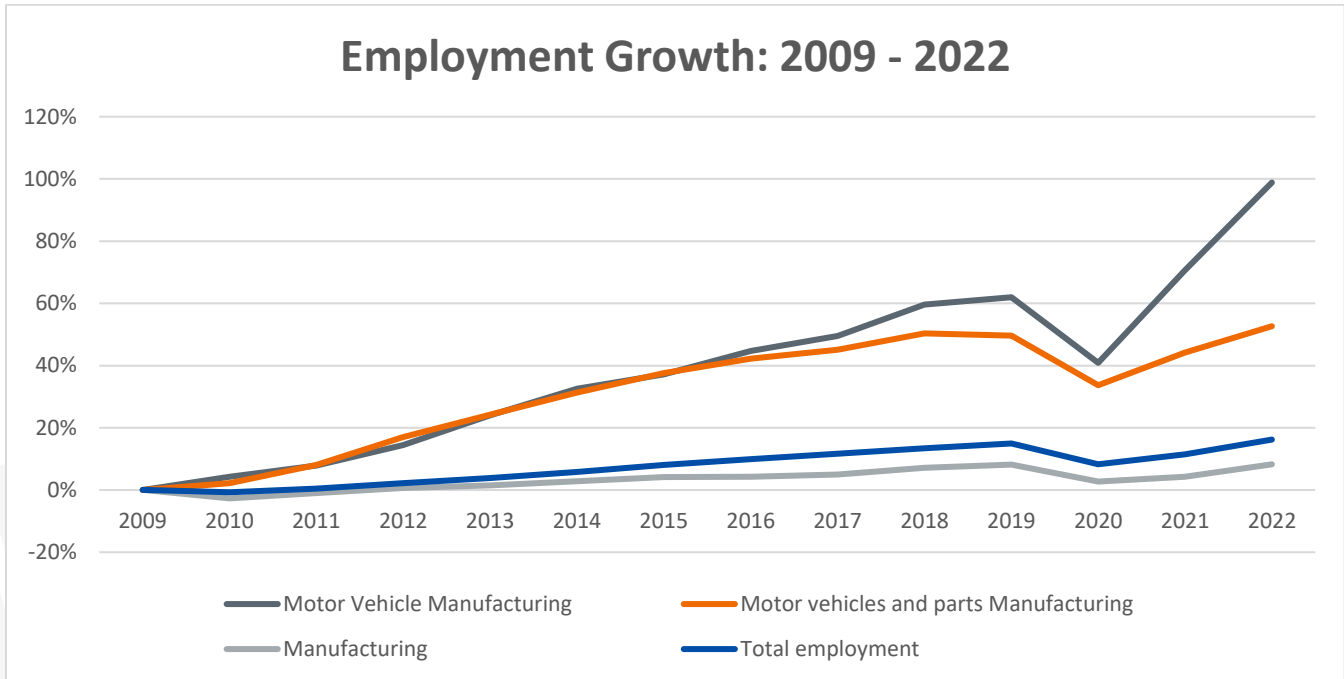
Employment (Updated 11/3)

Motor Vehicle And Parts Manufacturing Lost 34,000 Jobs In October.

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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- ² WardsIntelligence, North America Production, January 2021 – June 2023
- ³ WardsIntelligence, North America Platform by Plant Production Forecast, Q1
- ⁴ Haig Stoddard, "November U.S. Light-Vehicle Inventory Jumps 8% from October," *WardsIntelligence*, 12/4/23
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- ⁶ Haig Stoddard, "Despite Strikes, North America Production Rises in October," *WardsIntelligence*, 11/20/2023
- ⁷ S&P Global Mobility, email, "S&P Global Mobility Monthly Automotive Update – September 2023," 9/15/23
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- ¹⁰ U.S. Energy Information Administration, Weekly Retail Gasoline and Diesel Prices, Regular price per gallon, including taxes
- ¹¹ WardsIntelligence, Fuel Economy Index, December 2013 & 2019
- ¹² WardsIntelligence, U.S. Light Vehicle Sales, June 2022 - 2023
- ¹³ Haig Stoddard, "No Holiday Boost but U.S. Light-Vehicle Sales Continue Gains in November," *WardsIntelligence*, 12/1/23
- ¹⁴ J.D. Power, Press Release, "November New-Vehicle Sales Projected to Surge 10.2% Fueled by Record-Level Consumer Spending," 11/22/2023
- ¹⁵ Kelley Blue Book, Press Release, "Average New-Vehicle Prices Down 1.4% Year Over Year in October, as Healthy Inventories, Higher Incentives Help Buyers," 11/13/2023
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- ¹⁸ U.S. Energy Information Administration, Regular Gasoline, www.eia.gov, Accessed 12/6/23; U.S. Energy Information Administration, Weekly Cushing, OK WTI Spot Price, www.eia.gov, Accessed 12/6/23
- ¹⁹ EIA, "[Short-Term Energy Outlook](#)," 12/2023
- ²⁰ EIA, "[Short-Term Energy Outlook](#)," 12/2023
- ²¹ Haig Stoddard, "November U.S. Light-Vehicle Inventory Jumps 8% from October," *WardsIntelligence*, 12/4/23
- ²² Haig Stoddard, "Despite Strikes, North America Production Rises in October," *WardsIntelligence*, 11/20/2023
- ²³ WardsIntelligence, "North America Production, November," 2019, 2020, 2021, 2022
- ²⁴ Haig Stoddard, "Global Vehicle Sales Post 9th Consecutive Increase in October," *WardsIntelligence*, 11/30/23
- ²⁵ S&P Global Mobility, email, "S&P Global Mobility Monthly Automotive Update – November 2023," 11/16/23
- ²⁶ U.S. Department of Transportation, https://www.fhwa.dot.gov/policyinformation/travel_monitoring/21septvt/, Accessed 6/22/2023
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³⁰ Jerry Hirsch, "[Auto Industry Has Soared Since 2010, Leading Economic Recovery](#)," *Los Angeles Times*, 1/3/14