

READING THE METER

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



ALLIANCE FOR AUTOMOTIVE INNOVATION

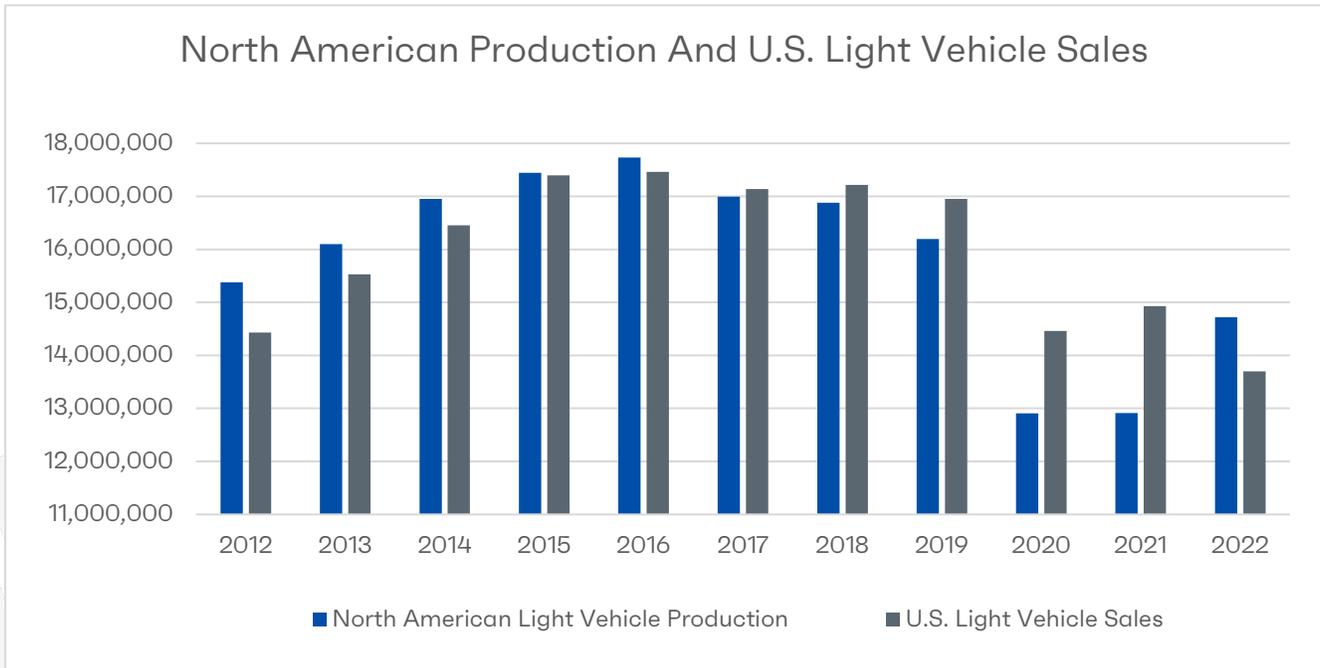
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Forecast Meter

Sales & Production Summary and Forecast (Updated 1/20)

2021-2022 Sales, ¹ Extended Sales Forecast ² and Production Forecasts ³		
	U.S. Sales & Forecasts	North American Production
January '21	1,094,689 (-3.6% YoY)	1,175,940 (-14.0% YoY)
February '21	1,180,506 (-5.3% YoY)	1,120,200 (-22.9% YoY)
March '21	1,581,067 (+59.7% YoY)	1,376,904 (31% YoY)
April '21	1,512,186 (+111.4 YoY)	1,094,891 (-21% YoY)
May '21	1,577,941 (+41% YoY)	729,879 (+271% YoY)
June '21	1,296,517 (+17% YoY)	1,107,958 (-1.9% YoY)
July '21	1,288,494 (-7.9% YoY)	926,035 (3% YoY)
August '21	1,090,446 (-11% YoY)	1,113,327 (-19% YoY)
September '21	1,006,875 (-25% YoY)	907,470 (-33.4% YoY)
October '21	1,046,282 (-20% YoY)	1,140,383 (-22.1% YoY)
November '21	1,001,351, (-20% YoY)	1,168,245 (-9% YoY)
December '21	1,194,313 (-22.9% YoY)	1,029,501 (-13.8% YoY)
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)
1st Quarter '22	14.01 million-unit SAAR	3,458,480 (-1.4% YoY)
2nd Quarter '22	13.4 million-unit SAAR	3,584,093 (+13.2% YoY)
3rd Quarter '22	3,358,116 (-.9% YoY)	3,636,418 (+24.6% YoY)
2021 Full Year	14,926,933 (+3.1% YoY)	12,919,000 (+4% YoY) (U.S. 8,871,661)
2022 Full Year	13.7 million units (WardsIntelligence)	14,721,053 (+9.8% YoY) (U.S. 10,019,791)

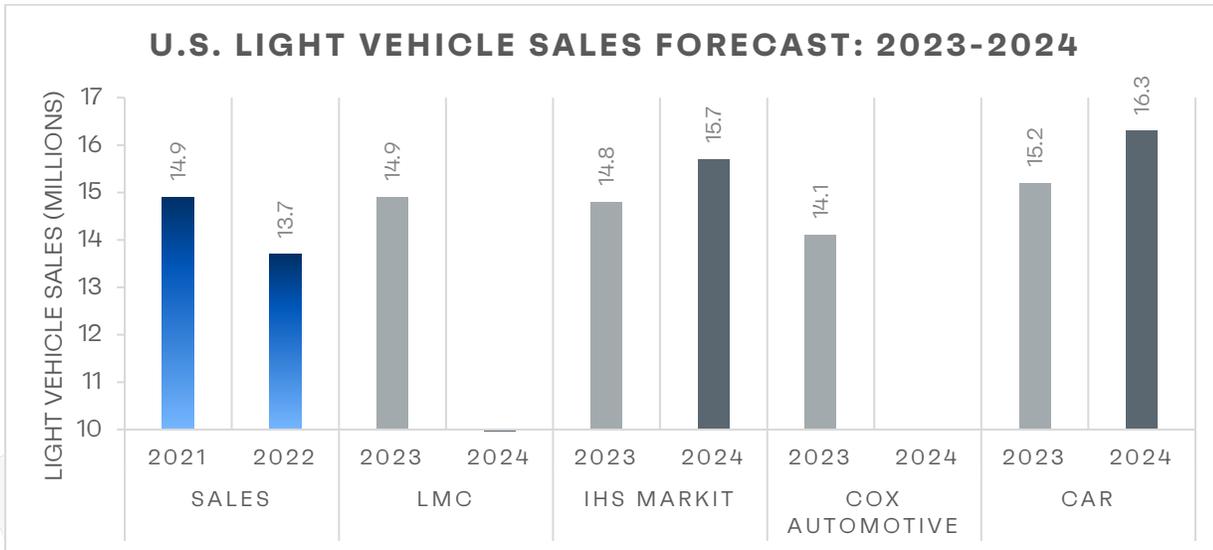


U.S. Light Vehicle Sales Outlook (Updated 1/5)

Wards Intelligence Outlook (1/5) ⁴: “Despite rising inventory and a huge amount of pent-up demand built up over nearly three years, sales are not gaining much traction.

“The Q4-2022 seasonally adjusted annual rate of 14.2 million units was the highest for any quarter last year, but after October started the period with a long-time high 15.1 million annualized rate, demand weakened in November and December to SAARs of 14.2 million and 13.3 million, respectively.

“Wards Intelligence partner LMC Automotive forecasts 2023 sales to total 14.9 million units, breaking out to a Q1 SAAR of 14.6 million, Q2 at 14.5 million, Q3 at 15.4 million and the final quarter at 15.8 million. Economic weakness in 2023, including possible recession, is expected to have its greatest impact in the middle of the year.



North American Production & Inventory Outlook (Updated 1/20)

Wards Intelligence Production Outlook (1/20)⁵: “Economic headwinds are putting downward pressure on the North American market, which, on top of ongoing supply challenges, means growth in vehicle production could weaken despite lean inventory and huge pent-up demand built up over the past three years.

“A reduction in forecast demand to below 15 million light vehicles in the U.S. in 2023 is mostly behind a cut in the Q1 production tracker, while a December underbuild indicates some lingering volatility in the supply chain. Lower production also lengthens the period that plants still underutilized since the pandemic/supply-chain disruptions started in 2020 remain in that state.

“Automakers are tracking to build 3.93 million light vehicles and medium-/heavy-duty trucks in Q1, 54,800 fewer compared with month-ago’s outlook for the period. The total is 8.2% above January-March 2022, but 10.3% below same-period 2019, the year prior to the pandemic.

“Fourth-quarter 2022 light-vehicle capacity utilization of 75.6% was a strong increase from like-2021’s 70.6%. First-quarter 2023 capacity utilization is tracking to 82.4%, up from year-ago’s 78.3%, and highest for any quarter since Q1-2021’s 82.5%. But with demand now in question in 2023, unused capacity will remain a factor which could lead some automakers to trim available production through slower line rates, shift cuts or plant closures for “indefinite” periods.”

S&P Global Mobility Outlook (1/20)⁶: “North America: The outlook for North America light vehicle production was increased by 17,000 units for 2023 and reduced by 38,000 units for 2024 (and increased by 97,000 units for 2025). Despite concerns surrounding the ongoing volatility of the supply chain, most notably for semiconductors, and demand destruction amid recessionary fears, the outlook

for 2023 remains mostly unchanged, with production revised upwards a modest 0.1% to total 15.08 million units. With production in the region projected to increase 5.4% in 2023, 78% of the growth is expected to come from 12 of the 101 factories with Tesla alone forecast to contribute 17.5% of the overall growth for the year. Furthermore, with plans to ramp up production at several plants for high demand vehicles, Ford is projected to account for 20.4% of calendar year growth, followed by Honda and Toyota after a weaker than expected year due to the ongoing semiconductor shortage that more adversely affected them in 2022 than in 2021. Despite global supply chain issues that are expected to gradually improve, the outlook for 2024 was revised down a minimal 0.2% totaling 15.85 million units due to numerous revisions to vehicle timings and launch curves. Further gains are expected for 2025 with the forecast revised higher by 0.6% reaching 16.48 million units.”

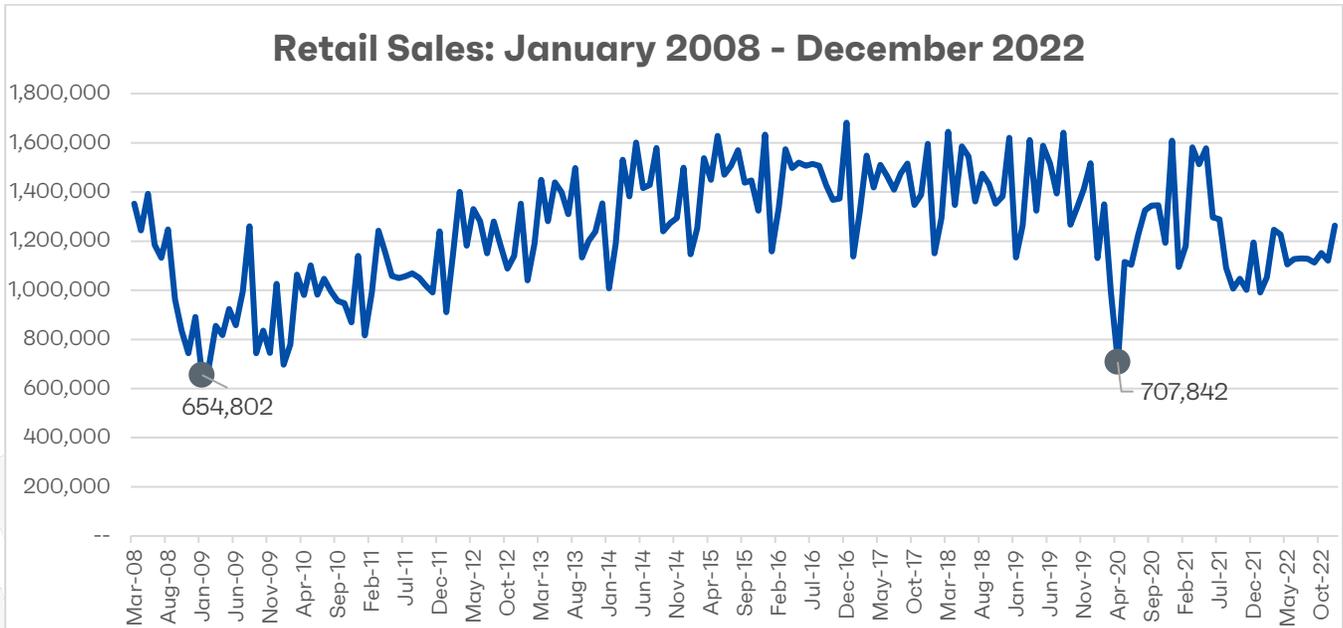
“Wards Intelligence Inventory Outlook (1/5)”⁷: “Although there will remain challenges with the semiconductor shortage, and other supply-chain issues, which are not expected to be entirely resolved until 2024, the problem is easing. Thus, inventory is expected to generally continue rising throughout 2023 as automakers increase their plant capacity utilization. . . . If there is, as expected, a mild recession, the actual timing of it could significantly throw off the forecasted cadence of sales in 2023. However, based on the current outlook, and forecast production for the U.S. market, WI projects inventory will be near 2 million units by March 31, total 2.1 million at the end of Q2, remain roughly flat entering October and end the year at 2.45 million units – about two-thirds of its typical pre-pandemic December level.”

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.

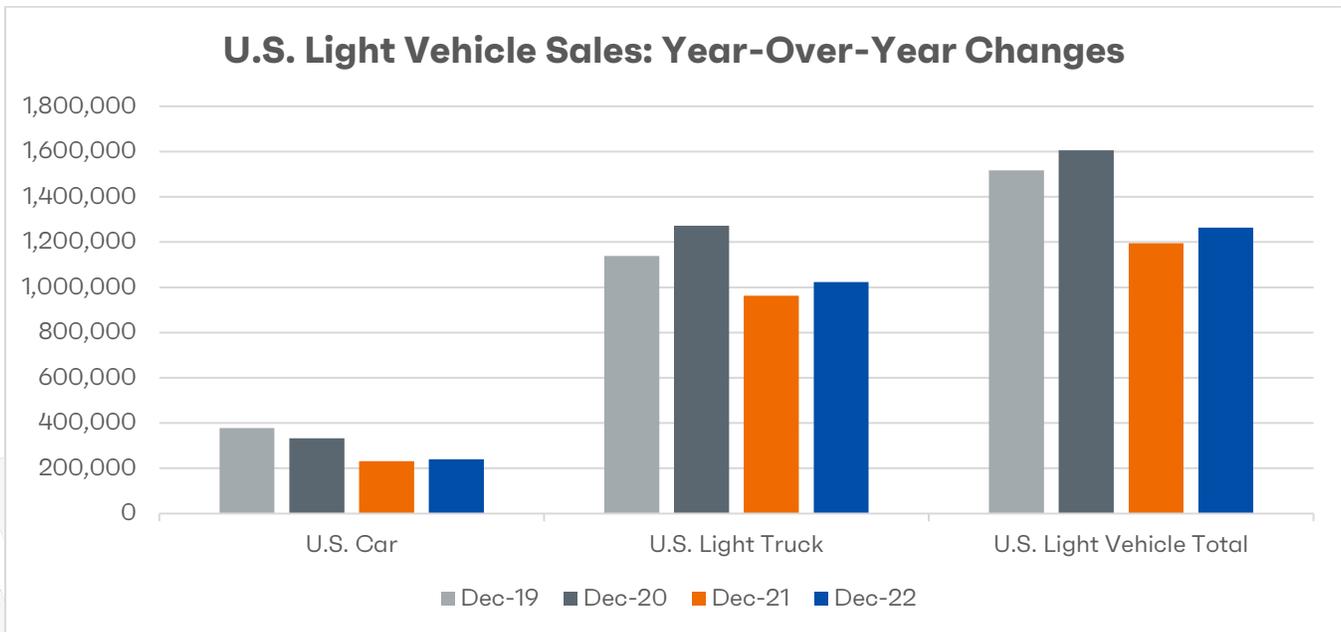


December Sales (Updated 1/5)

WardsIntelligence⁸: “Although finishing higher than forecast U.S. light-vehicle sales in December fell month-to-month for the second straight time, based on seasonally adjusted annual rates. After posting a 9-month high SAAR in October of 15.1 million units, sales fell to 14.1 million in November and to 13.3 million in December. The fourth quarter totaled a 14.2 million-unit SAAR, highest quarterly total since Q2-2021’s 16.7 million, and above like-2021’s 13.0 million.

“Raw volume in December was 1.26 million units, up 4.9% from like-2021. The month’s daily selling rate was 46,788, up from December 2021’s 44,592 – 27 selling days both periods – and the fourth straight month the DSR increased over the same year-ago period. Despite year-over-year gains over the last four months of the year, December’s tally means total sales in 2022 were 13.73 million units, down from 2021’s 14.95 million and lowest for any year since 12.74 million in 2011.

“Wards Intelligence partner LMC Automotive is forecasting demand in 2023 will rise to 14.94 million units, with sales on both a seasonally adjusted and volume basis heavily tilted toward the second half. Despite representing strong year-over-year growth, the 2023 forecast remains well below the pre-pandemic norm of 17-million-plus.



Fleet Sales (Updated 1/5)

TrueCar⁹: “Fleet sales for December 2022 are expected to be up 46% from a year ago and up 8% from November 2022 when adjusted for the same number of selling days.”

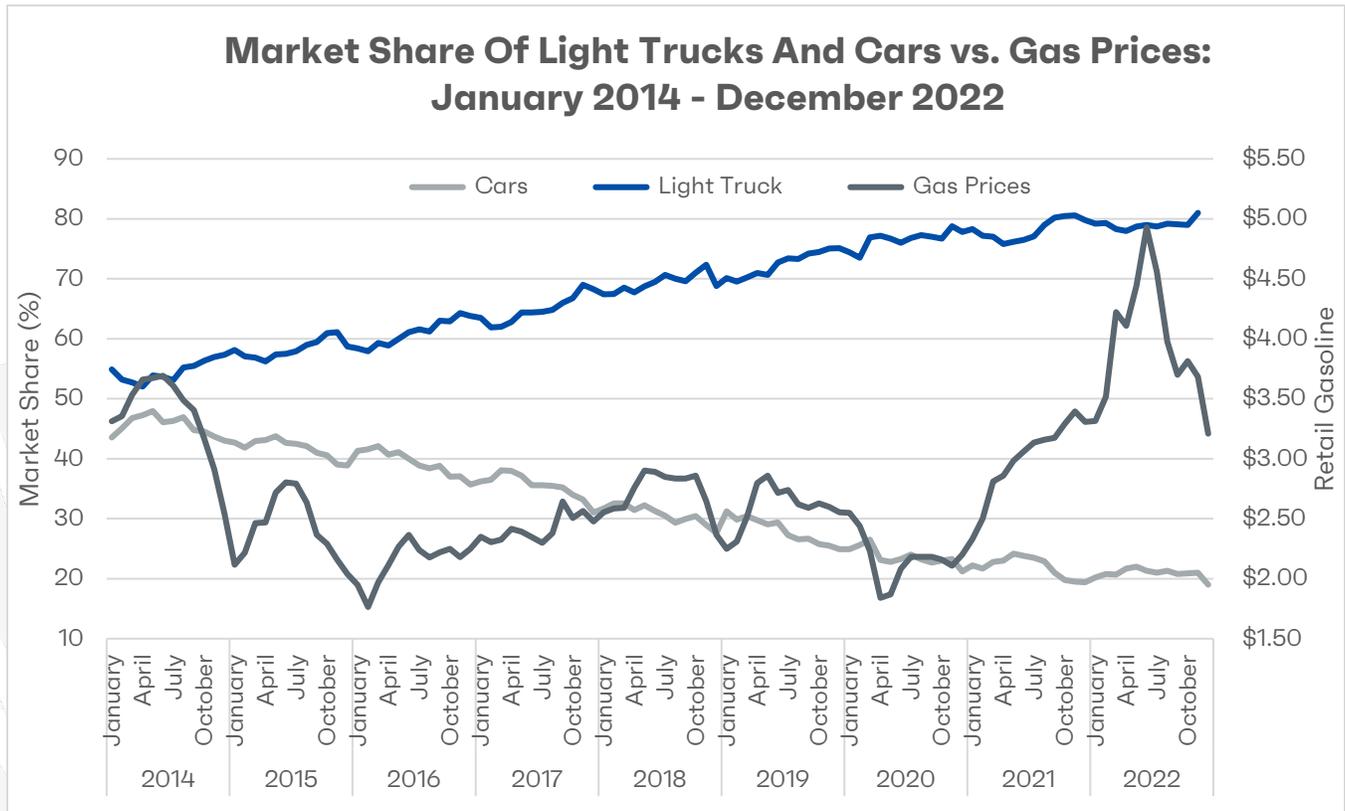
J.D. Power¹⁰: “Fleet sales are expected to total 215,500 units in December, up 76.0% from December 2021 on a selling day adjusted basis. Fleet volume is expected to account for 17% of total light-vehicle sales, up from 10% a year ago.”

Segments vs. Gas Prices (Updated 1/5)

Monthly Sales For November: Light trucks accounted for 81 percent of sales in December, a .8 pp increase in market share from a year ago, and the highest share on record. Compared to the same period in 2021, sales of cars are up nearly 8,500, and down more than 137,000 from December 2019, when cars comprised 25% of the market as opposed to the 19% of the market passenger cars have now.

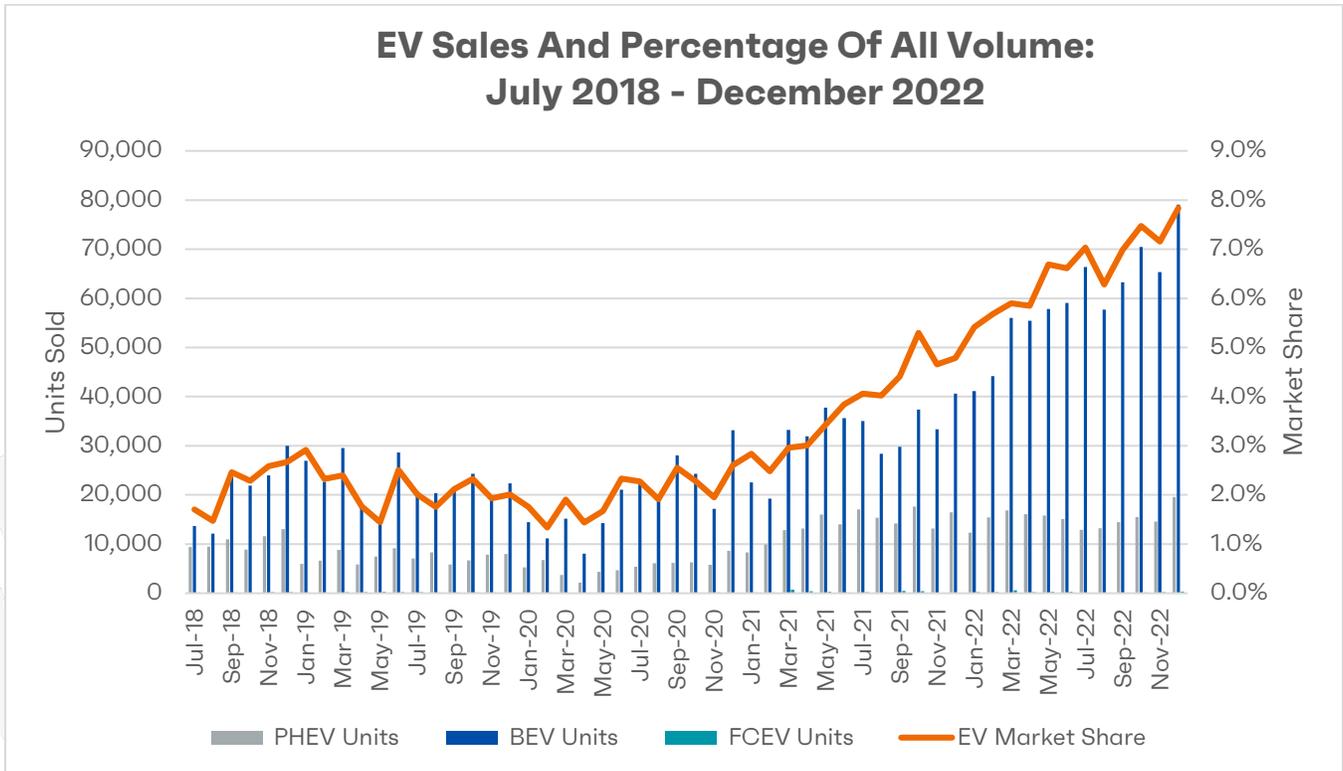
Historic Perspective: The upward trend in the popularity of light trucks over cars has been steady since 2013, when only 2% of annual market share separated the two segments¹¹ and gas was over \$3.00¹² a gallon. As fuel prices dropped below the \$3.00 mark in mid-September 2014, light truck sales began 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.¹³



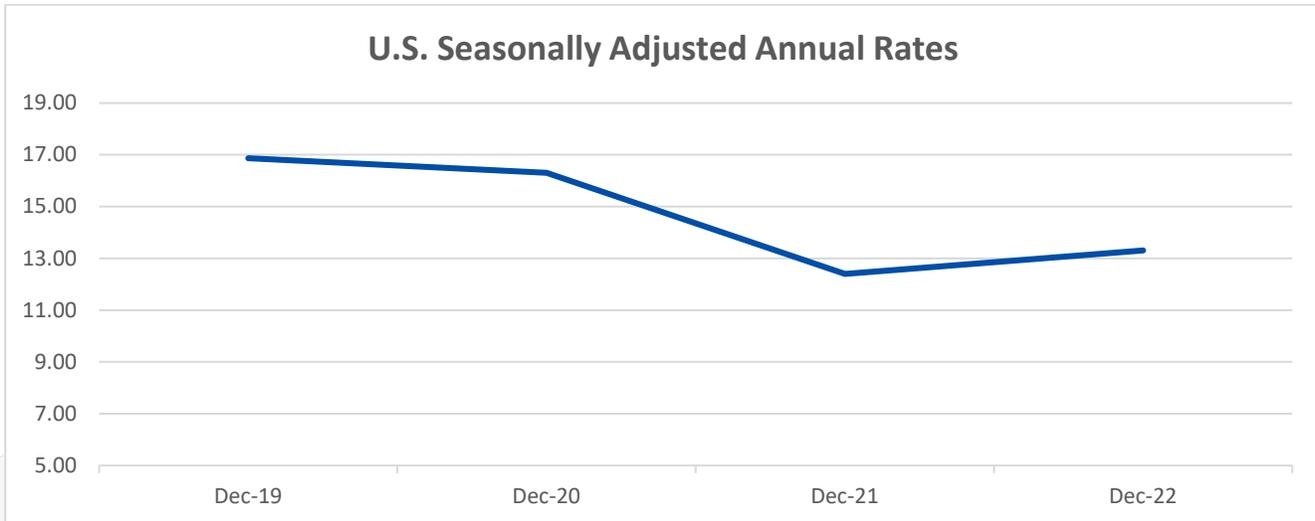
EV Powertrain Sales (Updated 1/5)

Sales of electric vehicles (BEV, PHEV, & Fuel Cell) accounted for 7.8% of total vehicle sales in December 2022 (98,984 units) – the highest on record for both market share and volume. December’s EV market share is up 3 pp from a year ago and up 0.6 pp from November 2022. Sales of battery electric vehicles led the way for ZEVs, accounting for 6.3% of total sales, up 2.1 pp from December 2021. Plug-in hybrids accounted for 1.5%, up 0.2 pp from the same time last year.¹⁴



Seasonally Adjusted Annual Rates (Updated 1/5)

WardsIntelligence: “After posting a 9-month high SAAR in October of 15.1 million units, sales fell to 14.1 million in November and to 13.3 million in December. The fourth quarter totaled a 14.2 million-unit SAAR, highest quarterly total since Q2-2021’s 16.7 million, and above like-2021’s 13.0 million.”

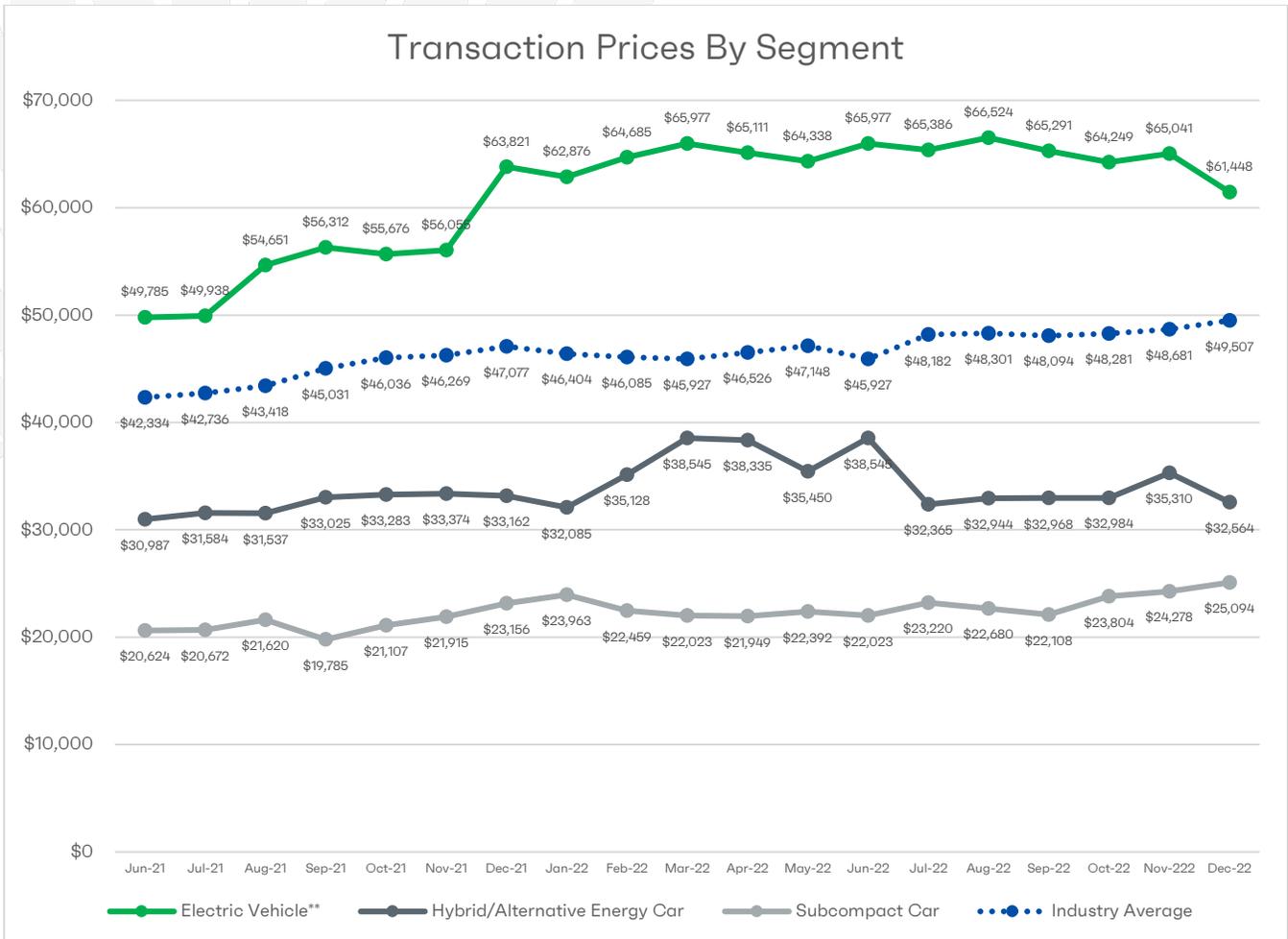
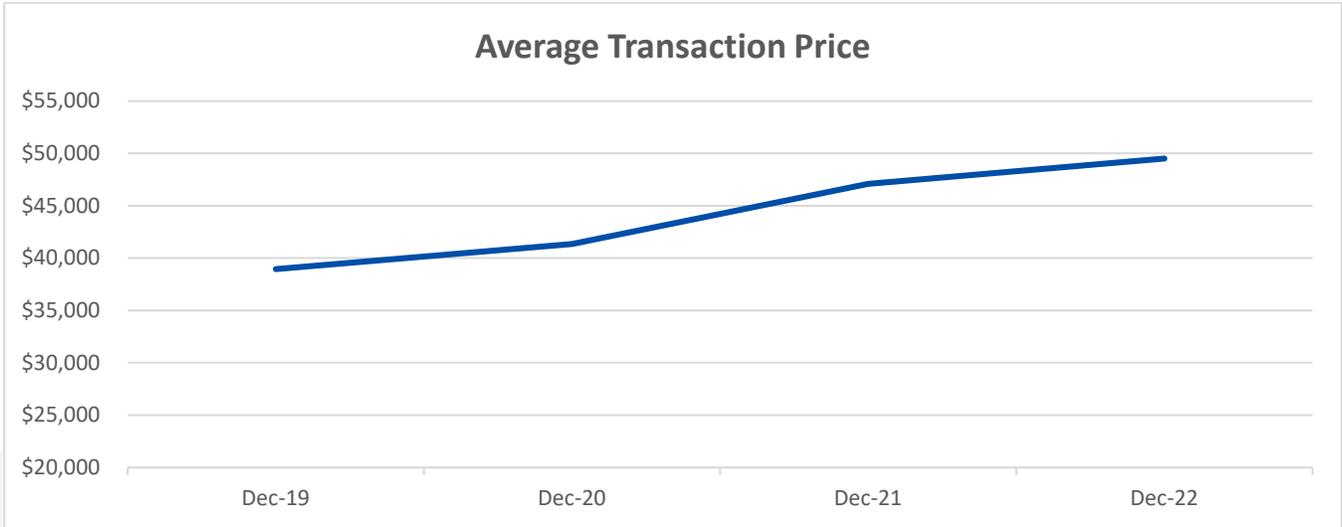


Average Transaction Price (Updated 1/20)

Kelley Blue Book (December) (Updated 1/20)¹⁵: “The average transaction price (ATP) of a new vehicle in the U.S. hit a record high in December at \$49,507, an increase of 1.9% (\$927) from November and up 4.9% (\$2,297) from year-earlier levels. New-vehicle inventory levels are increasing from historic lows earlier in 2022, but prices remain elevated, according to data released today by Kelley Blue Book, a Cox Automotive company. According to Kelley Blue Book calculations, new-vehicle ATPs have been above the average manufacturer’s suggested retail price (MSRP), also known as the sticker price, for more than a year.

“The average price paid for a new EV decreased in December by \$3,594 (down 5.5%) compared to November and ended the year lower by 0.6%. The average new EV sold for \$61,448, according to Kelley Blue Book estimates, still well above the industry average. The drop in pricing was driven by significant price cuts at Tesla, which commands more than 65% of the electric vehicle segment. Earlier in the year, Tesla was increasing prices, citing supply issues. In December, the company reversed course.”

J.D. Power (Updated 1/5)¹⁶: “New-vehicle transaction prices continue to rise—albeit at a slower pace than earlier this year. The average price in December will set a record of \$46,382, an increase of 2.5% from a year ago. The record transaction prices means that buyers are on track to spend nearly \$48.2 billion on new vehicles this month—the third highest level ever for the month of December and a slight 0.3% decrease from December 2021.”

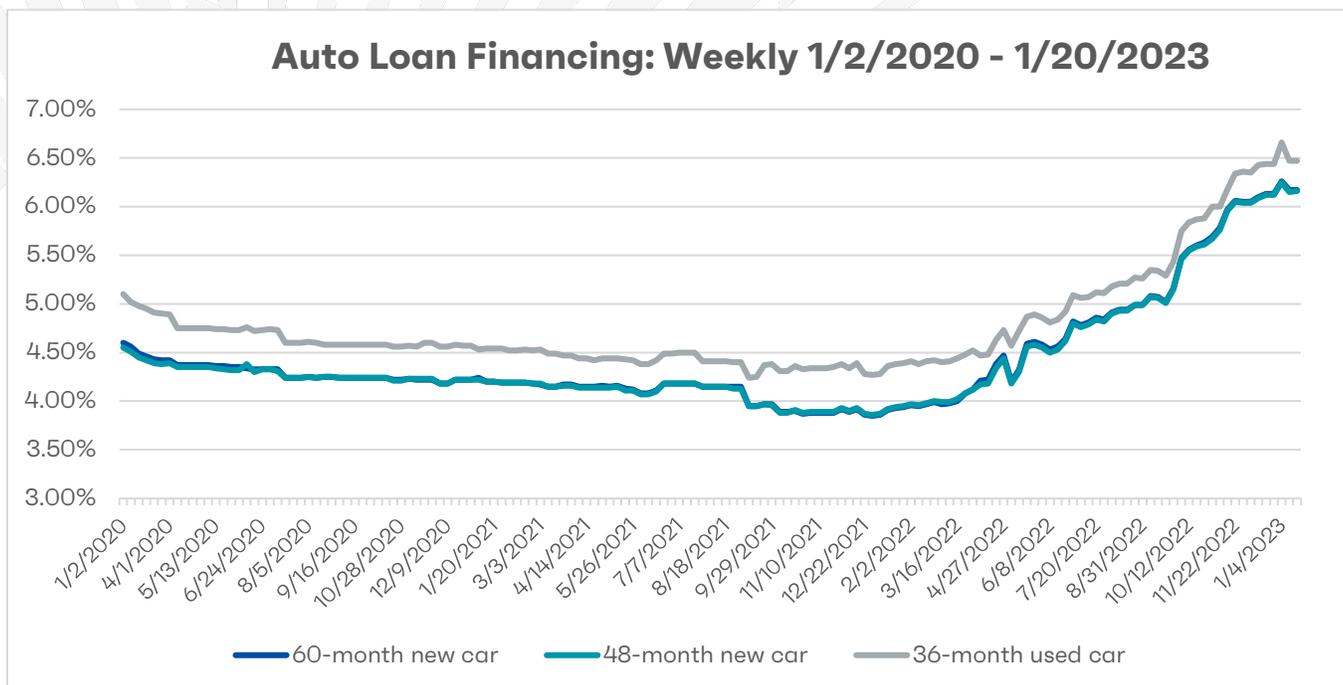


Auto Loan Financing (Updated 1/20)

JD Power (1/5)¹⁷: “After breaking the \$700 level for the first time on record in July, the average monthly finance payment in December is on pace to be \$718, up \$47 from December 2021. That translates to a 7.0% increase in monthly payments from a year ago. The average interest rate for new-vehicle loans is expected to increase 247 basis points from a year ago to 6.4%.

Interest Rates (updated 1/20): Interest rates remained mostly steady for the week for the 60-month, 48-month (+0.11), and 36-month used car loans. Rates now stand at 6.17%, 6.16%, and 6.47%, respectively. Since the beginning of 2020, 60-month rates are up 1.57 pp, and are up 2.24 pp since the same time a year ago ¹⁸

Dates	60-month new car	48-month new car	36-month used car
1/2/2020	4.60%	4.55%	5.10%
1/19/2022	3.93%	3.94%	4.38%
1/11/2023	6.17%	6.15%	6.47%
1/18/2023	6.17%	6.16%	6.47%
One Week Change	0.00%	0.01%	0.00%
Two Week Change	-0.09%	-0.09%	-0.19%
Change since 1/3/20	1.57%	1.61%	1.37%
One Year Change	2.24%	2.22%	2.09%

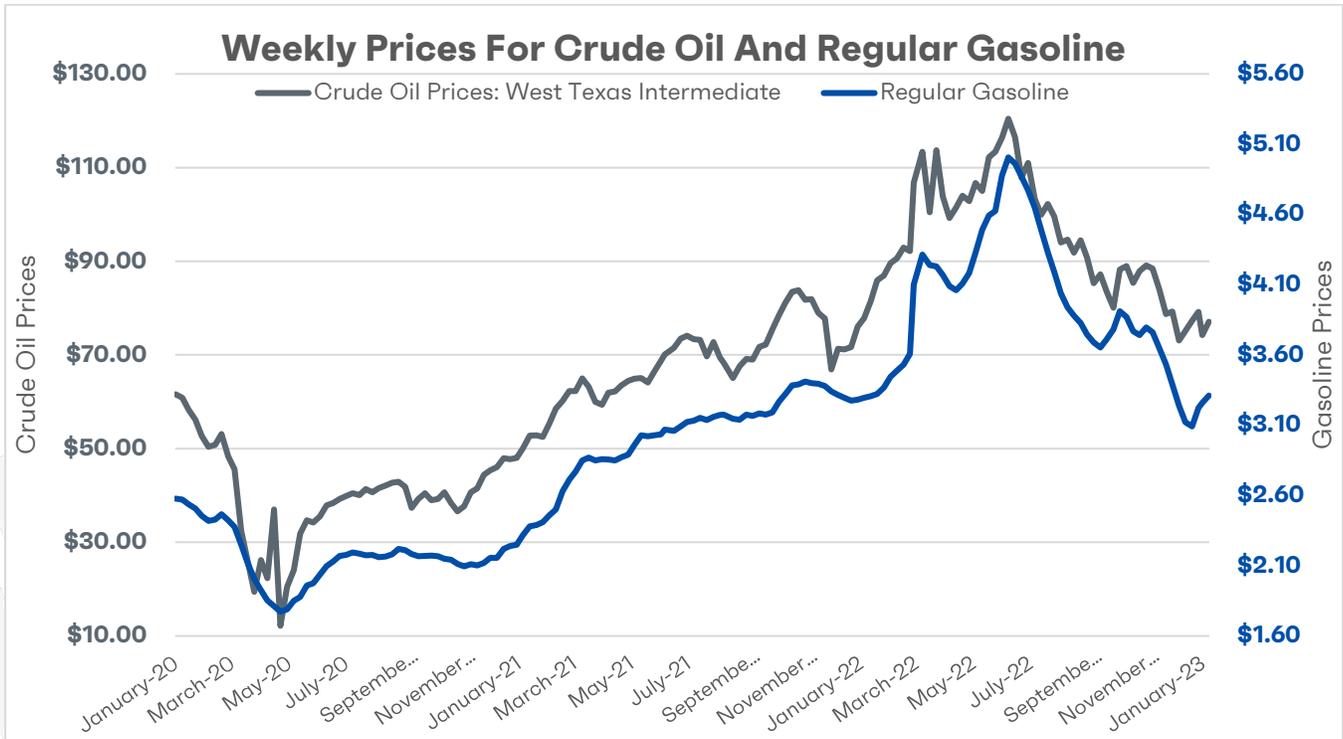


Crude Oil and Gas Prices (Updated 1/20)

EIA Outlook For Gasoline (1/5)¹⁹: “We forecast U.S. retail gasoline prices will average about \$3.50/gal in 2023. U.S. retail gasoline prices finished November at their lowest price since February 2022, as high refinery utilization and falling demand contributed to rising gasoline inventories, which facilitated November’s price decreases. As refiners maintain high utilization in response to high distillate margins, we expect this trend to continue and for gasoline inventories to reach five-year average levels in 2023, limiting upward pressure on gasoline prices. We expect high blend rates of fuel ethanol through 2023 as the petroleum component of gasoline remains relatively expensive compared with the price of ethanol, continuing the trend that started this summer.”

EIA Outlook For Oil (1/5)²⁰: “Crude oil prices: The spot price of Brent crude oil averaged \$91 per barrel (b) in November. Although the average November Brent price was slightly lower than in October, daily spot prices reached almost \$100/b on November 7, before ending the month at \$86/b. The price declines were largely the result of market concerns about global economic growth, as well as COVID-related lockdowns in China that have reduced China’s oil demand. Brent crude oil spot prices are on pace to average \$101/b in 2022. Despite the recent drop in crude oil prices, we still expect that falling global inventories of oil in early 2023 will push Brent prices back above \$90/b by the beginning of the second quarter of 2023 (2Q23). Although we expect some downward oil price pressure could emerge in the second half of 2023 (2H23) based on our forecast of rising oil inventories, that pressure will likely be balanced by the ongoing possibility of supply disruptions or production growth that is slower than our forecast. We forecast the Brent crude oil spot price will average \$92/b for all of 2023.”

Gas And Oil Continue To Fluctuate: Oil prices, as benchmarked at West Texas Intermediate, increased \$2.83 to \$77.10 in mid-January. Since election day 2020, oil prices are \$40 a barrel higher. Gas prices increased \$0.13 to \$3.31. Gas is 28% higher than the beginning of 2020.²¹



Production Meter

U.S. Light Vehicle Production (Updated 1/20)

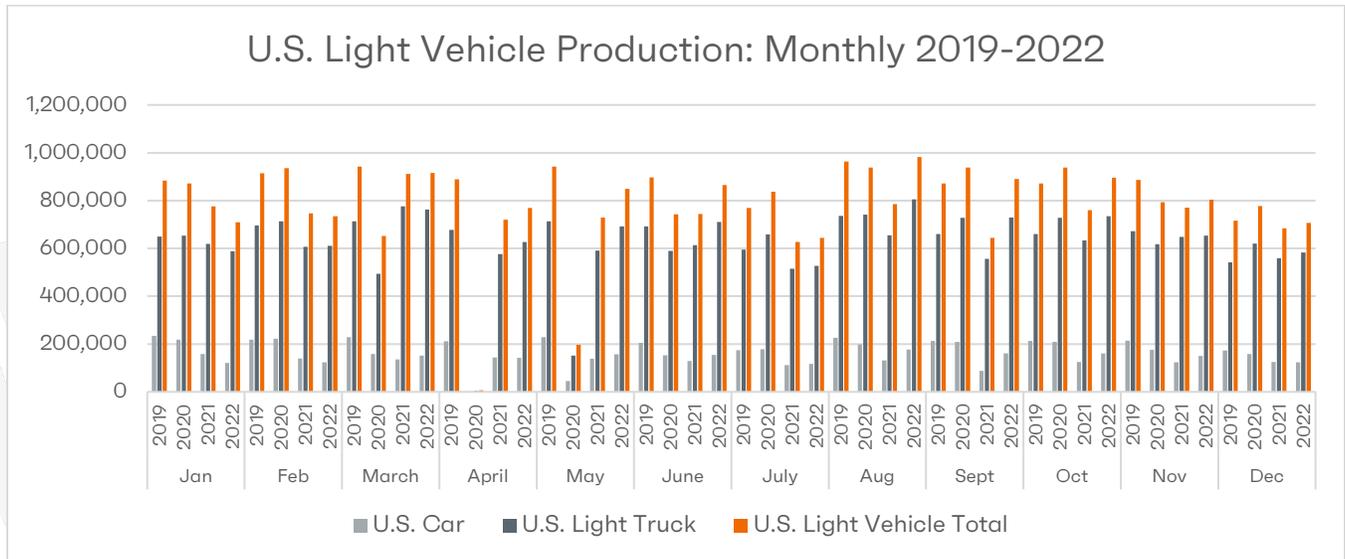
WardsIntelligence (Updated 1/20)²²: “Production in Q4-2022 totaled 3.64 million units, 7.8% above the same year-ago period and 7.1% under like-2019. Volatility in the supply chain mostly caused a 17,800-unit underbuild in December, as the final month of 2022 totaled 1.075 million units, 3.4% above like-2021. December’s results marked the 11th straight month production increased over the same year-ago period.

“With some December totals still estimated – mostly of big trucks – production in North America totaled 14.72 million units in 2022, 9.8% above 2021’s 13.41 million. The calendar-year 2022 total was the highest since 16.80 million units in 2019, and well below the most recent peak – and all-time high – 18.15 million in 2016.

“Excluding medium- and heavy-duty trucks, light-vehicle production totaled 14.18 million units in 2022, up 9.8% from 2021’s 12.92 million and highest since 2019’s 16.22 million. The last peak was 17.73 million in 2016.

Monthly Production (Updated 1/20)

U.S. Light vehicle production for December 2022 decreased month-over-month by 12 percent, totaling 706,721 vehicles (123,682 cars, 583,039 light trucks), year-over-year, production is up 3 percent from 2021. ²³

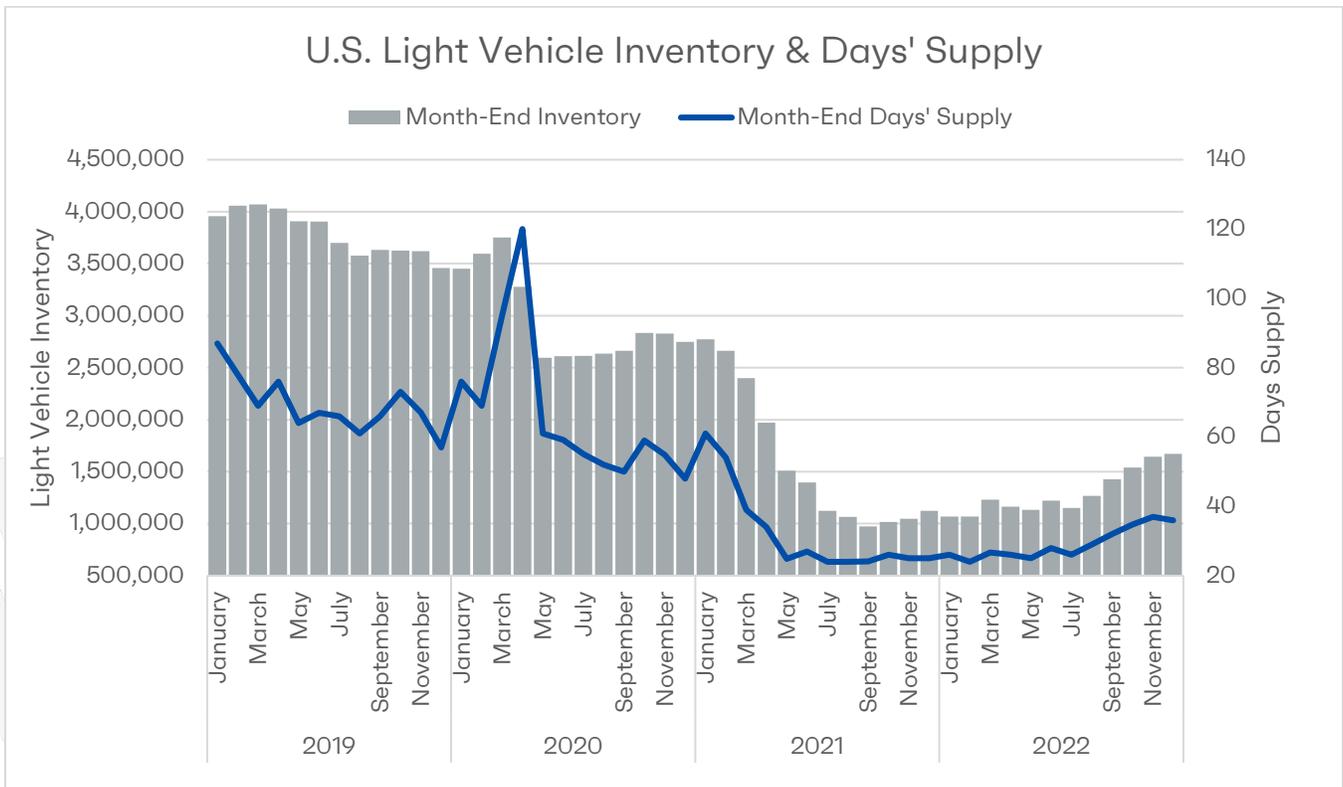


U.S. Light Vehicle Inventory and Days' Supply (Updated 1/5)

WardsIntelligence Inventory Update (1/5) ²⁴: “U.S. light-vehicle inventory increased slightly in December, rising to 1.67 million units from November’s 1.64 million. The month-to-month gain was the fifth straight and 48.8% above like-2021’s 1.12 million units. December’s 36 days’ supply was down from November’s 37, but above same-month 2021’s 25.

“Although there will remain challenges with the semiconductor shortage, and other supply-chain issues, which are not expected to be entirely resolved until 2024, the problem is easing. Thus, inventory is expected to generally continue rising throughout 2023 as automakers increase their plant capacity utilization.

“If there is, as expected, a mild recession, the actual timing of it could significantly throw off the forecasted cadence of sales in 2023. However, based on the current outlook, and forecast production for the U.S. market, WI projects inventory will be near 2 million units by March 31, total 2.1 million at the end of Q2, remain roughly flat entering October and end the year at 2.45 million units – about two-thirds of its typical pre-pandemic December level.”



Global Meter

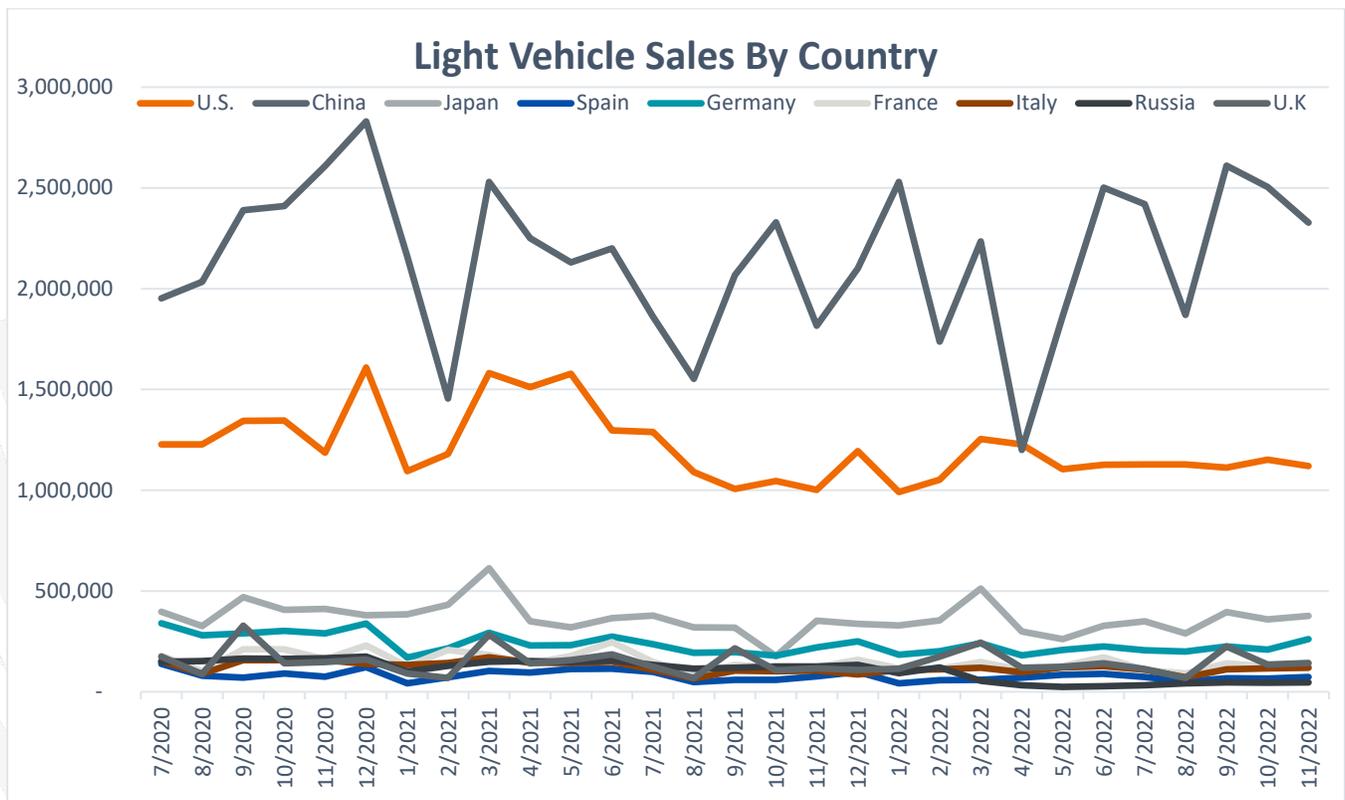
Global Light Vehicle Sales (Updated 1/5)

Wards Intelligence²⁵: “A downturn in the biggest market, China, nearly stalled global sales growth in November, but volume eked out a fifth straight year-over-year gain.

“Including some initial estimates, November’s sales of light vehicles and medium-/heavy-duty trucks totaled 7.14 million units, up 2.7% from like-2021’s 6.96 million. The total was 0.7% below the prior month’s 7.19 million. Historically, volume usually rises from October. However, with a rise in Covid-19 cases, and its subsequent negative impact on economic activity, China’s downturn from the year-ago period was not unexpected, and the main reason global volume fell from the prior month.

“The year-over-year decline in China was its first since May and ended a 5-month stretch with average increases of 22.5%. Prior to November’s weaker gain, sales globally increased year-over-year on average of 10.9% from June through October. All other major regions posted increases in November over the same year-ago month, including a 10.8% gain in North America, 10.2% in South America and 5.2% in Europe. The Asia-Pacific region less China was up 10.5% year-over-year.

With the Covid impact worsening in China in December, global volume in the final month of the year could decline from the year-ago period.



Global Light Vehicle Production (Updated 1/20)

S&P Global Mobility Forecast (1/20)²⁶: “As the auto industry turns the page to a new year, it continues to reckon with a dynamic supply chain environment as well as demand in various stages of recovery depending on the market. While semiconductor availability continues to gradually improve, other supply chain challenges such as labor availability and the general health of the supply chain come into greater focus. Further, demand destruction remains a key consideration with challenging macroeconomic conditions and lofty vehicle pricing in some markets being critical factors. Vehicle electrification remains a key theme for major markets with new model launches forthcoming and government intervention playing an increasingly consequential role to support deployment and consumer adoption. The January 2023 forecast update reflects a mix of upgrades and downgrades, albeit mostly modest in nature, as the industry continues to navigate lingering supply chain challenges as well nascent demand recovery in select markets. The latest forecast update reflects near-term downgrades for Japan on supply chain issues from the recent wave of COVID spread in China and

some more modest revisions for Europe and Middle East/Africa. These downward revisions are partially offset by continued demand and production strength in South Asia, solid performance in South Korea and more modest upward revisions for other markets. The more noteworthy regional adjustments with the latest forecast update are detailed below:

“Europe: The outlook for Europe light vehicle production was reduced by 86,000 units and increased by 26,000 units for 2023 and 2024, respectively (and reduced by 61,000 units for 2025). While fears of production disruption related to energy inputs have abated somewhat, the flow of chips remains a constraint and there is increasing concern regarding the weight of demand on the level of output for 2023. Although sequential improvement clearly continued in Q4-2022, the sales outlook becomes critical as inventories are back to pre-semiconductor shortage levels (yet far from pre-COVID levels). We are projecting stabilization of the build pace in the near term. Given the weak base of comparison in H1, it translates into a production growth of 5% across 2023. Regarding Tesla, despite the recently announced price cuts, we have reduced our forecast with a more conservative view of the ramp-up potential for the new plant in Germany which is one of the key drivers for the overall downward forecast revision for 2023. In the absence of significant changes in the underlying forecast assumptions and drivers, the overall forecast revisions in the near-term for Europe were fairly modest with the January 2023 update. The general theme of supply chain disruption transitioning to demand concerns remains intact.

“Greater China: The outlook for Greater China light vehicle production was increased by 8,000 units for 2023 and by 100,000 for 2024 (and was reduced by 101,000 units for 2025). Since early December 2022, China has relaxed its strict Zero-COVID policy and many other restrictions giving the virus a greater chance to spread. This is leading to mounting pressure on the healthcare system in 2023. With the abrupt shift in policy, manufacturer operations have been negatively impacted due to virus spread. As we enter the new year, production and demand in the region have been impacted by both the spread of COVID infections and the timing of the Chinese New Year holidays in January. As a result, Q1-2023 production for the region has been reduced by 489,000 units with volume losses recovered in subsequent quarters. Notwithstanding the near-term risk presented by COVID spread, the relaxing of COVID restrictions and other consumption incentives are expected to accelerate economic recovery supporting vehicle demand and industrial output starting in H2-2023, with benefits extending into 2024. As a result, the outlook for 2024 has been upgraded and now reflects 5.5% growth for the region.

“Japan/Korea: Full-year 2023 Japan production was reduced by 234,000 units relative to last month. The primary driver for the downward forecast revision includes the impact on Japanese operations due to downtime risk in China associated with the easing Zero-COVID policy by the government potentially resulting in the uncontrolled spread of the virus. Also, Japanese OEMs are expected to at least partially lose recovery opportunities with weakening pent-up demand throughout the year. The longer-term forecast volume was reduced by 3% per year. This is primarily due to the expectation for Mazda to lose momentum. We project Mazda will drop the Mazda 3 by 2028 and extend the life cycle of the current CX-30 over 10 years to secure enough development resources for the SKYACTIV EV platform and the FR SUVs. Full-year 2023 South Korea production was increased by 75,000 units relative to the previous

forecast primarily supported by Hyundai Motor Group's recently announced market expansion strategy for 2023. Throughout last year, South Korea production demonstrated remarkable resilience without significant supply chain disruptions (including semiconductors). While stable plant operation is expected to continue this year, Hyundai recently announced its 2023 global sales target of 9.8% growth. We have boosted production for the Hyundai Group to reflect stronger performance than previously expected, yet we are still short of Hyundai's rather aggressive planning targets. In the long-term, there was no significant change to the production outlook with the exception of increases in 2026 and 2027 due to the extension of Kia Niro production.

“North America: The outlook for North America light vehicle production was increased by 17,000 units for 2023 and reduced by 38,000 units for 2024 (and increased by 97,000 units for 2025). Despite concerns surrounding the ongoing volatility of the supply chain, most notably for semiconductors, and demand destruction amid recessionary fears, the outlook for 2023 remains mostly unchanged, with production revised upwards a modest 0.1% to total 15.08 million units. With production in the region projected to increase 5.4% in 2023, 78% of the growth is expected to come from 12 of the 101 factories with Tesla alone forecast to contribute 17.5% of the overall growth for the year. Furthermore, with plans to ramp up production at several plants for high demand vehicles, Ford is projected to account for 20.4% of calendar year growth, followed by Honda and Toyota after a weaker than expected year due to the ongoing semiconductor shortage that more adversely affected them in 2022 than in 2021. Despite global supply chain issues that are expected to gradually improve, the outlook for 2024 was revised down a minimal 0.2% totaling 15.85 million units due to numerous revisions to vehicle timings and launch curves. Further gains are expected for 2025 with the forecast revised higher by 0.6% reaching 16.48 million units.

“South America: The outlook for South America light vehicle production was increased by 8,000 units and by 2,000 units for 2023 and 2024, respectively (and increased by 4,000 units for 2025). The near-term outlook was upgraded modestly and primarily focused continued observed strength with Argentina production as momentum has not been as impacted by the uncertain conditions influencing the broader region. The production upgrades for 2024 and 2025 were similarly modest and continue to reflect a country mix shift benefiting Argentina in spite of a dynamic market environment and macroeconomic headwinds.

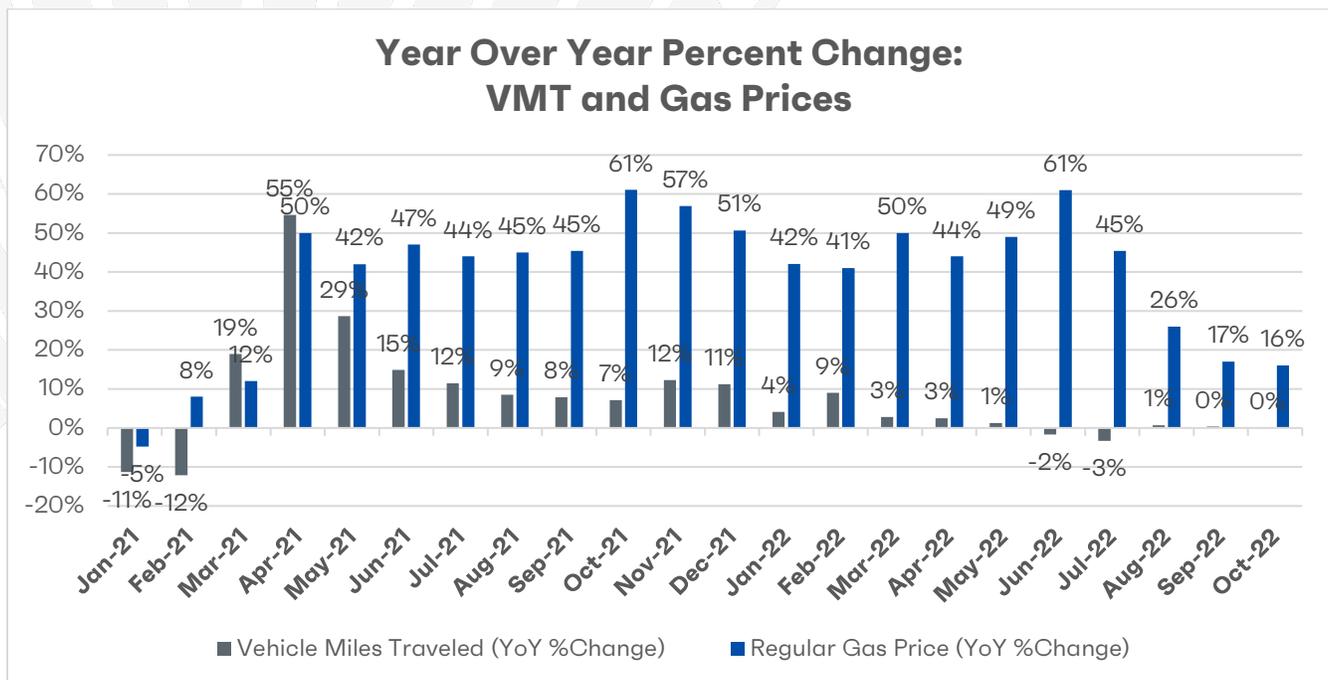
“South Asia: The outlook for South Asia light vehicle production was increased by 226,000 units and by 173,000 units for 2023 and 2024, respectively (and was increased by 160,000 units for 2025). The upgraded outlook for 2023 was largely driven by robust auto demand, particularly in India. In addition, automakers in the region have been able to effectively navigate tight semiconductor supplies, in part, through decontenting efforts. Going forward, chip supply is expected to improve, albeit gradually, further supporting the near-term production outlook. The forecast for 2024 was upgraded primarily on a stronger outlook for the India market. The intermediate-to-long term forecast has been revised upward with expected improvement in the domestic market, increased replacement demand and increased penetration in the rural market with automakers opening new dealerships in rural India.”

Recovery Meter

Roadway Travel (Updated 1/5)

According to the U.S. Department of Transportation, seasonally-adjusted vehicle miles traveled in October increased 0.1% from the same time a year ago. The cumulative travel estimate for 2022 is 2,730 billion vehicle miles.²⁷

- Travel on all roads and streets changed by +0.1% (+0.3 billion vehicle miles) for October 2022 as compared with October 2021. Travel for the month is estimated to be 286.0 billion vehicle miles.
- The seasonally adjusted vehicle miles traveled for October 2022 is 275.6 billion miles, a 0.4% (1.2 billion vehicle miles) change over October 2021. It also represents a 0.3% change (0.8 billion vehicle miles) compared with September 2022.
- Cumulative Travel for 2022 changed by +1.5% (+39.3 billion vehicle miles). The cumulative estimate for the year is 2,730.6 billion vehicle miles of travel.



Economic News (Updated 1/5)

Manufacturing Gained 8,000 Jobs In December, With Motor Vehicles And Parts Gaining 7,400.²⁸

“Manufacturing employment rose by 8,000 jobs in December, with gains in durable goods but losses in non-durable goods. Durable goods industries added 24,000 jobs for the month, according to a

breakdown by sector released today by the U.S. Bureau of Labor Statistics. Employment in non-durable goods slid by 16,000. Transportation equipment was the largest job gainer in durable goods, up 15,200 jobs. That included an increase of 7,400 jobs in motor vehicles and parts.”

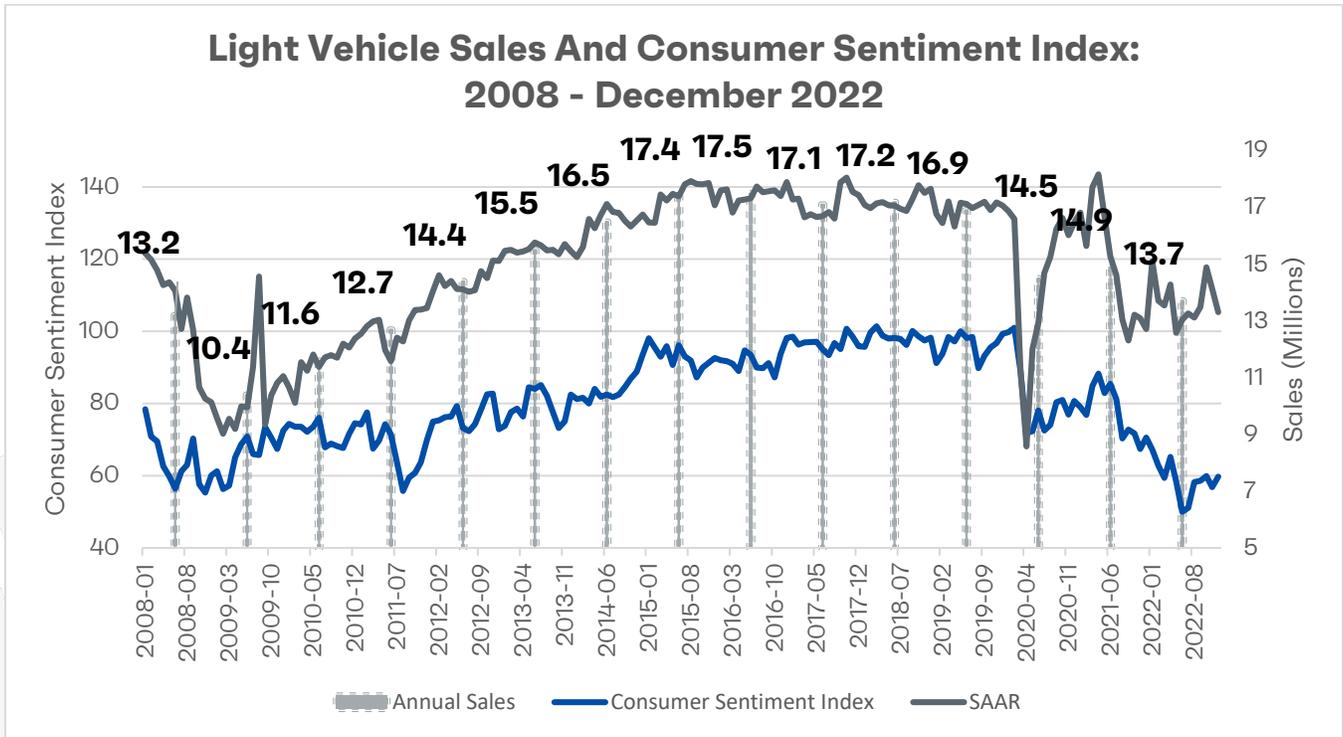
The ISM Index Remains Below 50, The Second Straight Month Of Manufacturing Contraction.

“The U.S. manufacturing economy contracted for a second straight month, the Institute for Supply Management said today. The Tempe, Ariz.-based group said its manufacturing index, known as the PMI, registered at 48.4 percent in December. That was down from 49 percent in November. December marked the lowest index reading since manufacturing began recovering from the COVID-19 pandemic. A PMI above 50 percent indicates economic expansion, below that mark indicates contraction. The manufacturing economy dipped into contraction in November after a 29-month run of expansion. New orders for manufactured goods dropped in the second half of 2022. That began to be felt in December, ISM said.”²⁹

Consumer Confidence and Sales (Updated 1/20)

Surveys of Consumers Director Joanne Hsu³⁰: “Consumer sentiment remained low from a historical perspective but continued lifting for the second consecutive month, rising 8% above December and reaching about 4% below a year ago. Current assessments of personal finances surged 16% to its highest reading in eight months on the basis of higher incomes and easing inflation. Although the short-run economic outlook fell modestly from December, the long-run outlook rose 7% to its highest level in nine months and is now 17% below its historical average.

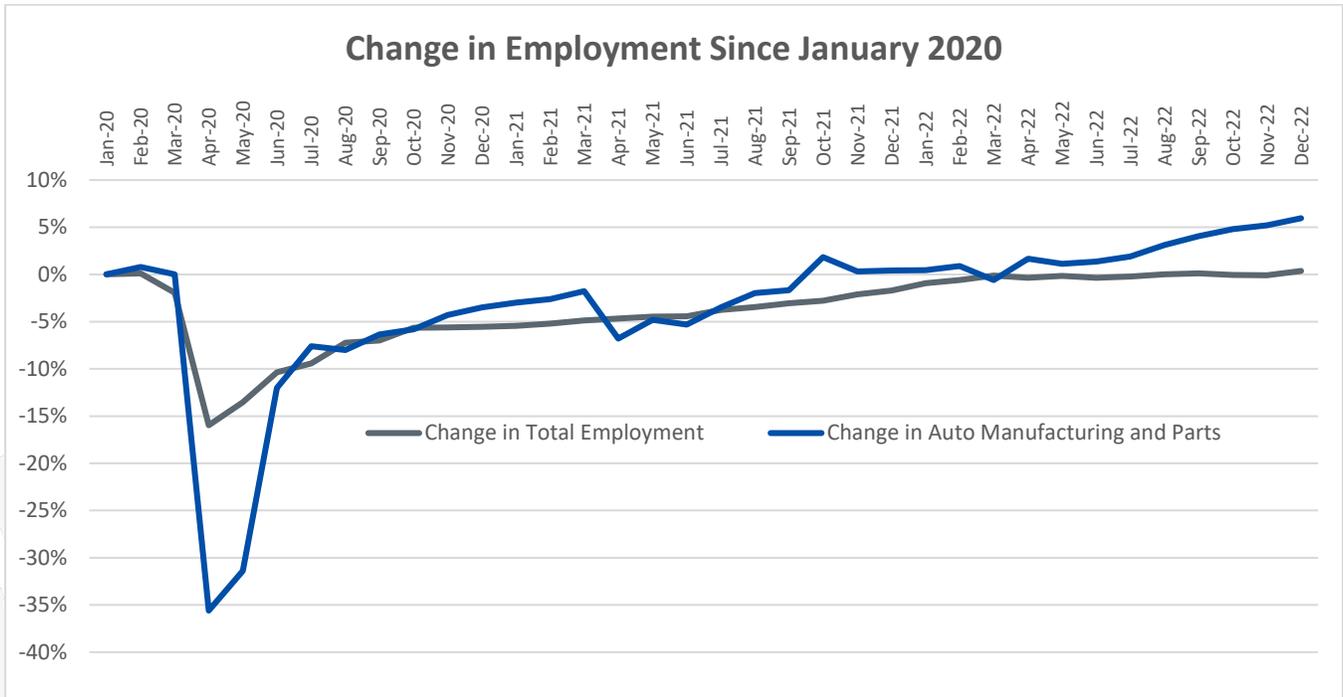
“Year-ahead inflation expectations receded for the fourth straight month, falling to 4.0% in January from 4.4% in December. The current reading is the lowest since April 2021 but remains well above the 2.3-3.0% range seen in the two years prior to the pandemic. Long-run inflation expectations were little changed from December at 3.0%, again staying within the narrow 2.9-3.1% range for 17 of the last 18 months. Long-run inflation expectations remain elevated relative to the 2.2-2.6% range seen in the two years pre-pandemic. Uncertainty over both inflation expectations measures remains high, and changes in global factors in the months ahead may generate a reversal in recent improvements.



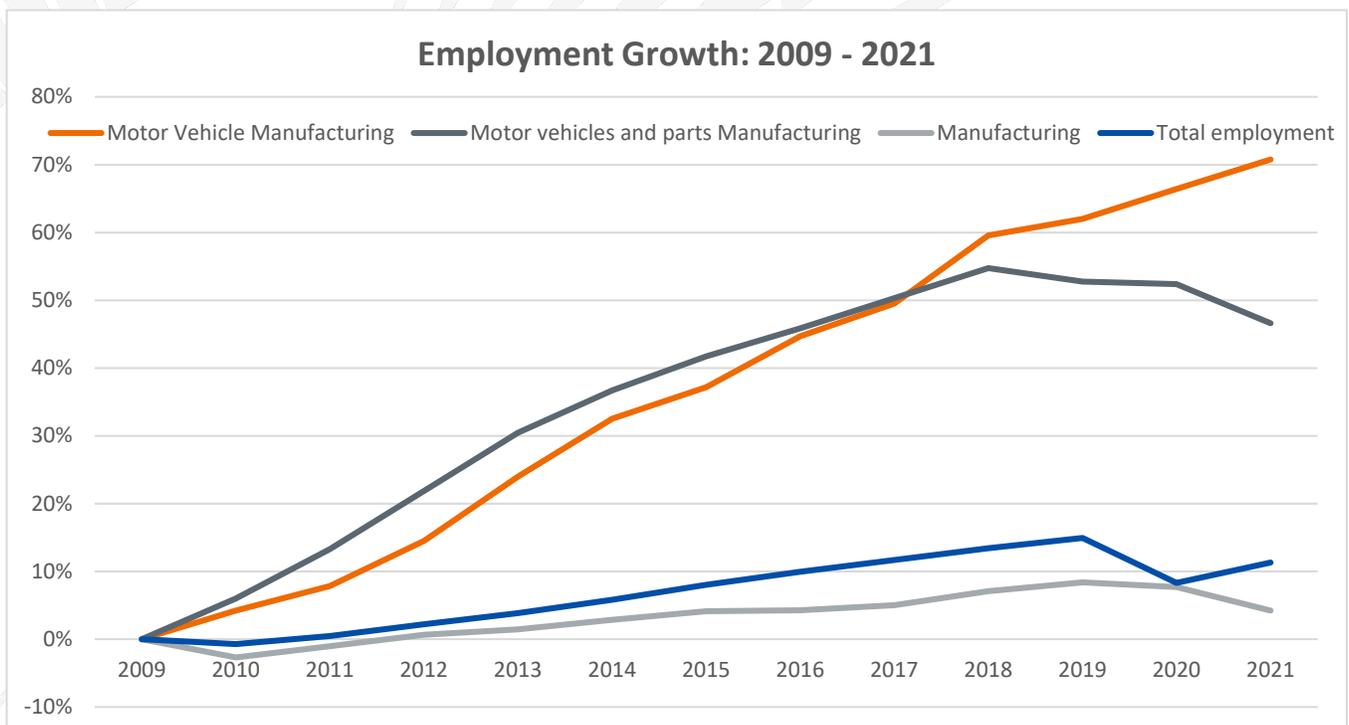
Employment (Updated 1/5)

Motor Vehicle And Parts Manufacturing Gained 7,400 Jobs In December.³¹

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.³²



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.³³ 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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