CASS FREIGHT INDEX® REPORT

November 2018

Economic Outlook from Freight's Perspective

Transportation Economy says, "Why Worry? What Clouds on the Horizon?"

	November 2018	Year-over-year change	2 year stacked change	Month-to-month change
Shipments	1.162	0.6%	6.9%	-5.1%
Expenditures	2.849	8.4%	23.9%	-2.4%

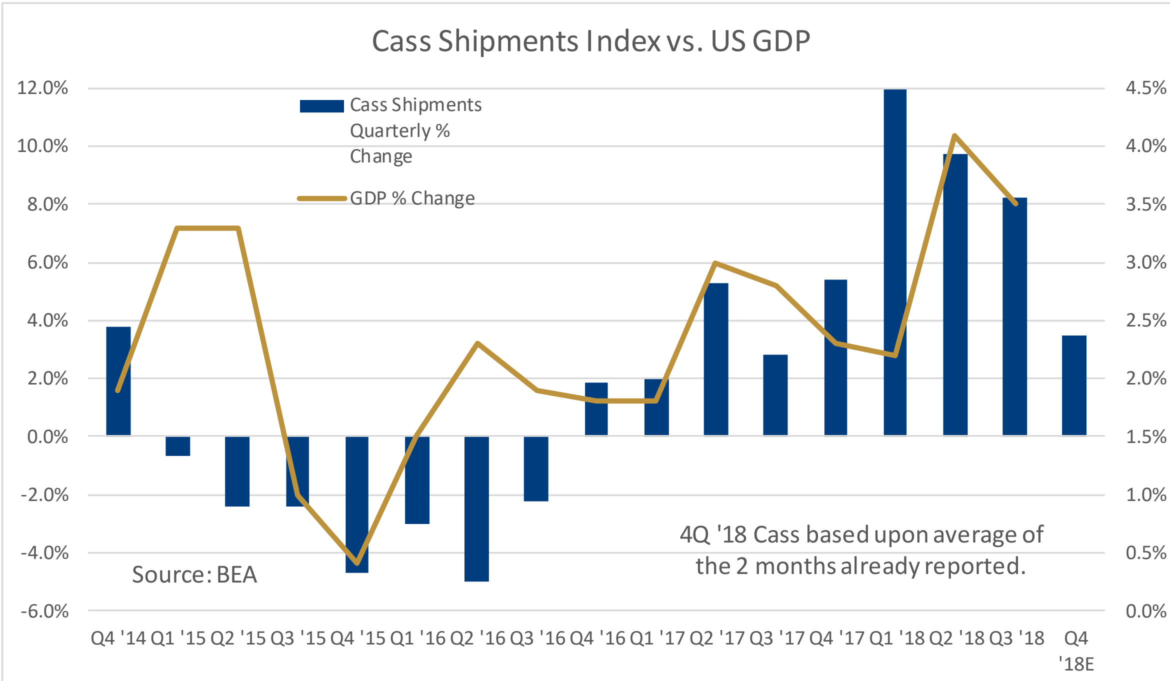
November was another month of high volatility and a sense of growing uncertainty in both the U.S. and global financial markets. Despite all of the 'hand-wringing' on Wall Street, the Transportation economy continues to signal economic expansion. The hard data of physical goods flow, which is uninfluenced by human emotion, confirms that people are still making things, shipping things, and buying / consuming things. Although not at the scorching pace attained earlier this year, expansion is still taking place at an above average pace.

For reasons outlined later in this report, we are not alarmed about the growth in shipments slowing to only 0.6% in the month of November; however, we would be negligent if we did not acknowledge **two storm clouds on the economic horizon:**

- **the tariffs and threats of even higher tariffs** (even though the latest headlines and tweets suggest that there may be a resolution) with China (the world's second largest economy) has throttled volumes in some areas of the U.S. economy (most notably agriculture exports and other select raw materials);
- **the recent decline in WTI crude** (currently below $55 a barrel) has not fallen below the marginal cost of production for fracked crude in almost all areas of the U.S., but it has made it less profitable and significantly lowered the incentive to drill ever more holes, effectively slowing the rate of growth in the industrial economy.

These potential problems acknowledged, we maintain a cautiously bullish outlook given the freight markets, or more accurately goods flow, have a well-earned reputation for predictive value without the anchoring biases that are found in many models which attempt to predict the broader economy. Later in this report we will look at the specific freight flows that are signaling continued growth in specific segments of the economy. Each of these data sets support our assertion that the Cass Shipments Index is indicative of continued economic expansion. Our confidence in this outlook is emboldened by the knowledge that, since the end of World War II (the starting point for which we have reliable data), there has never been an economic contraction without first being a contraction in freight flows. Conversely during the same period, there has never been an economic expansion without first being an expansion in freight flows. **Bottom line – even if it is at a slower rate, as long as the volume of freight continues to expand, we see no reason to turn bearish in our economic outlook.**

Although we also subdivide the economy via multiple other data feeds that represent smaller segments of the freight flows, **the Cass Freight Shipments and Expenditures Indexes are two of the strongest proxies for what is happening in the overall U.S. freight markets and, as a result, are strong predictive indicators for the U.S. economy.** *We understand that there are other broad proxies for freight flows, but they are either less frequent (only once a quarter) or less timely (reported >4 weeks after the month ended).*



We would remind our readers of a few of the fundamental factors which create disparity between the rate of change in goods flow and the rate of change reported as GDP:

- *Despite the strong pre-shipping activity that was experienced in May and June as firms tried to 'get ahead' of the tariffs, inventories across the US economy actually fell in the second quarter and were a one-percentage point headwind to the GDP (the reduction of inventory is a negative to the calculation of GDP, while the increase of inventory is a positive to the calculation of GDP). Without the drop in inventories that occurred, GDP would have come in at 5.1% in 2Q.*

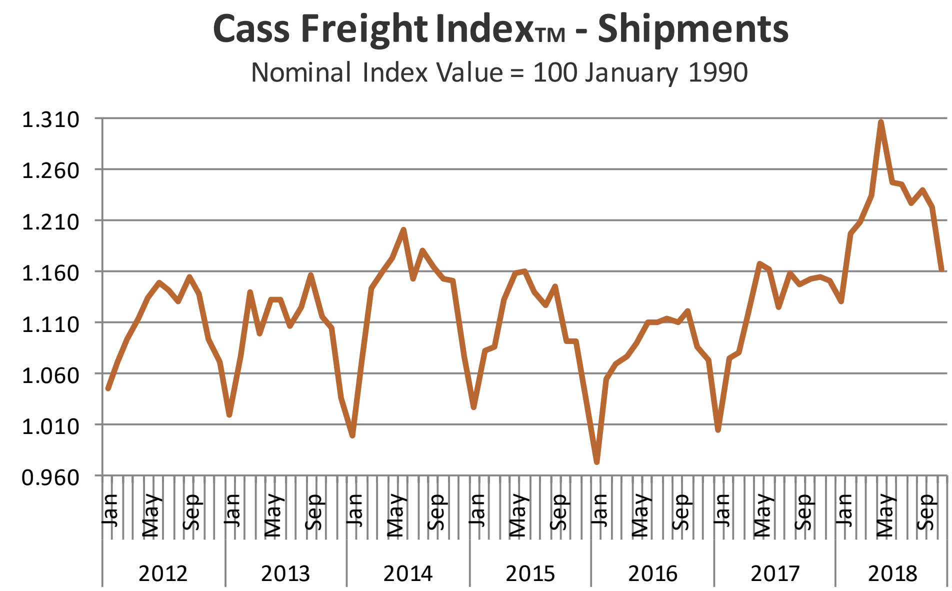
- *It is our current sense that volumes, especially import container volumes, may lead to a similar disconnect between the actual pace of economic growth and the reported GDP in 4Q. Given all imports are counted as a negative to the calculation of GDP, we could see strong freight volumes with a GDP number that is muted by strong import volume.*

Other reasons why the reported economic results in the coming months are poised to be lower (still expanding, but at a percentage rate less than in early 2018):

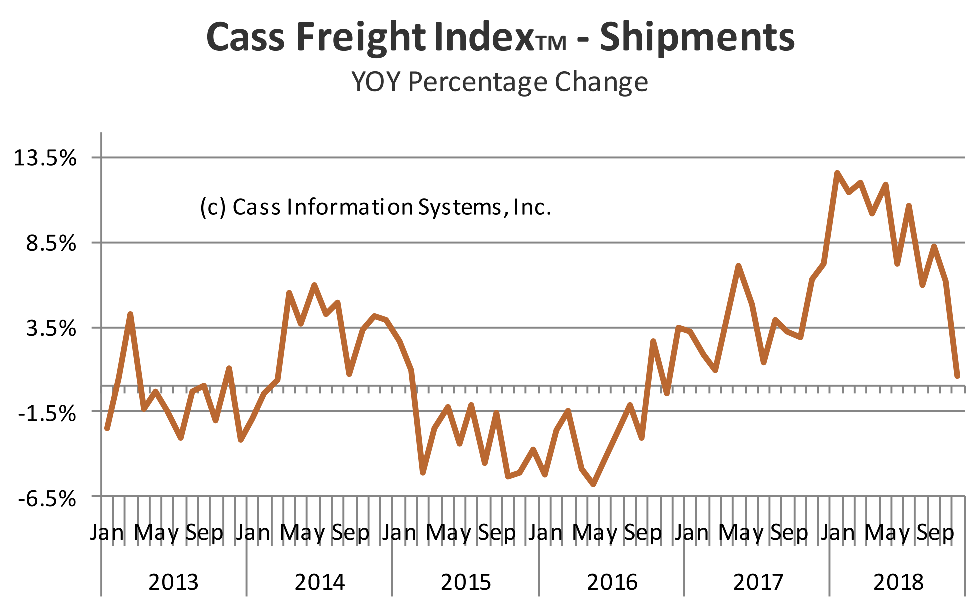
- lapping increasingly difficult comparisons;
- infrastructure in many industries is showing signs of being at or near full capacity;
- infrastructure in most modes of transportation are at or near full capacity;
- unemployment is low enough to make growing the active workforce challenging.

Hence, further large percentage increases in the short-term are increasingly difficult without significant investments in equipment and technology.

All of the intricacies about the limitations on the rate of growth possible on top of already strong growth aside, <u>the Cass Shipments Index is still signaling continued economic growth</u>.

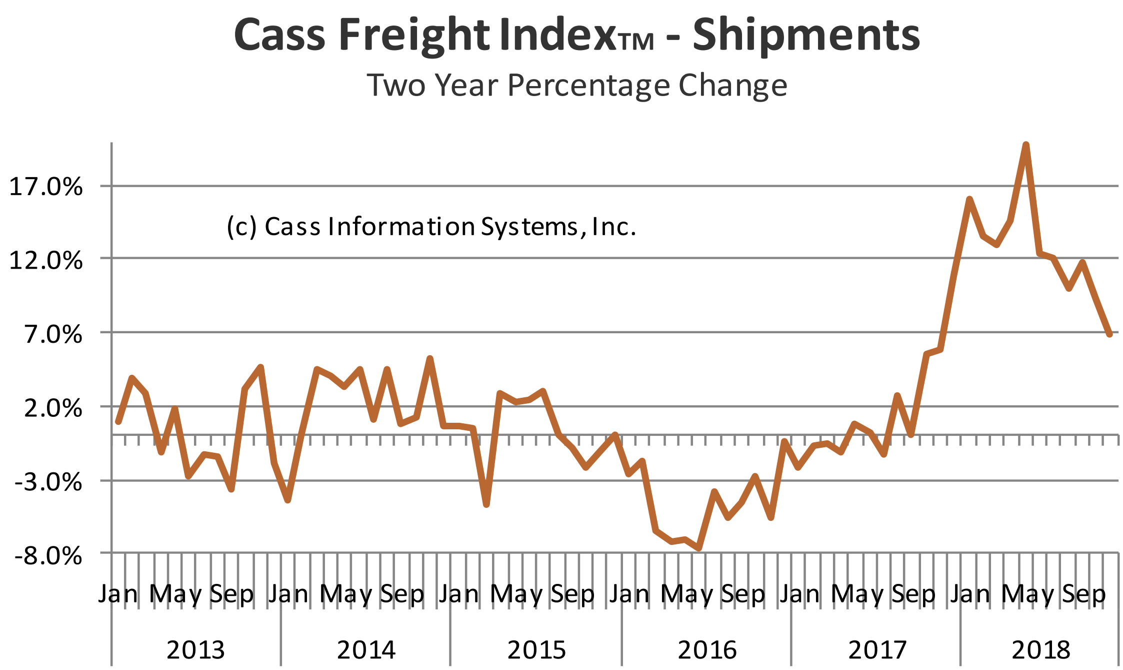


Transportation Continues to be a Leading Indicator
Shipments first turned positive twenty-six months ago, while expenditures turned positive twenty-three months ago. **The current level of volume and pricing growth is suggesting that, while it's still growing, the U.S. economy is simply not growing at the rate it was and that it may have reached its short-term expansion limit.** The 0.6% YoY increase in the November Cass Shipments is a deceleration from the 6.2% achieved last month and is an even more marked deceleration from the low double-digit levels achieved in the first five months of 2018. We are confident that the increased spending on equipment, technology, and people will eventually result in increased capacity in most transportation modes. That said, **many modes are continuing to report "limited amounts of capacity" or even "no capacity" at any price shippers are willing to pay.**



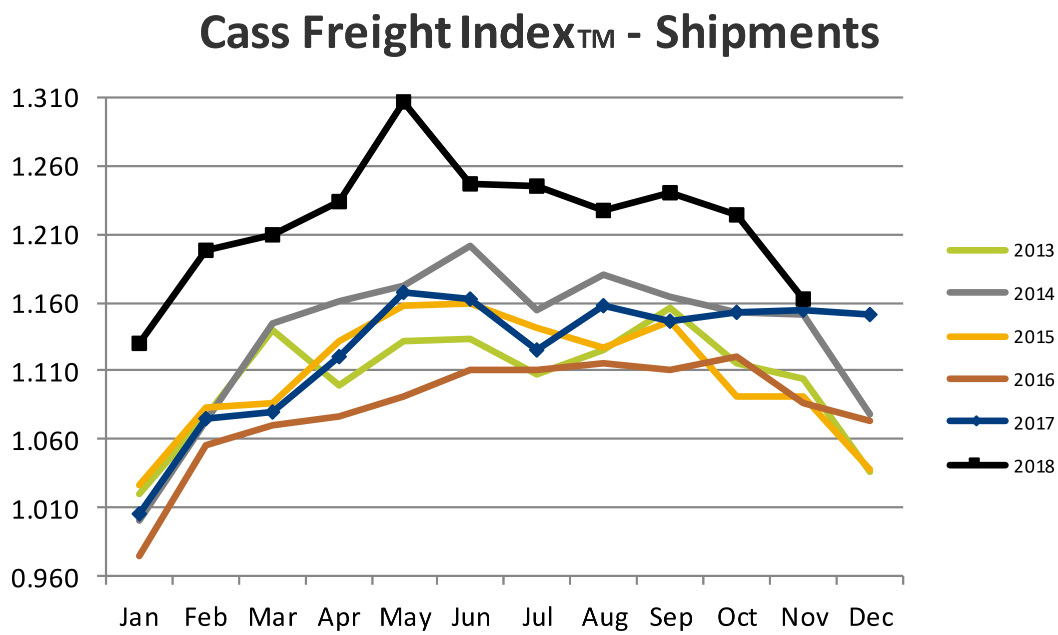
This month's lower rate of YoY percentage increase gives us less reason for concern than it might otherwise for two notable reasons:

- although positive for a couple of years, the largest surge in freight volume started in November last year;
- while not nearly as weak as February, November is not as strong a month seasonally as June, September, or October and hence is a less powerful contributor to the success or failure of any year's results.



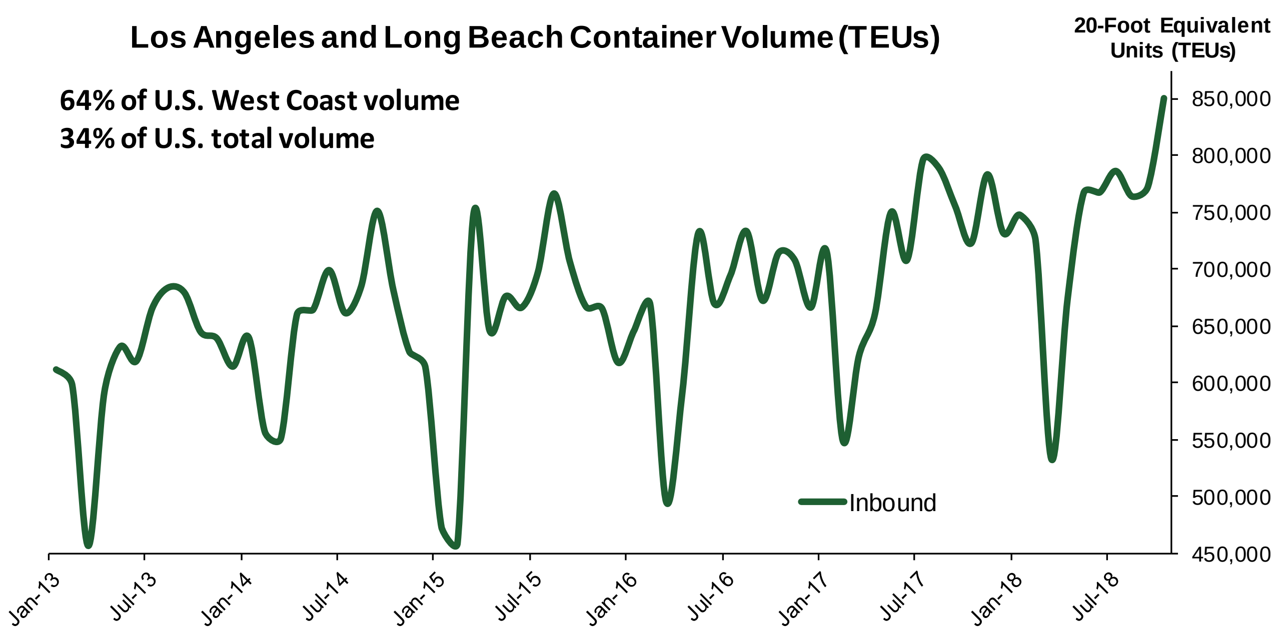
Viewing the percentage change on a two-year basis loses the predictive value of the index, but provides perspective on how strong the recent expansion has been. With this context, the small rate of November YoY percentage increase seems even less concerning. Alternatively, it highlights how severe the 2015-2016 industrial slowdown actually was.

With almost all of 2018 'in the record books', it is clear that 2018 will be noted as an extraordinarily strong year for transportation and the economy. The months of March through October exceeded all levels attained in all months in 2014 (a very strong year), while February was roughly equally to the peak month in 2014 (June 2014 – 1.201 vs February 2018 – 1.198). A YoY stacked chart (see below) highlights that, similar to the pattern which began in November and December 2017, the shipments index is still exceeding all previous respective months.



Consumer Economy is Accelerating

There are many widely disparate variables influencing the consumer economy. Everything from demographics and immigration policy, to interest rates and tax policy, to productivity growth and the unemployment rate influence the direction of, and the rate of change in, the consumer economy. We monitor all of these factors and dozens more, but in the short-term, we find the most reliable predictors of the consumer economy are dry-van truckload and import container volumes. Import container volume is especially predictive in the fall of the year as retailers prepare for the holiday shopping season.



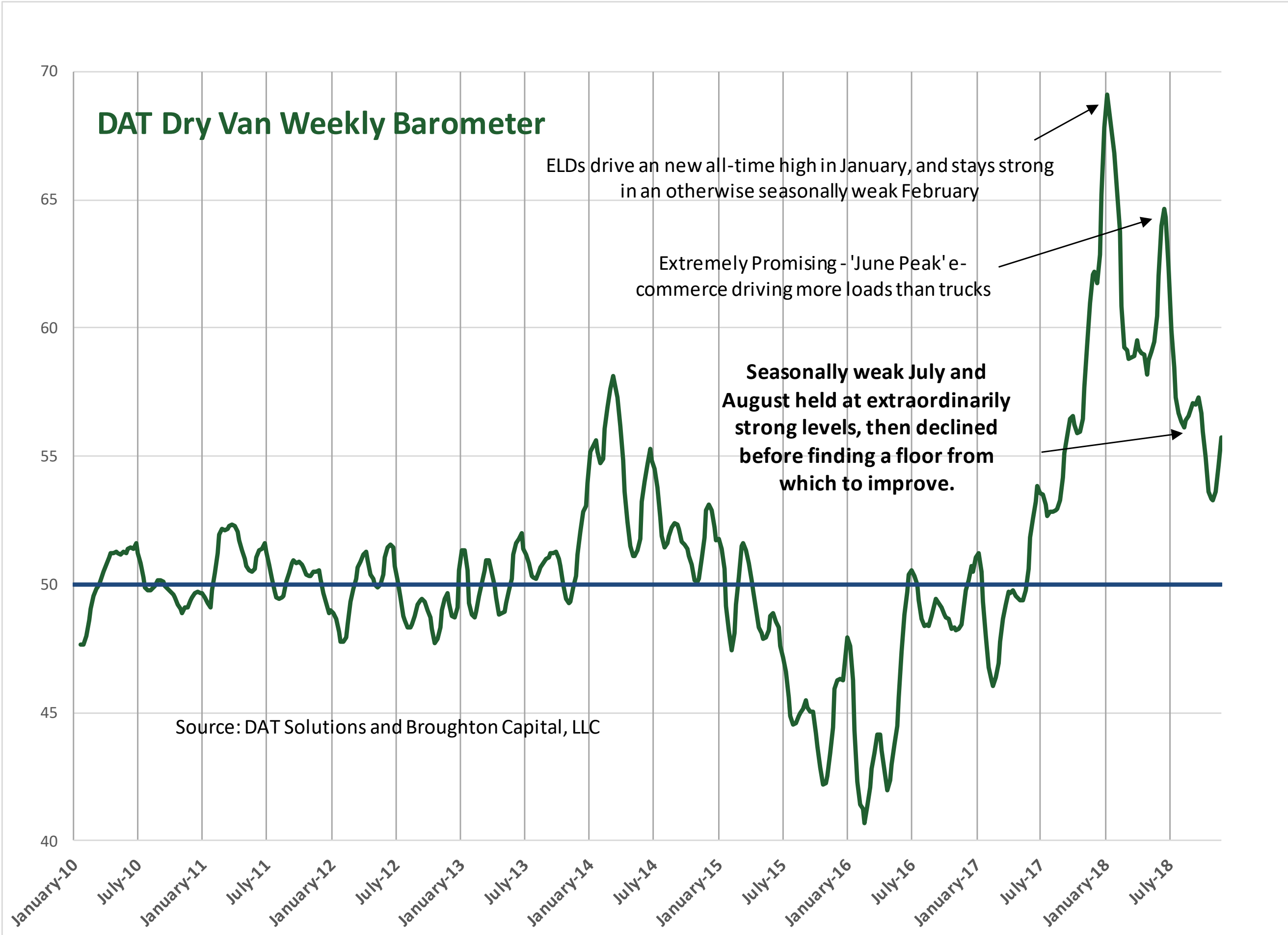
Source: Ports of Los Angeles and Long Beach, and Broughton Capital

Even with the first round of tariffs in place, U.S. retailers and e-tailers have signaled that they expect a record holiday shopping season from consumers by ordering enough goods from Asia that an all-time record was established.

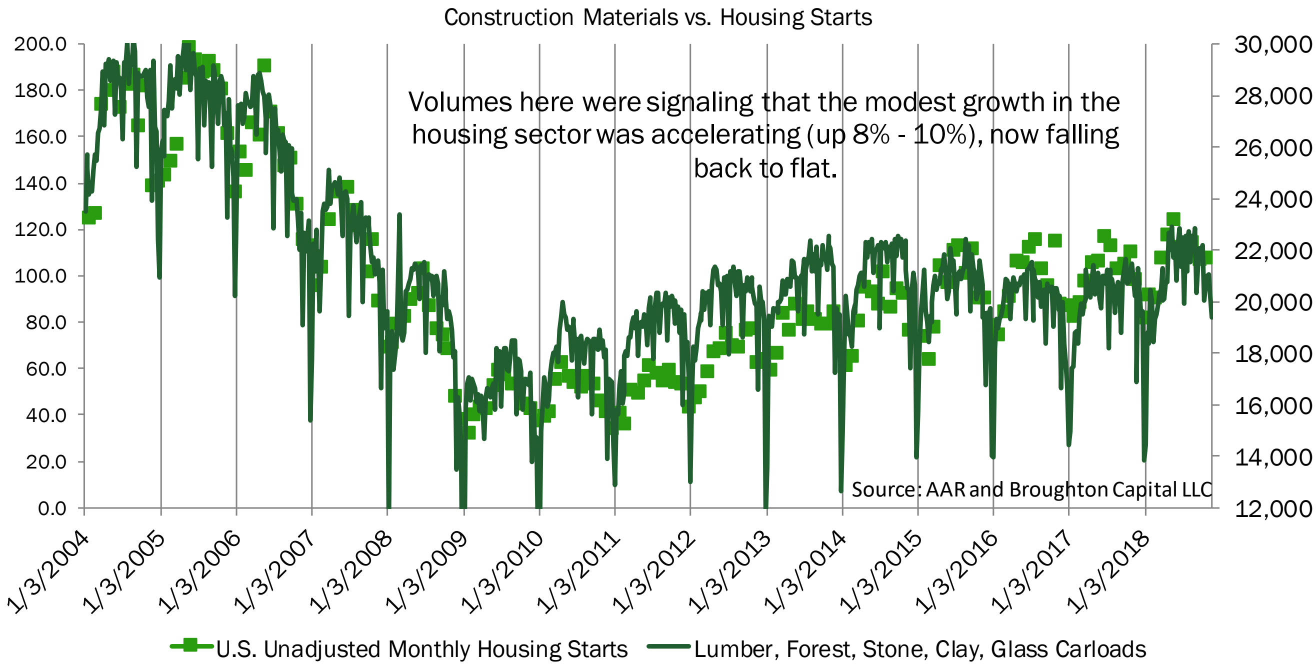
<u>As we've explained in previous reports:</u>

All of this is signaling that this holiday shopping season will be very strong. We are often asked, "Why is the container volume so predictive of retail sales? Is it as simple as retailers must have the product on the shelves (or in the warehouse if they are an e-tailer) in order to generate the sale?" It is hard to refute the simplicity of this logic, but we believe it is a bit more sophisticated. Call it the "Wisdom of Crowds" (i.e., the more people betting, and the more money being bet, the more predictive a market becomes). Retailers of all sizes have professional buyers who have extensive experience gauging both the strength of demand from their customers and what specifically those customers are going to want. Individually, those professional buyers are capable of making mistakes about volume (they order too little or too much) and product selection (gray pull-over sweaters instead of blue cardigans), but their collective sense of consumer demand and choice are highly predictive of what will actually happen in the coming months. In part, this marketplace works because of the number of people involved and the money deployed and, in part, because the buyers who regularly prove their ability to correctly predict volume and selection gain ever-larger budgets and influence over time. Those who don't, find other careers to pursue. Bottom line, the professional retail buyers (large and small) and the container volume that results from their buying decisions are predicting a strong holiday shopping season.

We should also note that Dry Van trucking volume serves a similar role as container volume in predicting retail sales, especially when studied using the DAT Dry Van Barometer. A clear pattern of strong volume growth that exceeds capacity growth, which in turn drives pricing power, remains.

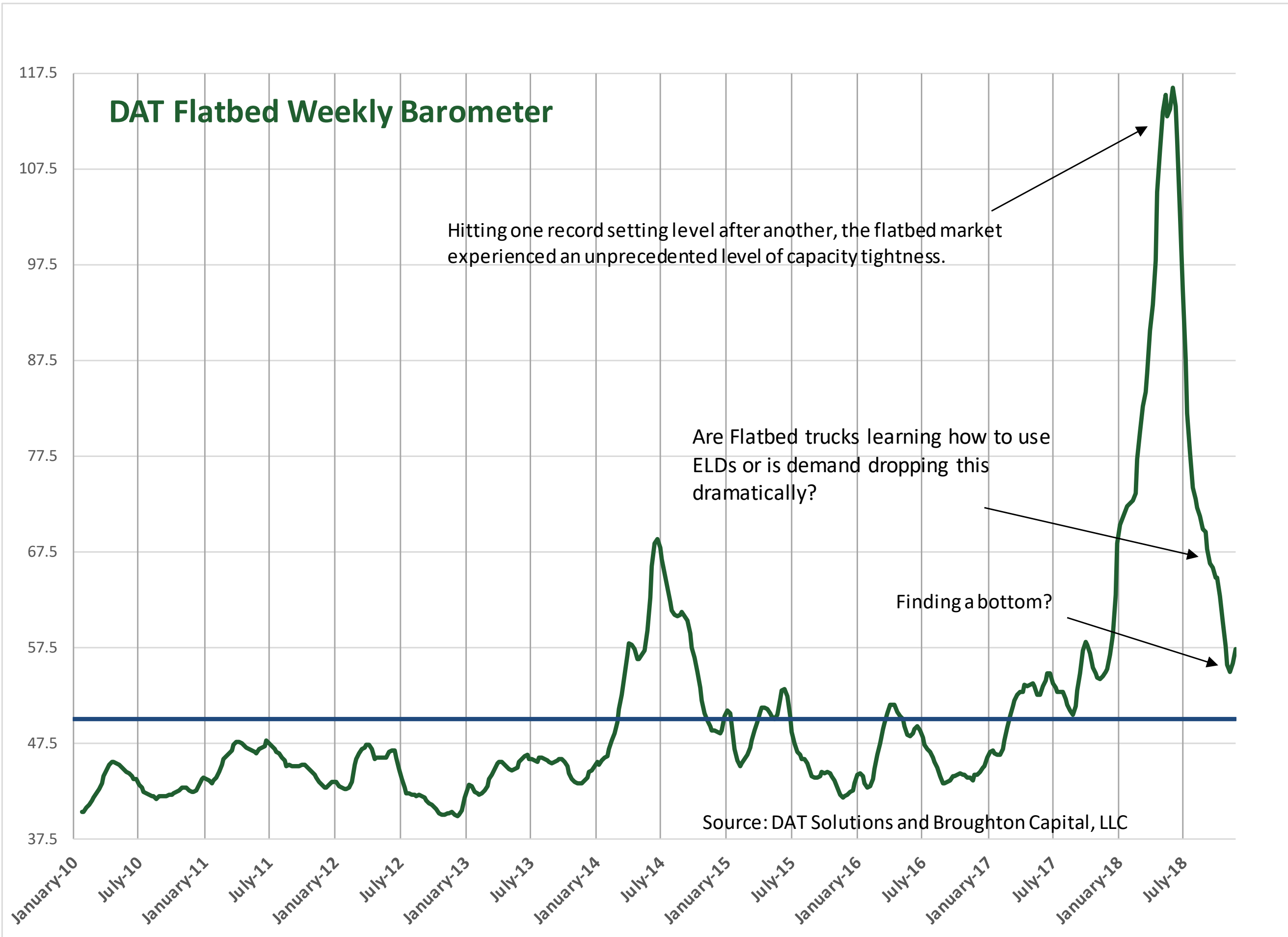


Historically, housing starts and new household formation have been strong precursors of consumer spending and effectively auto-incorporate much of the demographic factors driving the consumer economy. Our favorite predictor of this part of the economy is construction materials (mostly primary forest and finished lumber) moved via rail.

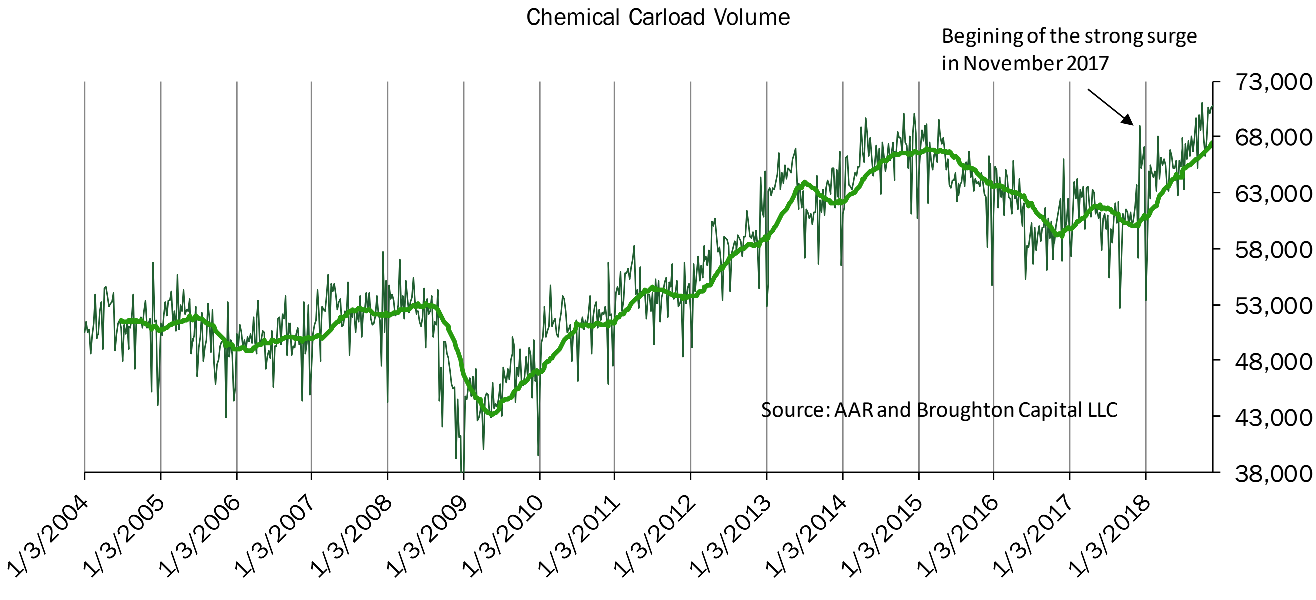


Consumer Economy Summary - The inbound import container volume, the DAT Dry Van Barometer, and the construction materials moved via rail are all reporting continued growth in volume which, is turn, is indicative of continued growth in the consumer economy.

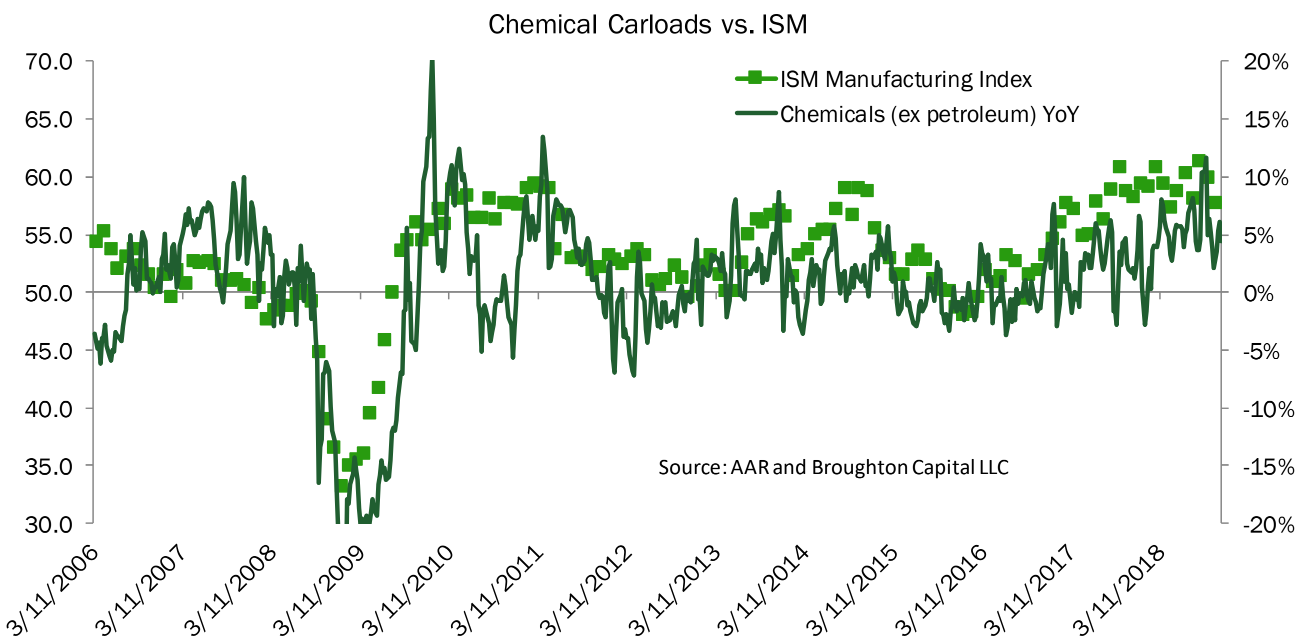
The Industrial Economy - With the surge in the price of WTI crude back above $45 a barrel in October of 2016, the industrial economy's rate of deceleration first eased and then began a steady improvement. Now with oil back above $50 a barrel (WTI is $51 a barrel as we write this), the U.S. oil industry is fracking new wells in all the major shale fields. As we suggested earlier, the incentive to invest in drilling as many holes as possible has weakened significantly with the decline in WTI from over $70 a barrel since mid-October; however, **as long as WTI crude oil stays above the marginal cost of production (>$45 per barrel) in the major U.S. fracking fields, we expect to see continued industrial economic growth (just not at the rate which $70+ per barrel would support).**



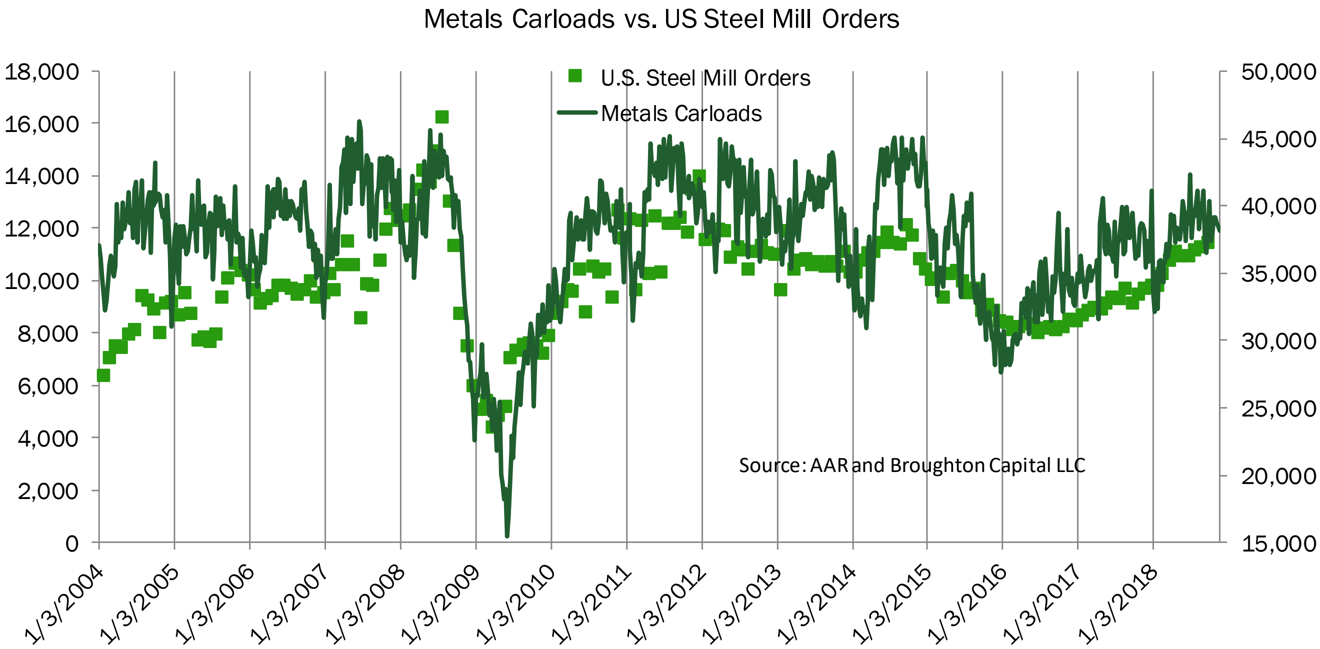
In a similar fashion to the DAT Dry-Van Barometer, the DAT Flatbed Barometer is indicating that the U.S. Industrial economy is alive and well and continuing to grow.



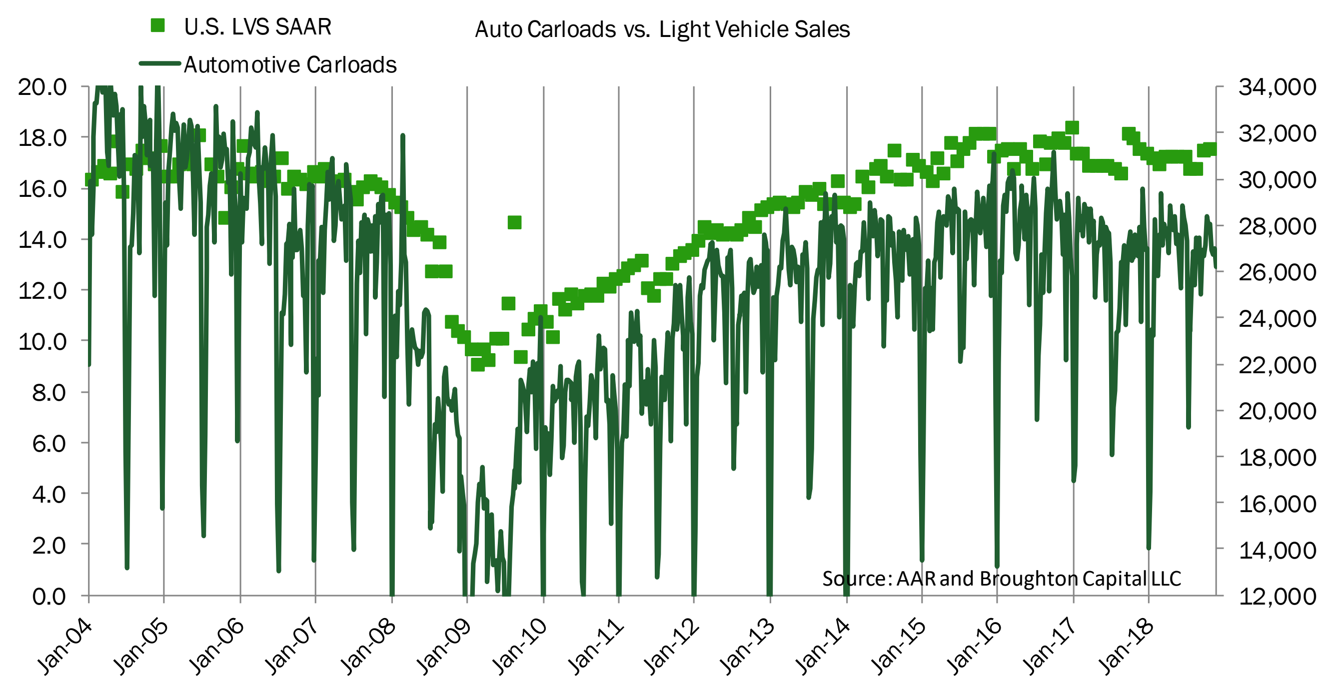
Data from the rail industry mirrors the data coming out of the flatbed segment of trucking. We have asserted for years that one of the best predictive indicators of U.S. domestic industrial activity is the chemical carload volume moved via railroad. Our assertion is simple: it is almost impossible to manufacture, or even assemble, anything in mass quantity without consuming chemicals.



Graphing the expansion and contraction of chemical shipment volume with the ISM Manufacturing Index illustrates the validity of our assertion.



Metal carloads are another data series that is consistent with the chemical shipments, and suggests continued growth, but at a slower rate.



One area of concern for both the industrial and consumer economy, which is being directly impacted by the tariffs, is the automotive market. After posting growth throughout much of the year, even surpassing the spike in the Houston area driven by Hurricane Harvey in 2017, on a YoY basis volumes, have gone negative in recent weeks. **If this trend were to continue, it would create doubt in our otherwise bullish outlook.**

Industrial Economy Summary - Although contrary to the other data, auto carloads do not by themselves indicate the industrial or consumer economy is poised to start contracting. Auto's slowdown may be a direct result of the tariffs, but given the inconsistency with other data, it warrants continued monitoring. As was mentioned previously, inbound import container volume, the DAT Dry Van Barometer, and the construction materials moved via rail are indicative of continued growth in the industrial economy.

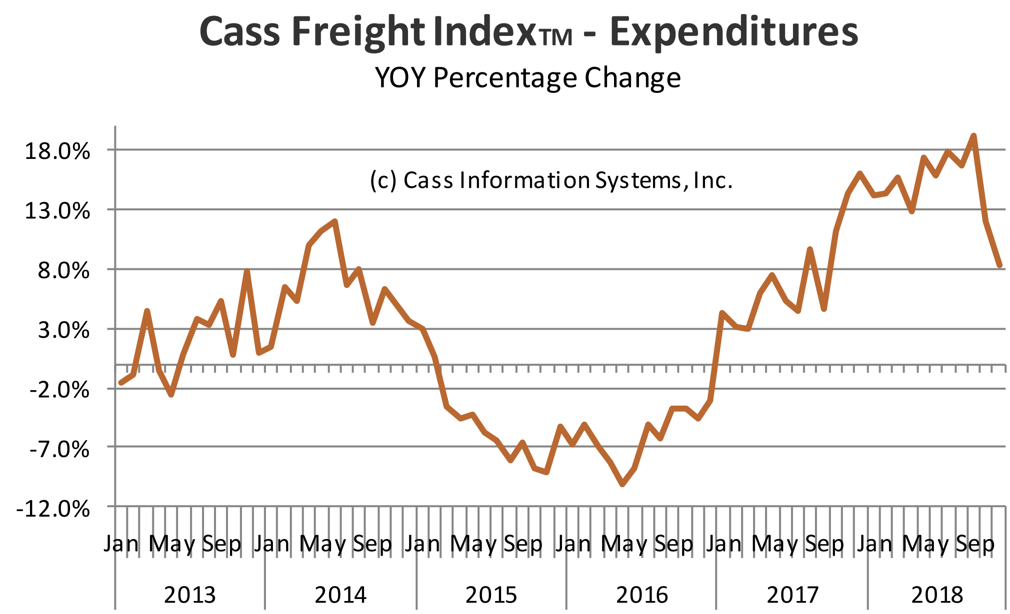
Enough About Volume and Demand, What About Pricing?

The Cass Expenditures Index is signaling continued overall pricing power for those in the marketplace who move freight. Demand is exceeding capacity in most modes of transportation by a material amount. In turn, pricing power has erupted in those modes to levels that spark overall inflationary concerns in the broader economy. Given the higher price of oil (resulting in higher fuel surcharges), and the strength in rates being experienced in sectors such as flatbed and chemical railroading, it should come as no surprise that the Cass Freight Expenditures Index is reporting such overall strength in transportation spending.

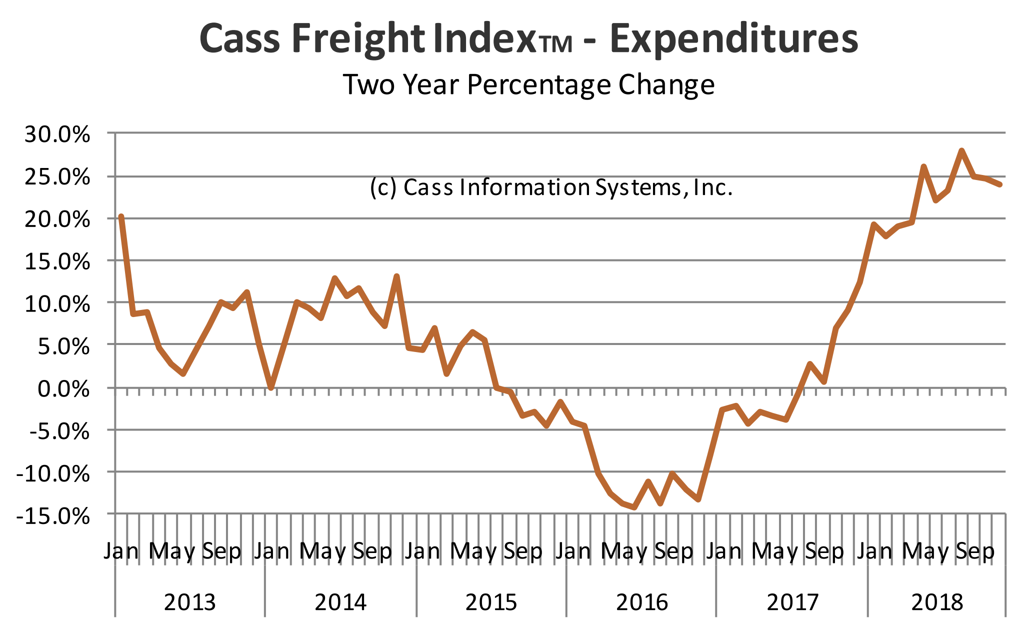
With the Expenditures Index up 8.4% in November, we understand concerns about inflation, but are comforted by four factors:

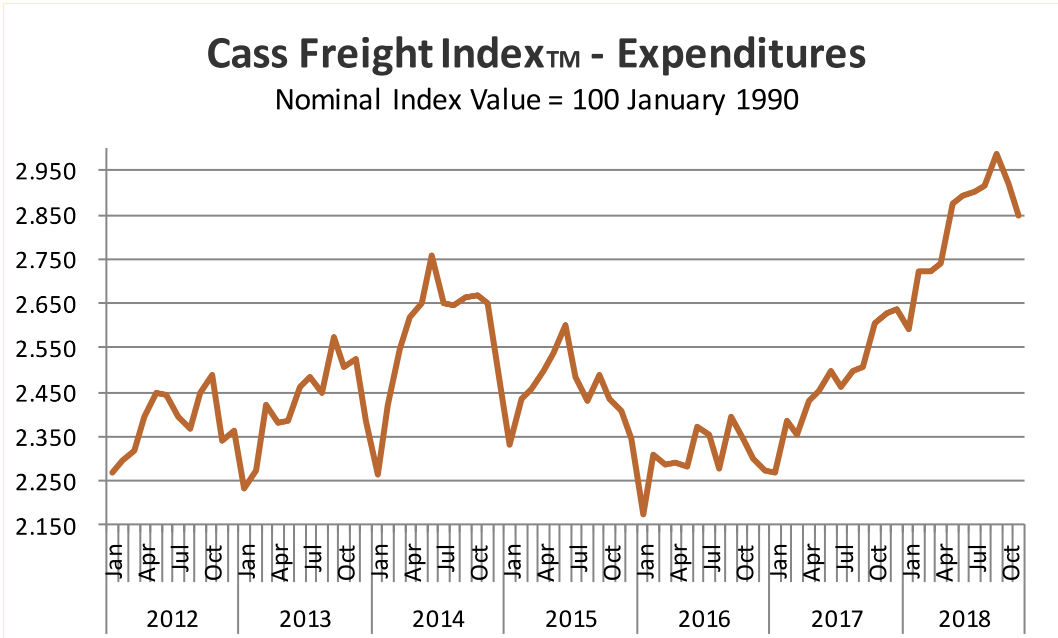
- almost all modes of transportation are using the current environment of pricing power to create capacity, which will dampen pricing power;
- spot pricing not including fuel surcharge in all three modes of truckload freight (dry van, reefer, and flatbed) has already been falling for 5 months;
- fuel surcharges are included in the Expenditures Index and the cost of diesel was up 13.4% YoY in November (but steadily falling in recent weeks, suggesting lower fuel surcharges in coming weeks);
- whether driven by capacity addition / creation or lower fuel surcharges or a combination of both, the Expenditures Index has already begun to sequentially decline. The November Index was already down 4.7% from its peak in September and down 2.4% from October.

As we explained previous months, we do not fear long-term inflationary pressure as technology provides multiple ways to ever-increase asset utilization and price discovery in all parts of the economy, especially in transportation. In fact, we are continuing to see more evidence that ELDs (Electronic Logging Devices), which initially hurt the capacity / utilization of truckers (especially small truckers), are becoming an ever smaller impediment to capacity utilization and, in some cases, actually improving utilization to levels above those achieved before ELD adoption. Many of the truckers which were the most adversely effected are now getting most, if not all, of the original loss in utilization back. This is especially true in the Dry Van and Reefer (temperature-control) marketplaces of trucking. Even the Flatbed segment of trucking, which initially faced the greatest productivity challenges after the adoption of ELDs, is learning to adapt.



With all of the strength in demand, it follows that Cass Freight Expenditures Index also posted strong percentage increases in 2017, and that continued throughout 2018. As we commented on the Shipments Index, we have to go back to the easy comparisons of 2009-2010 to find such large percentage increases and the current comparison is anything but easy. We have commented repeatedly that this was indictive of an economy that is continuing to expand. November's 8.4% increase signals that capacity is still tight, demand is strong, and shippers are willing to pay up for services to get goods picked up and delivered in modes throughout the transportation industry. **While the November 8.4% percentage increase is noticeably less than October's 12.0%, and dramatically less than September's 19.3%, it is in part because this November's increase was on top of a 14.3% increase in 2017, while October's increase was on top of a 11.2% increase in 2017, and the September 2017 increase was on top of an increase of only 4.6%. Viewed another way that provides more perspective, the two-year stacked increase (2018 vs. 2016) in Expenditures was 24.8% in September and 24.6% in October and 23.9% in November.**





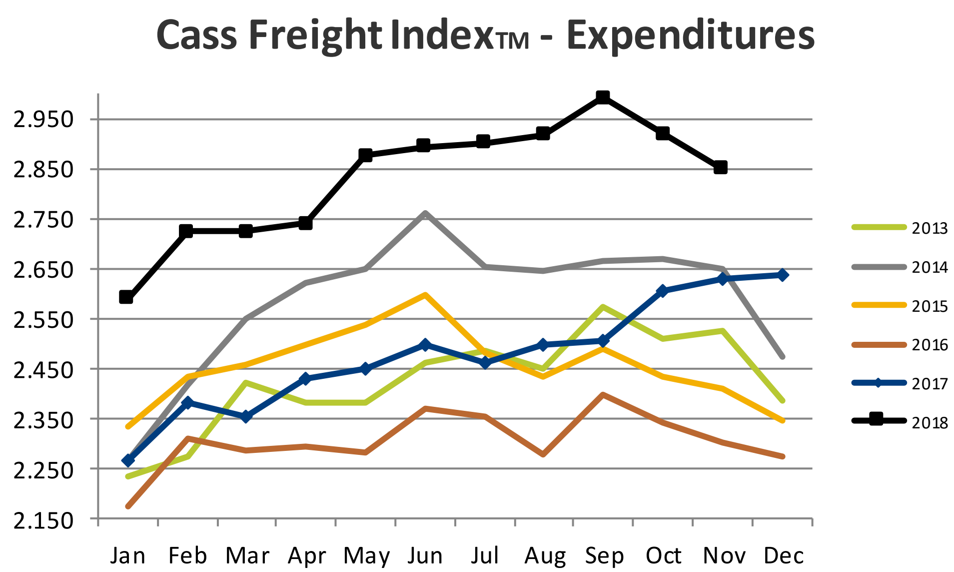
Viewing the Cass Freight Expenditures Index on nominal basis shows how positive the trajectory has been in the last year. On a nominal basis the index exceeded the all-time high established back in June 2014, and appears poised to stay near record levels in coming months. To put how strong the underlying pricing is in perspective, we should remind readers that the price of oil was at or above $100 a barrel throughout the first half of 2014, vs the current price of >$51 a barrel.

Putting it all in Perspective – the Background Story

Expenditures (or the total amount spent on freight) turned positive for the first time in twenty-three months in January 2017, albeit against an easy comparison. Not since 2011—when the economy was still climbing out of the recession—had this index been so low. Our Expenditures Index in January 2016 was the worst in five years, as demand had weakened and crude oil had fallen below $35 a barrel. Although February and March of 2016 were also weak, they were not nearly as weak as January 2016 and hence a slightly tougher comp. Since fuel surcharges are included in the Expenditures Index, fuel was a positive bias in 2017 and continues to be in the 2018 data, albeit to an ever lesser degree in recent months.

Throughout much of 2017, fuel was up as much as 30% YoY (diesel is at $3.161 a gallon on a national average basis as we write this), and we have pointed out that part of the Expenditures increase was a result of the relatively steady increase in the price of fuel and the related fuel surcharges. The YoY increase attributable to fuel is now far less than it was throughout most of 2017 (up an average of only 13.4% on a YoY basis in November). We are also seeing continued increases in the pricing power of truckers and intermodal shippers. As an example, the proprietary Cass Truckload Linehaul Index (which measures linehaul rates and does not include fuel) rose 7.9% on a YoY basis in the month of November to 141.6, falling back slightly from the all-time record high on a nominal basis in October of 143.4. The proprietary Cass Intermodal Price Index (which does include fuel) increased 10.6% in November to 144.4, also falling back slightly from the all-time record high on a nominal basis in October (*see those reports here for more details on the data and the underlying trends*).

Similar to the Cass Freight Shipments Index, the Cass Freight Expenditures Index, when viewed on a nominal YoY stacked basis, highlights that the monthly Expenditures Index has exceeded all previous levels for each month respectively throughout 2018 and, since May, has even exceed all previous levels in any month of any year. **Since oil was markedly higher in 2013 and 2014 (and hence included a much larger fuel surcharge), this data is reflective of stronger core pricing**.



We'd remind readers of two fundamental rules for marketplaces – volume leads pricing, and the long-term value of a commodity is the marginal cost of producing it.

- Repeatedly, we have watched in a host of different markets that volume goes up before pricing starts to improve and volume goes down before pricing starts to weaken. Volume leads pricing.

- Especially to the extent that pricing materially exceeds the marginal cost of creating capacity, market participants will invest heavily in the exact activities which kill pricing power in commodity markets (i.e., expansion of capacity with the belief that the current pricing power will endure for an extended period of time). Transportation may not be a pure commodity marketplace, and we appreciate that there are segments where customers are more motivated by the speed and reliability of the service than the price, but overall transportation is a commodity-like industry. Significant increases in price are used to attract new workers (drivers, pilots, etc.), buy newer more efficient equipment (with larger capacity when available), and ever more sophisticated technology to increase asset utilization. Pricing power will continue until capacity is expanded enough to meet demand. As capacity eventually grows faster than demand because participants in commodity markets (especially highly fragmented markets) always overshoot, pricing will fall. Pricing continues to fall until it is below the cost of adding additional capacity, at which point the incentive to add any additional capacity is gone, and pricing stabilizes as long as demand holds steady. If pricing continues to fall dramatically, capacity will be destroyed or at least idled until pricing stabilizes. This process may create significant oscillations in pricing above and below the marginal cost of creating capacity in the short-term, but those increases and decreases in pricing will be around the marginal cost of production.

About the Cass Freight Index

The Cass Freight Index represents monthly levels of shipment activity, in terms of volume of shipments and expenditures for freight shipments. Cass Information Systems processes more than $25 billion in annual freight payables on behalf of its clients. The Cass Freight Index is based upon the domestic freight shipments of hundreds of Cass clients representing a broad spectrum of industries. The index uses January 1990 as its base month. Visit http://www.cassinfo.com/frtindex.html or call 314-506-5500 to get detailed information about the Cass Freight Index, including historical data.

About the Author: Donald Broughton

Founder and Managing Partner of Broughton Capital, a deep data driven quantimental economic and equity research firm.

Prior to starting Broughton Capital, Mr. Broughton spent nine years as the Chief Market Strategist and Senior Transportation Analyst for Avondale Partners. Before that, Mr. Broughton spent over twelve years at A.G. Edwards. At A.G. Edwards, in addition to being the Senior Transportation Analyst, he was the Group Leader of the Industrial Analysts and served on the firm's Investment Strategy Committee. Prior to going to Wall Street, Mr. Broughton spent eight years in various distribution and operations management roles in the beverage industry, including serving as the Corporate Manager of Distribution for Dr. Pepper/Seven-Up companies and Chief Operating Officer for Bevmark Concepts.

Many in the transportation industry know him for his quarterly tracking of trucking bankruptcies. He is also known for his development of a 'Value to Density Spectrum' study of the tangible goods flow and its economic ramifications.

Broughton's equity research has earned acclaim and is regularly quoted by The Wall Street Journal, Bloomberg, Fortune, Forbes, and numerous other national media outlets. He is a frequent guest on CNBC, Nightly Business Report, CNN, Fox, NPR and other broadcast media.

His stock-picking performance has been repeatedly recognized by The Wall Street Journal, which has ranked him in its "Best on the Street" survey for his picks in both the cargo and railroad industry groups. Forbes has highlighted his performance in its "When Picky Analysts Pick" series. He has been ranked by Zacks Investment Research and Starmine as a 5-Star Analyst (their highest ranking) based on the historical performance of his recommendations.

Beginning in mid-2006, Broughton published reports warning of an impending economic slowdown and by early 2007 published reports explaining why a recession was coming. In early 2009, as the world became convinced that the 'sky was falling' he upgraded large cap industrials and names such as FedEx and Union Pacific. More recently, in July of 2010 and again in September 2011 his "Blue Car Report" explained why fears of a double dip were severely overblown and outlined why the market would have significant rallies by the end of those years. He believes that the current market is struggling to digest the end of the industrial-led recovery and the beginning of the consumer-led recovery in this cycle. But fear not, the consumer both in the U.S. and globally is about to be better than expected.

Other indexes published by Cass and Donald Broughton:

Cass Truckload Linehaul Index – measures fluctuations in U.S. truckload linehaul rates
Cass Intermodal Price Index – measures fluctuations in U.S. domestic intermodal costs
Visit http://bit.ly/s9iniq to view or subscribe.