READING THE METER

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

ALLIANCE FOR AUTOMOTIVE INNOVATION

Contents – November 29, 2023

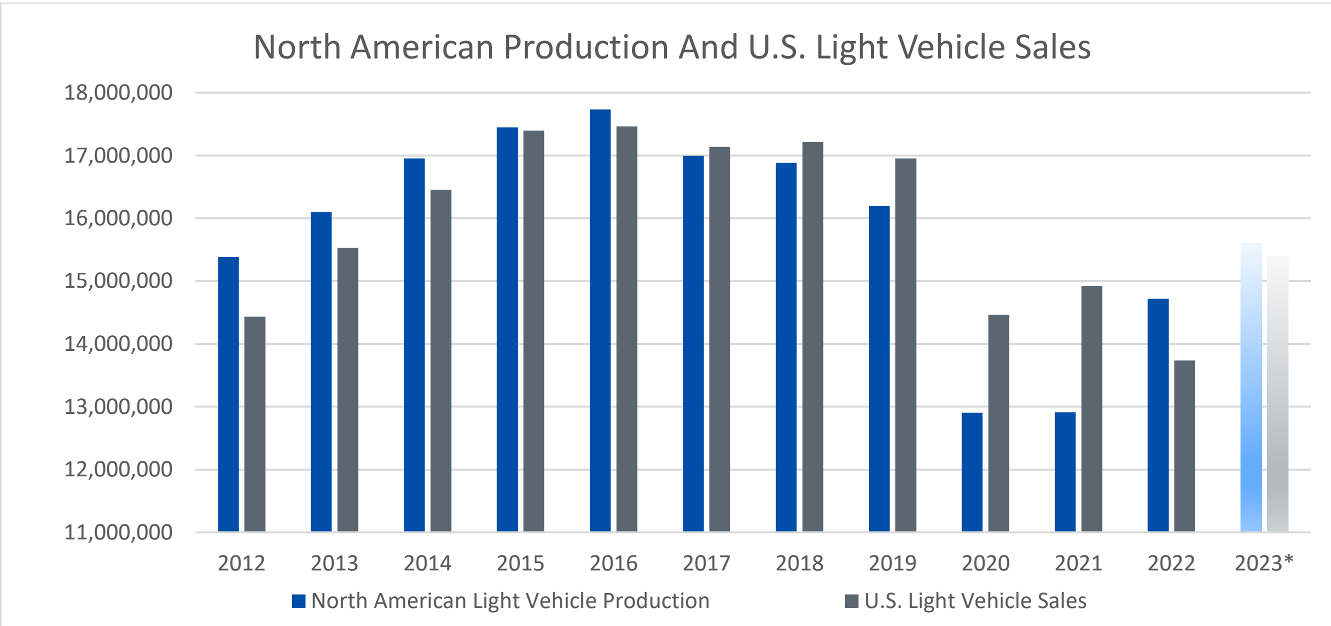
ALLIANCE FOR AUTOMOTIVE INNOVATION

Cleaner. Safer. Smarter.

Forecast Meter

Sales & Production Summary and Forecast (Updated 11/29)

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)
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 11/29)

Wards Intelligence Outlook (11/29)[4]**:** "U.S. light-vehicle sales in November are expected to improve from October's results, based on seasonally adjusted annual rates.

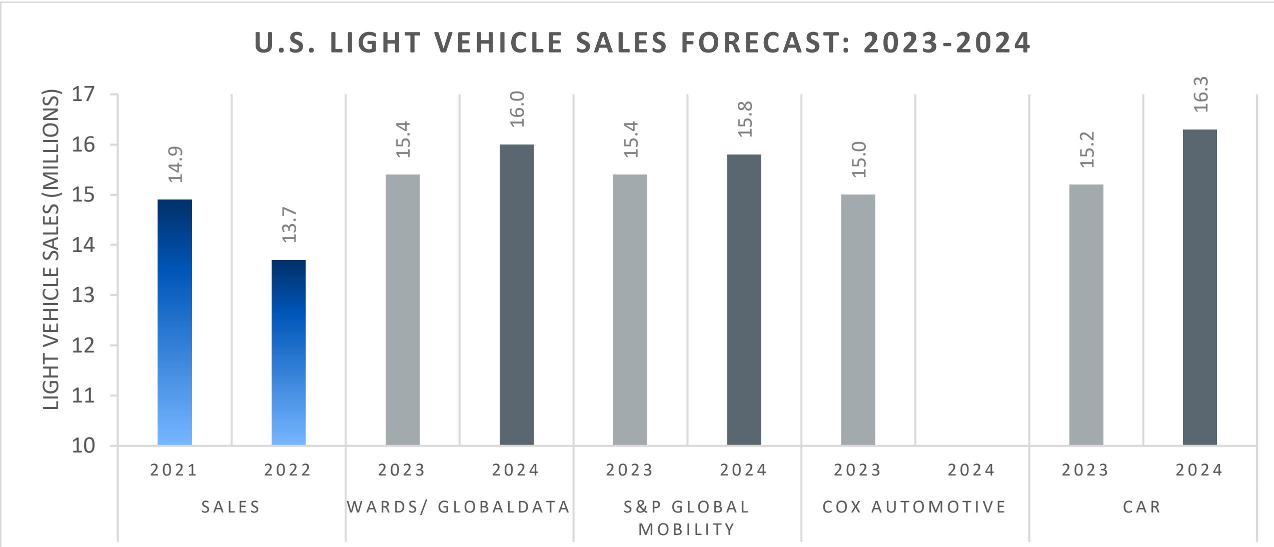
"November is forecast to post a 15.8 million-unit SAAR, up from October's 15.5 million and year-ago's 14.3 million.

"Raw volume is pegged at 1.252 million units, up 10.2% from November 2022's 1.135 million. The daily selling rate works out to 50,066 units, compared with year-ago's 45,419 – 25 selling days both periods.

"After SAARs peaked at 16.1 million units in June and 15.9 million in July, sales over the past three months weakened. Part of that is due to lost inventory caused by the now-ended worker strikes at Ford, General Motors and Stellantis in September and October, but those losses had little impact on the overall SAAR of the past three months.

"With some variance, the 3-month SAAR through October leveled off at 15.5 million units. The falloff from the summer highs could mean more consumers are reaching price fatigue. It also could be that some of the stronger selling segments – especially fullsize trucks – of the past two-plus years are closer than other segments to meeting the pent-up demand built up from the inventory drain caused by the semiconductor shortage which began in early 2021.

"If a post-holiday surge does not occur, sales are likely to end at a 15.5 million or 15.6 million SAAR. There also is a strong possibility that sales top the forecast if holiday spiffs strengthen and are well advertised. Currently, sales are forecast to post a 15.4 million-unit SAAR for Q4, which would put deliveries for the entire year at the same 15.4 million. With inventory forecast to rise 2.9% from October to 2.2 million units at the end of November – highest for any month since 2.4 million in March 2021- there is upside to the Q4 outlook, especially if seasonal holiday deals do return to the market."



North American Production & Inventory Outlook (Updated 11/29)

Wards Intelligence Production Outlook (11/29)[5]: "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."

Wards Intelligence Inventory Outlook (11/3)[6]: "Sales are expected to continue growing in November and December with double-digit year-over-year gains. After a 15.5 million-unit SAAR in October, the SAAR is forecast to total 15.4 million over the final two months of the year, with enitre-Q4 finishing at the same level. Wards Intelligence partner GlobalData expects sales for the entire year to end at 15.4 million units, followed by 16.0 million in 2024. Inventory is projected to rise in November from October and remain relatively flat in December.

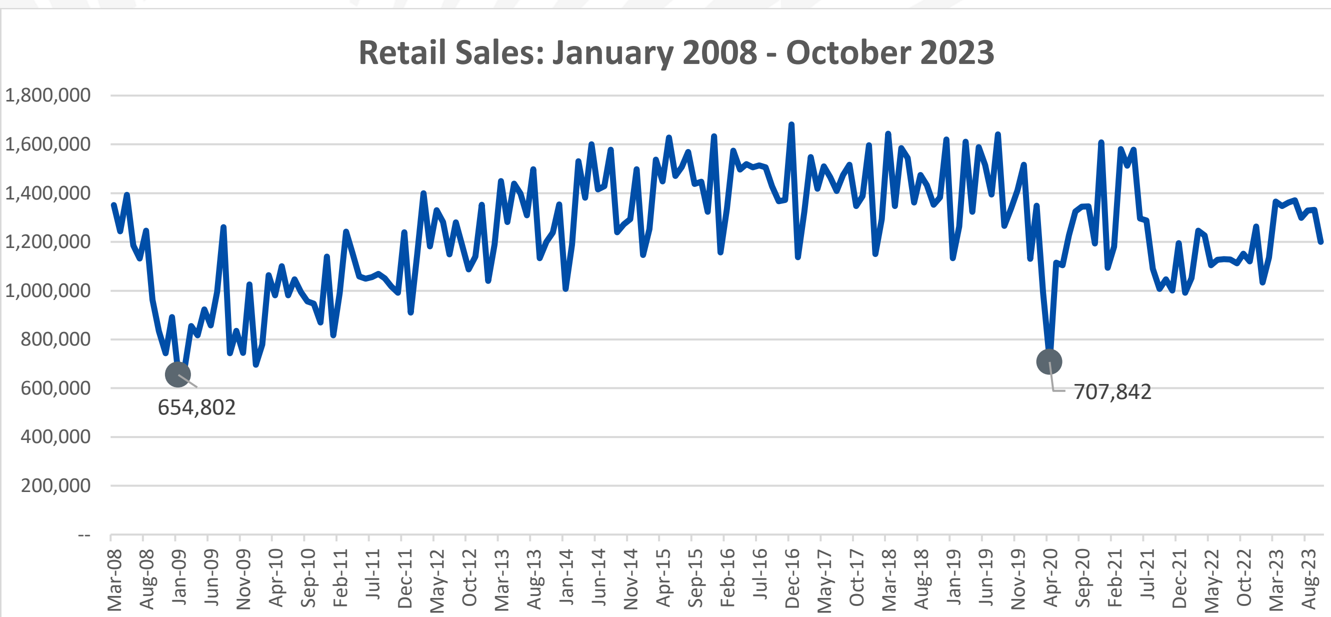
S&P Global Mobility Outlook (11/29)[7]: "North America: The outlook for North America light vehicle production was increased by 314,000 units and reduced by 455,000 units for 2023 and 2024, respectively (and reduced by 332,000 units for 2025). After six weeks of tactical strikes at select plants spanning 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 11/3)

Monthly Sales (Updated 11/3)

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.



October Sales (Updated 11/3)

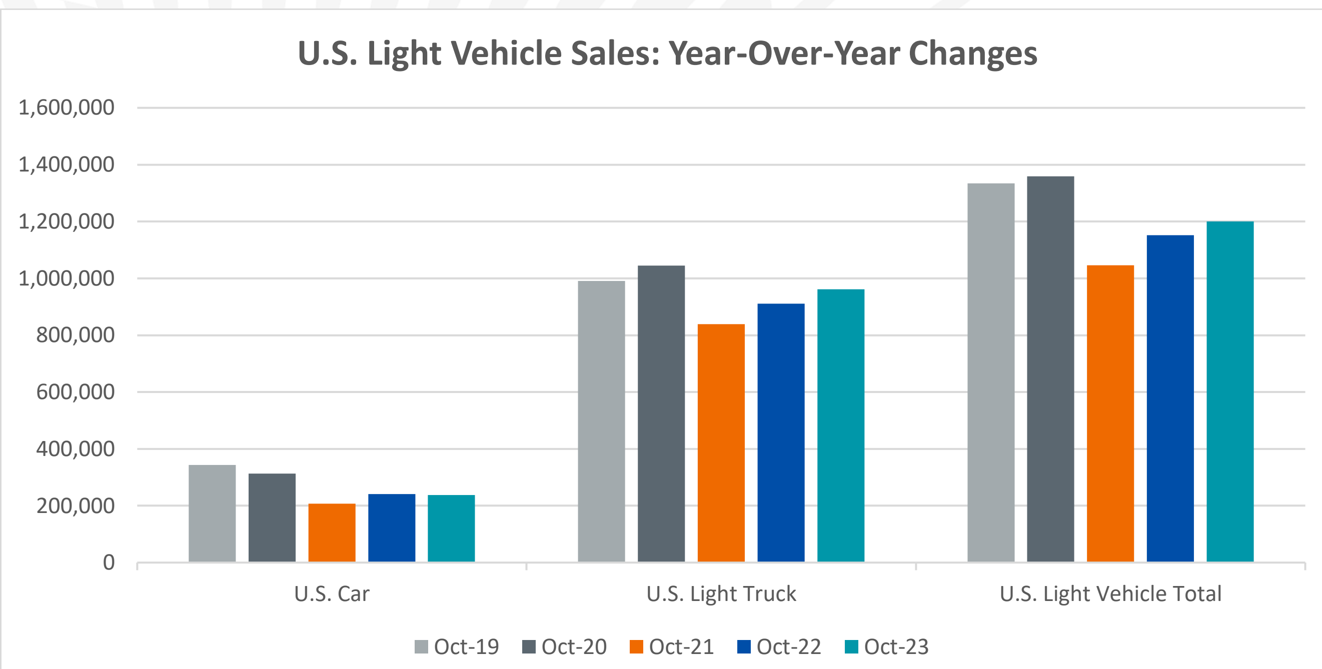
WardsIntelligence[8]: "October U.S. light-vehicles sales finished below expectations as some weakness set in at the end of the month. Sales totaled a 15.5 million-unit seasonally adjusted annual rate, well below the 16.0 million forecasted for the month and down from September's 15.7 million. October's SAAR was an increase from like-2022's 14.7 million.

"Raw volume in October totaled 1.200 million units, up 1.6% from same-month 2022's 1.182 million. The daily selling rate was 48,011 over 25 selling days, 5.7% above October 2022's 45,444 – 26 selling days. By DSR, October's year-over-year gain marked the 14th consecutive increase.

"Calendar year-to-date through October, the SAAR stands at 15.5 million units, up from like-2022's 13.7 million. Wards Intelligence partner GlobalData is projecting the year to end at 15.4 million units.

"The weaker-than-expected results were mostly across the board by automaker, thus can't be blamed on underestimating impacts from the strike-related plant shutdowns in the U.S. and Canada over the past two months, though that might have played some part with October deliveries at Ford, General Motors and Stellantis, as each came in below forecast.

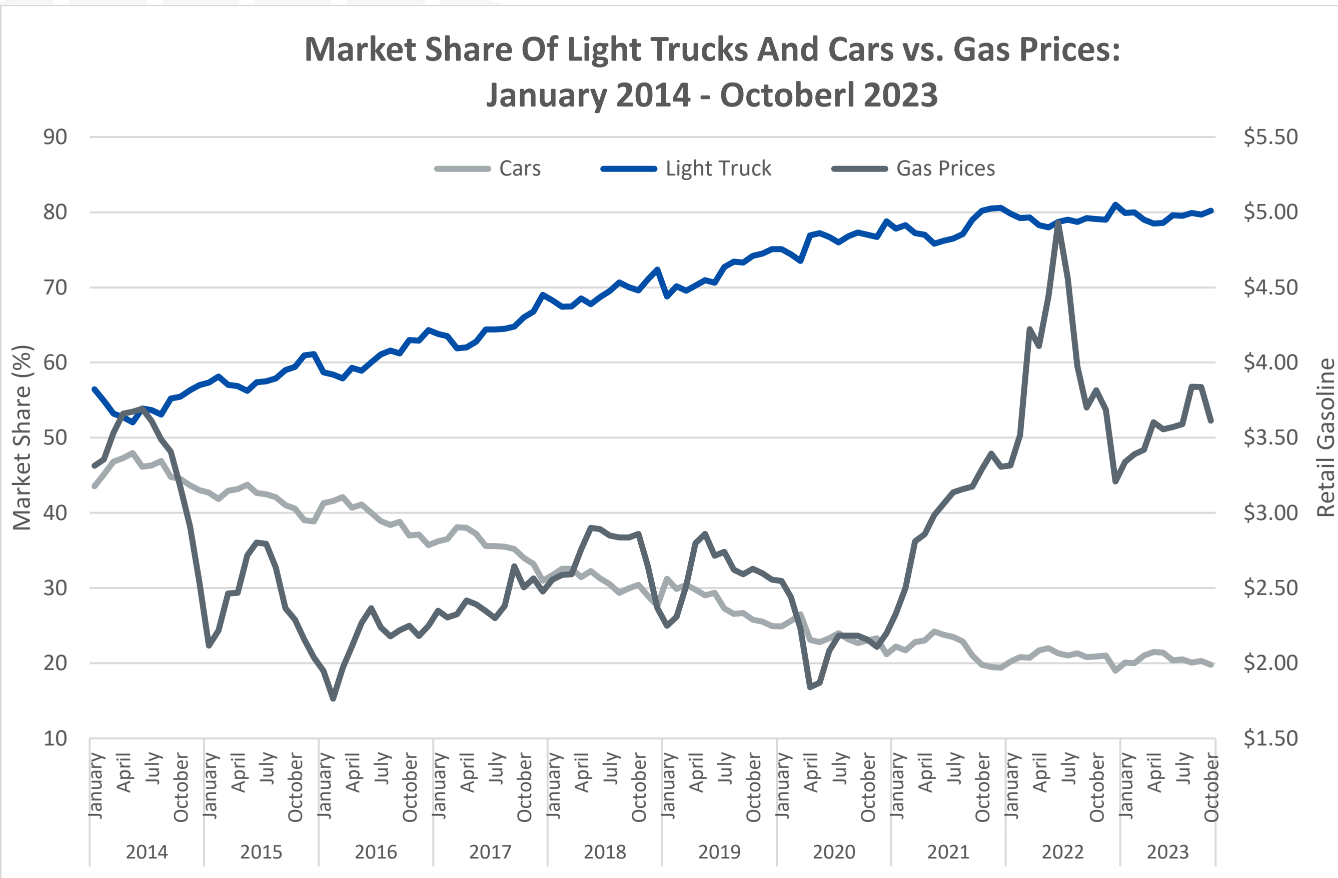
"Fleet deliveries, largely related to the strikes, were expected to be low, which means retail – mainly sales to consumers – mostly were behind the industry's unanticipated softness. Still, estimated splits between both retail volume and fleet deliveries finished stronger than year-ago by 6.6% and 7.1%, respectively, based on DSRs.



Segments vs. Gas Prices (Updated 11/3)

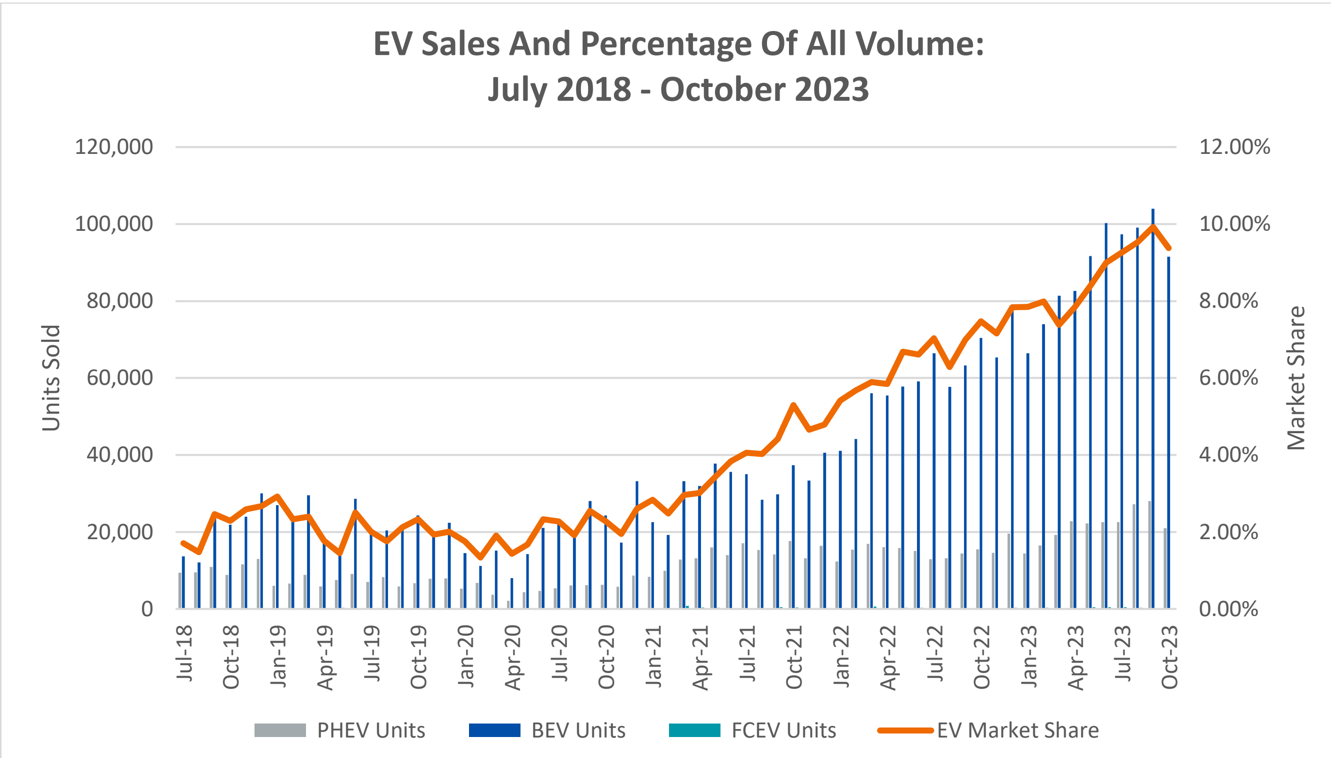
Monthly Sales For October: Light trucks accounted for 80.2 percent of sales in October, nearly flat with the market share a year ago. Compared to the same period in 2022, sales of cars are down 2,738, and down more than 105,000 from October 2019, when cars comprised 26% of the market as opposed to the 20 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]



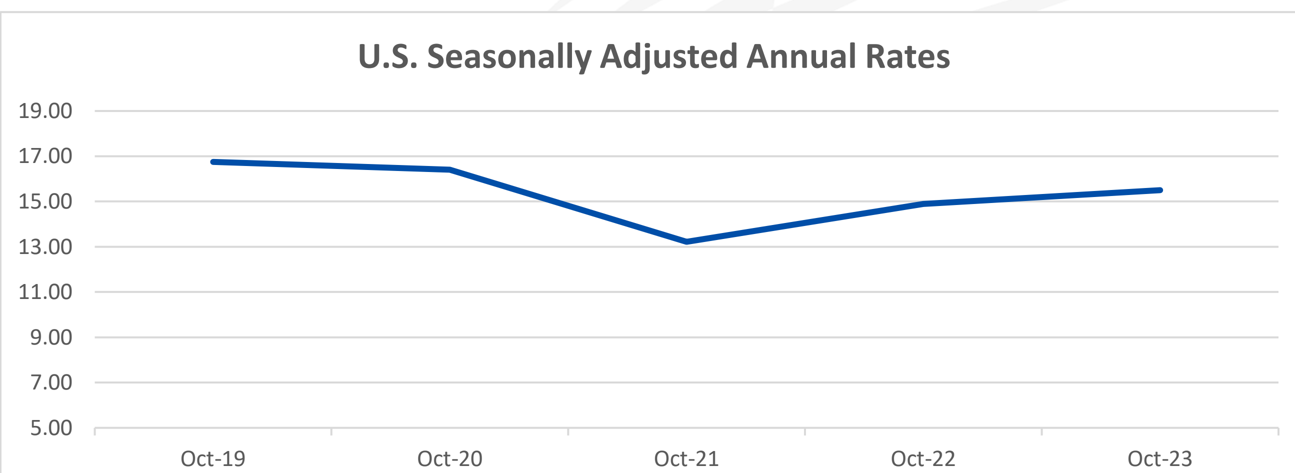
EV Powertrain Sales (Updated 11/3)

Sales of electric vehicles (BEV, PHEV, & Fuel Cell) accounted for 9.4 percent of total vehicle sales in October 2023 (112,563), per Wards estimates. Market share decreased 0.5 percentage points (pp) from September 2023. October's EV market share is up 1.9 pp from a year ago. Sales of battery electric vehicles led the way for EVs, accounting for 7.6 percent of total sales, up 1.5 pp from October 2022. Plug-in hybrids accounted for 1.7 percent, up 0.4 pp from the same time last year.[12]



Seasonally Adjusted Annual Rates (Updated 11/3)

WardsIntelligence[13]: "Sales totaled a 15.5 million-unit seasonally adjusted annual rate, well below the 16.0 million forecasted for the month and down from September's 15.7 million. October's SAAR was an increase from like-2022's 14.7 million."



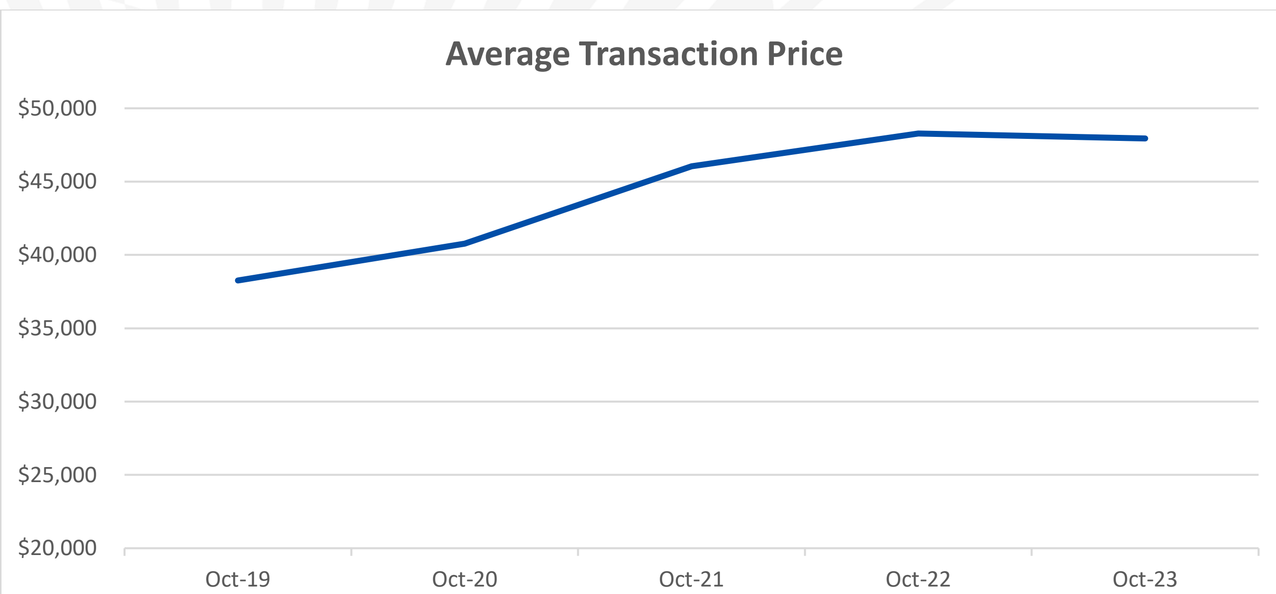
Average Transaction Price (Updated 11/29)

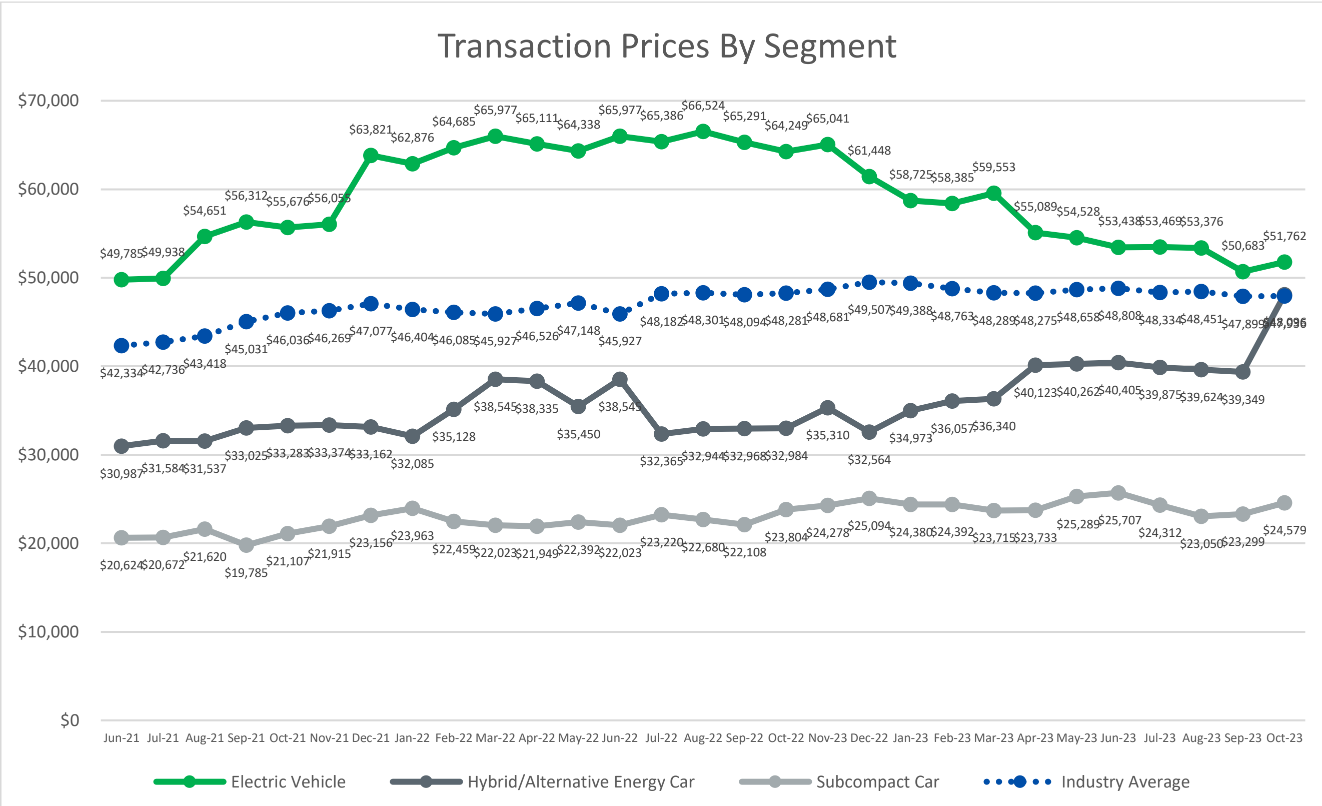
Kelley Blue Book (October)) (Updated 11/29)[14]: "In October, with a UAW strike underway but new-vehicle inventories on the rise, the average price paid for a new vehicle in the U.S. was $47,936, less than 1% more than the month earlier (revised to $47,797), according to Kelley Blue Book, a Cox Automotive 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."

J.D. Power (Updated 11/3)[15]: "As inventory and sales volumes improve, the average new-vehicle retail transaction price is declining modestly, trending down $451—or 1%—from October 2022, to $45,651."



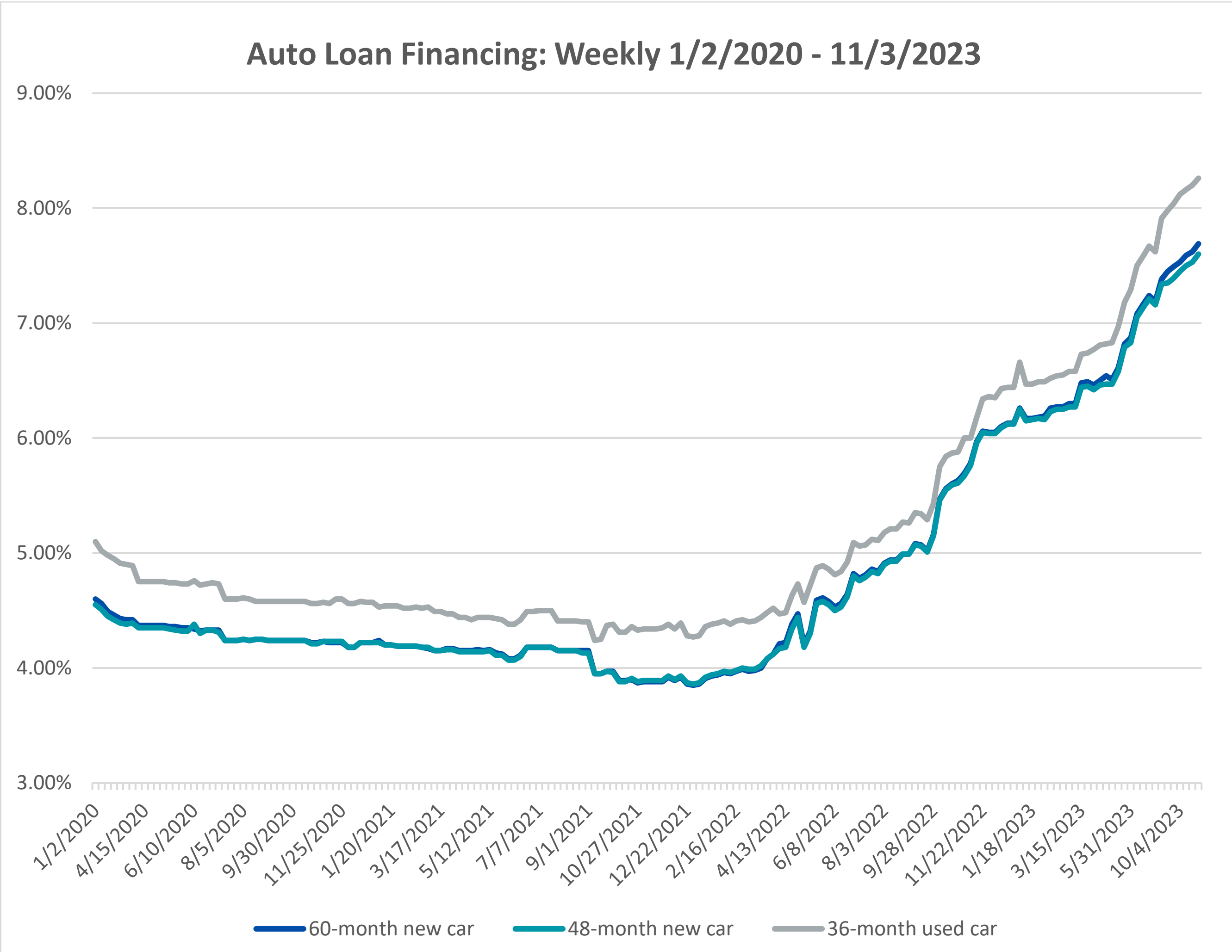


Auto Loan Financing (Updated 11/3)

Interest Rates (updated 11/3): Interest rates continued their steady increase on the 60-month, 48-month and 36-month used car loans. Rates now stand at 7.69%, 7.60%, and 8.26%, respectively. Since the beginning of 2020, 60-month rates are up 3.09 pp, and are up 2.0 pp since the same time a year ago.[16]

JD Power (11/3)[17]: "Elevated pricing, combined with rising interest rates, are contributing to the escalation of monthly loan installments. The average monthly finance payment in October is on pace to be $728, up $11 from September 2022. That translates to a 1.5% increase in monthly payments from a year ago. The average interest rate for new-vehicle loans is expected to be 7.5%, an increase of 140 basis points from a year ago. Although, the month-to-month pace of rate increases are tempered when compared with the prior year."

Dates	60-month new car	48-month new car	36-month used car
1/2/2020	4.60%	4.55%	5.10%
11/2/2022	5.69%	5.67%	6.00%
10/18/2023	7.62%	7.53%	8.20%
11/1/2023	7.69%	7.60%	8.26%
Two Week Change	0.07%	0.07%	0.06%
Change since 1/3/20	3.09%	3.05%	3.16%
One Year Change	2.00%	1.93%	2.26%



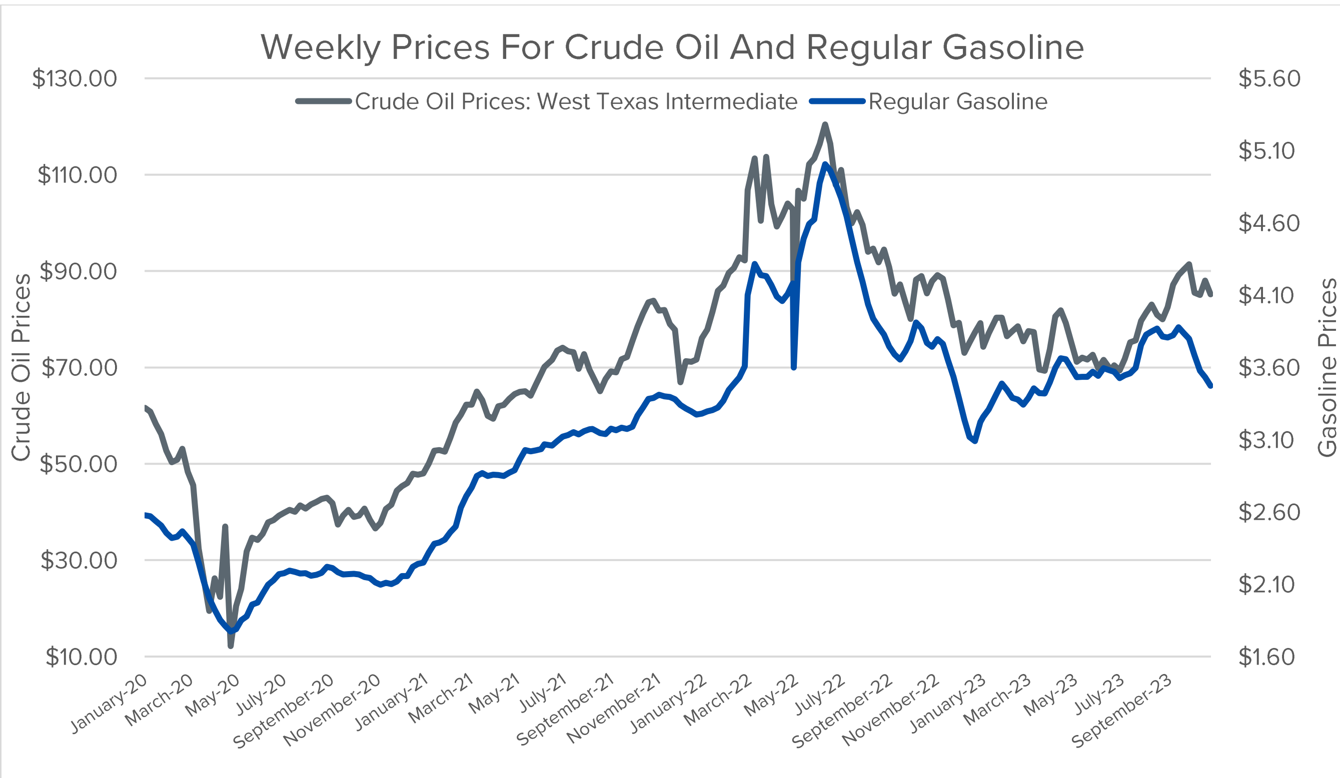
Crude Oil and Gas Prices (Updated 11/3)

Gas And Oil Remain Elevated (11/3): Oil prices, as benchmarked at West Texas Intermediate decreased $2.83 to $85.20 a barrel over the last week. Since election day 2020, oil prices are $49 a barrel higher. Gas prices are down $0.06 from last week. Gas is 35% higher than the beginning of 2020.[18]

EIA Outlook For Oil (9/21): Crude oil prices. We expect the Brent crude oil price to average $93 per barrel (b) during 4Q23, up from $86/b in August. A decline in global oil inventories in the coming months supports the Brent price in our forecast. The price eases to an average of $87/b by the second half of 2024 because we expect global oil inventories to rise during that period.)[19]"

EIA Outlook For Gasoline (9/21)[20]: "We reduced our vehicle miles traveled (VMT) forecast—which directly affects motor gasoline consumption—following the release of new population estimates from the U.S. Census Bureau. The revision increased the share of the U.S. population over 65, which reduced our forecast for VMT and gasoline consumption because it decreased our estimate of the working-age population commuters. In our September STEO forecast, the share of the U.S. population that will be over 65 is 18.2% in 2024, up from our August STEO forecast of 18.0%. This seemingly small increase adds 0.7 million individuals to the population of adults over 65. Although the total population remained unchanged, the U.S. Census Bureau revised the population under the age of 15 down by 0.5 million and the working-age population down by 0.2 million people. We define the working-age population as ages 15–64 because this group accounts for the bulk of the workforce and regular commuting.

"In our September STEO, we forecast U.S. gasoline consumption will average 8.9 million barrels per day (b/d) in 2023 and 8.7 million b/d in 2024 (down from our August STEO forecast of 8.9 million b/d in 2024). As a result of the revisions, we forecast that gasoline consumption will decline by 1.6% in 2024 compared with this year."



Production Meter

U.S. Light Vehicle Inventory and Days' Supply (Updated 11/3)

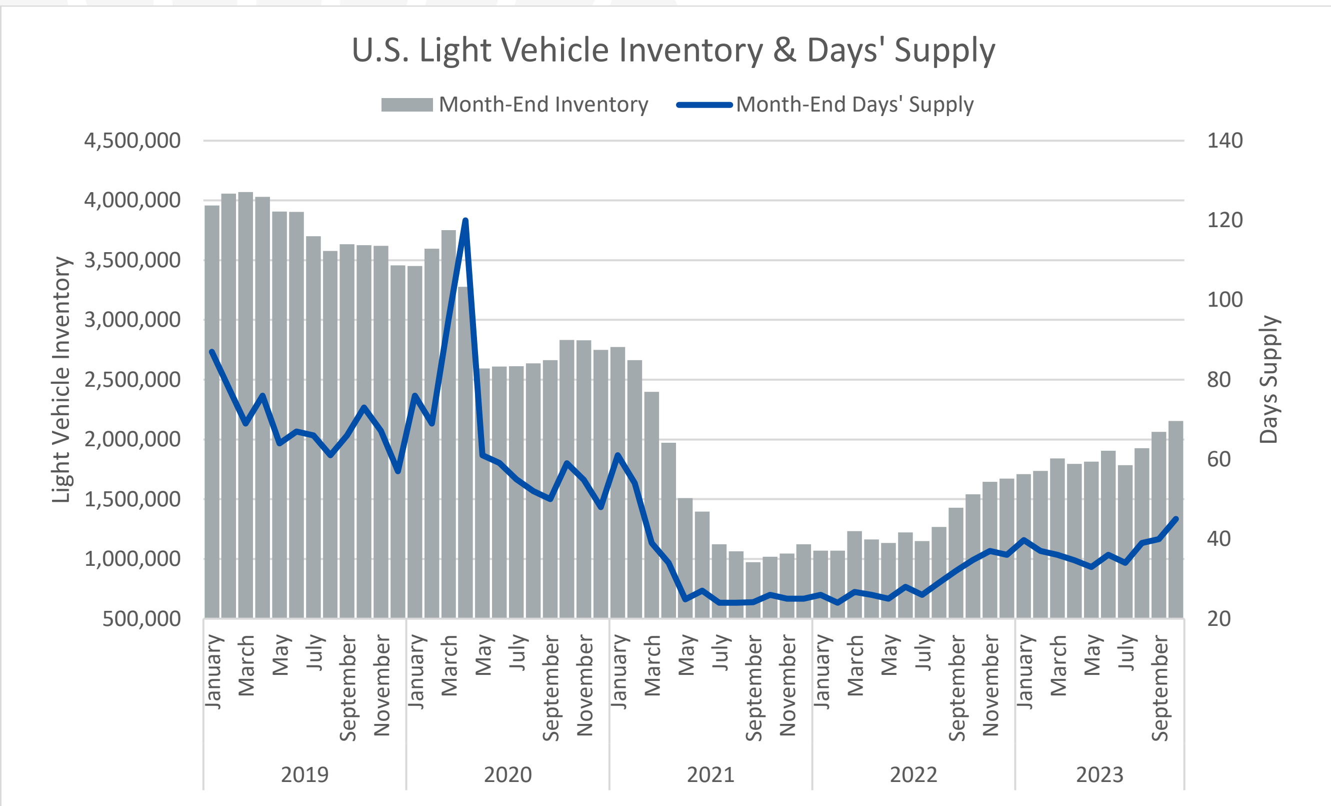
WardsIntelligence Inventory Update (10/6)[21]: "U.S. light-vehicle inventory rose 4.4% from the prior month in October, despite slowed production for the U.S. because of labor walkouts in the U.S. and Canada.

Oct. 31 inventory totaled 2.154 million units, up 40.1% year-over-year, and highest total for the month since 2.825 million in 2020. Days' supply rose to 45 from September's 40 and like-2022's 34. It was the highest days' supply for any month since 54 in February 2021.

In total, strike-related lost production in October at the Detroit 3 totaled an estimated 157,000 units. Excluding 2,000 medium-duty trucks at Ford, light-vehicle production losses totaled 155,000 units. An estimated 90% of that total – 139,000 – would have been designated for the U.S. market.

The 139,000 units of lost output for the U.S. market does not directly mean inventory would have been that much higher without the strikes. Reduced sales acted as a partial offset because fewer deliveries meant less stock was pulled from the pool.

In typical years, inventory for each of the Detroit 3 rises from September to October. With the strike losses, inventory remained relatively flat from the prior month at all three. There will be some sluggishness in production in the first part of the month as closed plants ramp back up, but output should bounce back fast enough that sales return to normal levels by the end of the year for the three.



North American Production (Updated 11/29)

Wards Intelligence[22]: “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.

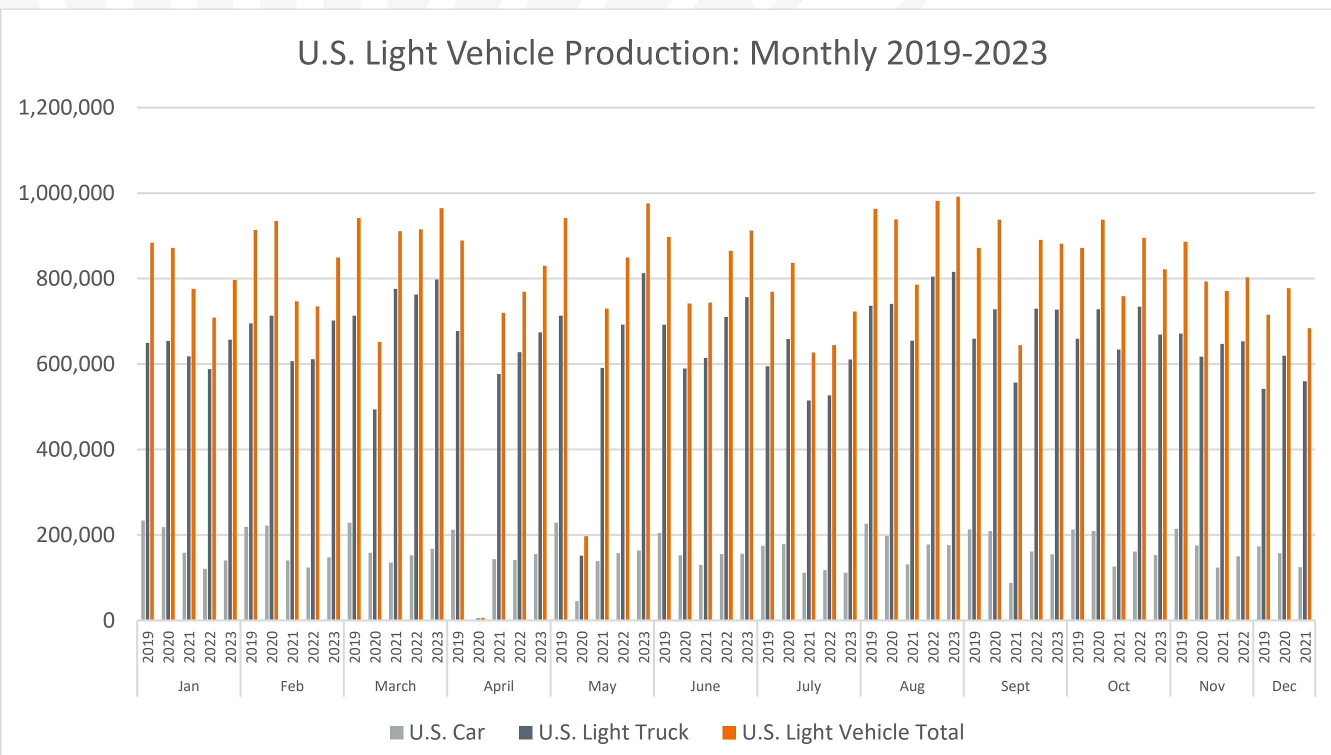
“In October, overbuilds were recorded at Ford and GM, as several of their plants unaffected by the labor negotiations exceeded projections, as well as at Honda, Nissan and Volkswagen, among others. In total, October finished 106,100 units above expectations.

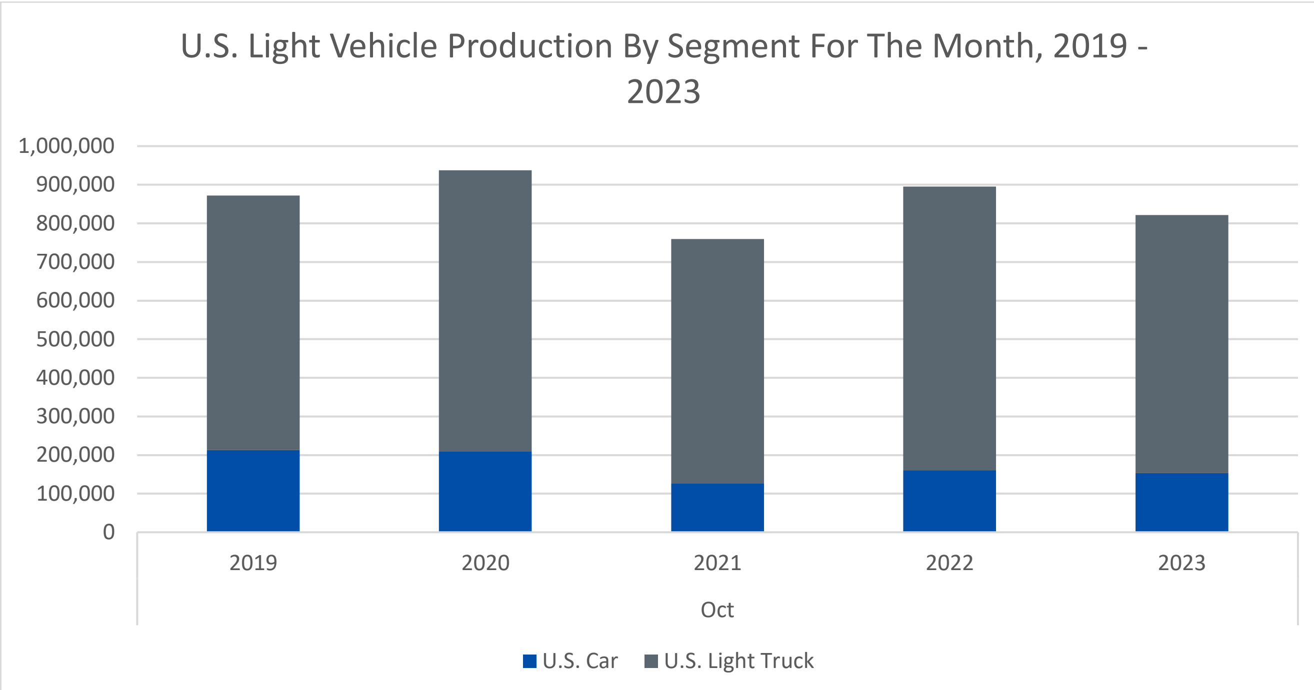
“However, mainly due to expectations plants impacted by strikes in parts the past two months will take time to ramp up to full speed, 29,700 units have been shaved from November’s month-ago revision, putting its total at 1.316 million units, 3.7% above like-2022.”

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 11/3)

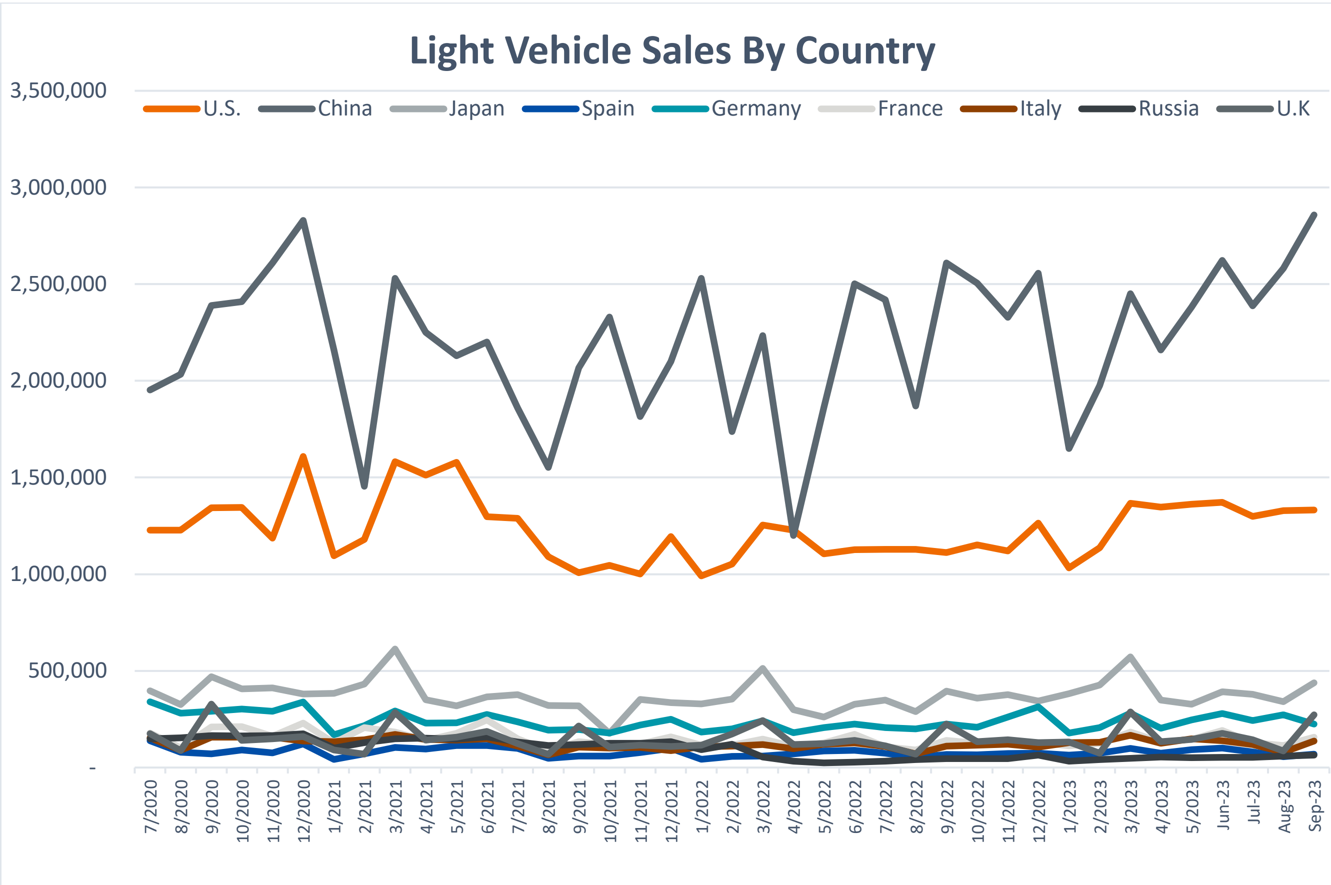
Wards Intelligence [24]: "Global deliveries of light vehicles and medium-/heavy-duty trucks in September totaled 8.28 million units, up 9.9% from the prior year's 7.53 million. September's results were bolstered by a 19.6% year-over-year increase in North America and a rise of 17.0% in Europe. The Asia-Pacific region posted a slightly weaker 6.4% increase, while volume in South America declined 5.5%, the region's second straight decrease.

"China continued to rebound from its decline in July with a year-over-year increase of 9.2%. Sales in China in the first nine months of 2023 totaled 21.60 million units, up 7.8% from like-2022's 20.05 million. Australia, the fifth-largest market in AP, posted a year-over-year increase of 18.3%, the largest of the region in September. AP countries with double-digit declines included Indonesia, Pakistan, Singapore, Thailand and Vietnam. The only other double-digit gain was posted by Japan.

"September sales in Europe rose 17.0% year-over-year to 1.58 million units. Year-to-date volume through September was up 19.8% to 12.92 million. While the U.K. saw a 22.4% increase in deliveries from like-September 2022, Germany sales only rose by 0.6%.

"North America came out on top as the highest-performing region, with September deliveries up 19.6% year-over-year. Year-to-date deliveries were up 14.5%.

“Calendar year-to-date global volume for all vehicles through September was 67.59 million units, 10.6% above like-2022’s 61.12 million. Light-vehicle sales were up 10.5% to 65.09 million.”



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.

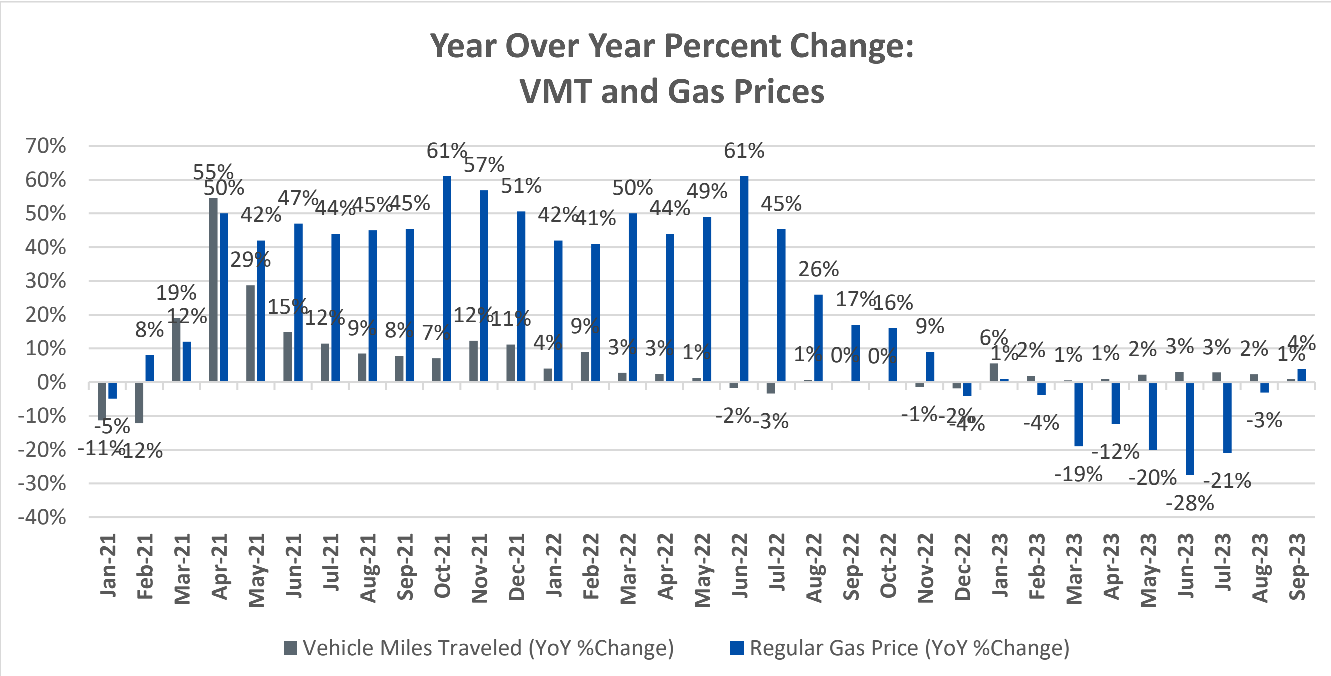
"South Asia: The outlook for South Asia light vehicle production was reduced by 46,000 units and by 6,000 units for 2023 and 2024, respectively (and increased by 11,000 units for 2025). In the near-term, India subcontinent production was reduced by 36,000 units, primarily due to elevated inventory levels 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 11/3)

Surveys of Consumers Director Joanne Hsu[28]: "Consumer sentiment confirmed its early-month reading, falling back about 6% this October following two consecutive months of very little change. This decline was driven in large part by higher-income consumers and those with sizable stock holdings, consistent with recent weakness in equity markets. Across all consumers, one-year expected business conditions plunged 16% and expectations over consumers' own personal finances in the year ahead fell 8%, reflecting ongoing concerns about inflation and, to a lesser degree, uncertainty over the implications of negative news both domestically and abroad.

Year-ahead inflation expectations rose from 3.2% last month to 4.2% this month, the highest reading since May 2023. Long-run inflation expectations edged up from 2.8% last month to 3.0% this month, again staying within the narrow 2.9-3.1% range for 25 of the last 27 months. Long-run inflation expectations remained elevated relative to the 2.2-2.6% range seen in the two years pre-pandemic."

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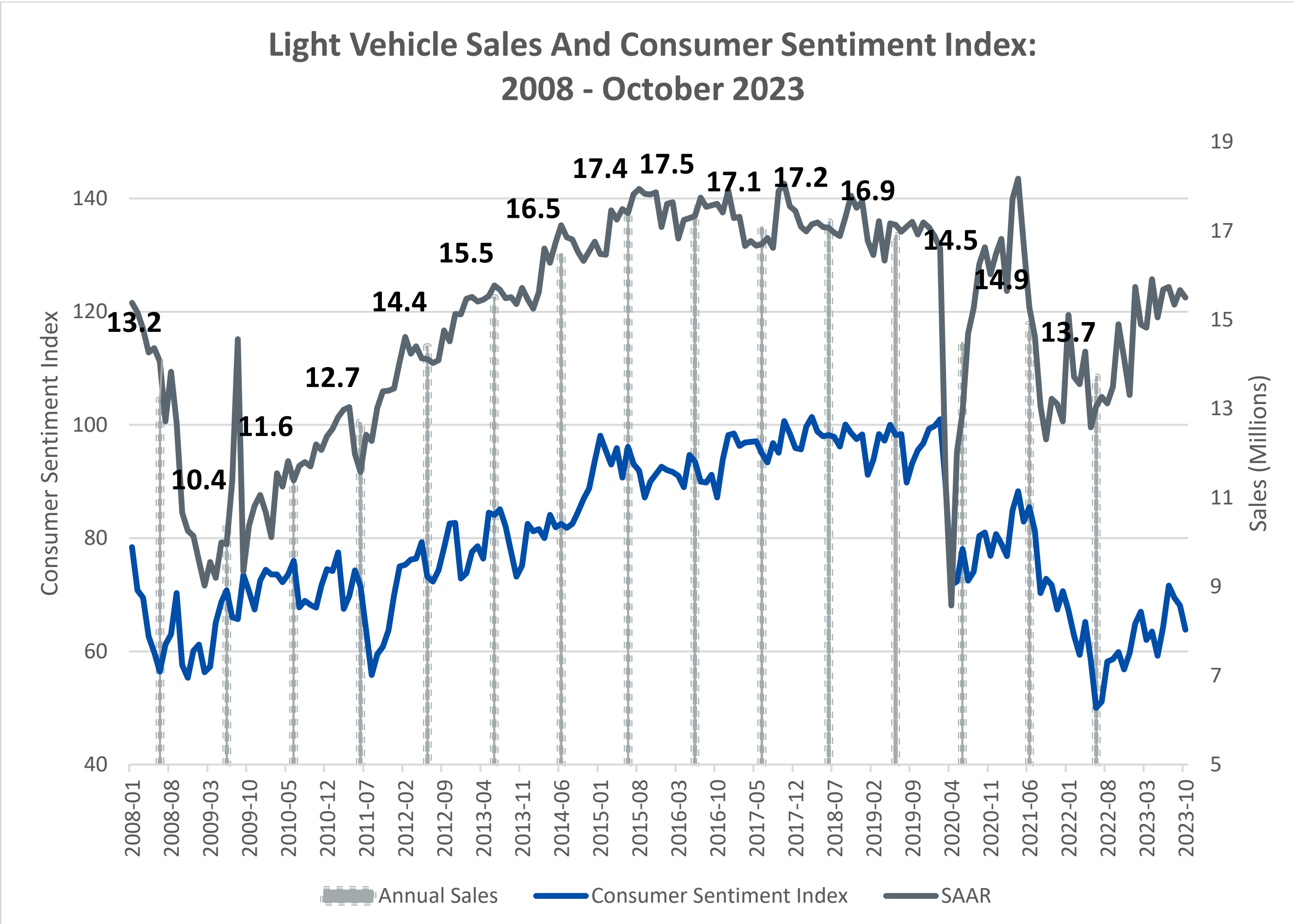
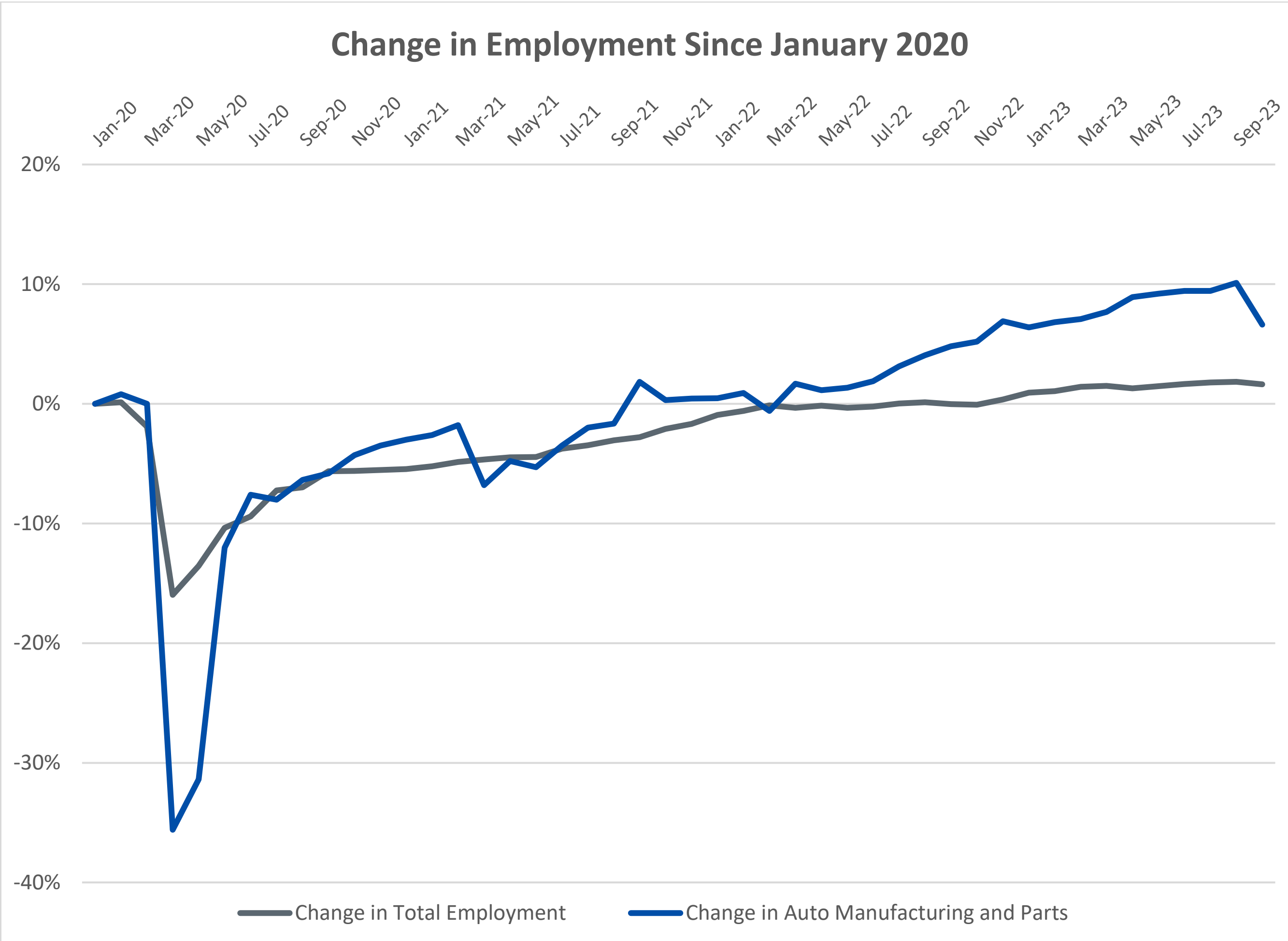


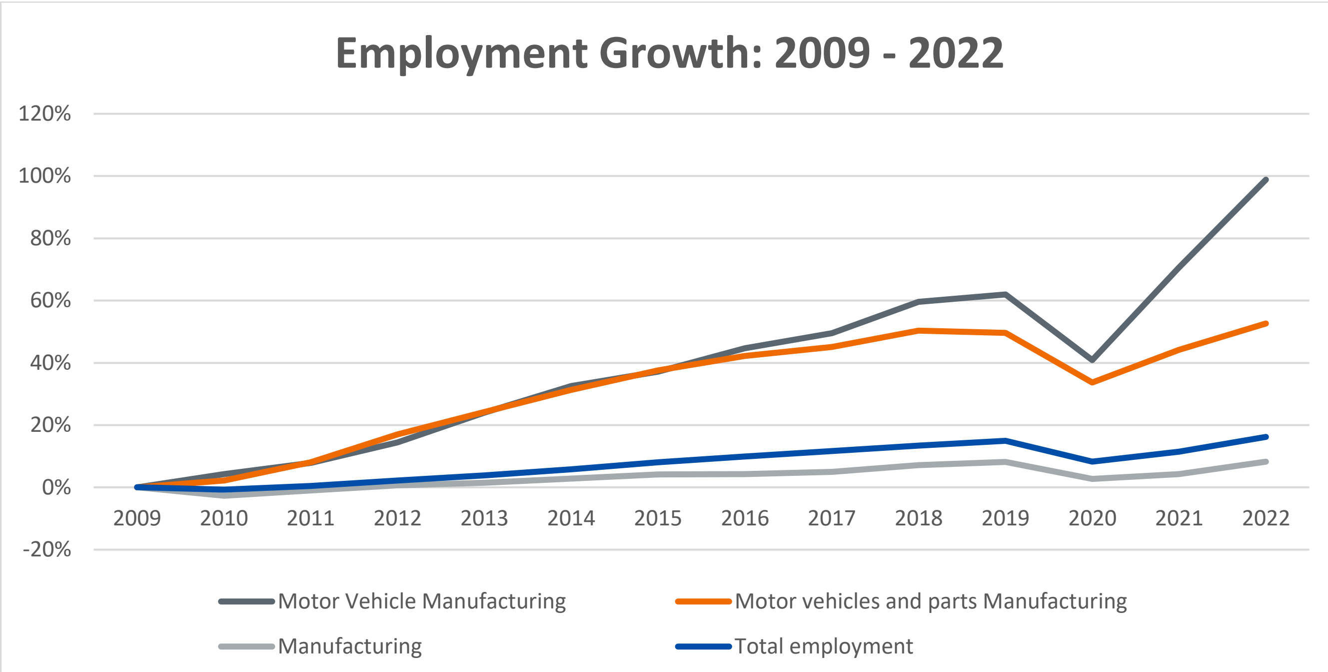
Employment (Updated 11/3)

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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