US Autos & Industrial Tech

Auto demand and UAW strike updates; lowering Tesla estimates

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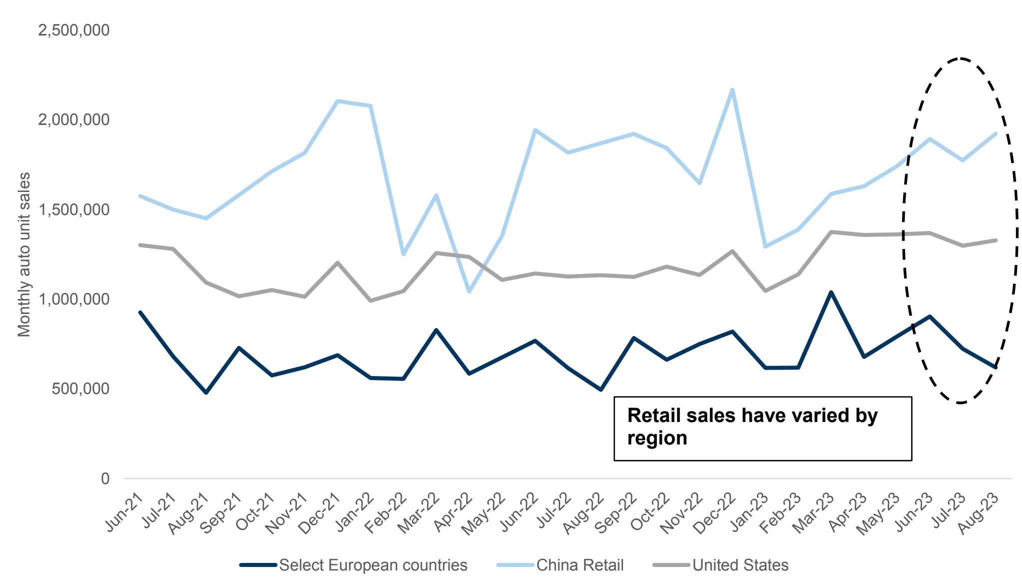
Given ongoing investor focus on the macroeconomic backdrop and EV demand, we analyze the latest auto demand indicators (including Google search trends), regional sales data, and EV mix YTD (in the US, Europe and China) in this note. Sales are up YTD yoy in all three geographies, but investor questions about the go-forward remain (especially given signs of macro weakness in Europe and China, and the limited UAW strike in the USA). We also discuss the size and impact of the current UAW strike that began on 9/15, and refer readers to our first and second UAW reports for more context and framing (including stock trading in prior strikes, the potential EBIT impact to Ford and GM from a full strike, how costly the UAW requests would be to OEM margins, and OEM exposure by auto tier 1). Finally, we lower our 2023/2024 EPS estimates for Tesla, driven by lower ASPs and in turn auto gross margin ex credit assumptions (driven by lower prices for S/X and to a lesser extent Model Y, and partly offset by higher Model 3 ASP assumptions).

Regional auto sales update - sales rising yoy but fundamentals remain choppy

- **Sales are up YTD in all key regions**
- **Our auto monthly indicators (AMI) index suggests that auto demand in the US has started to pick back up recently, although global auto search levels are more flattish recently per Google Trends**.

To level set on auto sales and how they have trended thus far in 2023, sales in the US are up 14% YTD yoy and were up 17% yoy in August, up 18% YTD in Europe and were up 25% in key geographies in August, and sales in China are up 2% YTD yoy and were up 3% yoy in August.

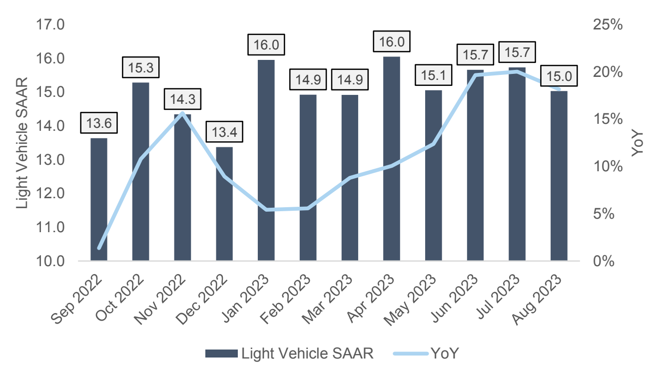
Exhibit 1: Regional monthly auto sales



Source: Motor Intelligence, Wards, CPCA, ACEA

SAAR in the US was 15.0 mn in August per Wards (Exhibit 2).

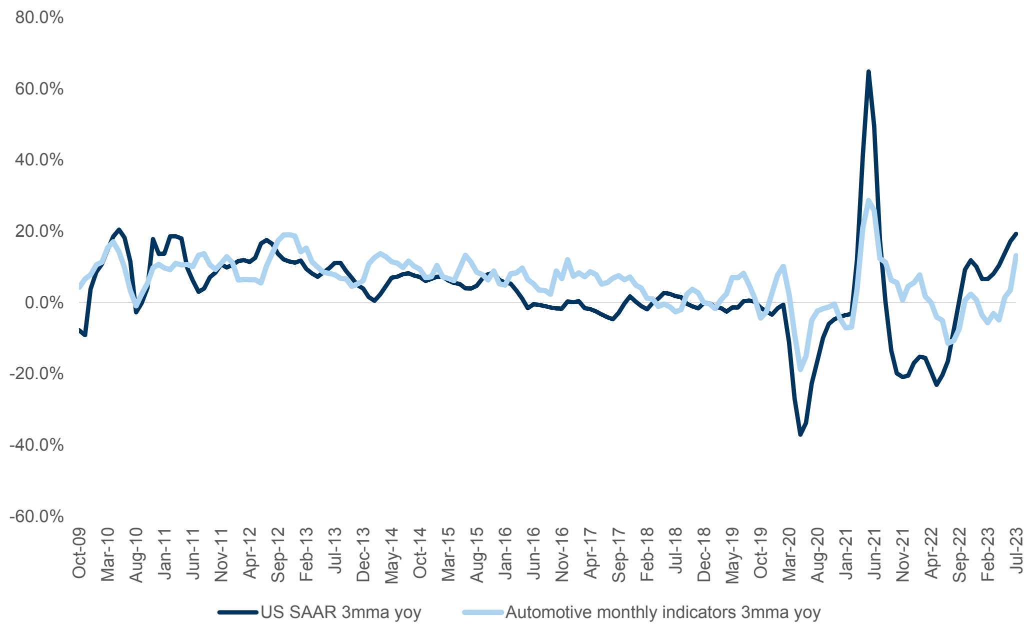
Exhibit 2: US light vehicle SAAR



Source: Motor Intelligence, Wards, US Bureau of Economic Analysis (BEA)

Our US auto leading indicators (ALI) index is up yoy. Key inputs to our US auto demand index include housing starts, consumer sentiment, the auto purchase intentions survey, and Google search trends, and has an R-squared of 0.6 on a 2-month lead vs. the US SAAR yoy (Exhibit 3). The pick-up in demand in the US is directionally consistent with the fact that the Goldman Sachs US economics team lowered their estimate of the probability of a US recession in the next 12 months to 15% (from 20% prior) in a note from 9/4/23.

Exhibit 3: Auto monthly indicators have started picking up in recent months
US SAAR vs. Auto Monthly Indicators

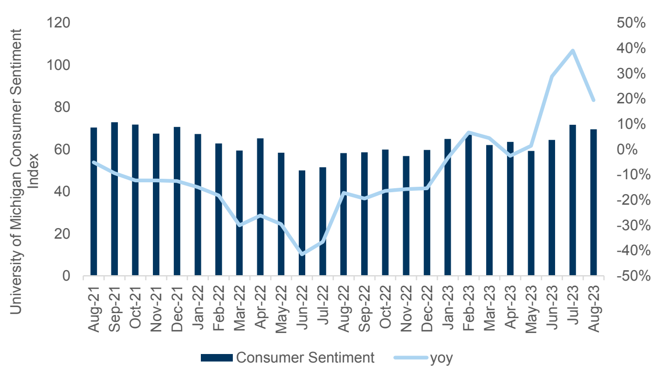


Google Trends (https://www.google.com/trends)

Source: Company data, Goldman Sachs Global Investment Research, University of Michigan, The Conference Board, St. Louis Federal Reserve, Google Trends

One of the drivers has been consumer sentiment, which is up yoy per the University of Michigan Consumer Sentiment Index (albeit off of a low 2022 base).

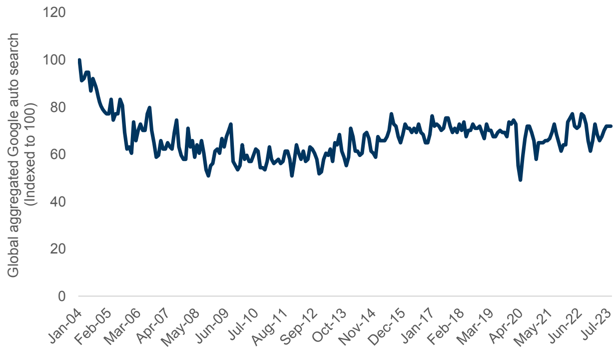
Exhibit 4: University of Michigan Consumer Sentiment Index



Source: University of Michigan

Another key input to our AMI index is Google search traffic. Global searches related to new car buying have been flattish, but are up yoy in the US.

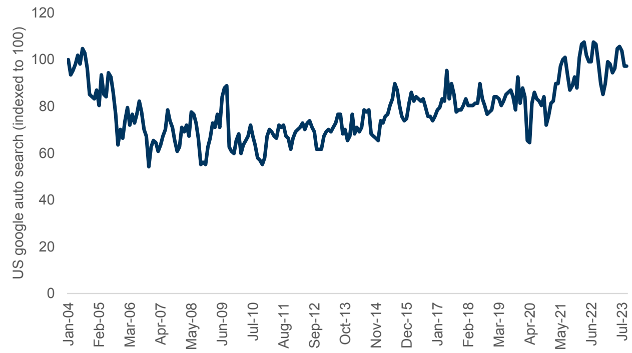
Exhibit 5: Global auto search trends (cars, SUVs, and trucks)



Google Trends (https://www.google.com/trends)

Source: Google Trends

Exhibit 6: US google searches for new cars, SUVs, and trucks



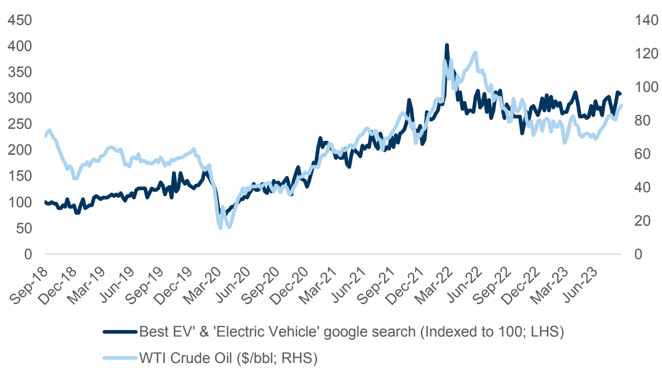
Google Trends (https://www.google.com/trends)

Source: Google Trends

Higher oil prices a directional positive for EV demand

We believe that rising oil and gas prices will prompt some car-buyers to consider electric and/or hybrid models as the TCO economics become relatively more attractive. Google search trends related to new EV car buying correlate well with oil prices. Note that we believe EV economics will improve over time driven by other factors including IRA credits (including point of sale deductabilty in the US starting in 2024) and economies of scale.

Exhibit 7: Global google search trends for electric vehicles and WTI crude oil prices

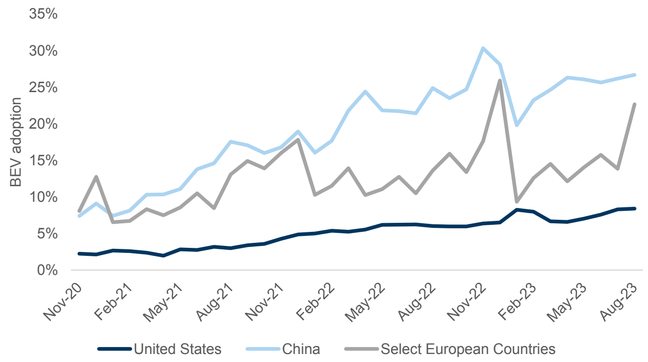


Google Trends (https://www.google.com/trends)

Source: Google Trends, FactSet

EV adoption in the US has been gradually increasing, and EV adoption is running at about 8% in the US currently per Motor Intelligence. BEV adoption in Europe and China also continues to trend higher.

Exhibit 8: BEV adoption by region



Source: Motor Intelligence, ACEA, CPCA, CAAM

We lower our Tesla EPS estimates for 2023 and 2024

We lower our 2023 and 2024 EPS estimates for Tesla, mostly on lower ASPs and in turn auto gross margin ex credit assumptions (driven by lower prices for S/X and to a lesser extent Model Y, and partly offset by higher Model 3 ASP assumptions). Tesla materially reduced S/X pricing on 9/1 by 15-19%, and reduced Model Y pricing in China in mid-August (and has been discounting inventory on hand in other markets like the US this quarter). However, Tesla raised pricing on the Model 3 with the refreshed version (Highland) that is now being sold in Europe and China.

In addition, although July and August regional Tesla sales data was higher in key geographies than the first two months of 2Q, we reduced our 3Q23 volume estimate to 460K to better reflect what we believe is lower S/X demand and the impact of the changeover for the Model 3 Highland. This is consistent with weekly insurance data in China. However, we expect a rebound to 494K in 4Q23 driven by the Highland launch, and an assumption for improved S/X volumes post the large price cuts. This brings our 2023 delivery forecast to 1.842 mn.

We believe that Tesla could further lower prices in 2024 to support higher volumes which we believe will mitigate the EPS benefit from cost reductions. Our 2024 volume assumption of 2.275 mn is unchanged. We are Neutral rated on the stock, with our expectation for near to intermediate term margin headwinds offset by our positive view of Tesla's leadership position in the industry and long-term growth potential (including with software, services and opportunity in related markets like Energy).

Valuation, price target, and key risks

We slightly lower our 2023/2024 EPS estimates (including SBC) to $2.90/$4.15 from $3.00/$4.25, primarily on lower ASPs and in turn auto gross margin ex credit assumptions. Our 2025 EPS estimate including SBC remains $5.60. Our CY23/24/25 non-GAAP EPS estimates (ex. SBC) are now $3.40/$4.65/$6.10 (vs. $3.50/$4.75/$6.10 prior).

We maintain our 12-month price target of $275, which is still based on 55X Q5-Q8 EPS including SBC.

Key risks to our thesis relate to the rate of EV adoption, auto demand and the auto cycle, market share, FSD, key person risk, margins, and operational risks and opportunities associated with Tesla's high degree of vertical integration.

UAW strike impact analysis

The UAW contract with General Motors, Ford, and Stellantis expired on 9/14/23, and the UAW announced that it would strike at 3 plants: 1) the GM Wentzville assembly plant in Missouri, which makes GMC models such as the Canyon and Colorado, 2) Ford's Wayne assembly plant in Michigan, which makes the Bronco and Ranger, and 3) Stellantis' Toledo assembly complex in Ohio, which makes the Jeep Gladiator and Wrangler. The GM plant employs about 3,600 hourly workers and the Stellantis plant employs 5,800, per the UAW and media reports. The union also said about 3,300 workers at Ford's Michigan Assembly Plant would be affected as only workers from the assembly area and paint shop are currently on strike.

We show the average weekly production impact at each of the plants in Exhibit 9 per IHS. **Based on the weekly production of plants with UAW workers on strike, and the specific models that are manufactured at these plants, we estimate that it would imply lost revenue at GM and Ford of about $100-$125 mn per week for each company. Assuming decremental margins of about 40%, we estimate that the EBIT impact to GM and Ford could be about $40 mn per week each.** The strike in Missouri could also force GM to idle its Fairfax Kansas location as soon as next week, as it sources stampings from the Wentzville factory per GM. GM makes about 3,700 vehicles per week at that location per IHS.

We also framed the potential scenarios and incremental costs for the OEMs in our 9/4 note assuming a strike at all UAW sites.

Exhibit 9: UAW strike impact

UAW 2023 Strike Plants	UAW workers	Average weekly production
GM Wentzville Missouri	3600	3650
Ford Wayne	3300	4000
Stellantis Toledo	5800	6600

Source: IHS, United Auto Workers, Company data

The UAW has stated it could strike at more plants over time if a deal is not reached, per comments from the UAW per Automotive News.

Disclosure Appendix

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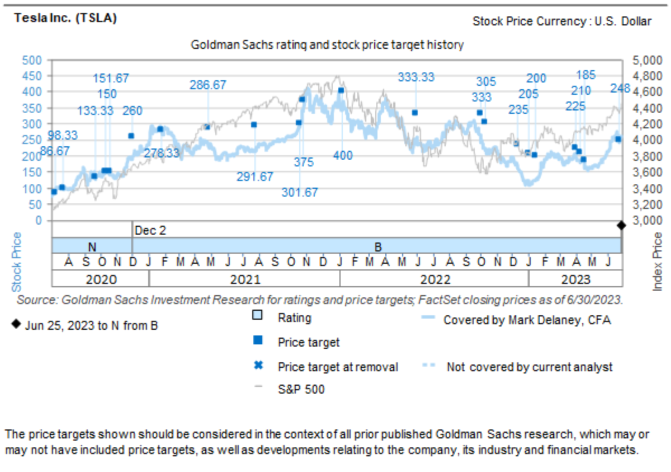

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