

READING THE METER

A Look Inside A Cleaner, Safer, Smarter Auto Industry. November 4, 2020

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Forecast Meter

Forecast Summary (Updated 11/4)

2020 Sales, Extended Sales Forecast and Production Forecasts					
	U.S. Sales & Forecasts	North American Production			
March	992,392 (-33% YoY)	1.01 million units (-34% YoY)			
April	707,852 (-48.7%YoY)	8,463 (-99.4% YoY)			
May	1,114,931 (-29.5% YoY)	248,602 (-83% YoY)			
June	1,103,791 (-24% YoY)	743,216 (-17% YoY)			
July	1,227,091 (-12.1% YoY)	1,261,884 (+2.2% YoY)			
August	1,325,144 (-19.1% YoY)	951,983 (-1.1% YoY)			
September	1,344,310 (6.4% YoY)	1,395,830 (2.1% YoY)			
October	1,345,401 (.9% YoY)	1.47 million units (5% YoY) (estimate)			
1 st Quarter	3,476,512 (-12.7% YoY)	3.86M (-11.7% YoY)			
2 nd Quarter	2,948,410 (-33.3% YoY)	1.4M (-67.6% YoY)			
3 rd Quarter	3,904,539 (-9.2 YoY)	4.10 million units (5% YoY)			
Calendar YTD	11,646,788 (-17% YoY)	9.40 million units (-27.1% YoY)			
2020 Full Year Estimate	12.6-14.4M (-15%-26% YoY)	13.4 million units (-20.2% YoY)			

U.S. Light Vehicle Sales Outlook (Updated 11/4)

Wards Intelligence Outlook^{iv}: "October's decline from September's SAAR could indicate growth has hit a ceiling that could last into next year. There still are potential economic headwinds – particularly permanent job losses – as well as the chance uncertainty in the economy increases due to rising Covid-19 cases, which could lead to sales stalling. A major hindrance to results is fleet demand."

"Initial modeling shows November-December sales posting a combined 15.9 million-unit seasonally adjusted annual rate, which would put the entire quarter at 16.0 million. Sales for entire-2020 are expected to total 14.4 million units, 15.0% below 2019's 17.0 million. Wards Intelligence partner LMC Automotive is forecasting 15.6 million units in 2021, a 6.0% year-over-year increase."

Credit Suisse Outlookvi: "Three reasons to expect a return to more normalized SAAR in 2021: We forecast 2021 US auto sales of 15.4mn, representing a 7% increase off our 2020 estimate, and an uptick vs. our prior '21 estimate of 15.0mn. We recognize that the obvious unknown and the most important factor in forecasting 2021 SAAR is the status of the US consumer – if coronavirus remergence limits consumer recovery, that would clearly limit auto sales. That said, the Sep/Oct SAAR prints provide reason to believe that 2021 could bring sales near normalized levels. Specifically, we'd flag several key reasons indicating potential return to more normalized SAAR in 2021, with potential upside:



- "Solid retail driven by health of new car buyer, financing intact: New car buyers have seen less labor shock than the national avg. with median household income of ~\$100k, the avg. US new vehicle buyer has higher household income than the national avg., and never saw the same labor shock as lower income cohorts. Moreover financing availability has remained intact (~85% new car sales financed). Lastly, the case remains for increased personal vehicle ownership (see our report: "Post coronavirus auto trends"). Accordingly, we may see retail sales return to normalized levels.
- *"Fleet recovery:* While fleet is on track to be down ~35% for 2020, we see potential for some recovery in 2021, as commercial remains healthy, and as daily rental likely sees some form of recovery."

IHS Markit Update: "US light vehicle retail demand has proven more resilient in the near-term in spite of a very challenged US economic outlook. As a result, the US light vehicle sales outlook has been increased to 14.3 million units and 15.5 million units for 2020 and 2021, respectively." vii

"IHS Markit expects the market's sales recovery to be over years, with the US not seeing 17 million light-vehicle registrations annually again through 2025." viii



North American Production Outlook (Updated 11/4)

Credit Suisse Outlook^{ix}: "Inventory remains tight; expect further positive revisions to IHS estimates: While we ultimately expect industry volumes to be dictated by demand trends, supply remains tight, and may remain tight through 1H'21 – especially in Ig. pickups. October-end US industry gross stock was 2.7mn units (up ~90k units m/m), an improvement, albeit still quite low vs. the 3.5-4mn level we've seen in recent years. Similarly, with October ending at 56 days supply, inventory is still light of the typical ~70 DSO for the industry. We think this is manageable, but tight. Given tight inventory and



return of SAAR to pre-virus levels, we expect upside to IHS NA production estimates for 4Q20 and especially 2021."

IHS Markit October Update*: "The outlook for North America light vehicle production was increased by 92,000 units and 715,000 units for 2020 and 2021, respectively (and increased by 512,000 units for 2022). Production was revised higher based on stronger US sales expectations for the year and the continued need to restock depleted inventories. For 2021, improved demand expectations and ongoing inventory requirements further support the upgraded outlook. Given the rapid inventory depletion due to COVID-19 related factory shutdowns earlier in the year, production continues to play catch-up to meet stronger than expected vehicle demand. With regional production well past the production restart phase, manufacturers are now expected to remain in a restocking phase for an extended period that spans to mid-2021. Production increases are broad-based with pickups and utility vehicles seeing the largest increases to keep pace with above average segmental demand. US light vehicle retail demand has proven more resilient in the near-term in spite of a very challenged US economic outlook. As a result, the US light vehicle sales outlook has been increased to 14.3 million units and 15.5 million units for 2020 and 2021, respectively."

WardsIntelligence October Update *i: "Although trimmed slightly from last month's expectations, Q4 output is expected to grow 3.6% year-over-year to a total of 4.03 million units. Some 6,300 units were cut from month-ago's expectations for Q4, but mostly due to adjustments to weaker selling vehicles. If the outlook holds firm, the Q4 gain will be the first quarterly year-over-year increase since Q4-2018.

"The entire year is projected to finish at 13.43 million units, 19.9% below 2019's 16.78 million.

Though demand in North America has been steadily rising since the pandemic skewered it in late-March and April, sales still are not back to pre-Covid 19 levels, and there remain several slower sellers that automakers are not rushing to restock dealer lots with. Most of the slower sellers are cars, as consumers – even in a recessionary period – continue to prefer utility vehicles, and because many price-sensitive buyers apparently either are staying out of the market or defecting to used vehicles to meet their needs.

"Rising demand over the past six months has put North American light-vehicle assembly plants in total back to pre-pandemic capacity



utilization levels. In fact, both Q3 and forecasted Q4 are pegged well above the same-period 2019



levels. Based on estimated straight-time capacity assuming two 8-hour shifts, five days per week over 52 weeks, North American light-vehicle plant capacity utilization rose to 89.7% in Q3 from Q2's pandemic-induced drop to 31.3% and like-2019's 88.2%. The fourth quarter is expected to record utilization of 88.3%, compared with 83.7% in Q4-2019.

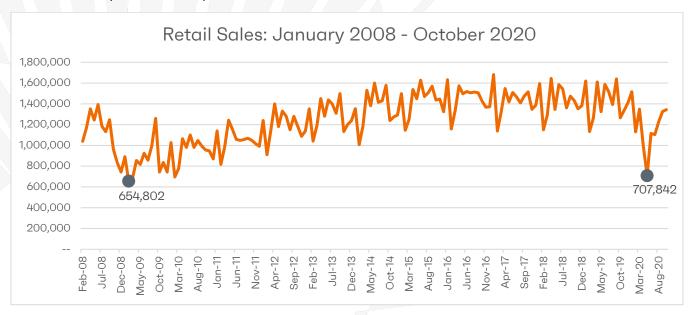
"In Q4, truck output is expected to rise 8.3% year-over-year to 3.16 million units. Light trucks are projected to increase 9.1%, while medium-/heavy-duty trucks will decline 10.8% - but a strong improvement from the 26% decline in Q3 and 66% drop in Q2. Fourth-quarter car output is set to decline 10.2% year-over-year."

Market Meter

U.S. Light Vehicle Sales (Updated 11/4)

Monthly Sales (Updated 11/4)

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 11/4)

WardsIntelligence^{xii}: "U.S. light-vehicle sales finished October significantly below forecast and failed to improve sequentially for the first time in six months, based on seasonally adjusted annual rates. October's sales volume of 1.345 million units equated to a 16.2 million-unit SAAR, which was below the same-month year-ago total of 16.8 million and September's 16.5 million.



"With an additional weekend in its sales period compared with last year, October's raw volume rose about 1% year-over-year. The daily selling rate over the month's 28 selling days was 48,050, 2.7% below like-2019's 49,407 – 27 selling days. It also was the ninth straight month the DSR fell from the same year-ago period.

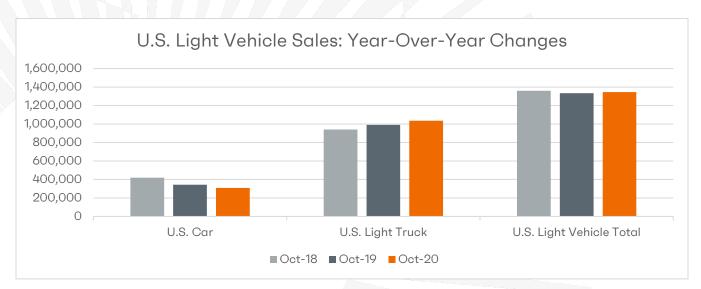
"October's decline from September's SAAR could indicate growth has hit a ceiling that could last into next year. There still are potential economic headwinds – particularly permanent job losses – as well as the chance uncertainty in the economy increases due to rising Covid-19 cases, which could lead to sales stalling.

"A major hindrance to results is fleet demand.

"Estimated retail volume in October was up year-over-year a second straight month, but fleet deliveries remain well below 2019 levels – including an estimated 41% downturn in October - and might not record a significant upward movement toward pre-COVID-19 levels until next year.

"Also hindering demand in October was incentive activity, which was at its weakest since February, the last full month before the pandemic began impacting the market in mid-March. It is not unusual for automakers to pull back on incentives in October, which is the month dealers begin selling most new model-year vehicles.

"Based on DSRs, except for a 21.2% year-over-year decline in vans, strength in October was in trucks. Sales of CUVs and pickups, increased 1.6% and 1.0%, respectively. . .. Overall, trucks increased 0.9% in October from like-2019, while cars declined 12.9%. Year-to-date through October, truck deliveries are down 11.9% and cars are 30.0% below last year."



Fleet Sales (Updated 11/4)

Credit Suissexiii: "Fleet still weak but showing continued recovery, especially in daily rental: Fleet sales saw another challenged month, down ~25% in October – an improvement from down ~40% in



Aug/Sep, and certainly much better than down ~70% in April-June, but nevertheless still weak. Fleet remains a tale of three channels, with sharp weakness in daily rental somewhat offset by government and commercial, albeit the incremental datapoint in October was significant recovery in daily rental. Indeed, daily rental sales were down ~40% in October, still quite weak, albeit a sharp improvement from ~-60% in September, and vs. the ~80-90% declines we saw in May-Aug (daily rental typically accounts for ~10% of US auto sales). Conversely, commercial and government have mostly held in, with commercial down low teens % in October and government up high single digit %. We see potential for continued fleet recovery into 2021, even if not at normalized levels."

Wards Intelligence xiv: "Estimated retail volume in October was up year-over-year a second straight month, but fleet deliveries remain well below 2019 levels – including an estimated 41% downturn in October - and might not record a significant upward movement toward pre-COVID-19 levels until next year. Less the market getting the screws put to it again by the pandemic, a wave of commercial-vehicle orders is expected by Q2-2021, and spring is the likeliest period for a significant resurgence in travel, which should boost rental demand."

IHS Markit **: "Automakers have also reported shifting some of the production they had planned for rental car fleets to retail cars, following the canceled order and as production resumed in June. In making that change, automakers may be able to soften the impact of lost rental fleet orders over the course of the year. . . . Two other factors which IHS Markit expects could be impacting compact and mid-size car sales are the disappearance of service jobs in the first half and canceled rental-fleet orders. As compact and mid-size cars are less expensive than utility vehicles, the lack of buying power from this group could be having an impact on passenger car registrations, particularly at the low end. While not all rental-fleet orders were for cars, the loss of orders from major rental-car companies from Hertz to Avis had impact on first half as well. Those canceled orders coincided with production shutdown as well, and as production resumed, automakers in some cases shifted planned production from rental-car fleet vehicles to vehicles configured for retail. Benefits from that change would be seen in the second half, however."

J.D. Power xvi: The baseline forecast from J.D. Power called for 13.4 million in retail sales and 3.4 million in fleet/other sales. With the revised forecast of 12.9-14.2 in total sales, fleet sales fall to a range from 1.6 million to 1.9 million, a decline of 44%-53% from the baseline.

J.D. Power Retail and Fleet Sales Forecast							
	Pessimistic Forecast	Optimistic Forecast	Pre-COVID Baseline Forecast				
Retail Sales Forecast (million)	11.3	12.3	13.4				
Fleet/Other Sales Forecast (million)	1.6	1.9	3.4				
Total Sales Forecast (million)	12.9	14.2	16.8				
Fleet Percent of Total Sales	12%	13%	20%				
Retail Percent of Total Sales	88%	87%	80%				
Fleet Loss From Baseline of 3.4 (million)	-1.8	-1.5	-				
Fleet Loss as % Baseline Fleet Sales	-53%	-44%	-				
Fleet Loss as % Total Sales	-14.0%	-10.6%	-				

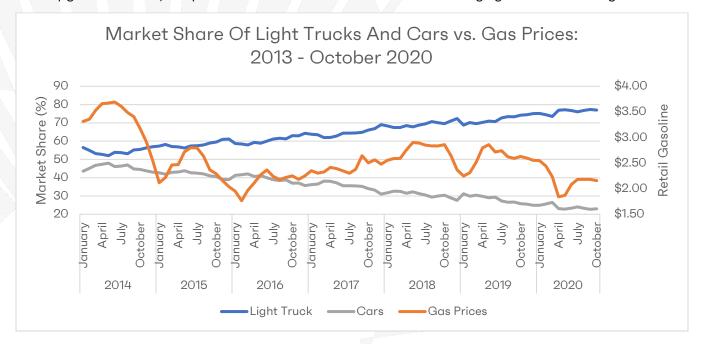


Segments vs. Gas Prices (Updated 11/4)

WardsIntelligence***ii: "Based on DSRs, except for a 21.2% year-over-year decline in vans, strength in October was in trucks. Sales of CUVs and pickups, increased 1.6% and 1.0%, respectively. Thanks in part to the roll out at General Motors of its redesigned '21 model Chevrolet and GMC fullsize SUVs, the SUV segment group recorded a 12.7% increase from October 2019."

Segment Sales For October: Light trucks accounted for 77% of sales in September, a 3% gain in market share from a year ago. Compared to 2019, sales of cars are down more than 34,000, but negligibly different from September 2020. Total sales are up slightly (4,850) from September 2020, and up about 11,000 from September 2020. xviii

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. it and gas was over \$3.00 x a gallon. As fuel prices dropped below the \$3.00 mark in mid-September 2014, light truck sales began to take off – and never looked back. Gas prices since have averaged only \$2.68 a gallon (through October 2020) and when combined with increased fuel economy for light trucks, an increase of 4 mpg since 2013. xi, the perfect conditions existed to continue fueling light truck market growth.

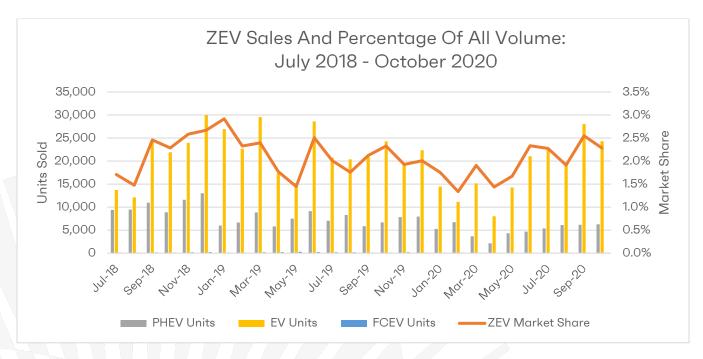


ZEV Powertrain Sales (Updated 11/4)

Sales of zero emission vehicles (BEV, PHEV, & Fuel Cell) accounted for only 2.3% of total vehicle sales in October 2020, up .1% from a year ago and down .2% from September 2020. Sales of battery electric vehicles led the way for ZEVs accounting for 1.8% of the total, though down .1% from October 2019. Plug-in hybrids accounted for .5%, unchanged from a year ago.

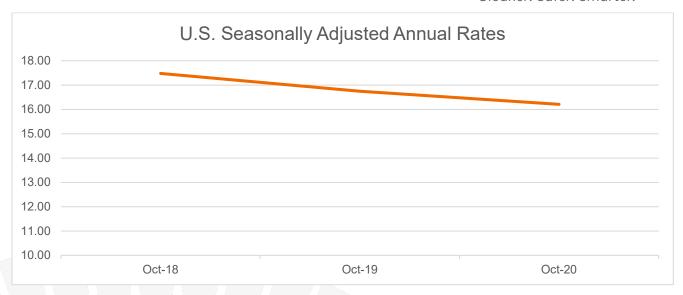


Credit Suisse**ii: "For all the hype around EV euphoria, we still haven't seen the inflection in the US. YTD BEV+PHEV sales in the US are down ~17% y/y, in-line with the industry decline; BEV+PHEV have accounted for 2.0% of vehicle sales YTD."



Seasonally Adjusted Annual Rates (Updated 11/4)

"October's sales volume of 1.345 million units equated to a 16.2 million-unit SAAR, which was below the same-month year-ago total of 16.8 million and September's 16.5 million. With an additional weekend in its sales period compared with last year, October's raw volume rose about 1% year-over-year. The daily selling rate over the month's 28 selling days was 48,050, 2.7% below like-2019's 49,407 – 27 selling days. It also was the ninth straight month the DSR fell from the same year-ago period.xxiii"



Average Transaction Price (Updated 11/4)

Incentive Spending**i*: "[A]ccording to an initial estimate by ALG, average incentive spending in October was \$3,869, which was 2.6% above like-2019, but the lowest year-over-year increase in eight months. ALG estimated average transaction prices rose 3.1% from the year-ago period, which was a bigger increase than incentives - also a first since February."

Kelley Blue Book (Note: as of time of publication, October data was not yet available): "The valuation analysts at Kelley Blue Book today reported the estimated average transaction price for a light vehicle in the United States was \$38,723 in September 2020. New-vehicle prices increased \$940 (up 2.5%) from September 2019, while raising \$23 (up 0.1%) from last month." xxv

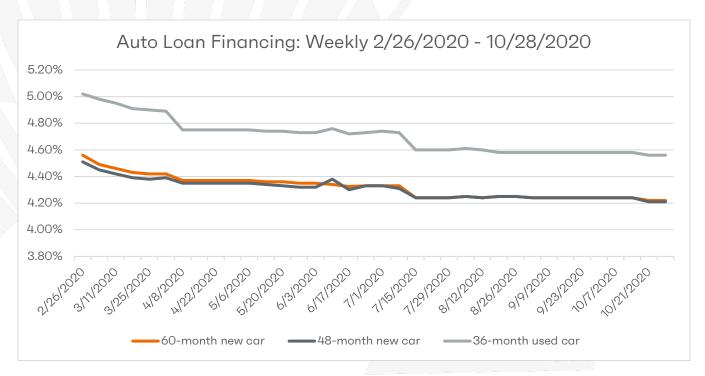




Auto Loan Financing (Updated 11/4)

Financing At Lowest Level Of The Year: Rates for the week of October 28th remained at the lowest level all year for the second week in a row, at 4.22% for a 60-month new vehicle loan. Rates had remained relatively static since mid-July. Since the beginning of the year, rates are down .38% and down .39% from about a year ago. xxvi

Dates	60-month new car	48-month new car	36-month used car
10/23/2019	4.61%	4.57%	5.11%
1/2/2020	4.60%	4.55%	5.10%
10/21/2020	4.22%	4.21%	4.56%
10/28/2020	4.22%	4.21%	4.56%
One Week Change	0.00%	0.00%	0.00%
Two Week Change	-0.02%	-0.03%	-0.02%
Change since 1/3/20	-0.38%	-0.34%	-0.54%
One Year Change	-0.39%	-0.36%	-0.55%



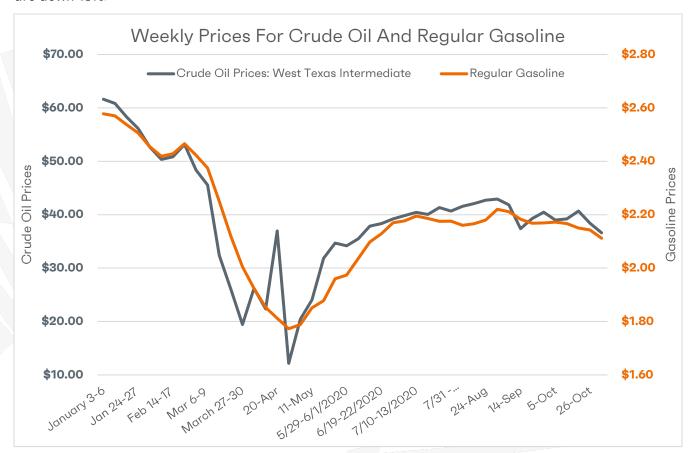
Crude Oil and Gas Prices (Updated 11/4)

EIA Outlook For Gasoline**xvii*: "EIA estimates U.S. gasoline consumption totaled 8.5 million barrels per day (b/d) in September, down 0.3 million b/d from August, and if confirmed in monthly data, it would be the lowest level for September since 1999."



EIA Outlook For Production "EIA reported that U.S. crude oil production averaged 11.0 million b/d in July (the most recent month for which historical data are available), up 0.5 million b/d from June. In May, U.S. crude oil production reached a two-and-a-half-year low of 10.0 million b/d, resulting from curtailed production amid low oil prices. Since then, U.S. production has increased mainly because tight oil operators have brought wells back online in response to rising prices. EIA estimates that production rose to 11.2 million b/d in September."

Oil And Gas Dip To Lowest Levels Since June: Oil prices, as benchmarked at West Texas Intermediate, as well as gasoline prices, dipped to their lowest level since June, with gas prices down to \$2.11 and oil down to \$36.60. Compared to the start of the year, crude oil is down 41%, while gas prices are down 18%. **xxix**

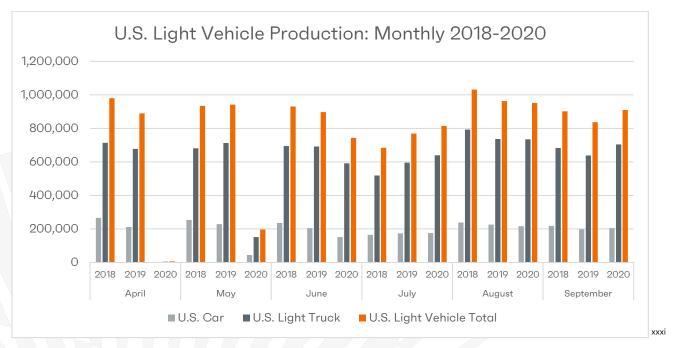


Production Meter

U.S. Light Vehicle Production (Updated 10/21)



WardsIntelligence***: "North American production of light vehicles and medium-/heavy-duty trucks not only increased year-over-year in September but finished over 38,000 units above expectations, as automakers continued to trying to catch-up inventory with demand for the strongest selling vehicles, especially pickups, SUVs and most CUVs. . . . September's data still includes some temporary estimates, but Q3 production finished at 4.10 million units, a smidgeon below like-2019's 4.12 million."



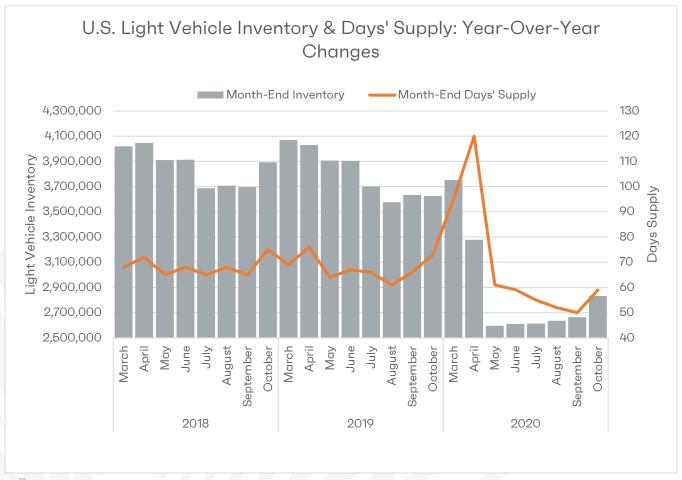
U.S. Light Vehicle Inventory and Days' Supply (Updated 11/4)

WardsIntelligence October Inventory Update **xxii** "The U.S. light-vehicle inventory picture improved again in October, albeit remaining at a 9-year low while sales volume over the past two months outdid the same year-ago periods. Inventory ended October at 2.83 million units, a 6.3% increase from September, but 21.8% below like-2019's 3.63 million.

"Reflecting high levels of turnover, and that dealers could use some more stock – at least of the stronger selling trucks – October's 59 days' supply was well below like-2019's 73, which also mirrors a typical days' supply for the month in relatively normal years for the market.

"After dealers turned over more than half their start-of-the-month inventory in both August and September, the ratio slid to 47% in October - though that was well above the 37% averaged for the month over the past five years. However, the ratio is expected to remain close to 50% over the last two months of 2020, with inventory still stuck at a 9-year low heading into 2021."



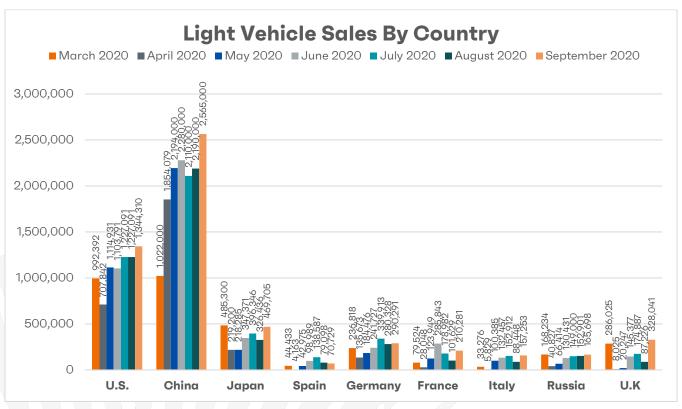


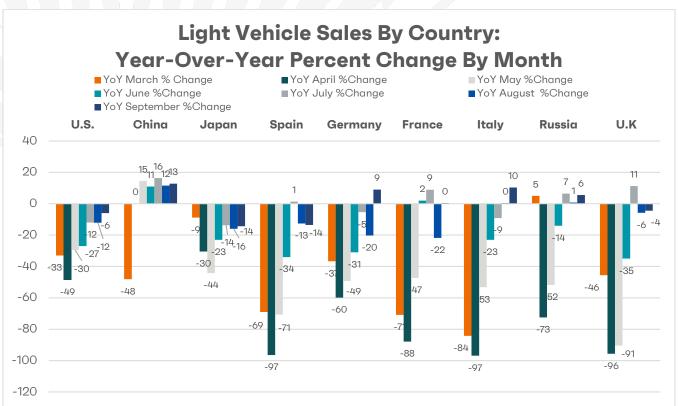
XXXIII

Global Meter (Updated 10/21)

Sales in select countries around the globe, including year-over-year percent change by month as well as raw volume by month:









Recovery Meter

North American Assembly Facility Operating Status (Updated 9/3)

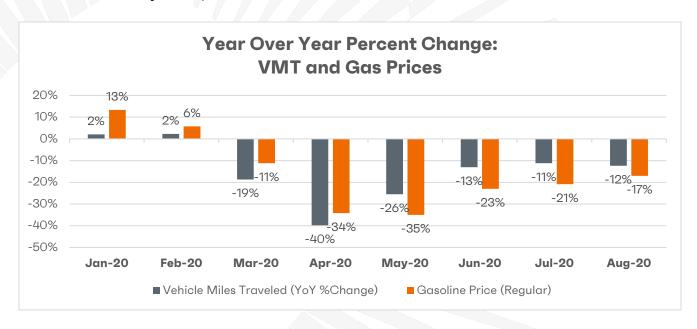
After all automotive manufacturing was shut down for the first time since World War II for roughly eight weeks, automakers have resumed production at all plants across North America. The extent to which production has ramped up or employment has been reinstated continues to fluctuate due to the impacts of COVID-19. We will continue to monitor the operational status of assembly facilities.

To view information on plant operating status during the shutdown, please click here.

Roadway Travel (Updated 10/21)

According to the U.S. Department of Transportation, vehicle miles traveled continued to increase month-to-month, peaking in July, but falling back again in August**xxiv:

- "Travel on all roads and streets changed by -12.3% (-35.3 billion vehicle miles) for August 2020 as compared with August 2019. Travel for the month is estimated to be 251.3 billion vehicle miles.
- "The seasonally adjusted vehicle miles traveled for August 2020 is 239.7 billion miles, a -11.8% (-32.2 billion vehicle miles) decline from August 2019. It also represents a 0.8% increase (2 billion vehicle miles) compared with July 2020.
- "Cumulative Travel for 2020 changed by -15.3% (-332.5 billion vehicle miles). The cumulative estimate for the year is 1,844.4 billion vehicle miles of travel."



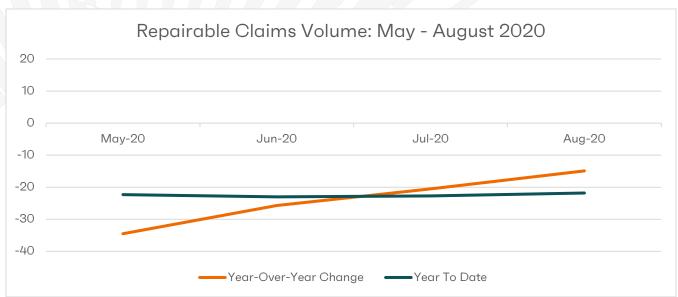


Repairable Claims (New 9/16)

In addition to highlighting key data regarding vehicle production and sales, the number of auto accidents and insurance claims are also useful to understand since the start of the COVID pandemic. The following chart and statistics help to highlight how vehicle repairs and insurance claims have decreased since that start of the year.

Latest Data From CCC: "The primary factor most highly correlated to accident frequency is vehicles per road mile – i.e. how many vehicles on a given road at any given point. . . . With the number of COVID-19 cases rising again as many return to school, and the approach of normal flu season, many companies plan to keep at least part of their staff remote through the remainder of the year. This will likely mean non-comprehensive may remain down -10 to -15 percent for full year 2020.

- "Overall repairable appraisal counts for the industry were down -14.9 percent in August 2020 versus August 2019.
- "Excluding comprehensive losses, counts also remained down over 25 percent year-to-date, although August 2020 non-comprehensive counts were down only -20.5 percent versus down -24.7 percent in July 2020.
- "With the number of COVID-19 cases rising again as many return to school, and the approach of normal flu season, many companies plan to keep at least part of their staff remote through the remainder of the year. This will likely mean non-comprehensive may remain down -10 to -15 percent for full year 2020."xxxx





Economic News (New 11/4)

Manufacturing Accelerated In October Amid Shift In Consumer Spending Towards Motor

Vehicles. "U.S. manufacturing activity accelerated in October, with new orders jumping to their highest level in nearly 17 years amid a shift in spending toward goods like motor vehicles as the Covid-19 pandemic drags on. The Institute for Supply Management (ISM) said on Monday its index of national factory activity increased to a reading of 59.3 last month. That was the highest since November 2018 and followed a reading of 55.4 in September. . . . A reading above 50 indicates expansion in manufacturing, which accounts for 11.3% of the U.S. economy."xxxvii

U.S. Car And Truck Production Credited With Giving The Economy Its Biggest Boost In 50 Years. "U.S. car and truck production in the third quarter gave the economy its biggest boost in almost a half century. A surge in motor-vehicle output contributed just over 6 percentage points to the annualized 33.1% increase in gross domestic product, according to government data. That was the largest share since the first quarter of 1971, when United Auto Workers union members were returning to assembly lines after a months-long strike." xxxvii

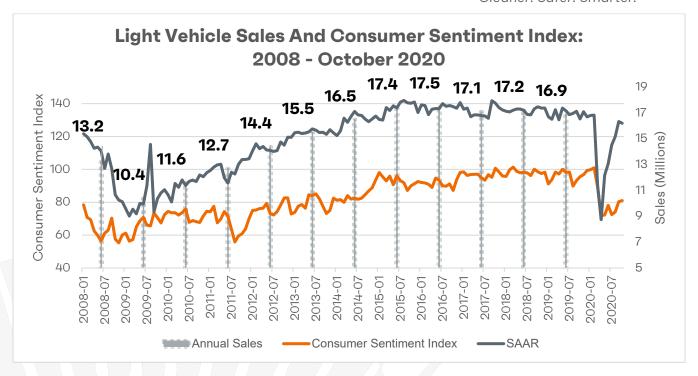
As Automakers Ramped Up Output To Make Up For Lost Production In The Spring, Production Ran At An 11.4 Million Annualized Rate. "U.S. vehicle production ran at an 11.4 million annualized pace in the third quarter, compared with 3.6 million in the previous three months, Federal Reserve data show. Plants across the U.S. were shuttered for several weeks during the spring to prevent the spread of the coronavirus, but automakers have ramped up output in recent months, trying to replenish thinning inventories." xxxxiii

 "Household Spending On Motor Vehicles And Parts Surged At An 87% Annualized Rate, Also The Most Since 1971, The GDP Report Showed."xxxix

Consumer Confidence and Sales (Updated 11/4)

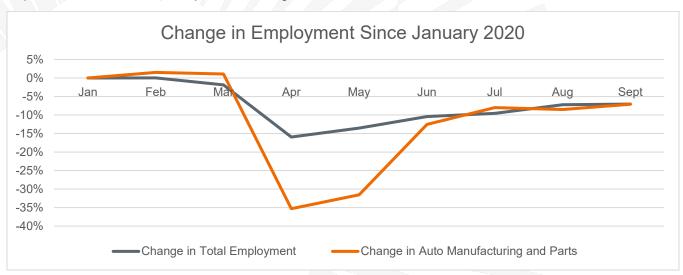
At the start of the year, consumer sentiment, as measured by the University of Michigan, was registering a 100 on their index, but as Covid-19 took hold, the index dropped at its worst by more than a quarter. The index made slight gains in October (81.8) over September, when it first climbed over 80 for the first time since March. While the April low of 71 is only 10 points off from where the index sits currently, it is still much higher than it was during the depths of the recession in 2008. While new vehicle sales continue to recover despite wavering consumer confidence, the rest of the year could see sales stall against consumer sentiment headwinds. The current index of 81.8 in October is 14.3 points lower than the same month last year.





Employment (Updated 10/7)

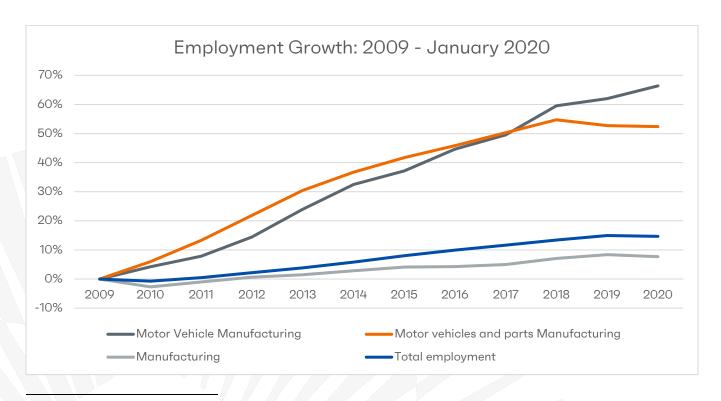
After a loss of nearly 350,000 employees (about 35% of the workforce) in the height of the pandemic, employment in the Automobile Manufacturing and Parts sectors has raced back and is now only down about 70,000 employees, constituting an 7 percent loss since January. September's employment is an improvement of over 14,000 jobs since August. xl





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^{xli}.

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.



WardsIntelligence, "U.S. Light Vehicle Sales, March," 4/1/2020; WardsIntelligence, "U.S. Light vehicle Sales, April," 5/1/2020

[†] Haig Stoddard, "COVID-19 Impact Will Tank March, Second-Quarter U.S. Light-Vehicle Sales," *WardsIntelligence*, 3/25/20; Haig Stoddard, "March 25 COVID-19 Update: 2020 North America Production, U.S. Sales Forecasts," *WardsIntelligence*, 3/30/20; Haig Stoddard, "U.S. Light-Vehicle Sales Start on the Road Back in May," *WardsIntelligence*, 5/21/20

iii Haig Stoddard, "COVID-19's Toll on North America Vehicle Production in March, Q2," WardsIntelligence, 3/30/20

iv Haig Stoddard, "October U.S. Light-Vehicle Sales Fail to Get Closer to Pre-Pandemic Levels," WardsIntelligence, 11/3/2020

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