

TRANSPORTATION TRENDS, EQUIPMENT MARKETS, & THE ECONOMY

TRANSPORTATION DIGEST

REPORT VERSION PUBLISHED NOVEMBER 2019

2019 LAWRENCE R. KLEIN BLUE CHIP AWARD WINNER

Contributor to Blue Chip Economic Indicators and WSJ Economic Forecast Panel



SAMPLE REPORT OVERVIEW:

Thank you for your interest in ACT Research and our work. The objective of this sample report is to share an understanding of the market, economy, and insight to analysis at the time of publication. **We share this report from 2017 for market context, an assessment of our historical and current data recordings, and a look into the market indicators we gather from the participating OEMs.**

Transportation Digest

A monthly digest to review the transportation trends, equipment markets, and the Economy as a whole. This report includes information relative to For-Hire, Trucking, Intermodal, and various truck class trends.

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1.PDF of Current Month Report

2.Key Items of Note

- A. ACT For-Hire Trucking Survey
- B. Trucking Sector Trends
- C. Publicly Traded Truckload Carriers
- D. Rail/Intermodal Trends
- E. New Class 8 Truck Trends
- F. New MD Truck Trends
- G. Used Truck Trends
- H. New Trailer Trends
- I. U.S. Economics

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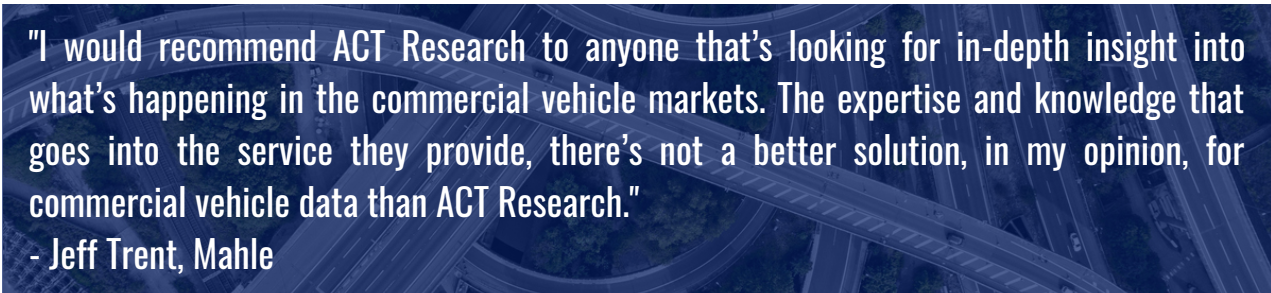
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"I would recommend ACT Research to anyone that's looking for in-depth insight into what's happening in the commercial vehicle markets. The expertise and knowledge that goes into the service they provide, there's not a better solution, in my opinion, for commercial vehicle data than ACT Research."

- Jeff Trent, Mahle

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HIGHLIGHTS & COMMENTARY

TRANSPORTATION

The **ACT For-Hire Trucking Survey** Volume Index (SA) returned to modest positive territory in October, at 52.0 (SA), after surging to 59.6 in September. It has now been positive three of the past four months, but just four times this year.

ACT's For-Hire Pricing Index returned to negative territory, at 45.8 (SA), in October, after recovering with volumes in September at 52.2. The full-year average fell to 47.7.

Seasonally adjusted, capacity contracted in October for the fourth straight month, with the index rising to 49.3, from 47.3 in September. This continues to be inconsistent with ACT's reporting of robust US Class 8 tractor retail sales, strongly suggesting private fleets continue to be responsible for ongoing capacity additions.

Fleet productivity/utilization held up well in October, at 53.9, though down from 56.3 in September, which is consistent with the slower volume growth reading and ongoing capacity discipline.

Buying intentions rose considerably in October, to 58.5% of respondents planning to buy trucks in the next three months, from 48.3% in September (SA). This is somewhat surprising as the unsustainable pattern of low orders and peak production is at the beginning of the end. **(Pages 2-4)**

The **ATA's For-Hire Truck Tonnage Index** (SA) grew 3.5% y/y in September, from 3.2% y/y in August and 4.1% ytd versus the full-year 2018 growth rate of 6.6%. **(Page 5)**

Cass reported their Shipments Index, a broad for-hire transport volume indicator, declined 3.3% y/y in September, the tenth straight month of declines averaging -3.1%. **(Page 5)**

ACT Research's final Q3'19 **Publicly Traded Truckload Carrier Database** shows total revenue of \$8.6 billion for the quarter, off 5% y/y and slightly lower from the previous quarter. **(Page 6)**

The worsening trend in NA Class I **Rail** volumes accelerated in October, which bore the brunt of the GM strike, falling 7.2% y/y. **(Pages 7, 16)**

EQUIPMENT

Even as we face the push and pull of seemingly contradictory market statistics, our **Class 8** outlook remains essentially unchanged for the short and long-term. **(Page 8)**

Activity for the total **Medium Duty** market was mixed in September, with weakness in sequential comparison, but expansion evident in longer-term performance. **(Page 9)**

Same dealer sales of **Used Class 8** equipment were uniformly weaker in September, falling 5% m/m, with y/y and ytd volumes dropping 18% and 19%, respectively. **(Pages 10, 12-14)**

We would expect some seasonal bump in **Trailer** order activity, and it does appear that the 2019-20 order season is now underway. That being said, the pace seems a bit uninspiring. **(Page 11)**

ECONOMY

Our view of the US economy remains unchanged. Economic growth is decelerating as the stimulus of the 2017 tax cut ebbs. Despite uncertainty, we are not forecasting an economy-wide recession, but are expecting "rolling recessions." Manufacturing, retail and the energy sectors are most vulnerable. Trade tension continues to be a major source of volatility, globally as well as domestically.

Real GDP growth is forecast to average 2.3% in 2019, 1.7% in 2020, and slow a bit further in 2021. The consumer sector, propelled by the fundamentals of strong employment, rising income and high levels of sentiment, provides the solid base for growth. Business expenditures will be the weak sister, constrained by rising tariff costs and uncertainty. The risks to our forecast are mainly to the downside.

The unemployment rate, currently at 3.6%, should average 3.7% in 2019 and rise a tad to 3.8% in 2020, remaining below the natural rate estimated at 4.5%. Headline inflation measures should average slightly below the Fed's preferred 2% target; measures that eliminate volatile series, such as energy and food, are the core readings, which should remain slightly above the 2% mark. Our view is likely to be tested by economic data volatility in the next several months. It may be spring of 2020 before projections are finally validated. **(Pages 17-20)**

ACT FOR-HIRE TRUCKING SURVEY

VOLUME INDEX: The Volume Index (SA) returned to modest positive territory in October, at 52.0 (SA), after surging to 59.6 in September. It has now been positive three of the past four months, but just four times this year.

The freight industry improvement has not been broad-based in the past few months, and we continue to see plenty of evidence that inventory building ahead of tariffs has been a key driver of recent performance, though strong consumer trends are also helping. With still-aggressive private fleet growth and a weak US manufacturing sector, choppy results will likely continue, but the past few months suggest a bottoming process is underway.

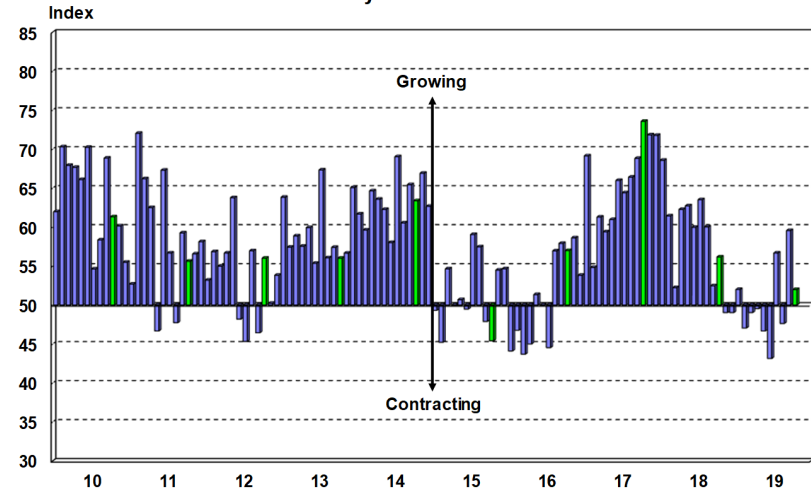
PRICING INDEX: ACT's For-Hire Pricing Index returned to negative territory, at 45.8 (SA), in October, after recovering with volumes in September at 52.2. The full-year average fell to 47.7. After the pricing environment stabilized in the past few months, this is the lowest result since June. The volume improvement appeared to help the pricing picture in September, and could perhaps again ahead of December tariffs, but pressure from capacity growth persists near-term.

Unadjusted, the Freight Rate Index was 46.0 in October, down from 50.0 in September.

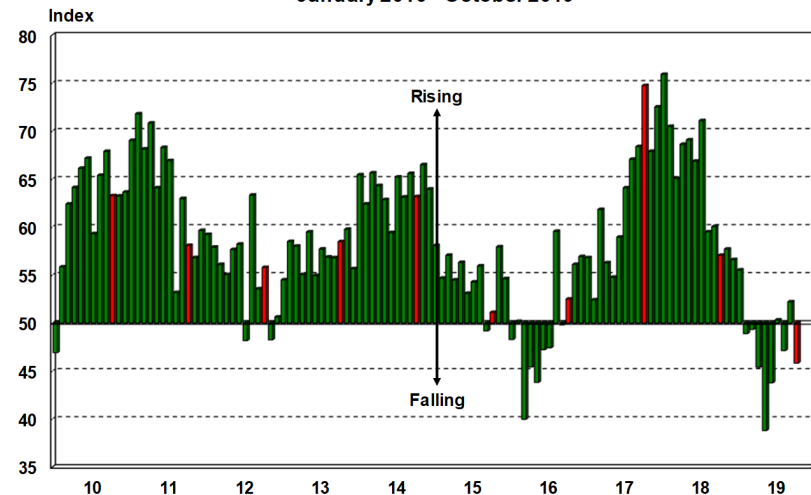
HOW TO INTERPRET THE ACT FOR-HIRE TRUCKING INDEX:

The index is based on a survey of various sized carriers that measures degree and directional changes in selected metrics. It is a diffusion index, meaning readings above 50 show improvement and readings below 50, degradation.

ACT For-Hire Trucking Index: Volumes
(Seasonally Adjusted)
January 2010 - October 2019



ACT For-Hire Trucking Index: Freight Rates
(Seasonally Adjusted)
January 2010 - October 2019



ACT FOR-HIRE TRUCKING SURVEY

CAPACITY INDEX: Seasonally adjusted, capacity contracted in October for the fourth straight month, with the index rising to 49.3, from 47.3 in September. This continues to be inconsistent with ACT's reporting of robust US Class 8 tractor retail sales, strongly suggesting private fleets continue to be responsible for ongoing capacity additions.

It is also indicative of disciplined capital spending by for-hire carriers. However, with industry production cuts still in early stages, capacity growth will continue into 2020. This suggests our Capacity Index is ahead of the industry curve, but should still be seen as a useful leading indicator here. In October, the capacity reading was 49.0 on a nominal basis, up from 47.6 in September.

PRODUCTIVITY INDEX (miles/tractor): Fleet productivity/utilization held up well in October, at 53.9, though down from 56.3 in September, which is consistent with the slower volume growth reading and ongoing capacity discipline.

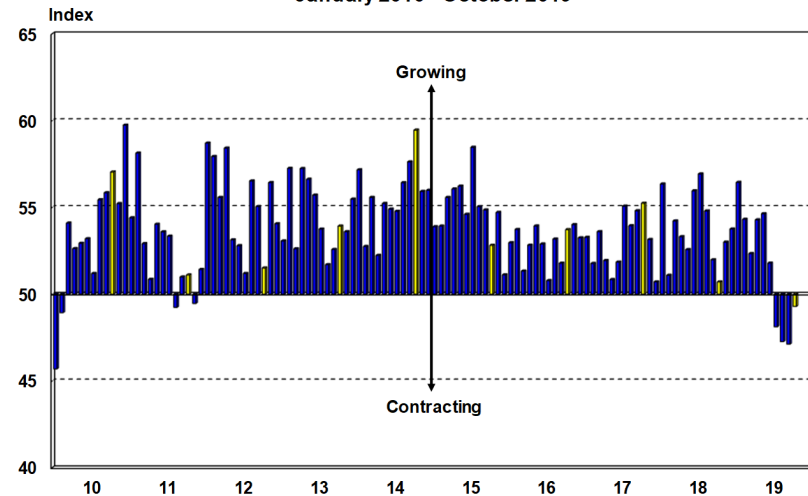
Utilization has been choppy and under pressure in 2019 from both soft volumes and significant capacity growth.

Unadjusted, the Productivity Index was 56.0 in October, similar to 55.8 in September.

HOW TO INTERPRET THE ACT FOR-HIRE TRUCKING INDEX:

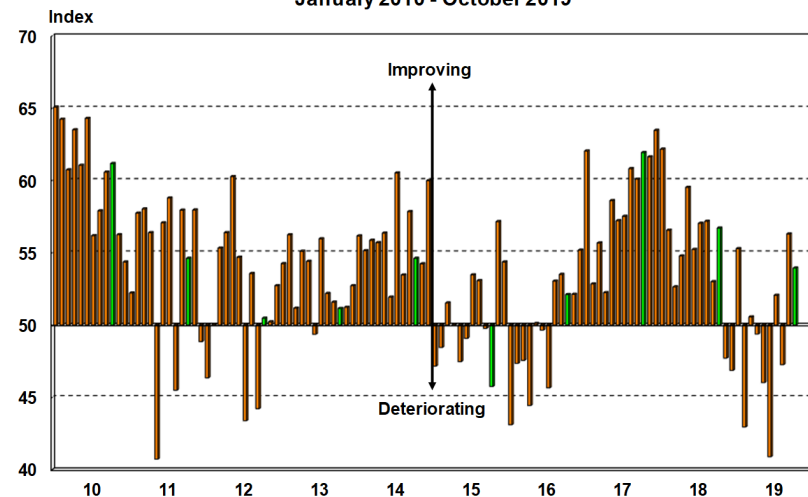
The index is based on a survey of various sized carriers that measures degree and directional changes in selected metrics. It is a diffusion index, meaning readings above 50 show improvement and readings below 50, degradation.

ACT For-Hire Trucking Index: Fleet Capacity
(Seasonally Adjusted)
January 2010 - October 2019



Source: ACT Research Co., LLC: Copyright 2019

ACT For-Hire Trucking Index: Productivity
(Seasonally Adjusted)
January 2010 - October 2019



Source: ACT Research Co., LLC: Copyright 2019

ACT FOR-HIRE TRUCKING SURVEY

FLEET PURCHASE INTENTIONS: Buying intentions rose considerably in October, to 58.5% of respondents planning to buy trucks in the next three months, from 48.3% in September (SA).

This is somewhat surprising as the unsustainable pattern of low orders and peak production is at the beginning of the end, but it remains below the strong 60.4% average reading of the Buying Index over the past 12 months.

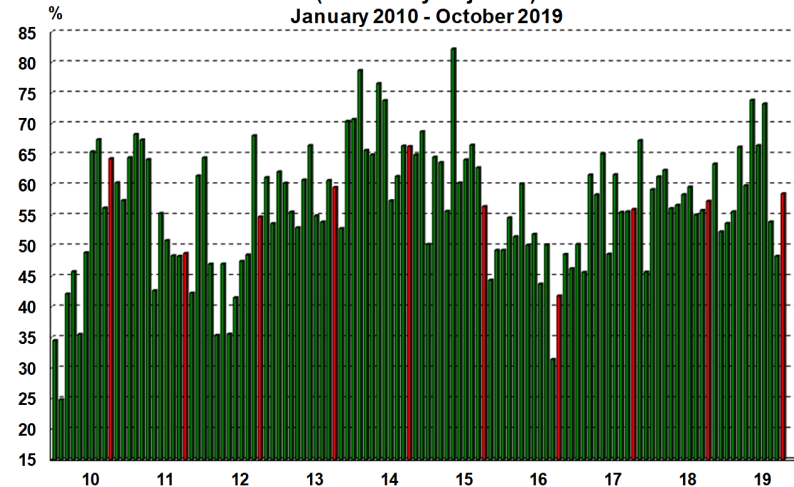
SUPPLY-DEMAND BALANCE: The supply-demand balance reading was positive for the third time in four months in October, but fell to 52.7, from 62.4 in September (SA). The sequential decrease was mainly from the lower Volume Index, with a smaller negative effect from the smaller decline in the Capacity Index.

While potentially a positive leading indicator, we see two big caveats which caution against too much extrapolation. First, the volume improvement is partly related to temporary inventory building, and second, ongoing private fleet capacity additions argue it overstates the tightness in the for-hire market. That said, this may bode well for a more balanced environment next year on lower Class 8 tractor demand.

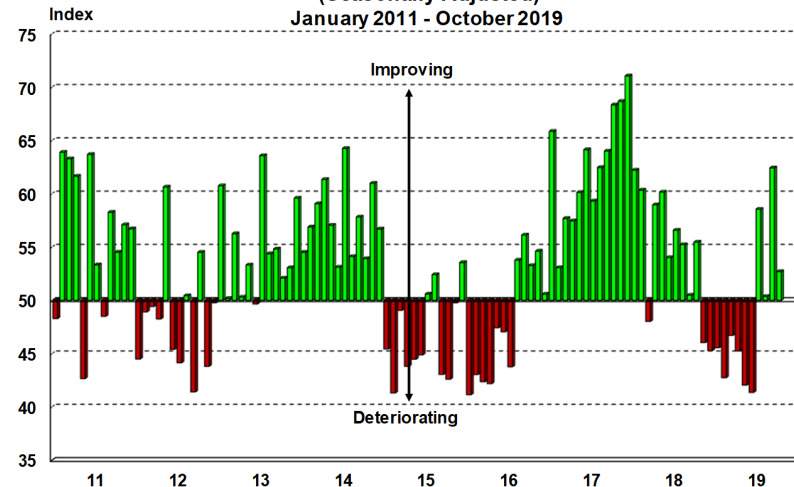
HOW TO INTERPRET THE ACT FOR-HIRE TRUCKING INDEX:

The index is based on a survey of various sized carriers that measures degree and directional changes in selected metrics. It is a diffusion index, meaning readings above 50 show improvement and readings below 50, degradation.

**ACT For-Hire Trucking Index:
% Respondents Buying Equipment Next 3 Months
(Seasonally Adjusted)**



**ACT For-Hire Trucking Survey: Supply-Demand Balance
Freight (Demand) Index Less Capacity (Supply) Index
(Seasonally Adjusted)**



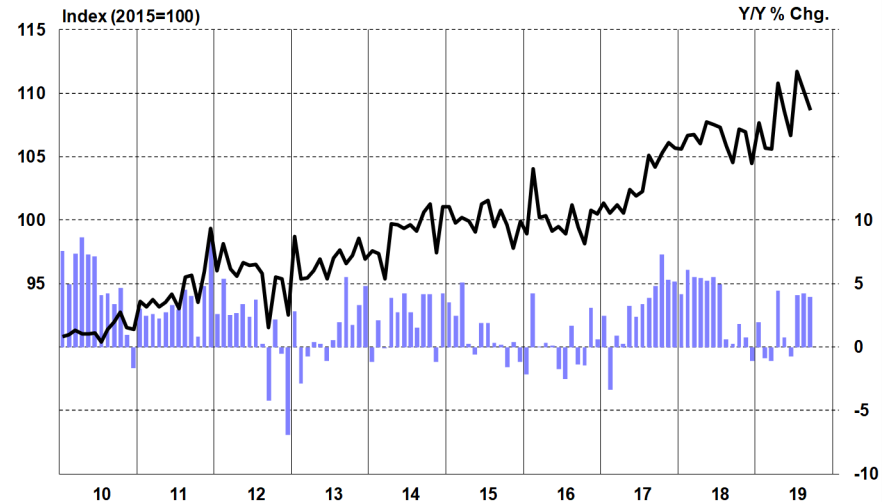
TRUCKING SECTOR TRENDS

ATA TONNAGE AND LOADS: The ATA's For-Hire Truck Tonnage Index (SA) grew 3.5% y/y in September, from 3.2% y/y in August and 4.1% ytd versus the full-year 2018 growth rate of 6.6%. The ATA's TL Loads Index (SA) rose 4.0% y/y in September, from a 4.3% y/y increase in August. We attribute much of the increase to inventory building ahead of "List 4 tariffs," and we expect growth to slow from here. On a m/m basis, the ATA Loads Index fell 1.5% in September.

CASS FREIGHT INDEX: The Cass Shipments Index declined 3.3% y/y in September, the tenth straight month of declines averaging -3.1%. Seasonally adjusted, the index fell 0.3% m/m. Culprits include private fleet growth pulling freight from for-hire markets. The Cass indices measure freight movement and spending across all transport modes, with a broader scope than just road freight but are about 80% truck (76% of spend, 83% of shipments).

ATA SA TL Loads Index

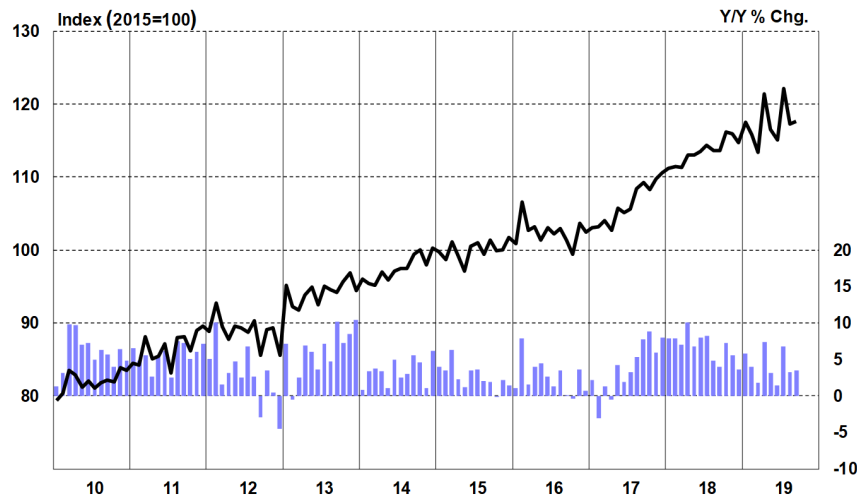
January 2010 - September 2019



Source: American Trucking Associations, ACT Research Co., LLC: Copyright 2019

ATA SA Truck Tonnage Index

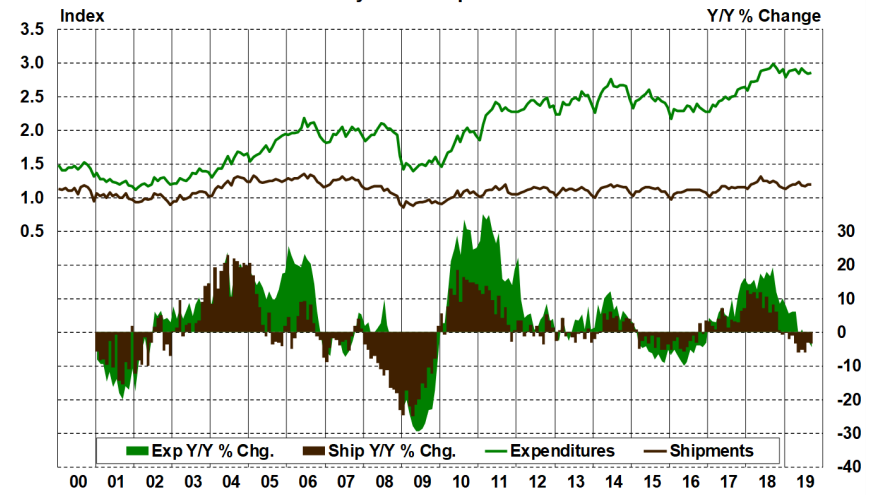
January 2010 - September 2019



Source: American Trucking Associations, ACT Research Co., LLC: Copyright 2019

Cass Freight Index

January 2000 - September 2019



Source: Cass Logistics, ACT Research Co., LLC: Copyright 2019

PUBLICLY TRADED TRUCKLOAD CARRIERS

The Publicly Traded Truckload Carrier Database has been updated for financial results through Q3'19. The information is based on financial reporting from those carriers.

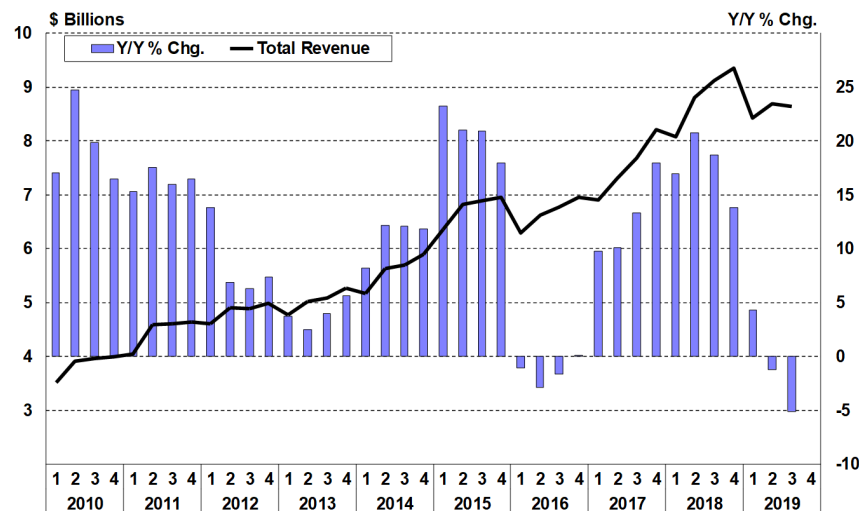
Total revenue declined 5% y/y for these fleets, with results down 0.6% q/q. That was the second consecutive y/y total revenue decline, following nine straight quarters of y/y revenue growth.

Net income has slid meaningfully since peaking in Q4'18. Not surprisingly, its performance patterns total revenue, down 28% y/y and the second straight negative y/y comparison. Net income for these carriers was \$392 million, sliding to the lowest level since Q1'18. Carrier net income margins slid 147bp y/y, ending Q3 at 4.54%. That was similar to the 4.55% posted in Q1'18.

It is obvious that both weaker freight volumes and softer rates are taking their toll on fleet results. As a result, fleets are closing reviewing their capex plans for the upcoming year. After several years of robust investment, much lower order volume in both the power and trailer segments is the result.

TL Carrier Database: Total Revenue

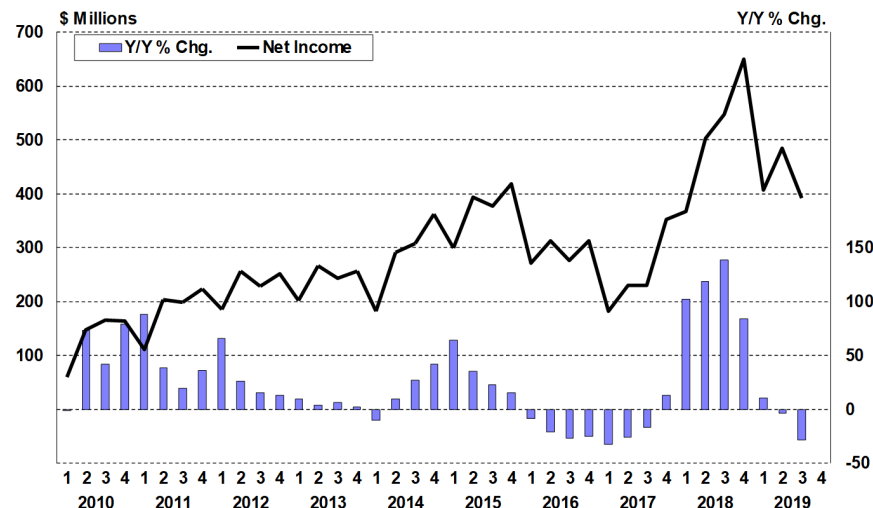
Q1'10 - Q3'19



Source: ACT Research Co., LLC: Copyright 2019

TL Carrier Database: Net Income

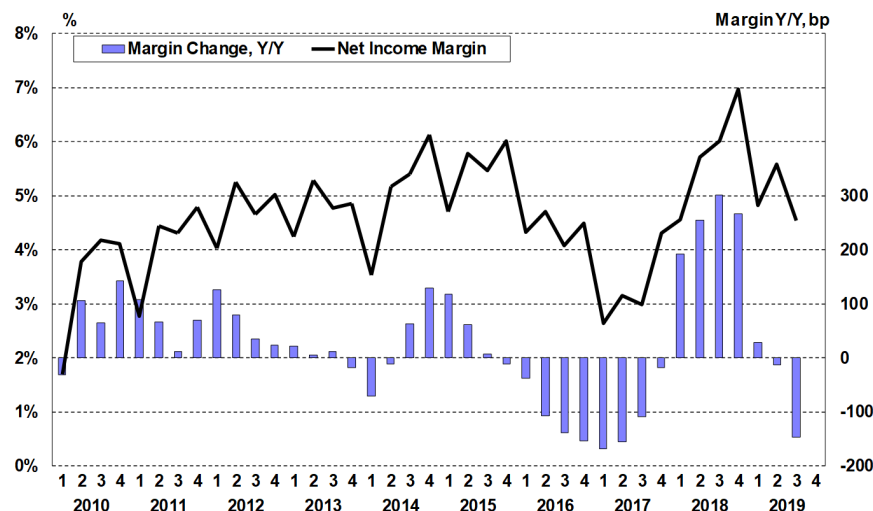
Q1'10 - Q3'19



Source: ACT Research Co., LLC: Copyright 2019

TL Carrier Database: Net Income Margin

Q1'10 - Q3'19



Source: ACT Research Co., LLC: Copyright 2019

RAIL/INTERMODAL TRENDS

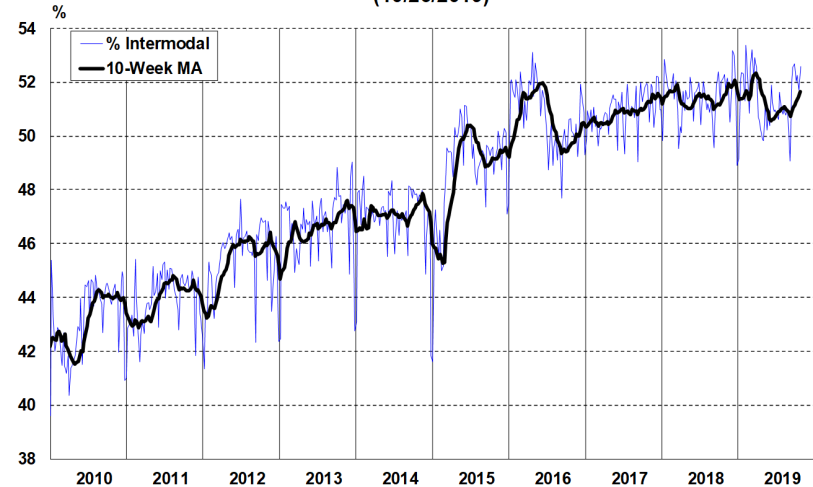
The worsening trend in NA Class I rail volumes accelerated in October, which bore the brunt of the GM strike, falling 7.2% y/y, worse than the 5.5% and 3.4% respective declines in September and August. If there is good news here, this is about as bad as it typically gets for rail volume recessions, so further deterioration is less likely.

NA intermodal volumes fell 6.8% y/y in October, worse than the 4.4% drop in September and the 3.9% y/y decline in August. We expect volumes to remain down near-term, with some help from pre-tariff inventory building, though most of this benefit appears to be going to truck, as intermodal is no longer offering the cost savings it once did.

Metals and chemicals rail carloads fell 7.6% y/y in October, deteriorated from down 3.4% in September and -3.2% for Q3. The GM strike clearly had an impact, but the industrial sector was weakening prior to the strike, so the rebound as auto manufacturing ramps back up is not likely to be strong. As inputs to production, metals and chemicals tend to lead truck volumes by a few weeks. Comparisons remained tough all year, so this is a cautious leading indicator.

Intermodal as a Percentage of Total Loads

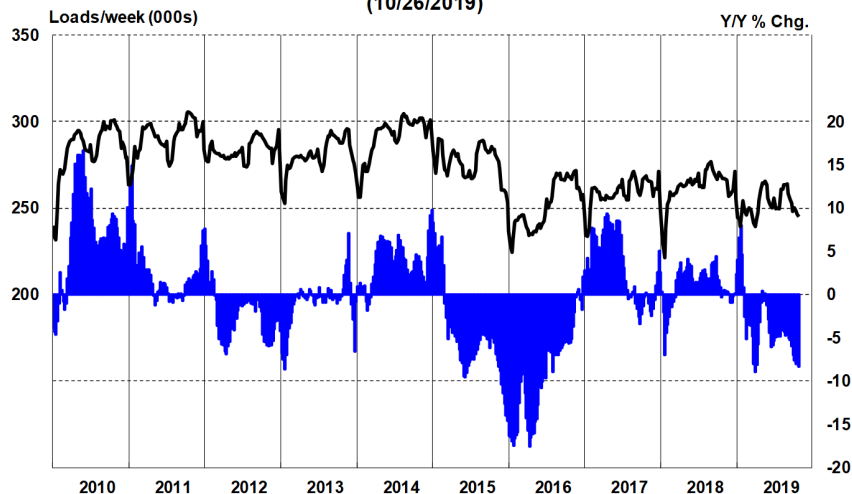
January 2010 - October 2019
(10/26/2019)



Source: Association of American Railroads, ACT Research Co., LLC. Copyright 2019

US Rail: Carloads 4-Week Moving Average

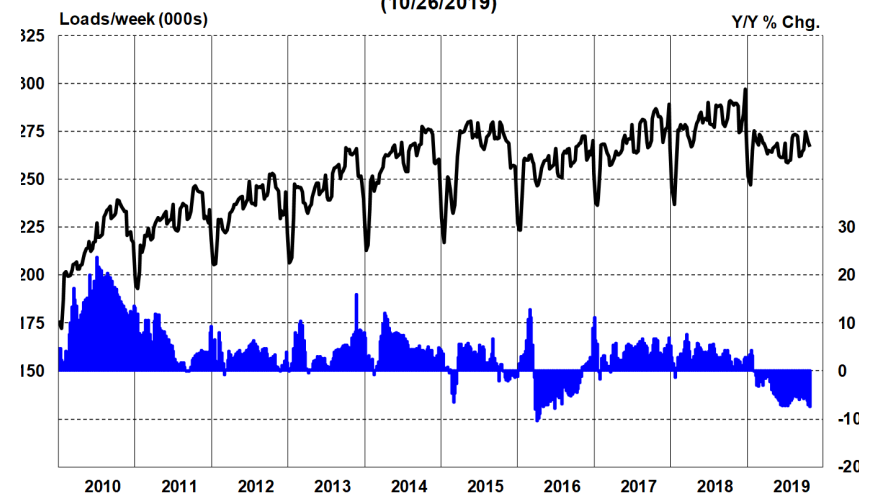
January 2010 - October 2019
(10/26/2019)



Source: Association of American Railroads, ACT Research Co., LLC. Copyright 2019

U.S. Rail: Intermodal 4-Week Moving Average

January 2010 - October 2019
(10/26/2019)



Source: Association of American Railroads, ACT Research Co., LLC. Copyright 2019

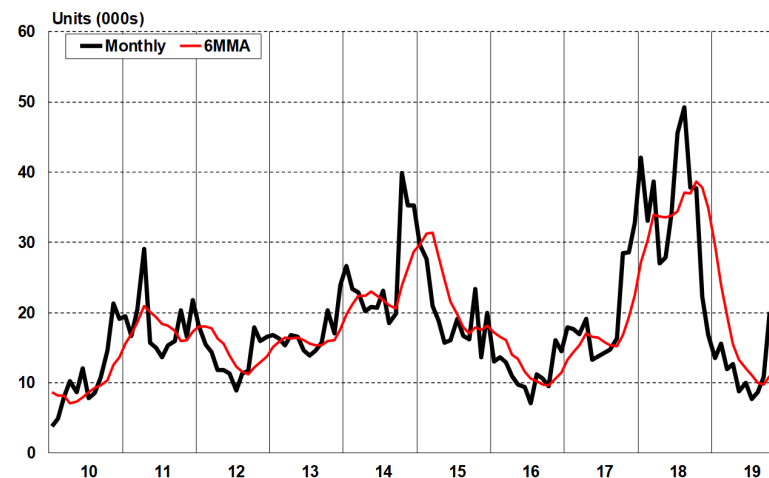
NEW U.S. CLASS 8 TRUCK TRENDS

Even as we face the push and pull of seemingly contradictory market statistics, our outlook remains essentially unchanged for the short- and long-term. Sales and build volumes are now assured of reaching cyclical peak levels in 2019. But this year's weak order intake dictates a substantial correction in 2020. Our long-stated view is the slowdown in economic activity and freight will result in a soft landing and not turn into a recession. After this pause, the heavy duty truck market is forecast to rebound and see three years of growth from 2021 to 2023. However, the far years of this forecast face the headwind of stringent emission controls in 2024, triggering a 2023 prebuy, followed by pay-back in the next year.

This regression-to-the-mean for 2020, after a near all-time record 2019, has been a staple of our forecasts since March 2018. As a result, our subscribers have had almost seven quarters of yellow-light signals on the upcoming correction.

U.S. Class 8: Net Orders

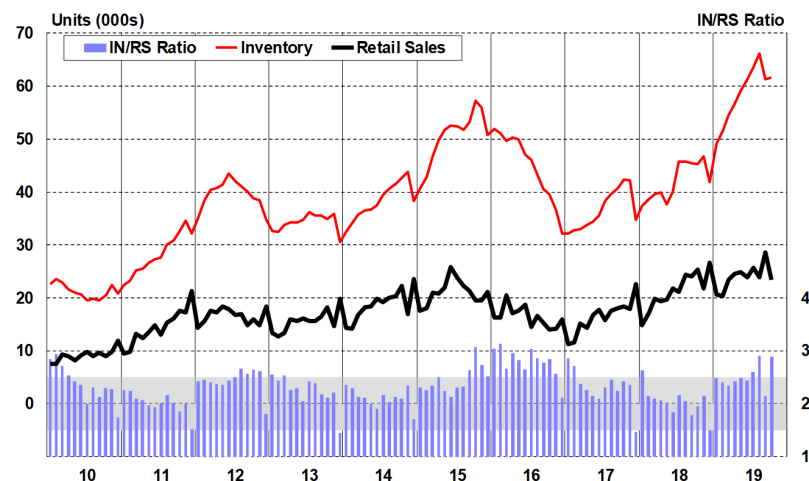
January 2010 - October 2019



Source: ACT Research Co., LLC; Copyright 2019

U.S. Class 8: Inventory & Retail Sales Ratio

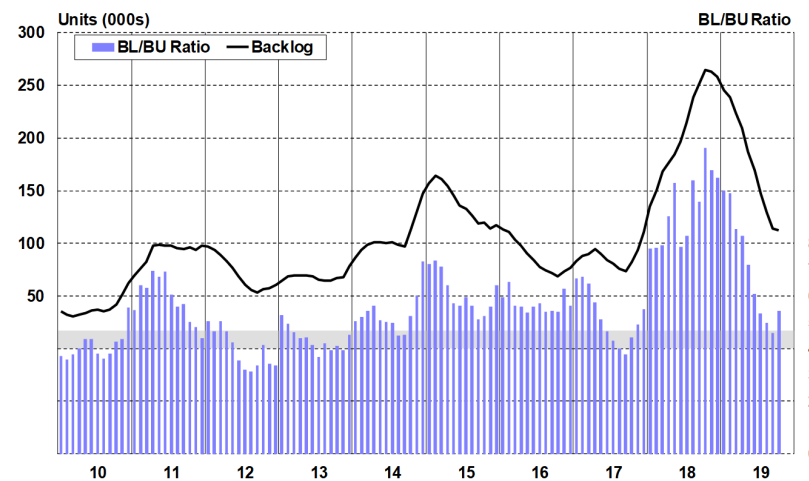
January 2010 - October 2019



Source: ACT Research Co., LLC; Copyright 2019

U.S. Class 8: Backlog and Backlog/Build Ratio

January 2010 - October 2019



Source: ACT Research Co., LLC; Copyright 2019

NEW U.S. MEDIUM DUTY TRUCK TRENDS

Activity for the total MD market was mixed in September, with weakness in sequential comparison, but expansion evident in longer-term performance. Customers clearly remain concerned about the near-term future, as demonstrated by the continuing pullback in order activity.

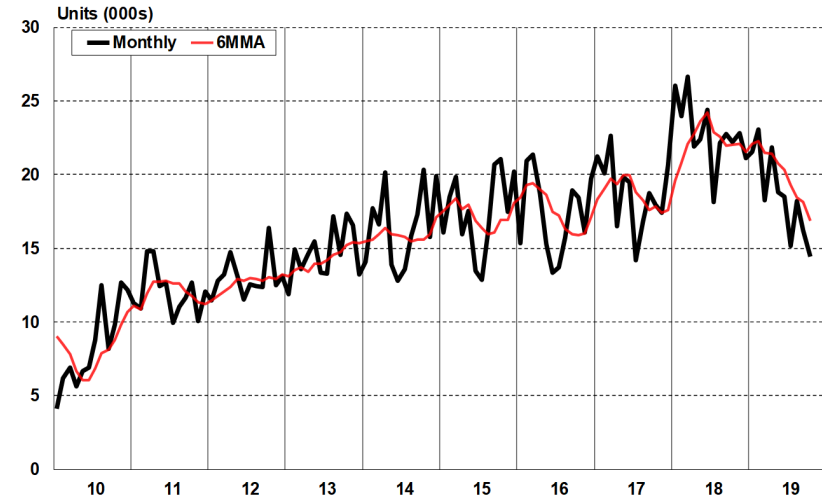
Simultaneously, they continue to demand and purchase vehicles, driving build and sales to near-record levels of performance.

It is not entirely clear how the recent announcements of production slowdowns and layoffs at several of the manufacturers will impact the situation, but logically, production should slow, putting an end to the current cycle.

Build in excess of orders for the seventh consecutive month in September resulted in a further backlog decline. Linking the smaller backlog and higher per-day build resulted in a BL/BU ratio for medium duty trucks of 2.5 months.

U.S. Classes 5-7: Net Orders

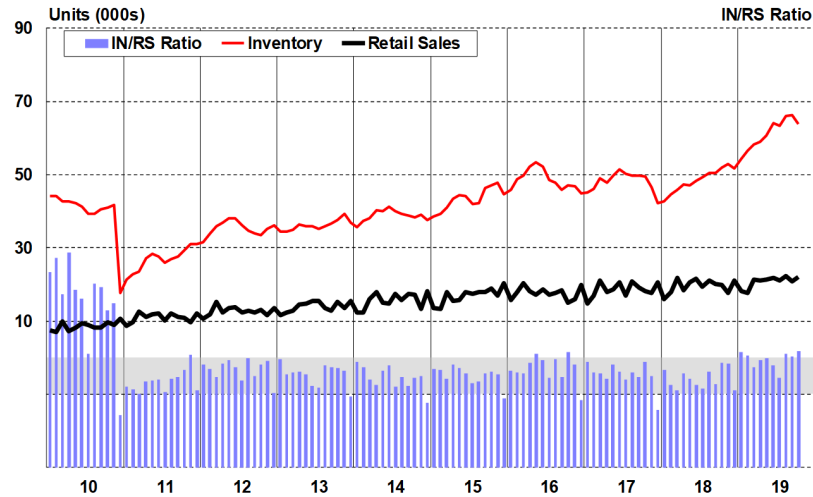
January 2010 - October 2019



Source: ACT Research Co., LLC: Copyright 2019

U.S. Classes 5-7: Inventory & Retail Sales

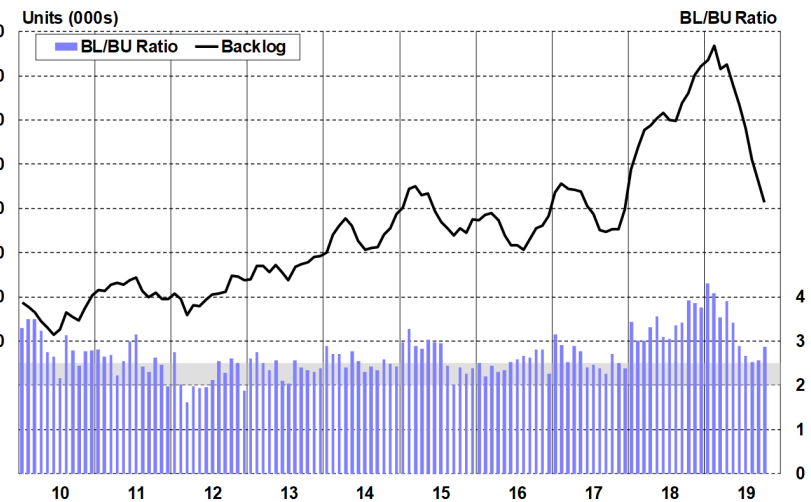
January 2010 - October 2019



Source: ACT Research Co., LLC: Copyright 2019

U.S. Classes 5-7: Backlog and Backlog/Build Ratio

January 2010 - October 2019



Source: ACT Research Co., LLC: Copyright 2019

USED TRUCK TRENDS

Same dealer sales of used Class 8 equipment were uniformly weaker in September, falling 5% m/m, with y/y and ytd volumes dropping 18% and 19%, respectively. It is not unusual to see September volumes decline from August; however, the decay is generally smaller, based on seasonal analysis. Compared to September 2018, retail and wholesale activity was softer. On a ytd basis, all three segments were weaker, though to varying degrees. Looking ahead to next month, volumes in October typically swell relative to September.

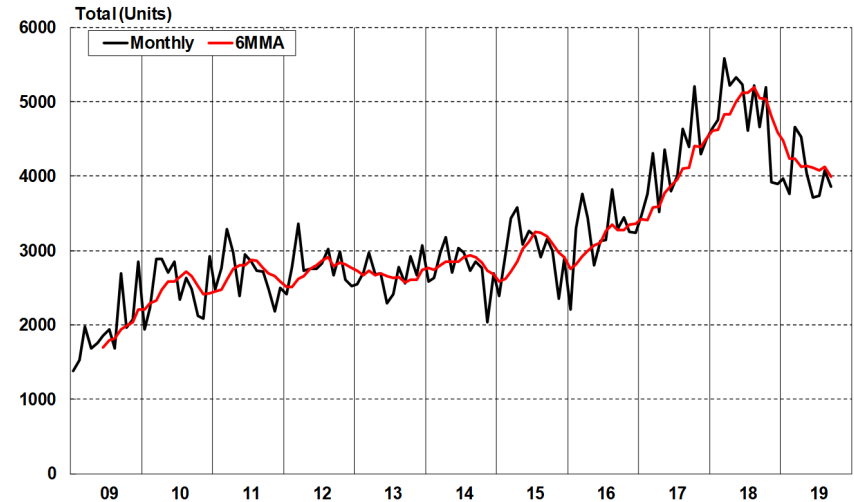
September average sale prices declined 3% m/m. Longer term, prices remained mixed, with y/y prices marking their second consecutive sequential decline (-7%), something last seen in September 2017. YTD pressure continued to mount in August, with prices now up by 6%, the smallest gain of the year. Tough comparisons against strong prices in 2H'18 are now making it difficult for prices to improve. More importantly, weakness in the freight markets, excess freight hauling capacity, and an increasing used truck inventory are combining to push used truck prices lower for the remainder of the year and well into 2020.

ACT's USED CLASS 8 SUMMARY – September (F) 2019

TOTAL CLASS 8	UNITS (Same Dealer Sales)	AVERAGE PRICE	AVERAGE MILES	AVERAGE AGE
MONTH/MONTH	↓ -5%	↓ -3%	↑ 5%	↓ -3%
YEAR/YEAR	↓ -18%	↓ -7%	↑ 5%	↑ 4%
YTD/YTD	↓ -19%	↑ 6%	↔ 0%	↑ 4%

Class 8: U.S. Used Truck Sales

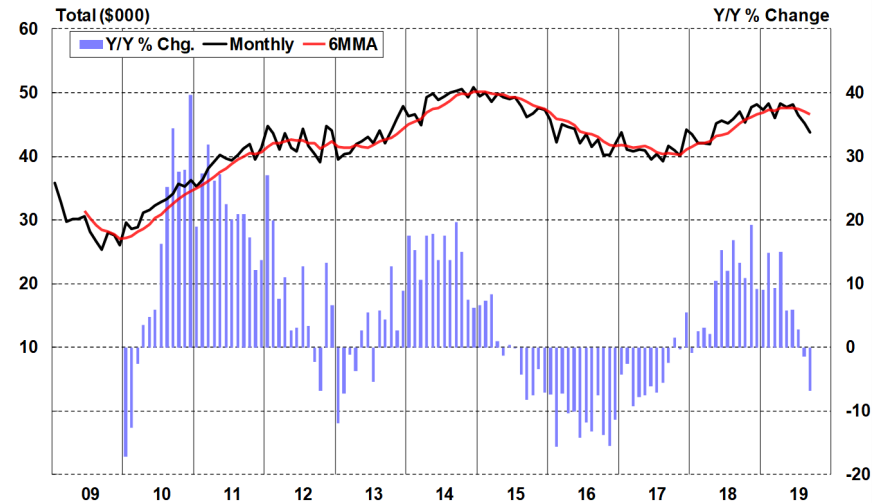
January 2009 - September 2019 (Not Seasonally Adjusted)



Source: ACT Research Co., LLC: Copyright 2019

Class 8: U.S. Used Truck Average Sale Price

January 2009 - September 2019



Source: ACT Research Co., LLC: Copyright 2019

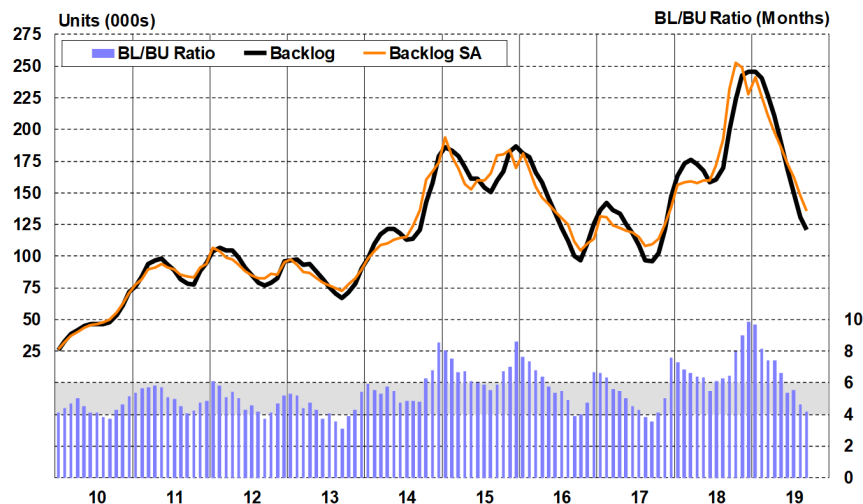
NEW TRAILER TRENDS

We would expect some seasonal bump in order activity, and it does appear that the 2019-20 order season is now underway. That being said, the pace seems a bit uninspiring, as order volumes continue to fall well short of current production levels. When viewed against this time last year, the perspective is even more disappointing, although to be fair, that comparison is to the highest order levels in industry history.

Let's take the shorter-term perspective to verify the start of the order season. New orders were up 44% m/m, while net volume was up 73%. That's a dramatic difference in new/net performance, driven by less significant cancellation volume in September. August's cancellations were potentially driven by some cancel/re-order activity, likely shifting some delivery times into next year. Given the combination of a relatively thin orderboard and the length of the material component order pipeline (i.e. into early 2020), we would expect cancellation volumes to continue to ease. That occurred in September, although the rate was still higher than normal targets suggest.

Total Trailers Backlog & Backlog/Build Ratio

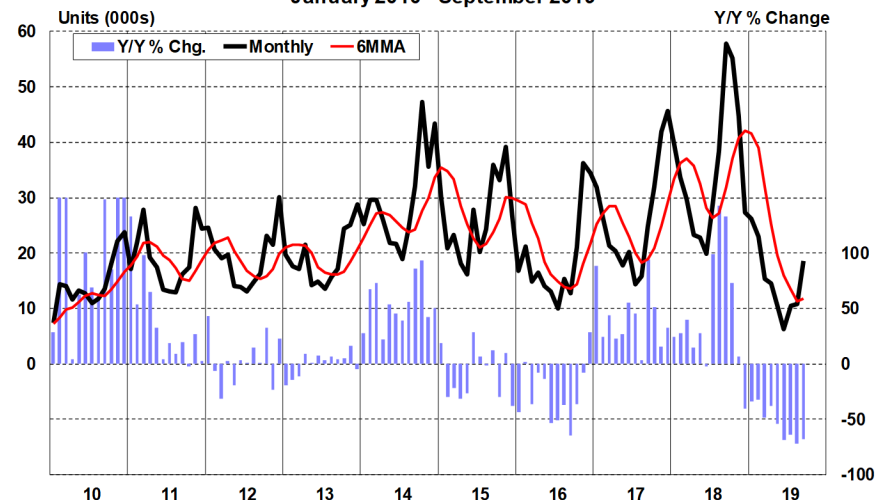
January 2010 - September 2019



Source: ACT Research Co., LLC. Copyright 2019

Total Trailers: Net Orders

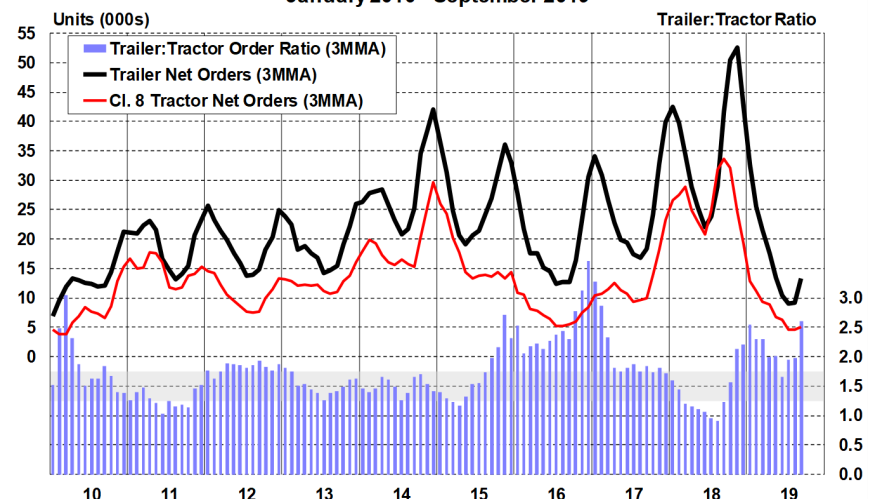
Year over Year Percent Change
January 2010 - September 2019



Source: ACT Research Co., LLC. Copyright 2019

Net Order Ratio

U.S. Trailers & U.S. Cl. 8 Tractors
January 2010 - September 2019

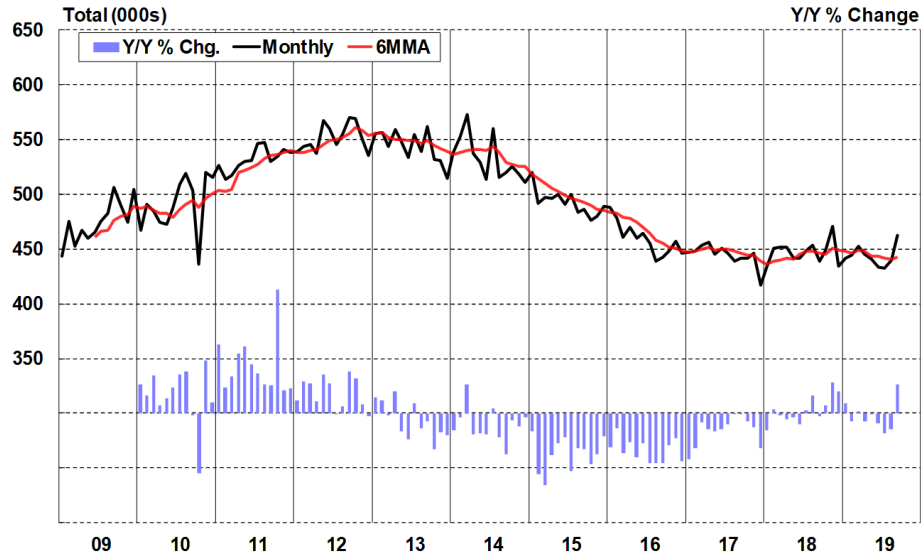


Source: ACT Research Co., LLC. Copyright 2019

APPENDIX – USED TRUCKS

Class 8: U.S. Used Truck Average Miles

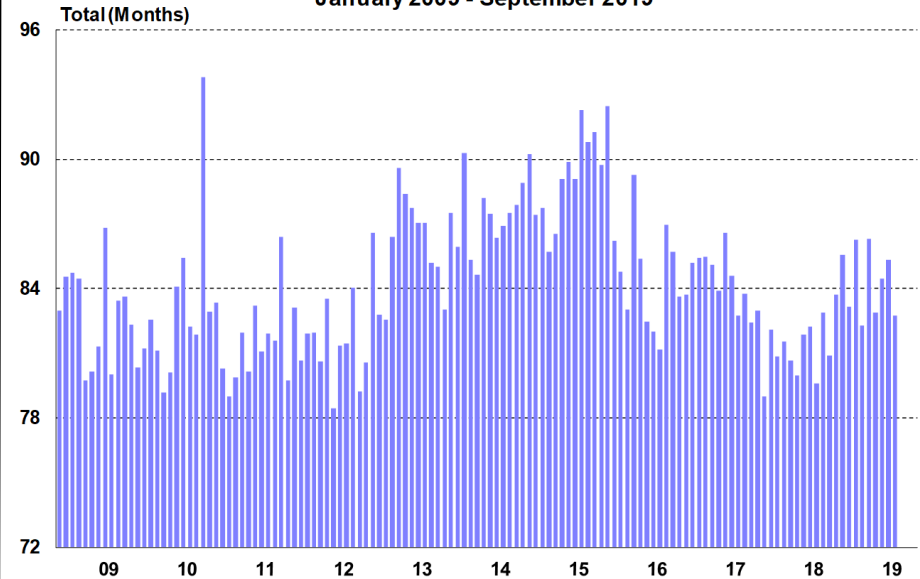
January 2009 - September 2019



A 5% m/m and y/y rise in used Class 8 average mileage added downward pressure to prices.

Class 8: U.S. Used Truck Average Age

January 2009 - September 2019

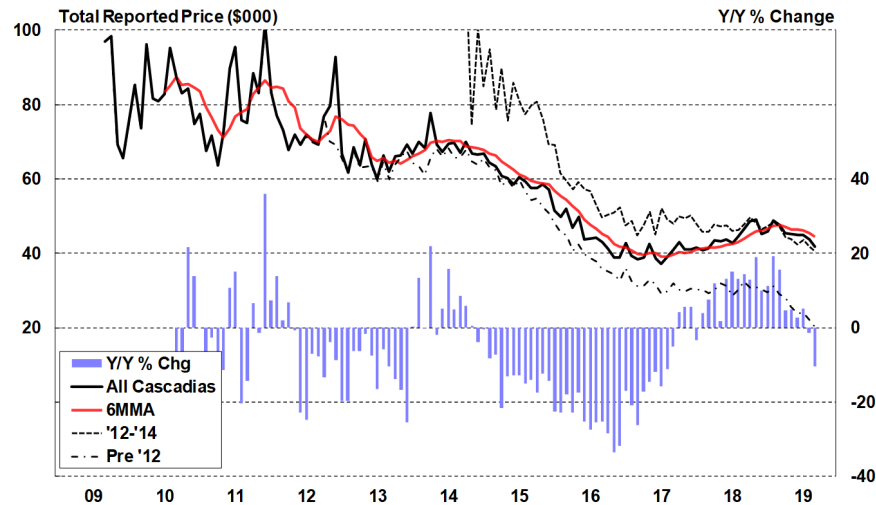


The average age of used Class 8 trucks was down 3% m/m, at 83 months, but up 4% y/y.

APPENDIX – USED TRUCKS

Freightliner Cascadia Average Sale Price

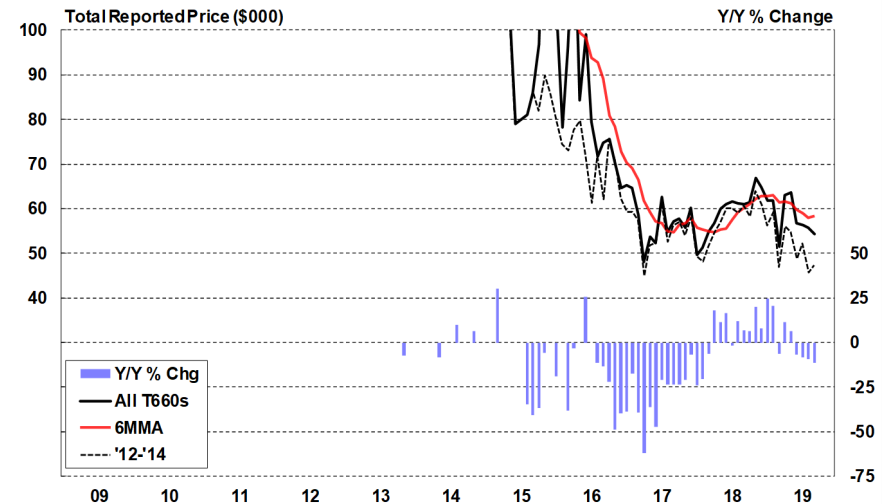
January 2009 - September 2019



Source: ACT Research Co., LLC: Copyright 2019

Kenworth T680 Average Sale Price

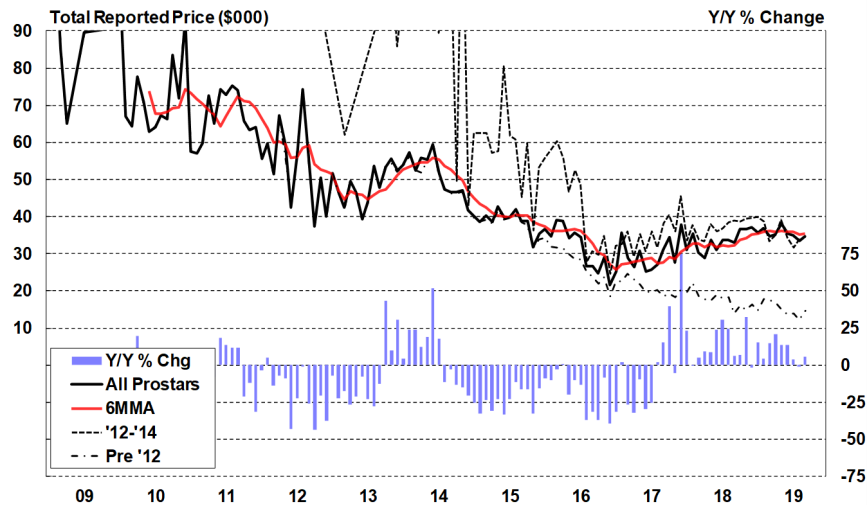
January 2009 - September 2019



Source: ACT Research Co., LLC: Copyright 2019

International Prostar Average Sale Price

January 2009 - September 2019



Source: ACT Research Co., LLC: Copyright 2019

Freightliner Cascadia

The avg selling price for the Cascadia marked it largest y/y loss (-11%) in more than two years.

International ProStar

The avg selling price of ProStars found stable footing in September, rising 4% m/m and 6% y/y.

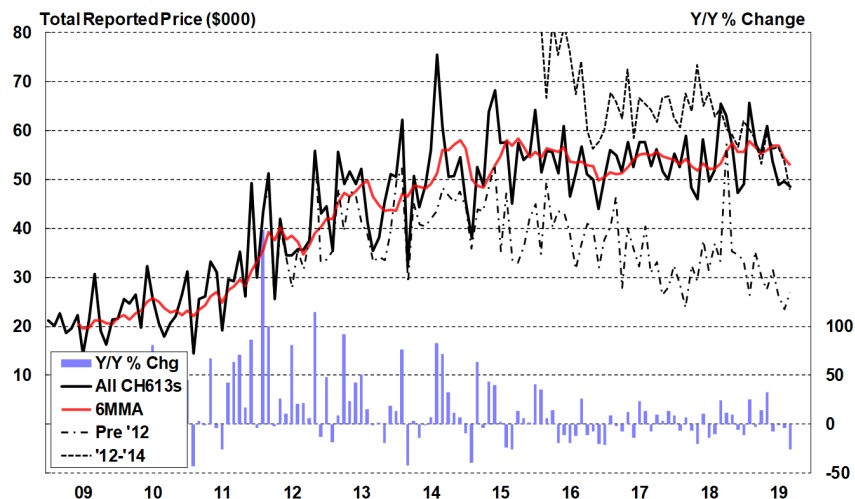
Kenworth T680

The average selling price of the T680 fell m/m (-3%) and y/y (-11%) for the 4th straight month.

APPENDIX – USED TRUCKS

Mack CH613 Average Sale Price

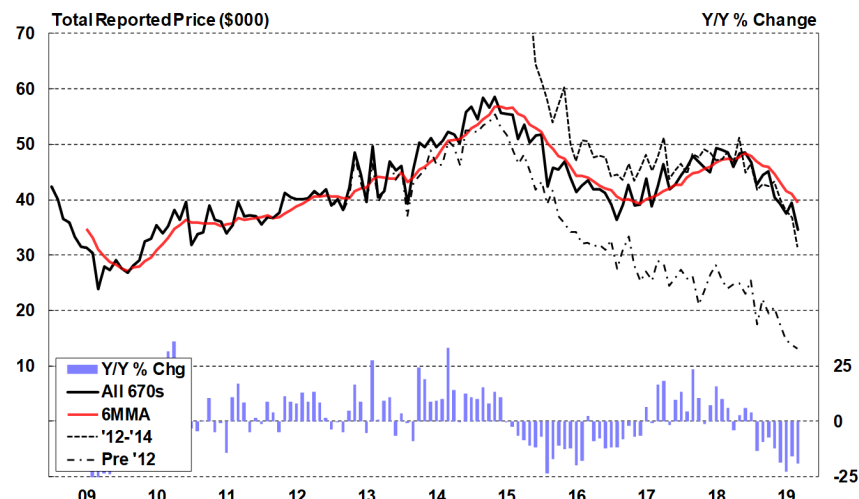
January 2009 - September 2019



Source: ACT Research Co., LLC: Copyright 2019

Volvo 670 Average Sale Price

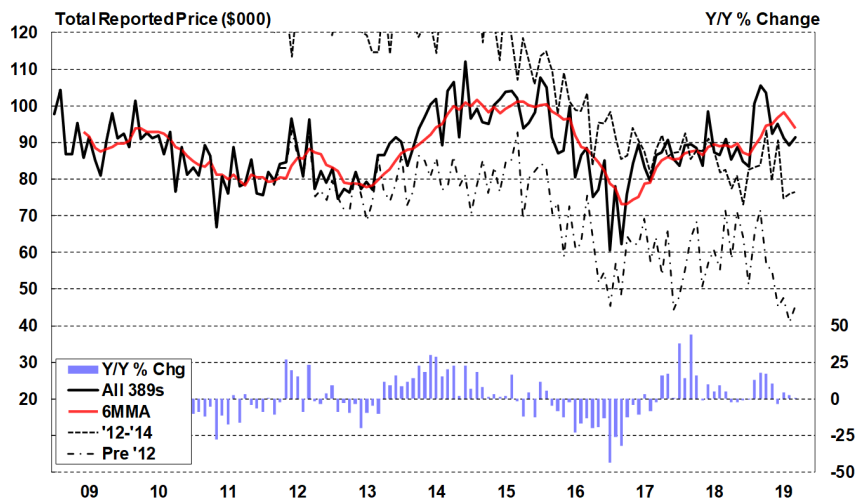
January 2009 - September 2019



Source: ACT Research Co., LLC: Copyright 2019

Peterbilt 389 Average Sale Price

January 2009 - September 2019



Source: ACT Research Co., LLC: Copyright 2019

Mack CH613

Down 26% y/y, the average selling price for the CH613 recorded its largest yearly loss since 2015.

Peterbilt 389

The average selling price of the 389 increased 2% m/m, and was flat compared to last September.

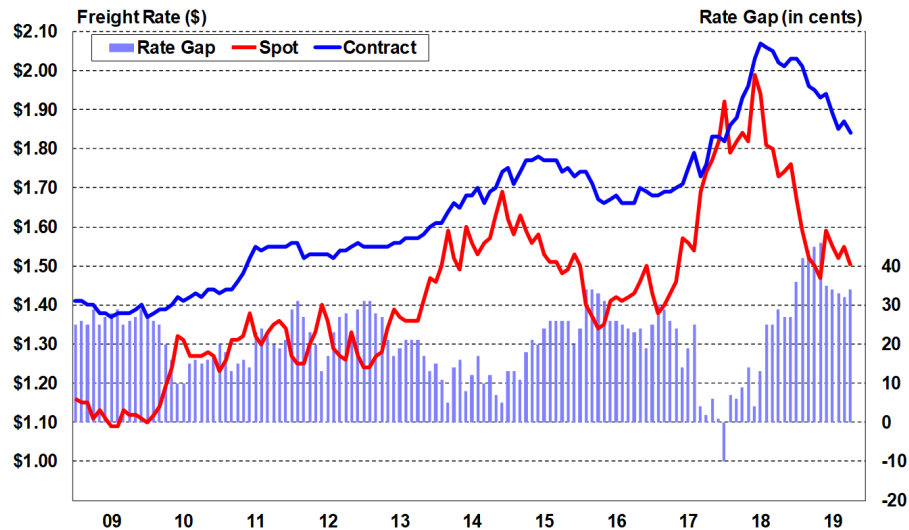
Volvo 670

After a small uptick in August, the average selling price of 670s lost 12% m/m and was down 19%y/y.

APPENDIX – TRANSPORTATION METRICS

DAT Trendlines Spot & Contract Rates: Dry Vans

January 2009 - October 2019

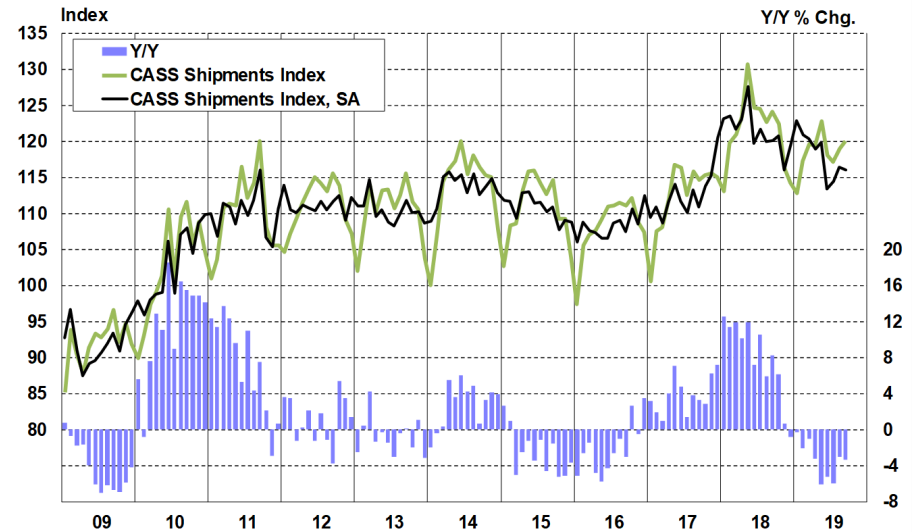


Source: DAT Solutions, ACT Research Co., LLC: Copyright 2019

DAT's dry van spot rate per mile, net fuel, fell 13.3% in October, less negative than the 13.9% drop in September. Seasonally adjusted, dry van spot rates were down 3.1% m/m from September.

Cass Shipments Index

January 2009 - September 2019 (01'1990=100)

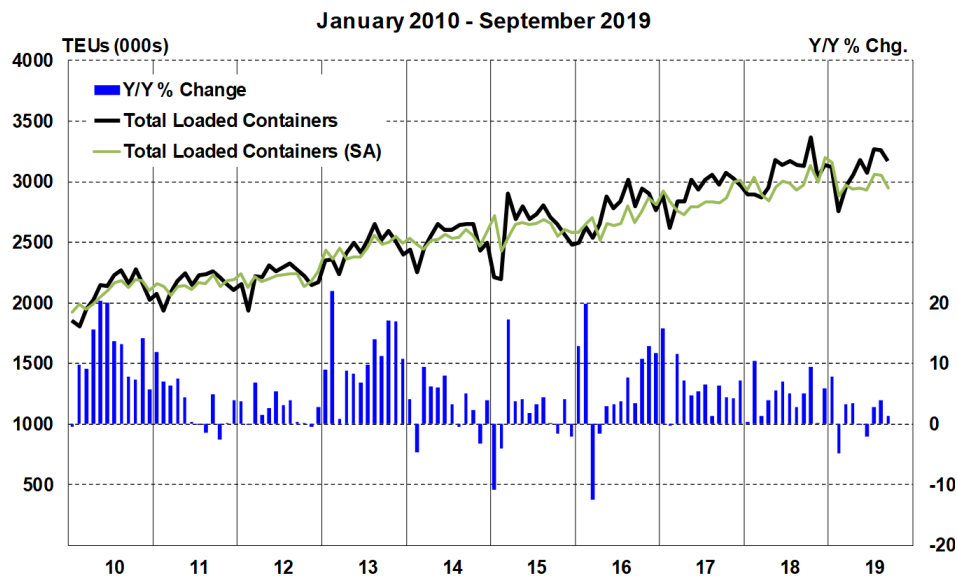


Source: Cass Information Systems, ACT Research Co., LLC: Copyright 2019

The Cass Shipments Index declined 3.3% y/y in September, the tenth straight month of declines averaging -3.1%. Seasonally adjusted, the index fell 0.3% m/m.

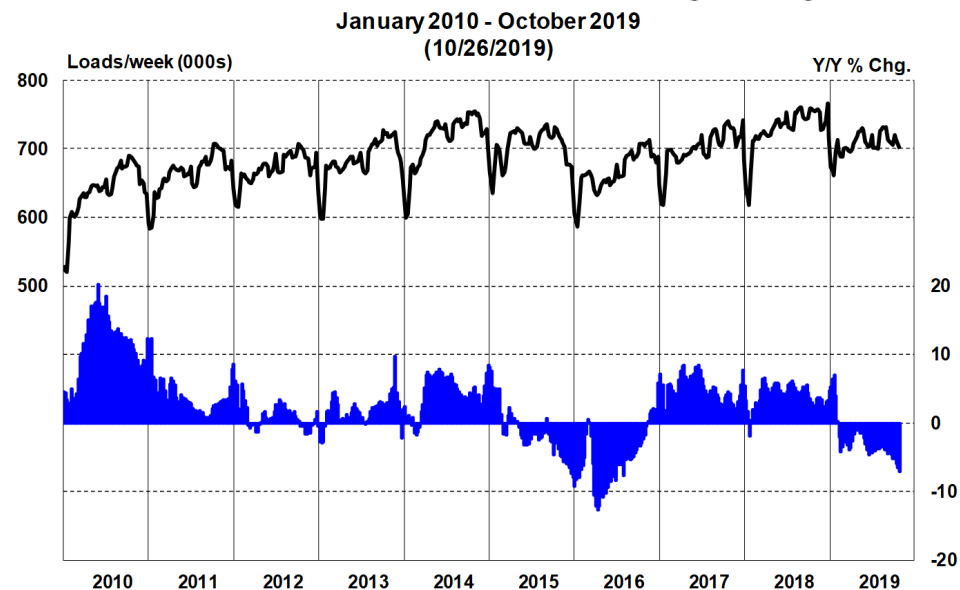
APPENDIX – TRANSPORTATION METRICS

N.A. Ports: Loaded Containers



NA container imports at the top twelve ports fell 0.8% y/y in September, after a 5.0% increase in August. On a seasonally adjusted basis, import TEUs fell 2.8% m/m in September.

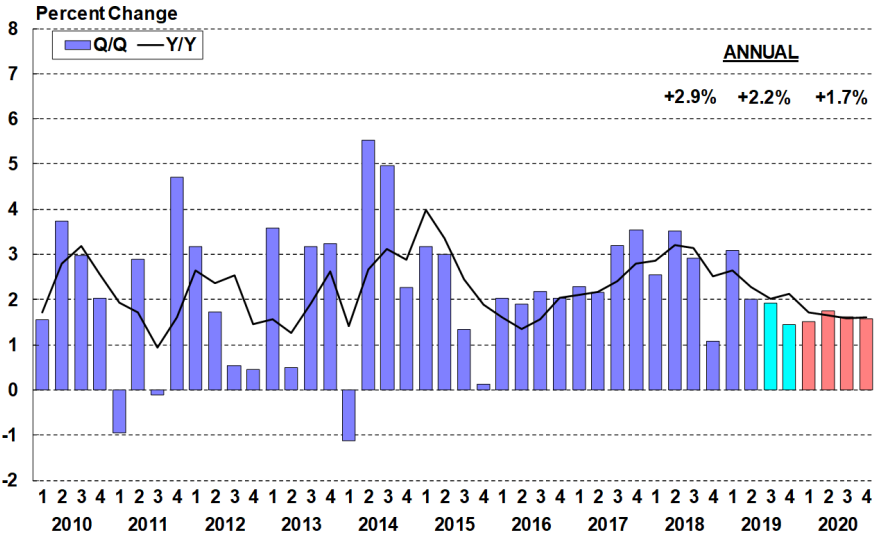
N.A. Rail: Total Traffic 4-Week Moving Average



The worsening trend in NA Class I rail volumes accelerated in October, which bore the brunt of the GM strike. Falling 7.2% y/y, this was worse than the 5.5% and 3.4% respective declines in September and August.

APPENDIX – ECONOMICS

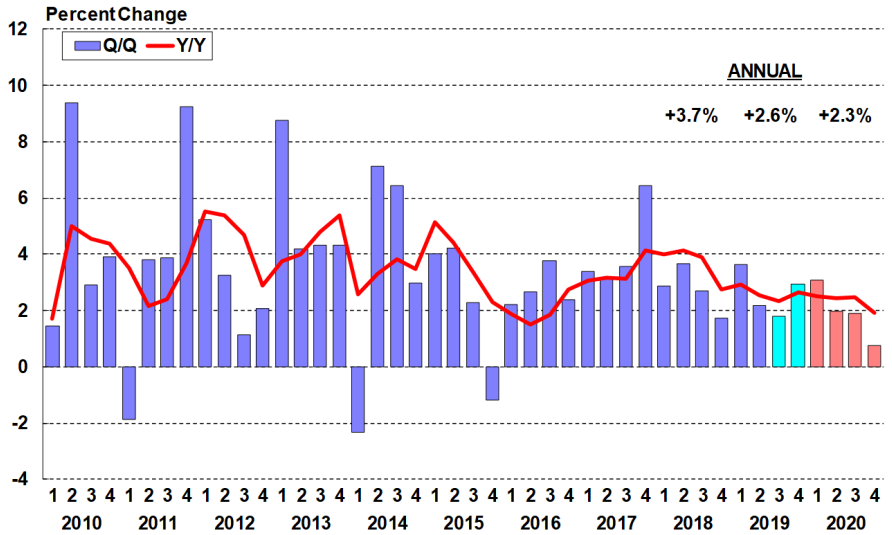
Real Gross Domestic Product



Source: BEA, ACT Research Co., LLC: Copyright 2019

Real GDP growth is forecast to average 2.3% in 2019, 1.7% in 2020, and slow a bit further in 2021. The risks to our forecast are mainly to the downside.

ACT U.S. Freight Composite

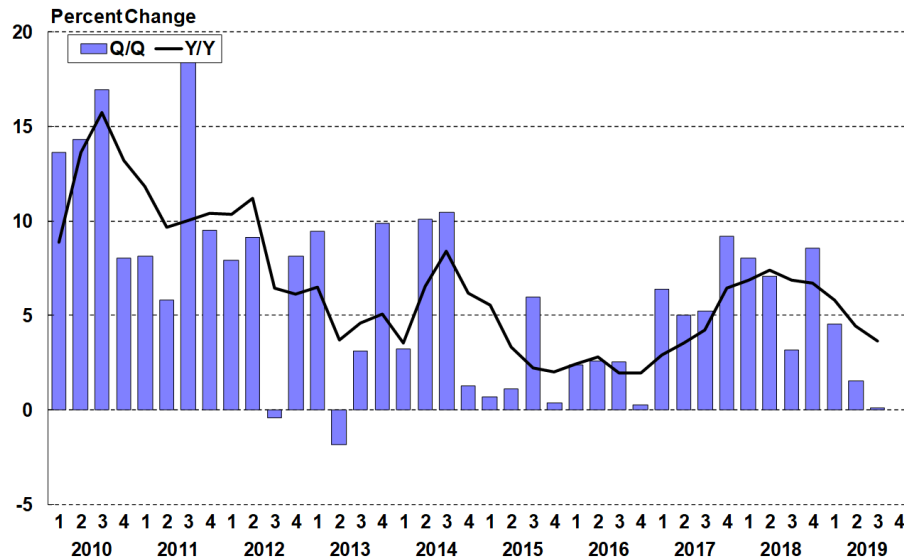


Source: ACT Research Co., LLC: Copyright 2019

ACT's freight composite growth 2019 expectation is for 2.6% y/y growth, with 2020 posting the weakest numbers since 2015. We expect that weakness in key freight generating sectors will be the major factor driving the market.

APPENDIX – ECONOMICS

Real Business Investment: Equipment & Software
Percent Change Q/Q at SAAR
Q1'10 - Q3'19



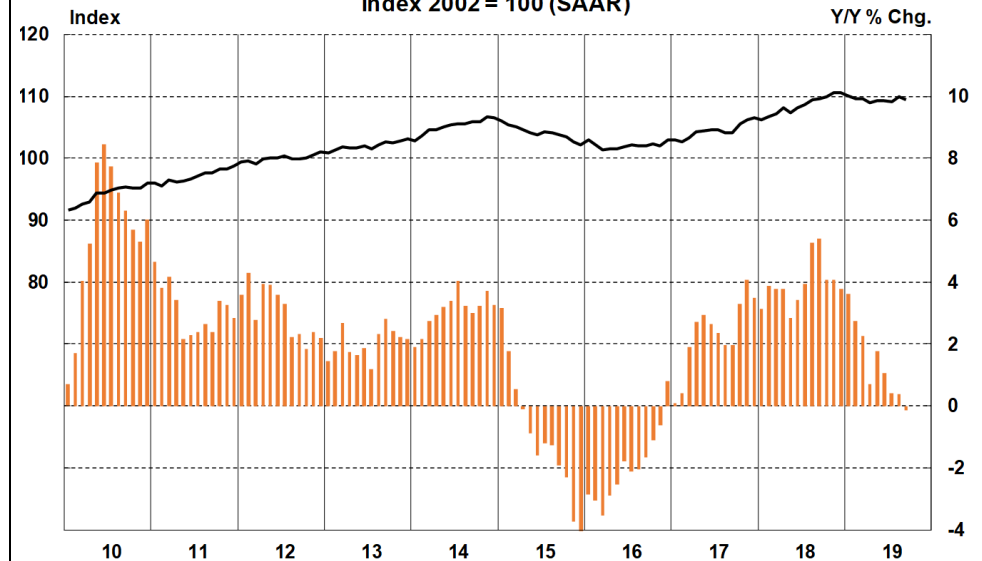
Source: BEA, ACT Research Co., LLC: Copyright 2019

Business fixed investment fell 3.0%, only the second decline after three years of constant increases. Spending on equipment also was negative, -3.8%; significant weakness in aircraft was the cause, while truck outlays rose 8.3%.

Industrial Production Index

January 2010 - September 2019

Index 2002 = 100 (SAAR)

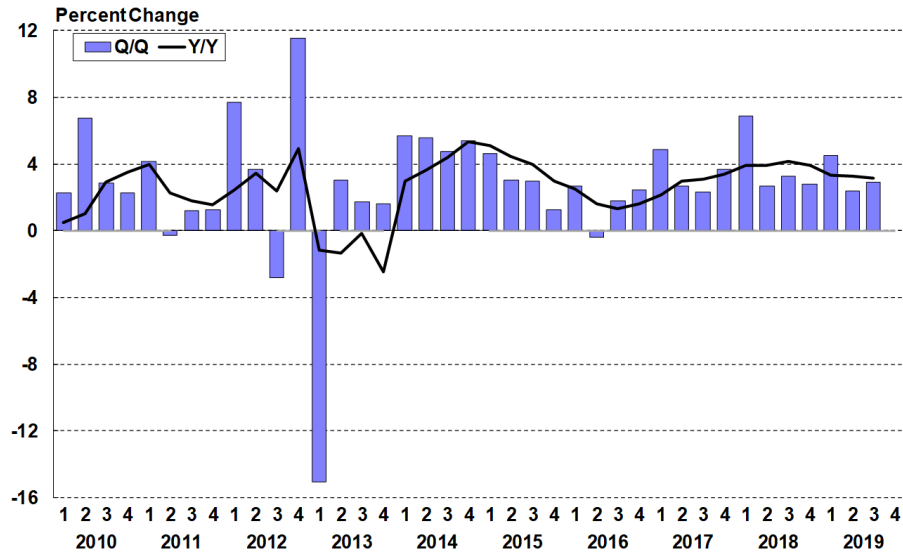


Source: Federal Reserve, ACT Research Co., LLC: Copyright 2019

September industrial production fell 0.4% (-0.1% y/y), after a +0.8% August; all components were positive in August, but the opposite was true for September.

APPENDIX – ECONOMICS

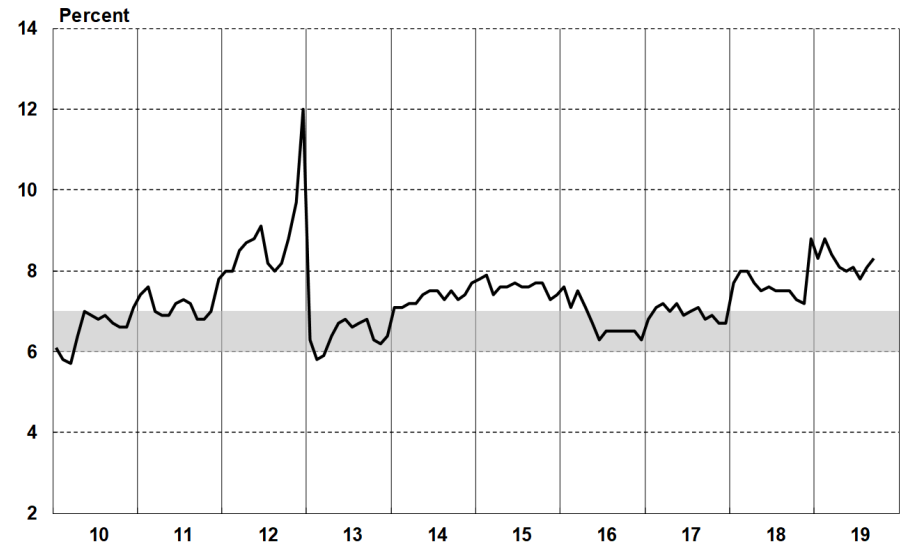
Real Disposable Personal Income
Percent Change Q/Q at SAAR
Q1'10 - Q3'19



Source: BEA, ACT Research Co., LLC: Copyright 2019

September personal income rose 0.3% (4.9% y/y) and August's was raised to 0.5% (4.6% y/y). Real disposable income grew a solid 0.3% (3.5% y/y).

Personal Savings Rate
January 2010 - September 2019



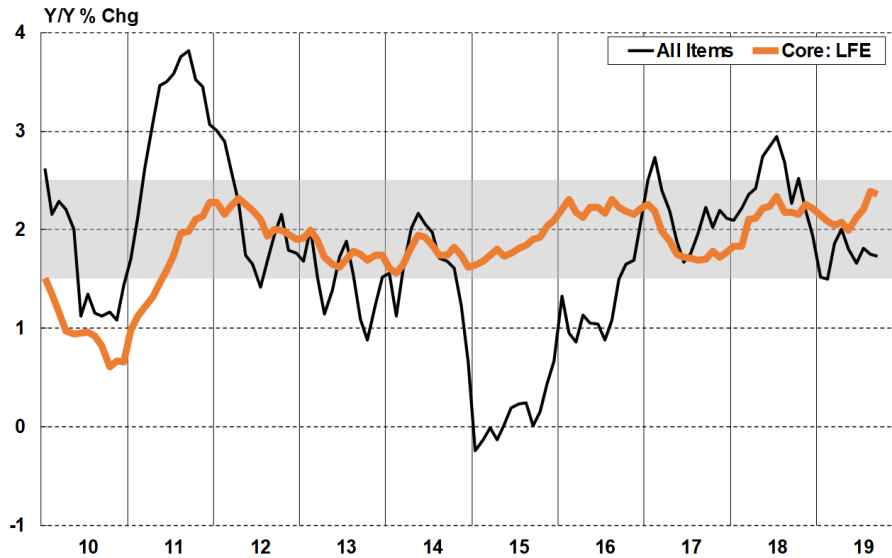
Source: BEA, ACT Research Co., LLC: Copyright 2019

The saving rate climbed to 8.3%, a 0.5% increase from August, as personal income growth outpaced personal consumption expenditure growth.

APPENDIX – ECONOMICS

Consumer Price Index: All Items and Core Rate

January 2010 - September 2019

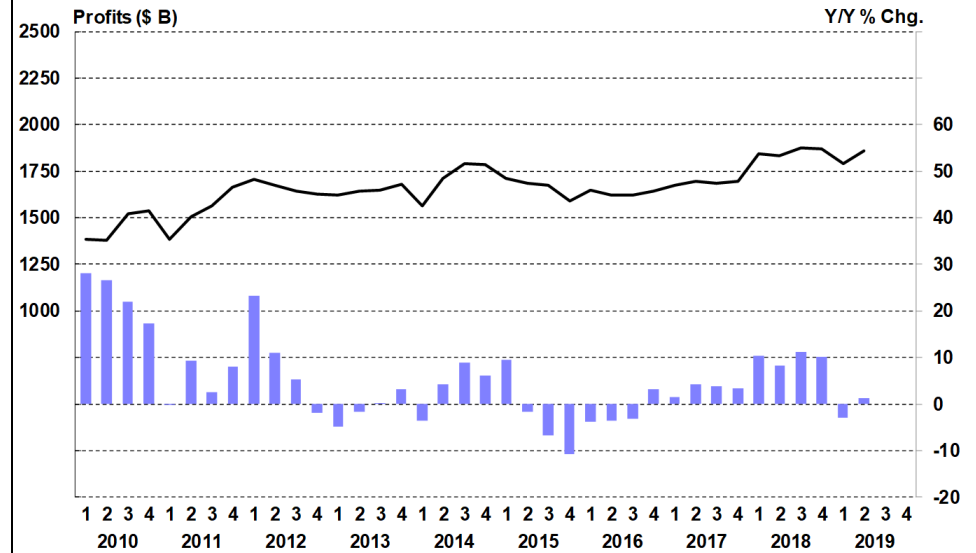


Source: BLS, ACT Research Co., LLC. Copyright 2019

CPI inflation pressures appear to be firming. Nonetheless, our take on inflation remains moderate. September core CPI rose 0.1% (2.4% y/y), after an August rise of 0.3% (2.4% y/y). Declines in apparel, commodities, and used cars led to the slowing.

Adjusted Corporate After Tax Profits

Q1'00 - Q2'19 (SAAR)



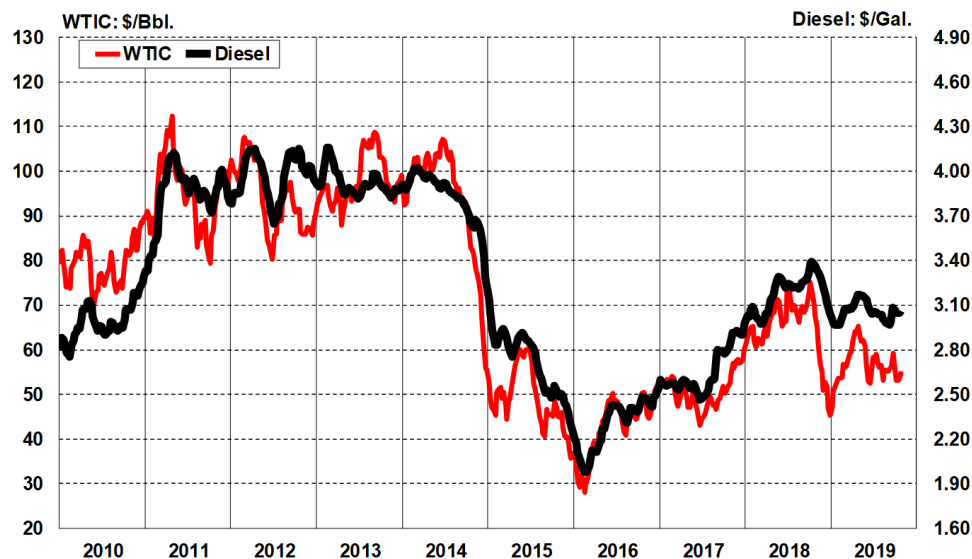
Source: ACT Research Co., LLC. Copyright 2019

A disappointing Q1'19 decline followed 9 quarters of y/y gains. Q2 performance was also lackluster. Y/Y results are likely to generate review of both staffing and capital investment for the upcoming year.

APPENDIX – ENERGY PRICES

Diesel Fuel & Spot Crude Oil (WTIC) Prices

2010 - 2019 (Week 43)

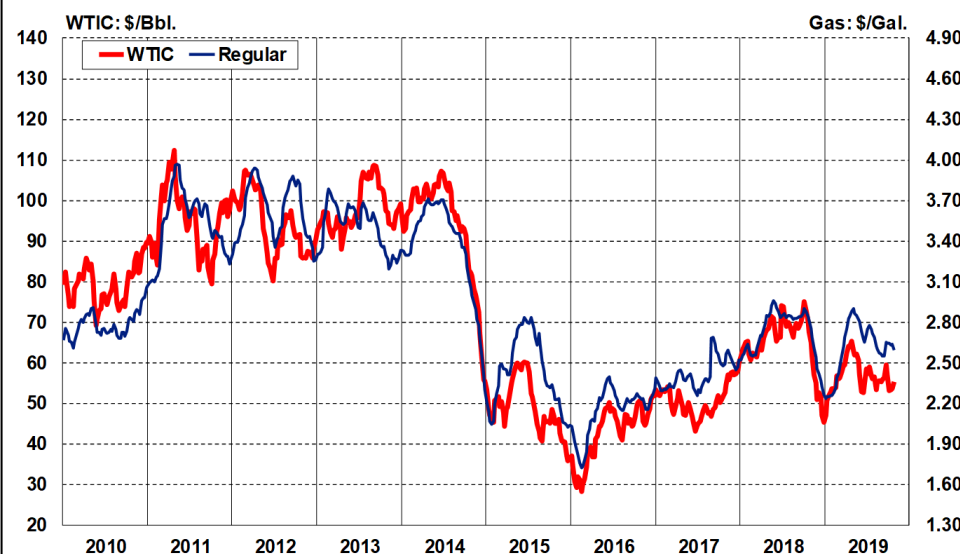


Source: EIA, ACT Research Co., LLC: Copyright 2019

Crude oil price movement remains focused on how tariff and trade influence global energy demand. Energy prices are still a bargain. At the start of November, WTI prices stood at \$55 (Brent was \$60.50), \$10 and 15% cheaper than year-ago levels.

Gasoline & Spot Crude Oil (WTIC) Prices

2010 - 2019 (Week 43)



Source: EIA, ACT Research Co., LLC: Copyright 2019

Gasoline prices at the pump are around \$2.70, \$0.14 and 5% cheaper than last year. We have assumed that WTI crude prices will remain in the \$50 to \$60 range until a China/US trade agreement will generate upward energy price pressure.

APPENDIX – ENERGY PRICES

Spot Natural Gas Prices: Henry Hub

2010 - 2019 (Week 43)



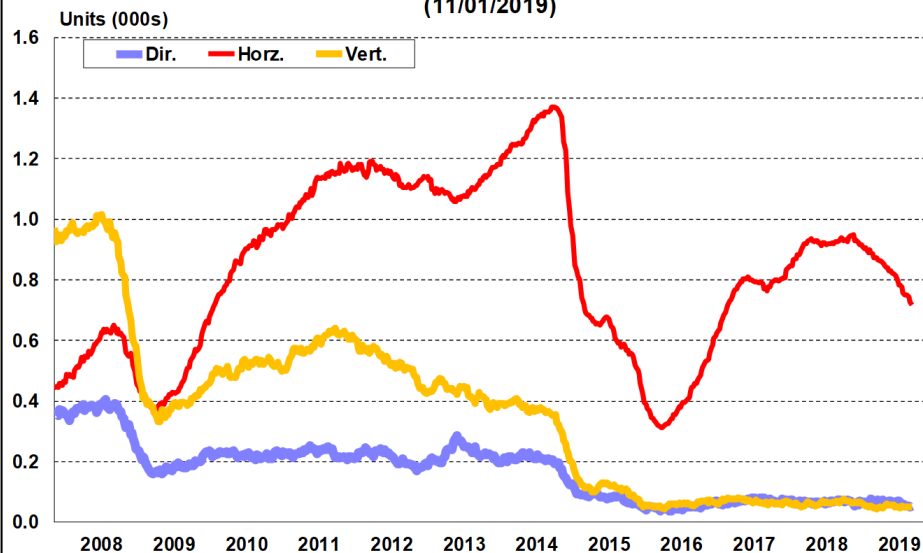
Source: EIA, ACT Research Co., LLC: Copyright 2019

Natural gas prices should now begin their seasonal upward march. With the exception of a brief uptick in late September, natural gas prices per million BTU have, since the summer, been mainly in the \$2.10 to \$2.25 range.

U.S. Rig Count by Trajectory

January 2008 - November 2019

(11/01/2019)



Source: Baker Hughes Rig Counts, ACT Research Co., LLC: Copyright 2019

Rig counts continue to decline, as lower energy prices provide little incentive for additional investment. Any uptick in prices will first be met with efforts to bring partially completed wells into production, delaying an initial surge of new well investment.



TRANSPORTATION DIGEST

SAMPLE

2019 LAWRENCE R. KLEIN BLUE CHIP AWARD WINNER

Contributor to Blue Chip Economic Indicators and WSJ Economic Forecast Panel

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