

READING THE METER

A Look Inside A Cleaner, Safer, Smarter Auto Industry.

December 30, 2020

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Forecast Meter

Forecast Summary (Updated 12/23)

2020 Sales, ⁱ Extended Sales Forecast ⁱⁱ and Production Forecasts ⁱⁱⁱ		
	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)	1.45 million units (3.7% YoY)
November	1,186,733 (-15.4% YoY)	1.31 million units (-6.4% YoY)
1st Quarter	3,476,512 (-12.7% YoY)	3.86M (-11.7% YoY)
2nd Quarter	2,948,410 (-33.3% YoY)	1.4M (-67.6% YoY)
3rd Quarter	3,904,539 (-9.2 YoY)	4.10 million units (-.5% YoY)
Calendar YTD	12,842,138 (-16.8% YoY)	12.16 million units (-22.5% YoY)
2020 Full Year Estimate	12.6-14.4M (-15%-26% YoY)	13.3 million units (-20.5% YoY)

U.S. Light Vehicle Sales Outlook (Updated 12/23)

Wards Intelligence Outlook^{iv}: “U.S. light-vehicle sales are on track to post a 15.8 million-unit seasonally adjusted annual rate in December, slightly higher than the prior month’s 15.6 million but below the latest peak months of September and October when both periods posted results of 16.3 million.

The December 2019 SAAR was 16.8 million units.

Wards Intelligence is pegging volume at 1.558 million units, 3.0% above December 2019’s 1.512 million. However, there are 28 selling days in December compared with 25 a year ago when the period basically had one fewer weekend. The daily selling rate is forecast at 55,643, 8.0% below like-2019’s 60,490.

The outlook accounts for an expected negative impact rising cases of the Covid-19 virus will have on consumer activity, which apparently created some weakness at the end of November as more states started reinstating stricter social distancing measures. Consensus projections predict cases, and deaths, continue rising well into next year, probably leading to a continuation of the strict - if not stricter – measures, plus more consumers could simply choose to self-isolate, irrespective of mandates.

States vary in the level of lockdown rules and advisories they are implementing, but California, which accounts for roughly 10% of sales, is among the strictest.”

Credit Suisse Outlook: “We forecast 2021 US auto sales of 15.4mn, representing a 7% increase off our 2020 estimate. We recognize that the obvious unknown and the most important factor in forecasting 2021 SAAR is the status of the US consumer – if coronavirus re-emergence limits consumer recovery, that would clearly limit auto sales. That said, the Sep/Oct/Nov SAAR prints provide reason to believe that 2021 could bring sales near normalized levels. Specifically, we’d flag two key reasons indicating potential return to more normalized SAAR in 2021, with potential upside:

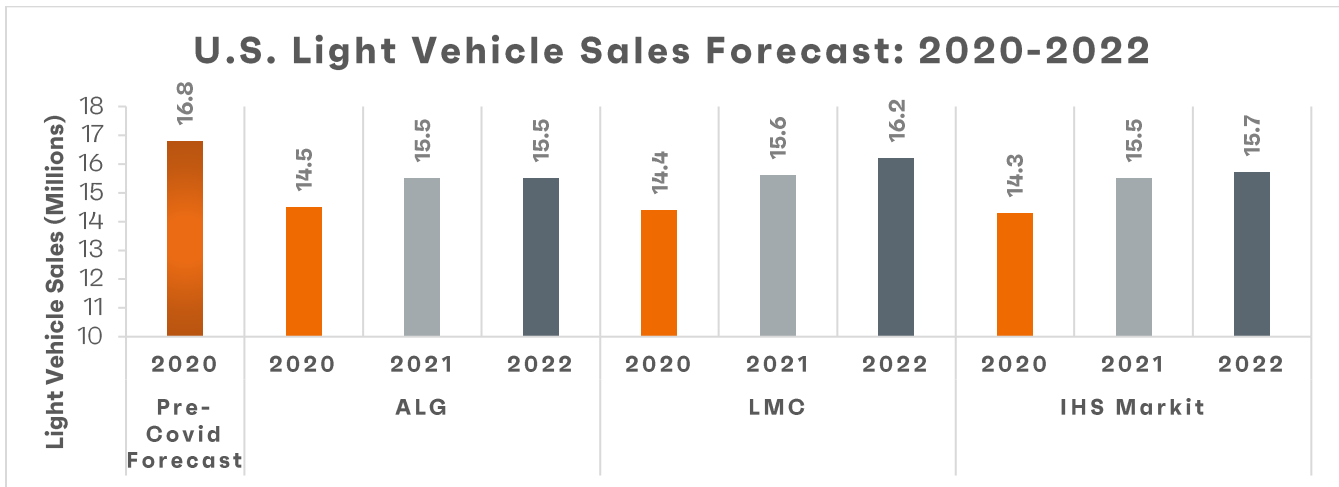
- “Solid retail driven by health of new car buyer, financing intact: New car buyers have seen less labor shock than the national avg. – with median household income of ~\$100k, the avg. US new vehicle buyer has higher household income than the national avg., and never saw the same labor shock as lower 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.

J.D. Power November Forecast^{vi}: “New-vehicle retail sales for the month of November are expected to decline marginally from November 2019, according to a joint forecast from J.D. Power and LMC Automotive. Retail sales for new vehicles are projected to reach 1,040,000 units, a 0.7% decrease compared with November 2019 when adjusted for selling days. November 2020 contains three fewer selling days and one less selling weekend when compared November 2019. Comparing the same sales volume without adjusting for the number of selling days translates to a decrease of 12.2% year over year.

“Total new-vehicle sales for the month of November, including retail and non-retail transactions, are projected to reach 1,208,100 units, a 3.5% decrease from November 2019 when adjusted for selling days. Reporting the same numbers without controlling for the number of selling days translates to a decrease of 14.6% from November 2019. The seasonally adjusted annualized rate (SAAR) for total new-vehicle sales is expected to be 15.8 million units, down 1.3 million units from 2019.”

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}



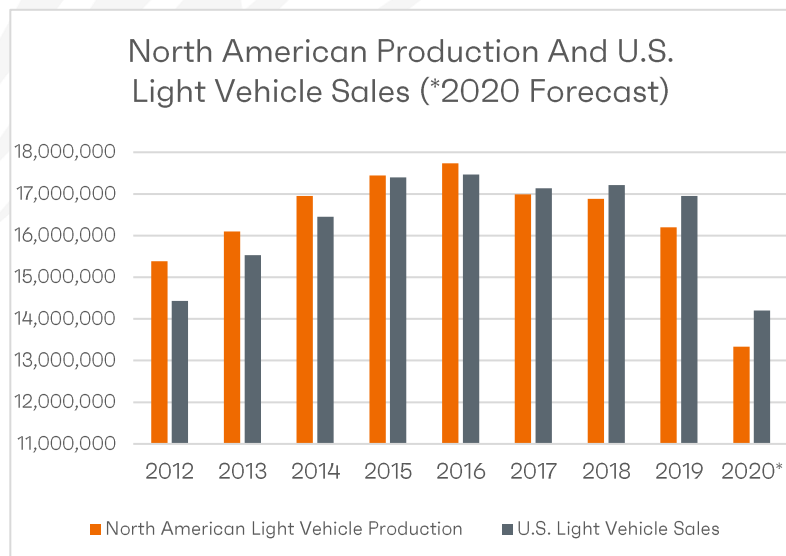
North American Production Outlook (Updated 12/23)

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 lg. pickups. November-end US industry gross stock was 2.8mn units (up ~80k units m/m), an improvement, albeit still quite low vs. the 3.5-4mn level we’ve seen in recent years. Similarly, with November ending at 53 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 2021.”

WardsIntelligence Update^x:

“November was the second straight month North America vehicle production significantly finished short of expectations. November’s final total of 1.31 million units was 69,900 units below the projection for it coming into the period, and 6.4% below like-2019’s 1.40 million.”

“The fourth-quarter is pegged at 3.93 million units, 1.1% above Q4-2019’s 3.89 million, and entire-2020 is estimated to total 13.33 million, down 20.5% from the prior year’s 16.78 million.”



“Production in Q1-2021 is forecast to total 4.04 million units, 4.5% above like-2019’s COVID-19-impacted 3.87 million. Year-over-year declines of 7.0% and 9.6% are expected in January and February, respectively, but March is expected to rise 39.0% from the year-ago month, which is the month when widespread pandemic-related shutdowns earlier this year began.”

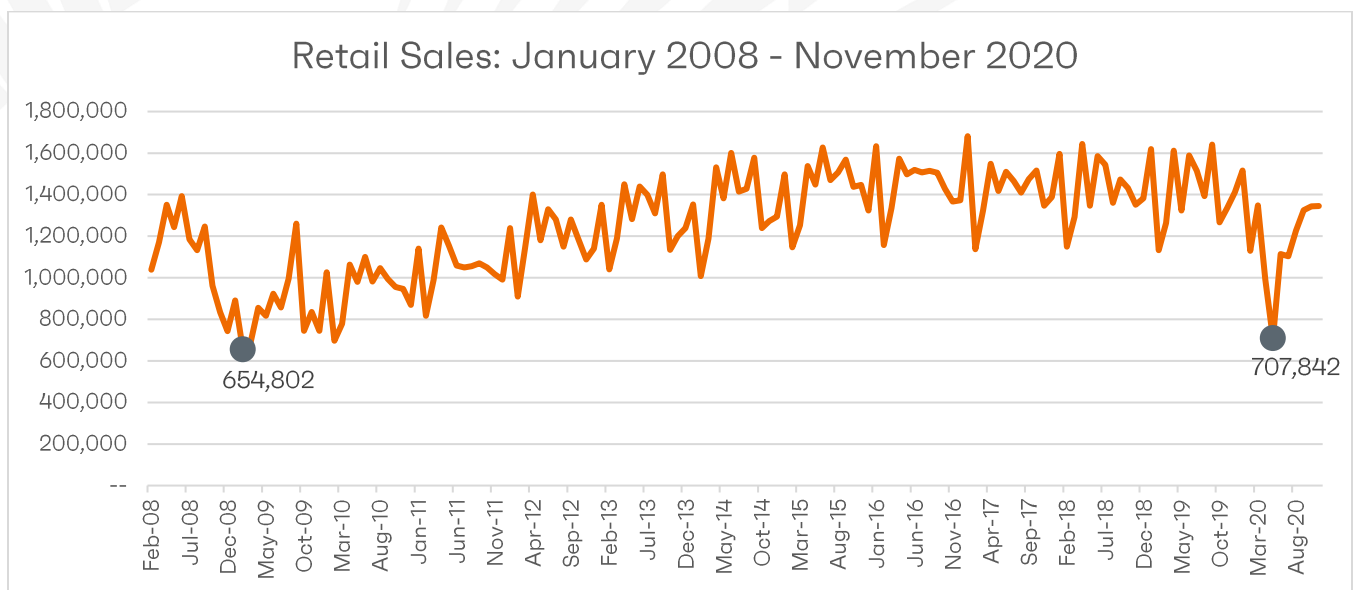
IHS Markit November Update^{xi}: “The production outlook for North America remains stable for the November 2020 release with 2020 revised up 0.2% or 23,000 units to total 13.0 million units. Production in 2021 was revised up a marginal 9,000 units or less than 0.1% totaling 15.9 million units with 2022 revised down 18,000 unit or 0.1% at 16.3 million units. With the month-over-month trend showing a slow restocking on inventory is underway, the restocking phase for North American production is forecast to continue through second quarter 2021 before moving towards the alignment phase that more closely aligns to demand. During this extended restocking phase, production in the region will outpace demand and is projected to add over 400,000 units to US inventory by the end of second quarter 2021. GM’s announcement to add production of T1XX pickups at Oshawa surprised many, coming about through a deal with the Unifor union that represents Canadian auto workers. Production is expected to start at the retooled facility in January 2022. Production of both the light- and heavy-duty pickups will be added for the December forecast round with volume being mostly incremental for the first 12 to 18 months and totaling upwards of 150,000 units. With Oshawa serving as a relief valve, GM is also expected to garner additional cost savings with reduction in overtime at the already stressed Flint Truck, Fort Wayne and Silao plants.”

Market Meter

U.S. Light Vehicle Sales (Updated 12/2)

Monthly Sales (Updated 12/2)

This chart helps to put into context the monthly retail sales due to the COVID pandemic and showing the relative drop in sales compared to the 2008 financial crisis.



November Sales (Updated 12/2)

WardsIntelligence^{xiii}: “U.S. light-vehicle sales in November finished slightly below expectations, as some weakness in overall demand occurred at the end of the month.

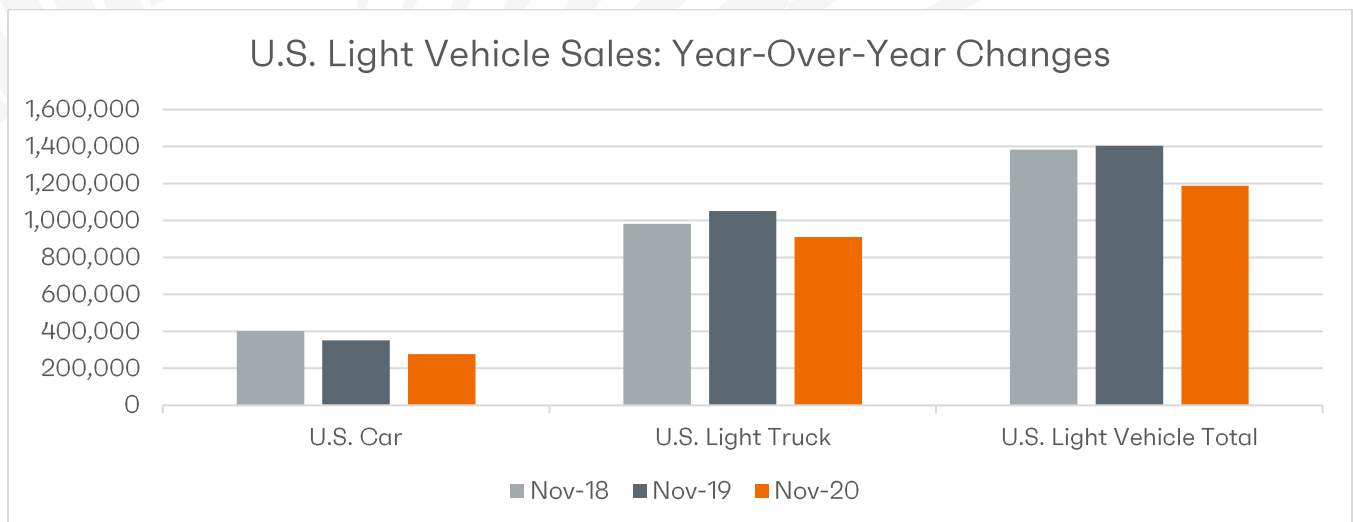
“November’s results equated to a 15.6 million-unit seasonally adjusted annual rate, slightly below the 15.7 million SAAR forecast for the month, and a decline from the most recent peak of 16.3 million totaled in both September and October. November’ 2019’s SAAR was 17.0 million units.

“Raw volume totaled 1.19 million units, 15.2% below like-2019’s 1.40 million. However, the year-ago period had an extra weekend and 26 selling days, compared with 23 this year. Based on daily selling rates, sales fell a much smaller 4.4%.

“Year-to-date volume through November totaled 12.84 million, 16.8% below 11-month 2019’s 15.44 million.

“Weakness in the final days of the month probably related to increased social and business restrictions due to the rise in Covid-19 cases, as well as bad weather in the Northeast, dampened volume. But unusually robust results at a few manufacturers helped prop November’s results.

“The month was marked by the first downturn in market penetration of fullsize pickups since March 2019. After largely carrying the load while demand climbed out of the pandemic-induced trough in April when total sales registered a paltry 8.7 million-unit SAAR, deliveries of big pickups declined 7.6% year-over-year and market share dropped to 14.3% from November 2019’s 15.0%. In the 6-month period since April, Large Pickup market share had averaged - 15.5% - slightly above a full percentage point higher than the same year-ago period.”



Fleet Sales (Updated 12/2)

Credit Suisse^{xiii}: “Fleet still weak but showing continued recovery, especially in daily rental: Fleet sales saw another challenged month, down ~28% in November – a decline vs. Oct -22%, albeit an improvement from down ~40% in Aug/Sep, and certainly much better than down ~70% in April-June. Fleet remains a tale of three channels, with sharp weakness in daily rental somewhat offset by government and commercial. Indeed, daily rental sales were down ~40% in November, still quite weak, albeit flat vs. Oct, and 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 double digits % in November and government up low single digit %. We see potential for continued fleet recovery into 2021, even if not at normalized levels.”

Wards Intelligence^{xiv}: “Estimated fleet volume, although anecdotal data indicates the success some automakers recorded in November was due to a surge in fleet deliveries, was down an estimated 25%, in line with the prior-month results but a vast improvement on the average 53% drop during March through September.”

J.D. Power^{xv}: 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

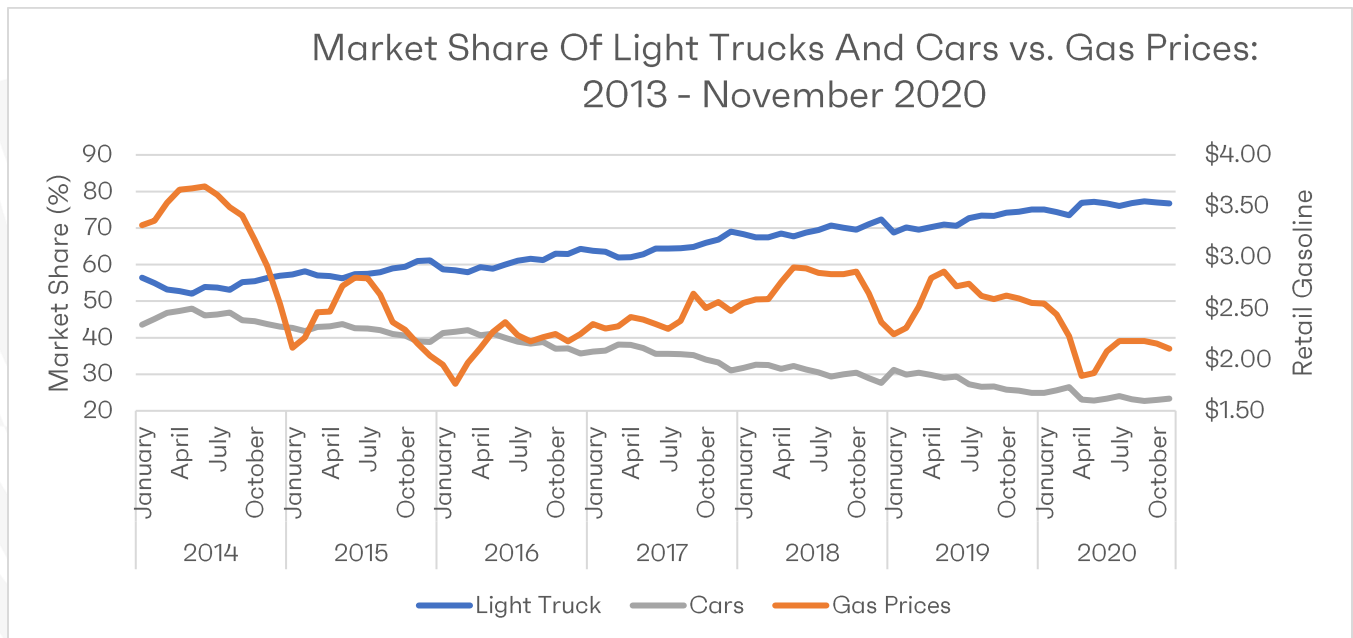
	Pessimistic Forecast	Optimistic Forecast	Pre-COVID Baseline Forecast
Retail Sales Forecast (million)	11.3	12.3	13.4
Fleet/Other Sales Forecast (million)	1.6	1.9	3.4
Total Sales Forecast (million)	12.9	14.2	16.8
Fleet Percent of Total Sales	12%	13%	20%
Retail Percent of Total Sales	88%	87%	80%
Fleet Loss 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 12/2)

WardsIntelligence^{xvi}: “Although cars were down 11.1% year-over-year in November, it was their best showing – and possibly indicative of a temporary uptick in fleet activity for the vehicles – since a 5.1% downturn in August 2019. November truck deliveries were down 2.1% year-over-year, with CUVs down 0.8% and Small Vans down 28.8%. However, SUVs were up 0.9% and the Small Pickup segment was up 6.4%. The Large Van segment, which accounted for 2.3% of sales, was up 15.6%, the first increase since January.”

Segment Sales For November: Light trucks accounted for 76.7% of sales in November, a 1.8% gain in market share from a year ago. Compared to 2019, sales of cars are down more than 73,000, and down more than 37,000 from October 2020. Total sales are down more than 164,000 from October 2020, and down about 216,000 from November 2019.^{xvii}

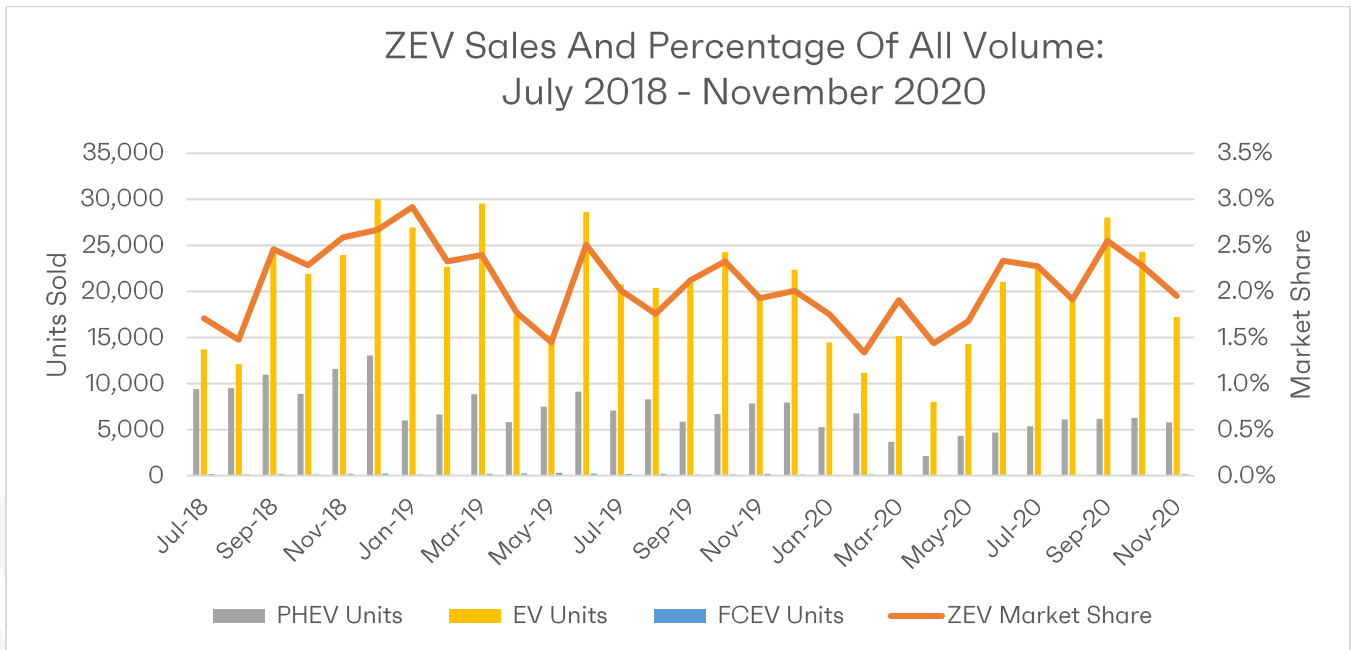
Historic Perspective: The upward trend in the popularity of light trucks over cars has been steady since 2013, when only 2% of annual market share separated the two segments.^{xviii} and gas was over \$3.00.^{xix} a gallon. As fuel prices dropped below the \$3.00 mark in mid-September 2014, light truck 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.^{xx}, the perfect conditions existed to continue fueling light truck market growth.



ZEV Powertrain Sales (Updated 12/2)

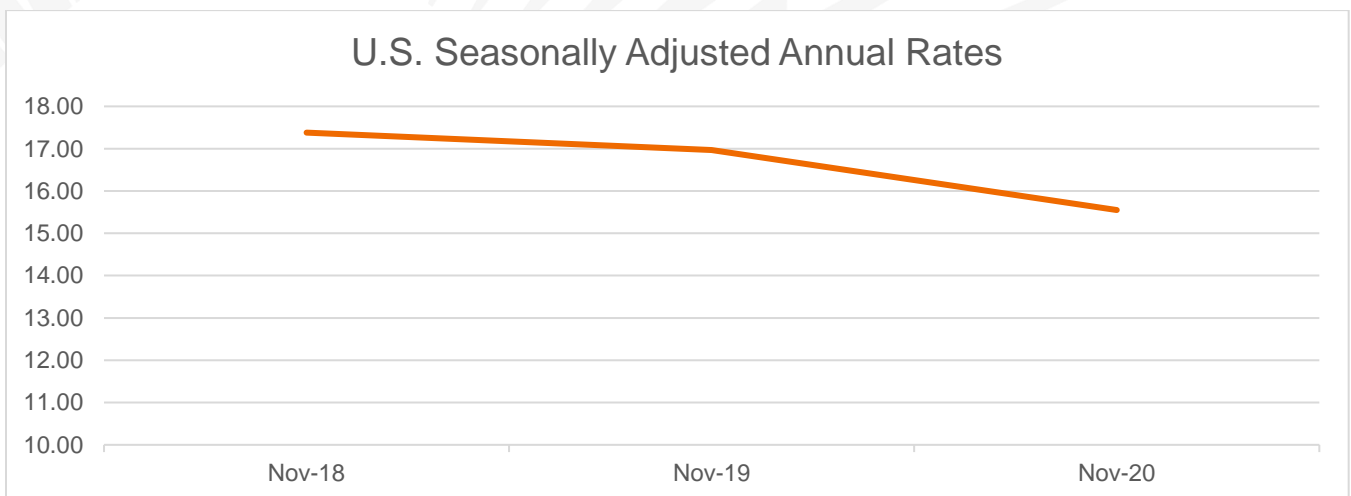
Sales of zero emission vehicles (BEV, PHEV, & Fuel Cell) accounted for only 2.0% of total vehicle sales in November 2020, up .1% from a year ago and down .3% from October 2020. Sales of battery electric vehicles led the way for ZEVs accounting for 1.45% of the total, though down .9% from November 2019. Plug-in hybrids accounted for .49%, down .6% a year ago.

Credit Suisse^{xxi}: “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 ~12% y/y, outpacing the industry decline of -17%...albeit EV sales in the last 3 months are up 20%+ y/y; BEV+PHEV have accounted for 2.0% of vehicle sales YTD.”



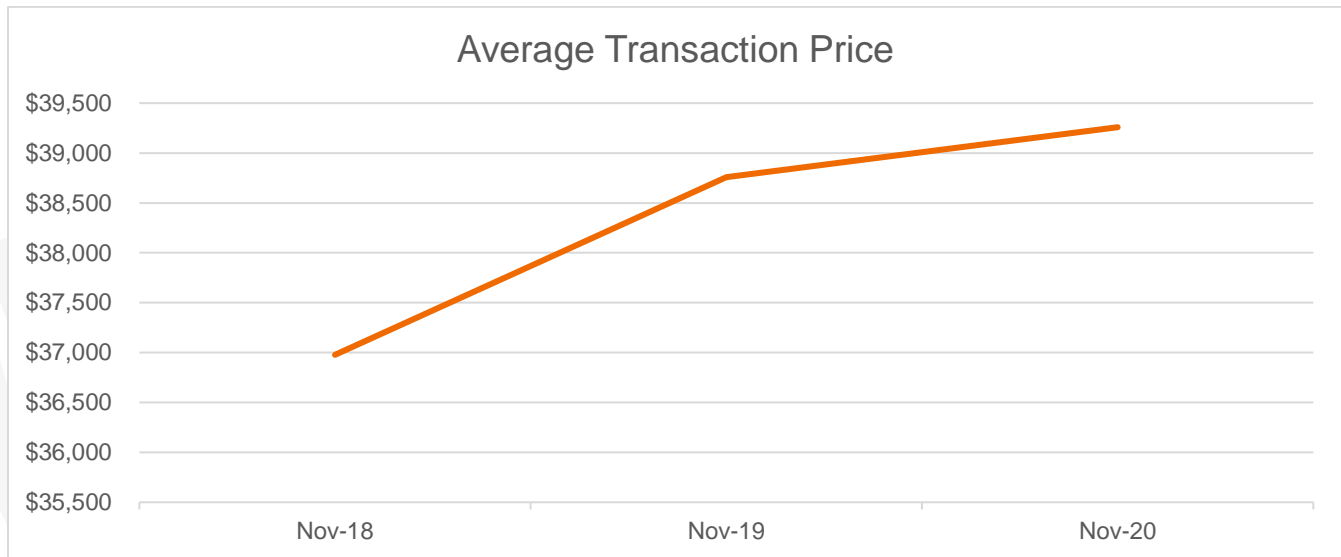
Seasonally Adjusted Annual Rates (Updated 12/2)

“November’s results equated to a 15.6 million-unit seasonally adjusted annual rate, slightly below the 15.7 million SAAR forecast for the month, and a decline from the most recent peak of 16.3 million totaled in both September and October. November’ 2019’s SAAR was 17.0 million units. . . . Raw volume totaled 1.19 million units, 15.2% below like-2019’s 1.40 million. However, the year-ago period had an extra weekend and 26 selling days, compared with 23 this year. Based on daily selling rates, sales fell a much smaller 4.4%.^{xxii}”



Average Transaction Price (Updated 12/2)

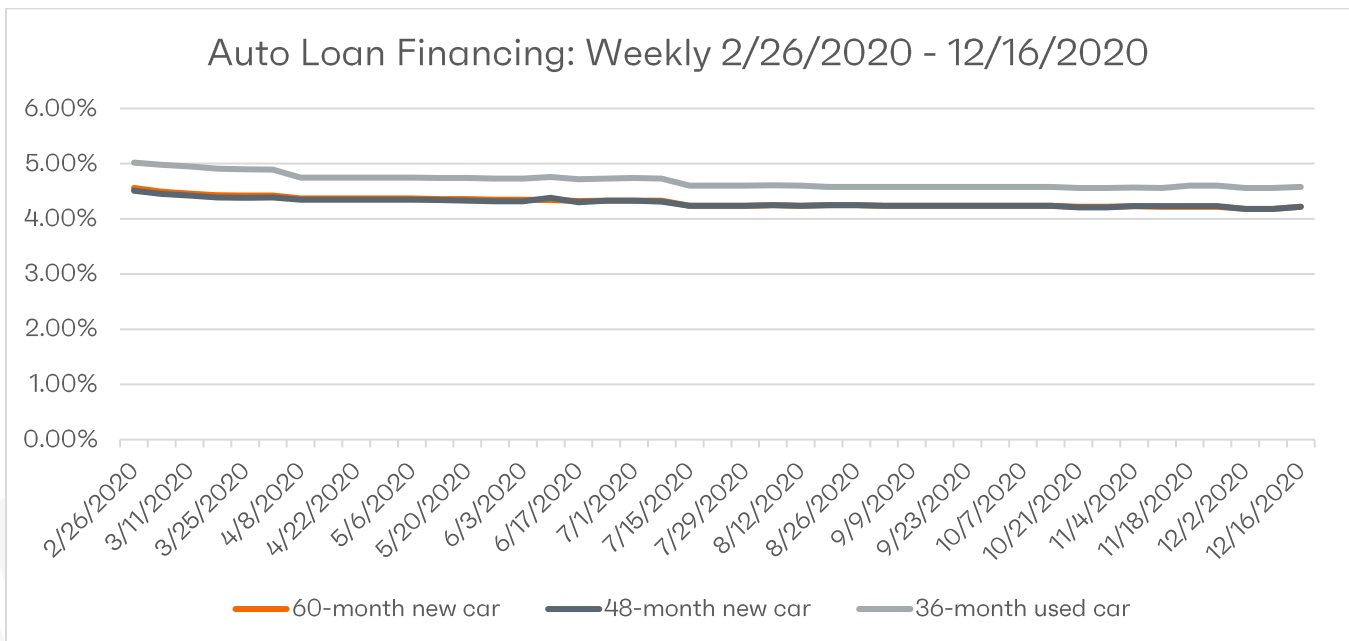
Kelley Blue Book: “The valuation analysts at Kelley Blue Book today reported the estimated average transaction price for a light vehicle in the United States was \$39,259 in November 2020. New-vehicle prices increased \$499 (up 1.3%) from November 2019, while falling \$480 (down 1.2%) from last month.”^{xxiii}



Auto Loan Financing (Updated 12/23)

Financing Rates Set New Low For The Year: Rates in the week before Christmas stayed the same as the previous week, remaining at 4.22%. Rates had remained relatively static since mid-July until starting to dip in November. Since the beginning of the year, rates are down .38% and down the same amount from about a year ago.^{xxiv}

Dates	60-month new car	48-month new car	36-month used car
12/4/2019	4.61%	4.57%	5.11%
1/2/2020	4.60%	4.55%	5.10%
12/16/2020	4.22%	4.22%	4.58%
12/23/2020	4.22%	4.22%	4.57%
One Week Change	0.00%	0.00%	-0.01%
Two Week Change	0.04%	0.04%	0.01%
Change since 1/3/20	-0.38%	-0.33%	-0.53%
One Year Change	-0.38%	-0.34%	-0.55%

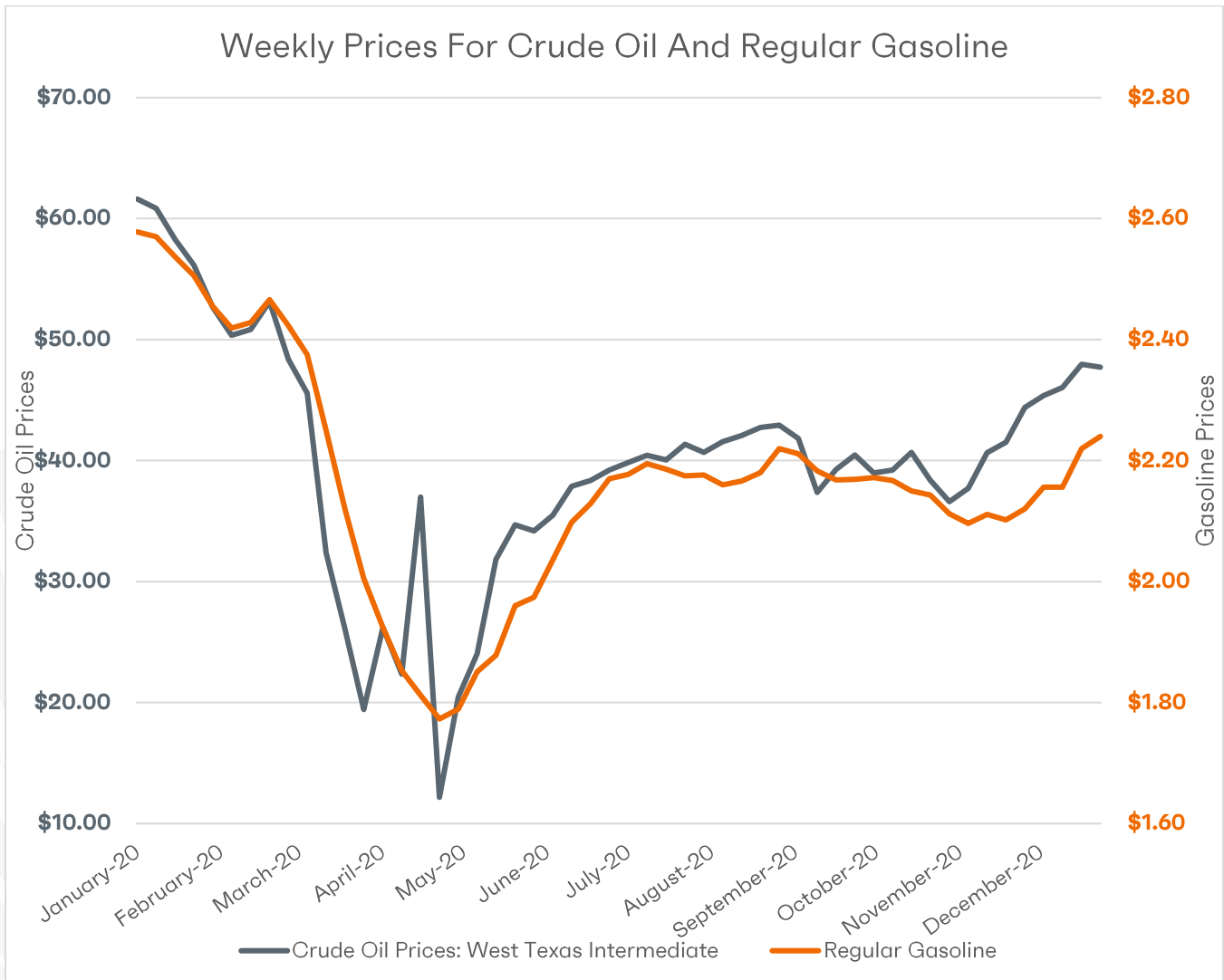


Crude Oil and Gas Prices (Updated 12/30)

EIA Outlook For Gasoline^{xxv}: “U.S. Energy Information Administration (EIA) estimates gasoline inventories increased by 7.4 million barrels (3.3%) from October, which is slightly higher than the average five-year increase of 2.7% from October to November. EIA estimates November gasoline consumption averaged 8.2 million barrels per day (b/d), a decrease of 3.2% from October.”

EIA Outlook For Production^{xxvi}: “EIA estimates that U.S. crude oil production was 11.2 million b/d in November, which is up from 10.9 million b/d in September (the most recent month for which historical data are available). The increase mostly reflects greater production in the U.S. Federal Gulf of Mexico after hurricane-related disruptions. EIA expects that U.S. crude oil production will decline to less than 11.0 million b/d in March 2021 mostly because of falling production in the Lower 48 states, where EIA expects declining production rates at existing wells will outpace production from newly drilled wells in the coming months. EIA expects crude oil production in the Lower 48 states will increase from 8.7 million b/d in February 2021 to 9.1 million b/d in December 2021, as drilling increases in response to rising oil prices. This increase contributes to total U.S. crude oil production reaching 11.4 million b/d in December 2021. On an annual average basis, EIA expects U.S. crude oil production to fall from 12.2 million b/d in 2019 to 11.3 million b/d in 2020 and 11.1 million b/d in 2021.”

Oil Rises To Highest Level Since Pandemic Began While Gas Remains Low, Though Trending Up: Oil prices, as benchmarked at West Texas Intermediate, increased to its highest level since early March, reaching \$47.97 in the days before Christmas, an increase of \$6.45 only one month ago. Gasoline prices ticked up slightly to \$2.22, about mid-way between the high and low for 2020. Compared to the start of the year, crude oil is down 22%, while gas prices are down 14%.^{xxvii}

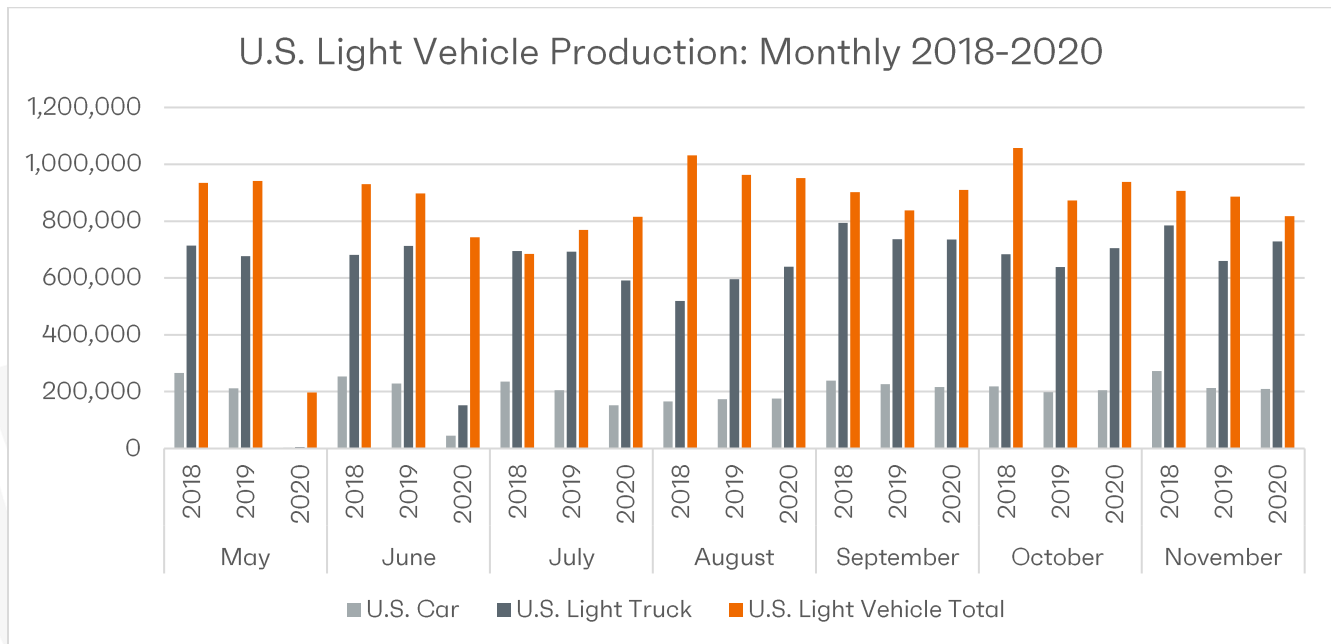


Production Meter

U.S. Light Vehicle Production (Updated 12/23)

WardsIntelligence^{xxviii}: “A shortfall from expectations for production in November led to a reduction in final projections for Q4-2020 for light-vehicle and medium-/heavy-duty trucks. However, much of those cuts could be recouped in Q1-2021 if there are no major disruptions to supply or labor because of the global resurgence of the Covid-19 virus. November was the second straight month North America vehicle production significantly finished short of expectations. November’s final total of 1.31 million units was 69,900 units below the projection for it coming into the period, and 6.4% below like-2019’s

1.40 million. Including revisions to some estimates first made to October’s data, the prior month finished 58,700 units below the last projection for the period before it started, though its total of 1.45 million was up 3.7% year-over-year.”



xxix

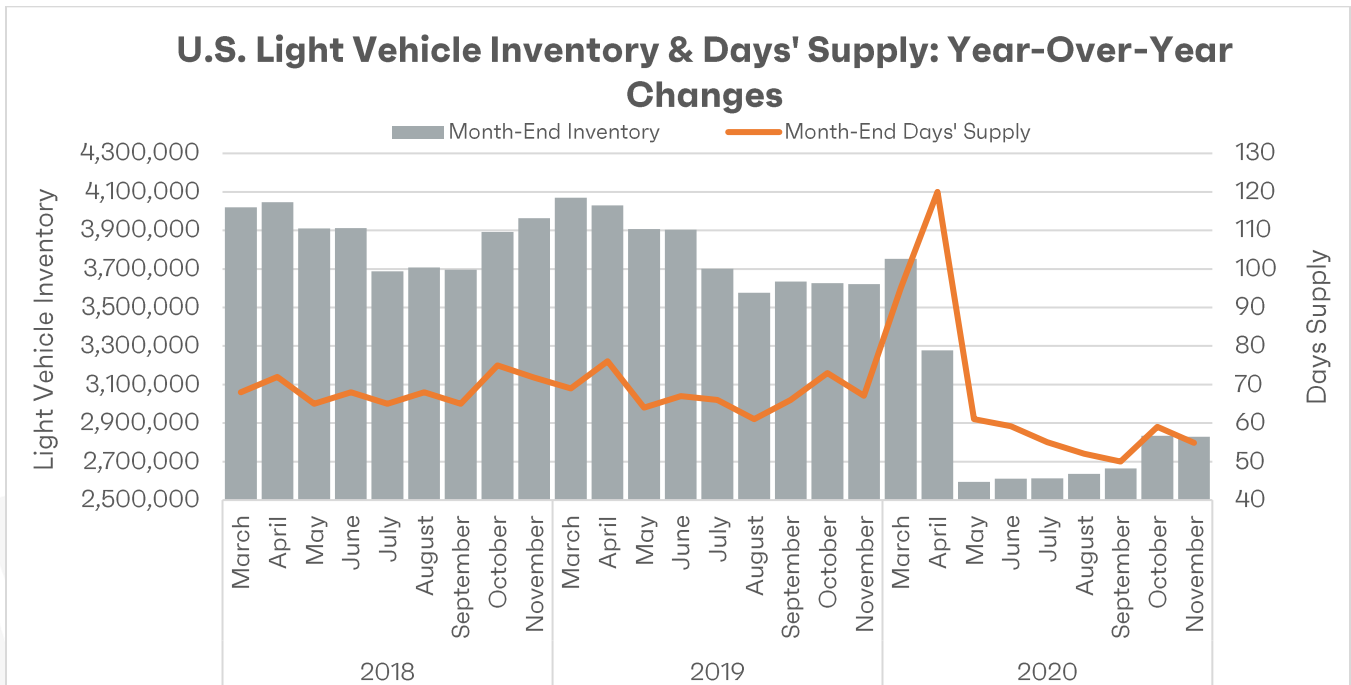
U.S. Light Vehicle Inventory and Days’ Supply (Updated 12/2)

WardsIntelligence October Inventory Update^{xxx}: “November U.S. light-vehicle inventory remained nearly flat with the prior month, and remained at a 9-year low despite demand in the past three months running at a 7-year low, based on seasonally adjusted annual rates.

“Nov. 30 inventory totaled 2.83 million units, down 21.9% from like-2019’s 3.62 million, and lowest for the month since 2.41 million in 2011. Days’ supply totaled 55, well below November 2019’s 67 and lowest for the month in at least 35 years.

“With dealers now accustomed to running through half their new-vehicle inventory each month, compared to the 35% to 40% that was normal prior to the pandemic, there is enough stock on hand to meet December’s initial outlook of a 15.8 million-unit SAAR, which equates to raw volume of roughly 1.56 million units.

“Inventory of domestically made vehicles ended November at 2.19 million units, 25.0% below like-2019, while imports at 641,000 were down 8.9%. Days’ supply for locally sourced vehicles fell to 55 from same-month 2019’s 70. Import days’ supply was 53, down from year-ago’s 70.”



xxxii

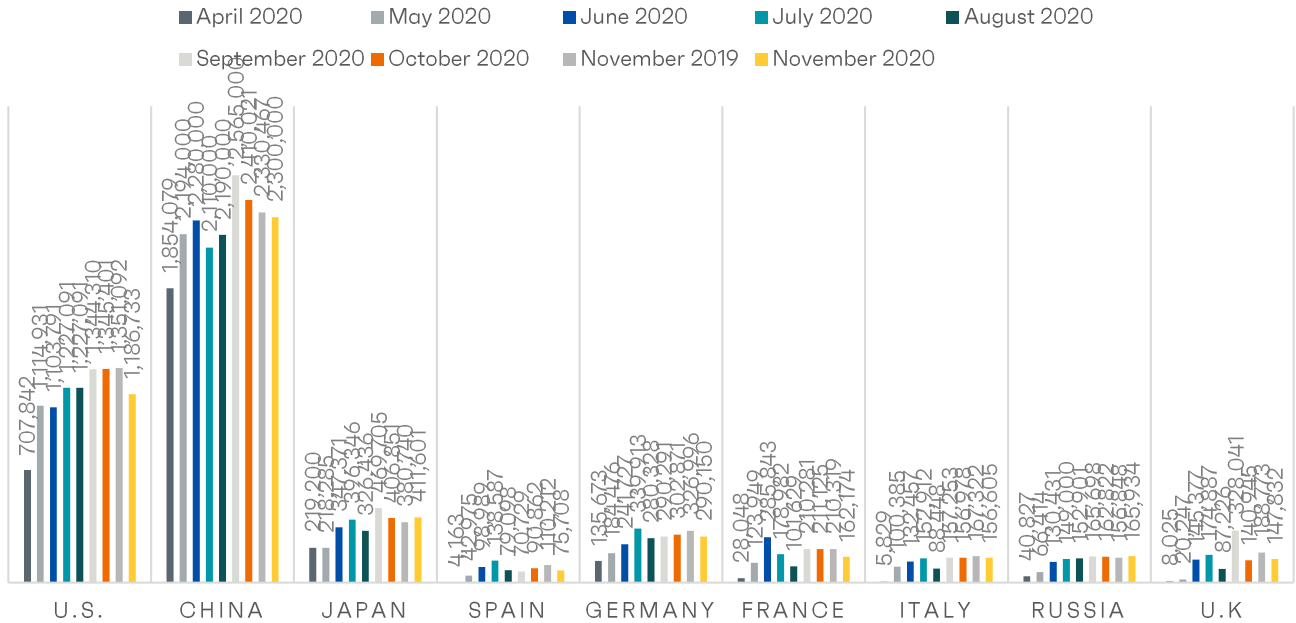
Global Meter (Updated 12/30)

Global Light Vehicle Sales Outlook (Updated 12/30)

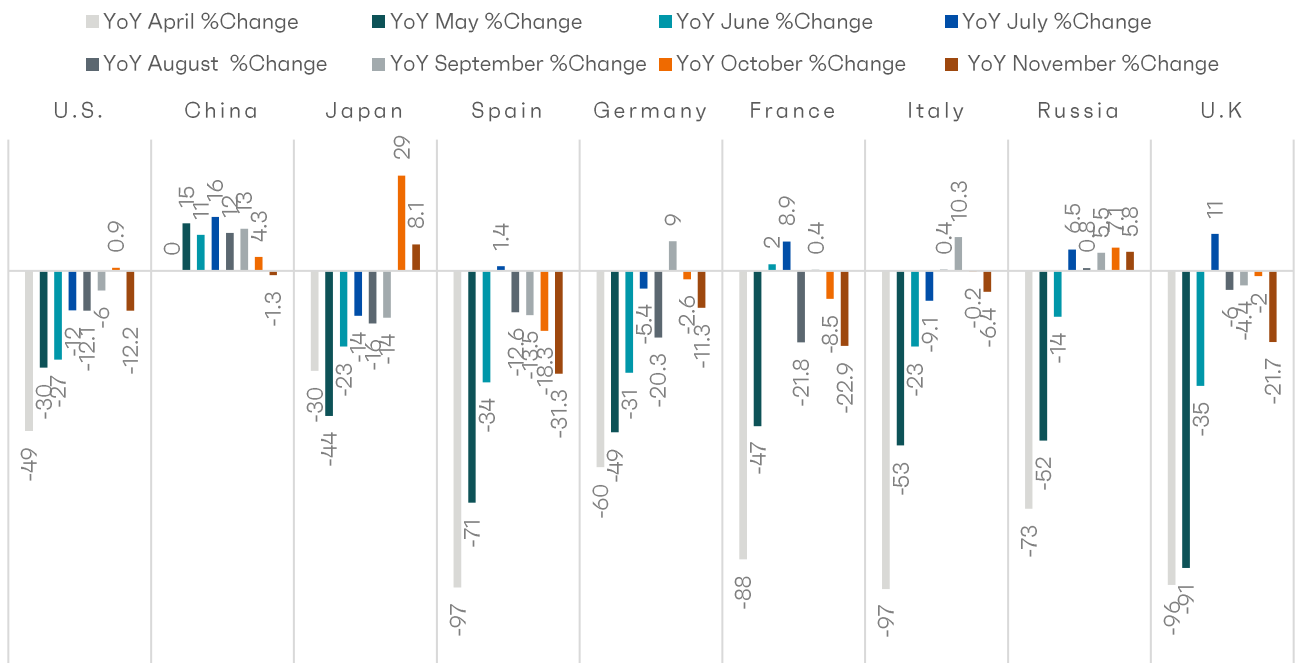
Wards Intelligence Outlook^{xxxii}: “After two months of gains, world sales dipped 1.3% to 7.72 million vehicles in November. The Asia-Pacific region again was the only region to improve, with a 9.0% boost to 4.12 million. However, a 14.9% drop in sales to 1.46 million in North America helped bring down the global total. Sales in China grew 12.6% to 2.77 million units, compared to year-ago’s 2.46 million, due to low COVID-19 infection rates and pent-up demand from shutdowns in the first quarter. ... Japan also saw gains in November, up 6.7% to 412,000 units, though year-ago totals were artificially low due to dealership closures caused by typhoons. Sales there were down 13.0% for the year. ... In Europe, sales were down 8.3% to 1.51 million for the month. Results were mixed across the region: Germany slipped 2.2% to 327,000 units and Spain dropped 17.1% to 92,000, while Greece improved 2.4% to more than 8,000 and Norway jumped 19.8% to 16,000. France had strict lockdown measures in place in November to help curb the spread of the coronavirus ahead of the Christmas season, helping to bring sales down 22.3% to 167,000 vehicles. ... With one month left in a tough year, world sales tumbled 15.6% through November to 70.78 million, compared to same-period 2019’s 83.87 million. Wards Intelligence Senior Industry Analyst Haig Stoddard expects sales to continue to fall in Q1 2021, though not as sharply as Q1 2020.”

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

Light Vehicle Sales By Country



Light Vehicle Sales By Country: Year-Over-Year Percent Change By Month



Recovery Meter

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

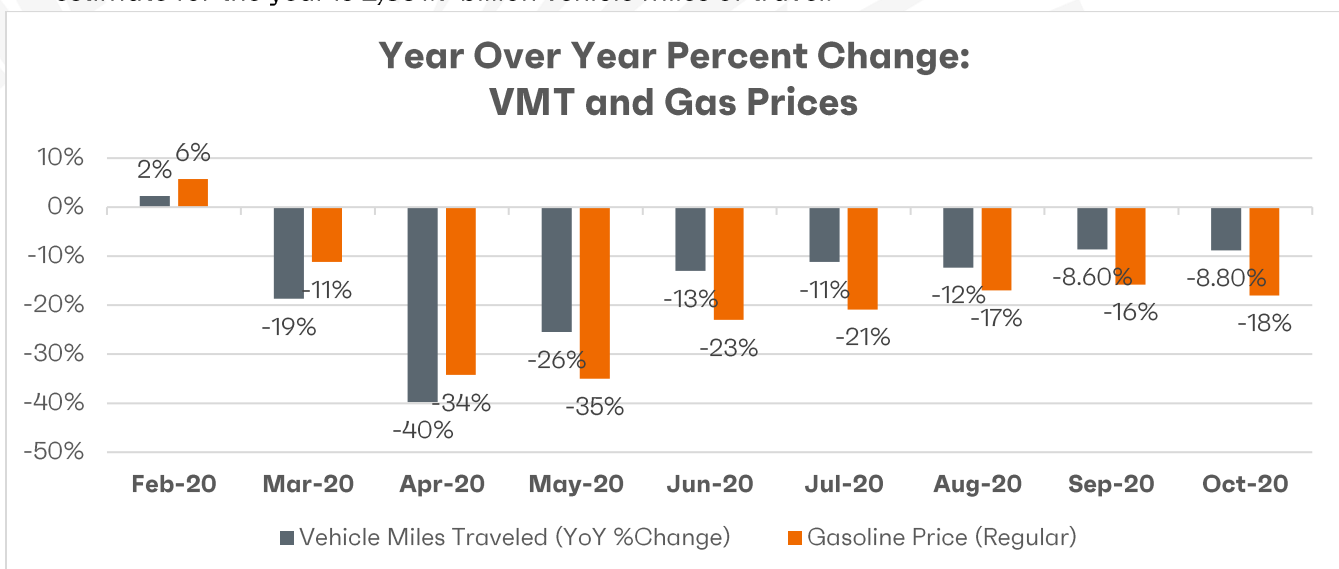
After all automotive manufacturing was shut down for the first time since World War II for roughly eight weeks, automakers have resumed production at all plants across North America. The extent to which production has ramped up or employment has been reinstated continues to fluctuate due to the impacts 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 12/23)

According to the U.S. Department of Transportation, vehicle miles traveled in October were the strongest stopped its slide since the start of the pandemic, with VMT down 8.8% year-over-year, a slight uptick it the decline from September:^{xxxiii}

- “Travel on all roads and streets changed by -8.8% (-25.0 billion vehicle miles) for October 2020 as compared with October 2019. Travel for the month is estimated to be 259.0 billion vehicle miles.
- “The seasonally adjusted vehicle miles traveled for October 2020 is 246.8 billion miles, a -9.2% (-25.0 billion vehicle miles) decline from October 2019. It also represents -0.02% decline (-0.1 billion vehicle miles) compared with September 2020.
- “Cumulative Travel for 2020 changed by -13.9% (-380.7 billion vehicle miles). The cumulative estimate for the year is 2,351.9 billion vehicle miles of travel.”

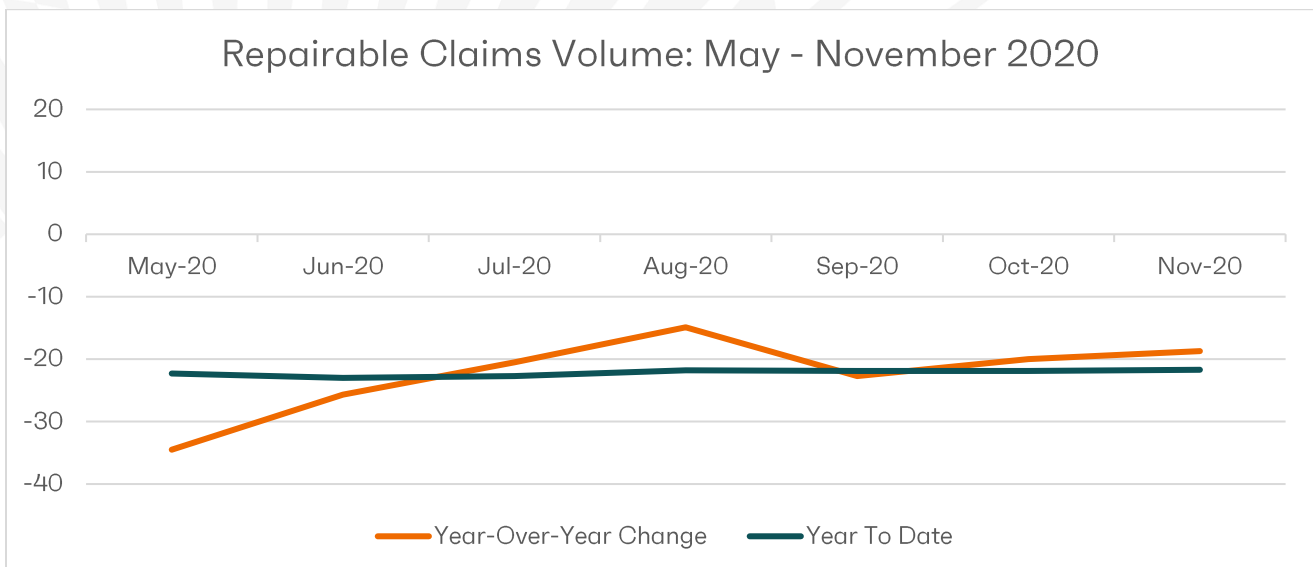


Repairable Claims (Updated 12/16)

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: “Repairable appraisal counts in November 2020 versus November 2019 remained down nearly 20 percent, but showed a modest improvement coming in at -18.7 percent decline versus a -19.6 percent decline in October 2020. COVID-19 diagnoses, hospitalizations, and deaths continue to climb, as the third wave of the pandemic continues to affect most of the country. Data from Johns Hopkins Coronavirus Resource Center shows the Midwest, Southeast, and California have been hit particularly hard.

- “Overall claim counts remain down 20 percent year-to-date through November; excluding comprehensive, which are down 24 percent.
- “With the CDC recommending people not travel during the upcoming December and New Year’s holidays, it is unlikely claim counts will recover substantially during the final month of the year.
- “As we look forward to early CY 2021, promising news on several vaccines suggest we will start to see some improvement in travel during the second half of the year, which should lift claim counts up over CY 2020, but likely keep them below where they were in CY 2019.^{xxxiv}



Economic News (Updated 12/9)

November U.S. Manufacturing Job Gains Boosted By 15,400 From Motor Vehicle Sector. “U.S. manufacturing added 27,000 jobs last month, buoyed by gains in motor vehicles and parts, the Labor Department said today. The motor vehicle sector boosted employment by 15,400 jobs, according to a breakdown by industry issued by the Bureau of Labor Statistics.”^{xxxv}

- **Industry Recovery Helped By Continuing Strong Demand For Trucks And SUVs.** “The auto industry has recovered from plant shutdowns early in the year to slow the spread of the novel coronavirus (COVID-19). Factories restarted operations in May with new safety procedures in place. The industry has been helped by continuing strong demand for trucks and SUVs.”^{xxxvi}

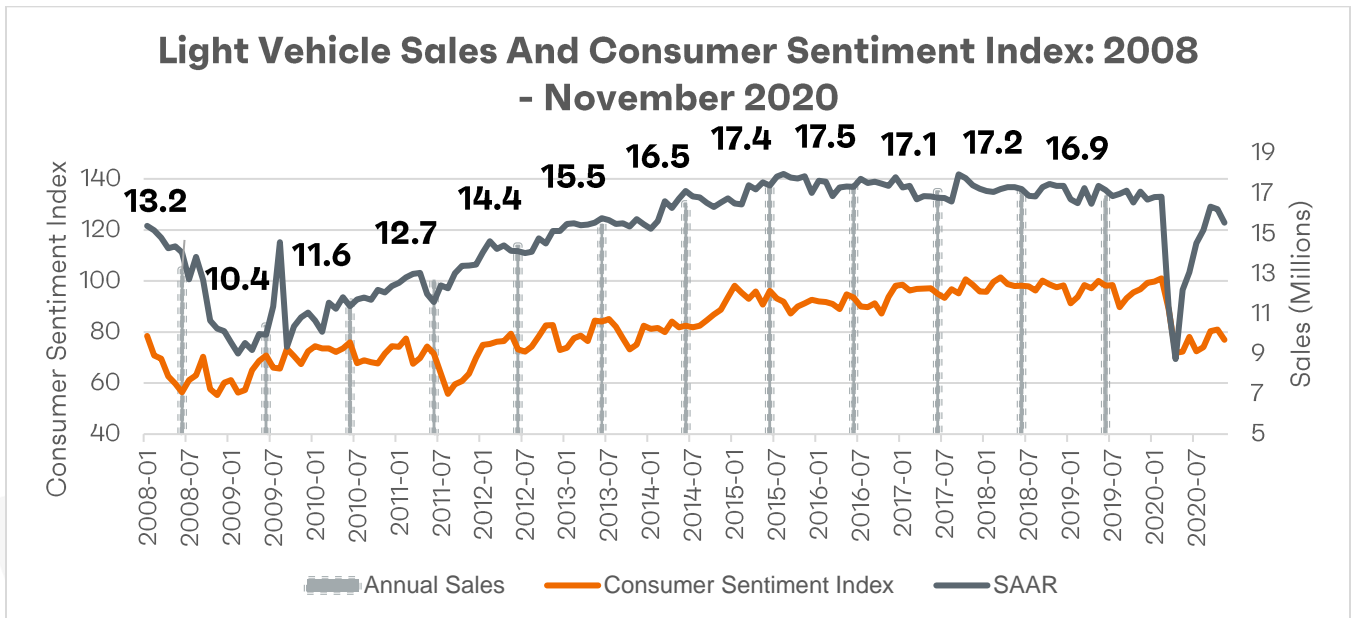
U.S. Car And Truck Production Credited With Giving The Economy Its Biggest Boost In 50 Years. “U.S. car and truck production in the third quarter gave the economy its biggest boost in almost a half century. A surge in motor-vehicle output contributed just over 6 percentage points to the annualized 33.1% 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.”^{xxxviii}

- **“Household Spending On Motor Vehicles And Parts Surged At An 87% Annualized Rate, Also The Most Since 1971, The GDP Report Showed.”**^{xxxix}

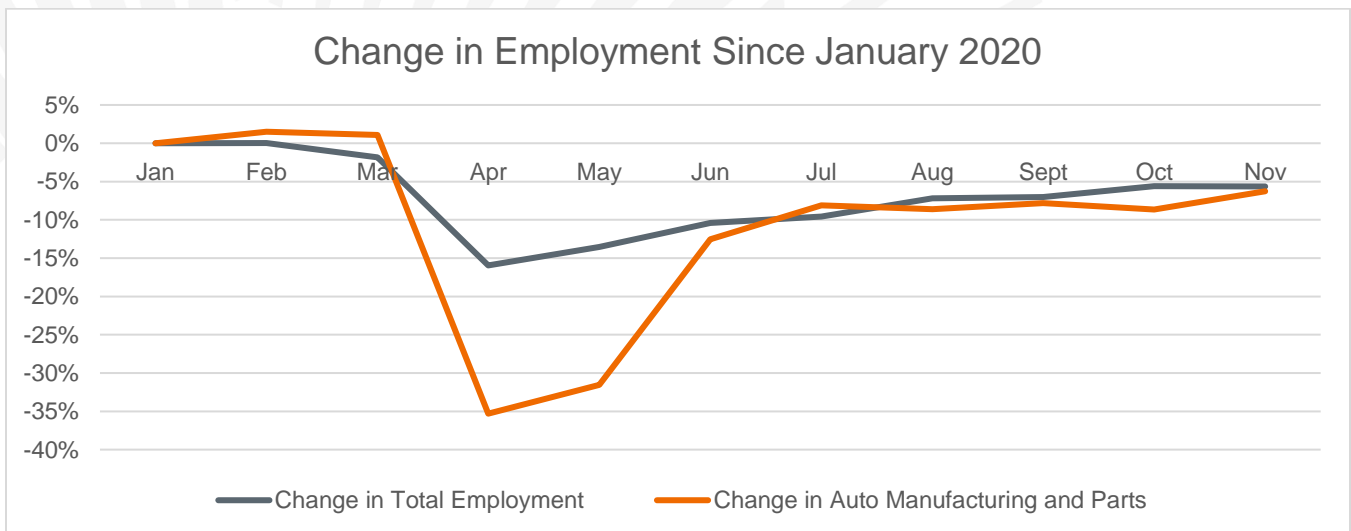
Consumer Confidence and Sales (Updated 12/9)

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, however, the index fell to 76.9 in November. While the April low of 71 is only 6 points off from where the index sits currently, it is still much higher than it was during the depths of the recession in 2008. The downturn in sentiment corresponds to a decrease in the month’s seasonally adjusted annual rate.



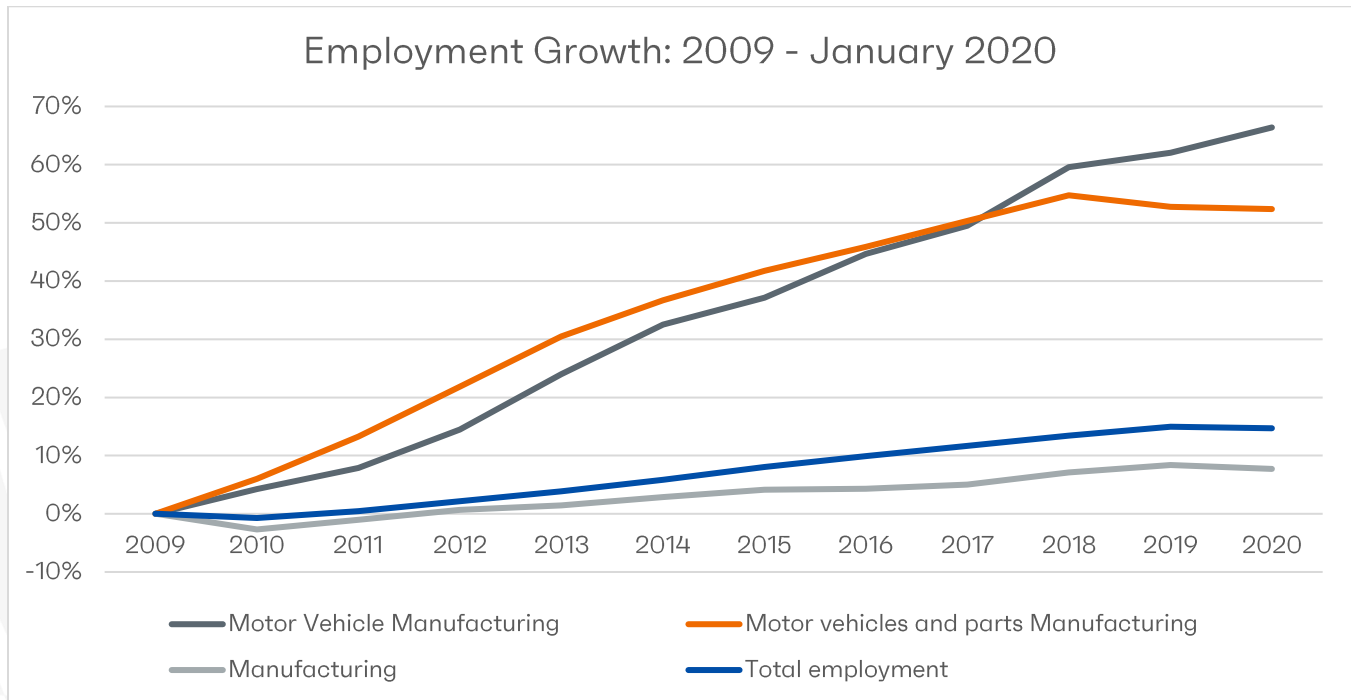
Employment (Updated 12/9)

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 77,000 employees, constituting a 6.3 percent loss since January. November’s employment is an improvement of over 23,000 jobs since October.^{xi}



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.^{xii}

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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