Weekly Chemistry and Economic Trends

ACC Economics & Statistics
5 December 2014

Macroeconomic Status

Our running tab of positive indicators for the macroeconomic status was 13 out of 20 this week. Thus, we continue to post a green banner.

Payroll Employment ▲321,000 jobs
Unemployment Rate - STEADY - 5.8% rate
Consumer Confidence ▼5.4 points to 88.7
Construction Spending ▲1.1%; ▲3.3% Y/Y
Light Vehicle Sales ▲ to a 17.2 million-unit pace
Factory Orders ▼0.7%; ▲2.1% Y/Y
Trade Deficit ▼$0.2 billion to $43.4 billion
ISM Mfg. ▼0.3 points to 58.7
ISM Non-Mfg. ▲2.2 points to 59.3
JP Morgan Global PMI ▼0.4 points to 51.8

Business of Chemistry Status

For the business of chemistry, the indicators bring to mind a green banner for basic and specialty chemicals.

Oil ▼$69.64 (Thursday)
Natural Gas ▼$3.55 (Thursday)
Railcar Loadings ▼3,758 from a week ago; ▲0.2% Y/Y (13-week moving average)
Global CPRI ▲0.2%; ▲3.2% Y/Y
Chemical Equity Prices ▲1.1%; ▲8.2% YTD

The economic reports this week were positive for the most part. Although consumer confidence retreated, there was a good gain in construction spending and in light vehicle sales. US factory orders were down for the third month in a row but unfilled orders (a measure of the depth of the manufacturing pipeline) continued to expand. During November, US manufacturing activity continued to rise but at a slower pace. On the other hand, the services and other non-manufacturing industries featured strong gains. The *Beige Book* noted manufacturing continued to expand in November. All eyes were on today's employment report which provided good news. Monthly job gains were higher than expected and the unemployment rate held steady. The report also indicates that workers are working more and at higher wages. This report bodes well for 4th quarter spending and growth.

In world news, global manufacturing production expanded at the slowest pace for 15 months in November. Moreover, reports from a number of nations continued to be negative. Brazil appears to still be in recession and Russia will soon enter one. ACC's Global Chemical Production Regional Index (Global CPRI) indicated that production in the 4th quarter started on a modest note. Gains in production were centered in North America (aided by the shale gas revolution) with nominal gains in Central & Eastern Europe, Africa & the Middle East and to a lesser extent Asia-Pacific. Chemical industry production contracted elsewhere.

Turning to U.S. chemistry, the ISM report indicated some weakness in chemicals. However, that was contradicted by the labor input data. During November, chemical equities outpaced the overall market but YTD still lag. Our current list of chemical industry projects totals 215 projects, representing cumulative capital investments totaling $132.8 billion in the U.S. Fully, 60% of this is foreign direct investment.

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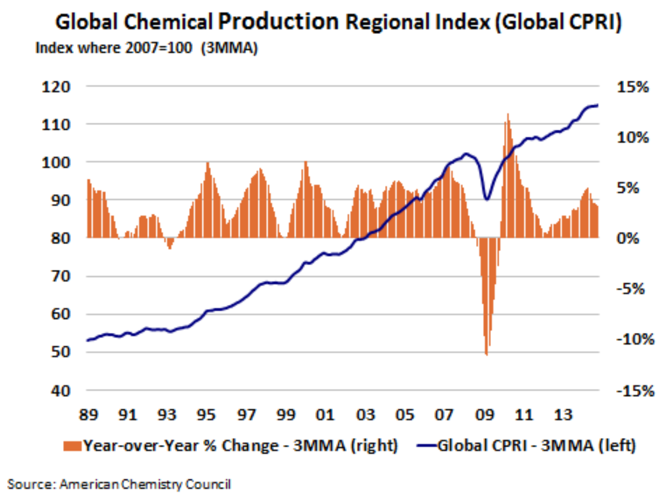
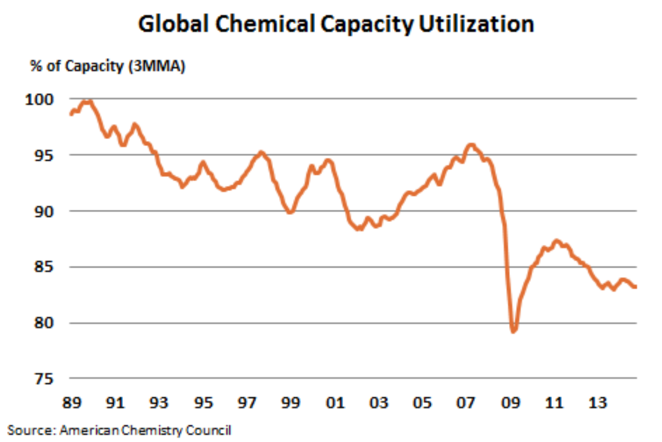
GLOBAL CPRI

ACC's Global Chemical Production Regional Index (Global CPRI) rose 0.2% on a three-month moving average (3MMA) basis in October indicating that production in the 4th quarter started on a modest note. Gains in production were centered in North America (aided by the shale gas revolution) with nominal gains in Central & Eastern Europe, Africa & the Middle East and to a lesser extent Asia-Pacific. Chemical industry production contracted elsewhere. The Global CPRI was up 3.2% year-over-year (Y/Y) on a 3MMA basis and stood at 115.0% of its average 2007 levels in October.



During October, capacity utilization in the global business of chemistry was stable at 83.2%. A year ago it was 83.0% and it is still below the longer-term (1987-2013) average of 92.0%.



Chemical production in **North America** has generally been on an upward trend since December 2008 but the pace of growth has been very slow. Regional production rose 0.4% in October, indicating continued recovery aided by competitiveness developments from shale gas. Headline U.S. production increased during October as well. During October, production of basic chemicals rose with strong gains in synthetic rubber and in bulk petrochemicals and organic intermediates offsetting weakness in inorganic chemicals, plastic resins, and manufactured fibers. Production of specialty chemicals jumped in October, with strong gains in adhesives and sealants and coatings and gains in other specialty segments as well. Production fell in consumer products but rose in agricultural chemicals and in pharmaceuticals. During October, both Canadian and Mexican chemical production activity expanded. Overall, North American regional production of chemicals was up 3.1% Y/Y.

Production Volumes (% Change Y/Y - 3MMA)	July 14	Aug 14	Sept 14	Oct 14
World Total – Chemistry	**3.4**	**3.4**	**3.3**	**3.2**
North America	1.0	1.8	2.6	3.1
United States	1.1	1.9	2.9	3.5
Canada	2.2	4.6	4.7	4.0
Mexico	-1.9	-2.9	-2.9	-3.2
Latin America	-2.2	-2.4	-3.0	-4.0
Brazil	-2.7	-3.0	-2.6	-2.4
Other	-1.8	-1.8	-3.5	-5.5
Western Europe	3.4	3.2	2.6	2.0
France	-1.3	-0.5	0.0	-0.4
Germany	-1.1	-0.3	0.1	0.0
Italy	0.6	1.3	0.7	-0.9
United Kingdom	0.0	1.6	3.0	2.2
Belgium	8.1	4.5	2.6	1.1
Ireland	51.9	43.7	35.4	30.4
Netherlands	1.7	0.5	0.2	0.8
Spain	1.6	1.1	1.5	1.9
Sweden	-3.1	-4.2	-5.4	-3.8
Switzerland	-0.9	-0.6	-0.4	-0.3
Other	2.2	3.4	1.2	0.7
Central & Eastern Europe	-3.7	-3.8	-2.6	-1.2
Russia	-10.1	-10.9	-9.4	-6.9
Other	2.3	3.0	3.9	4.4
Africa & Middle East	6.4	6.4	6.2	6.5
Asia-Pacific	5.8	5.4	5.2	5.1
Japan	2.4	0.5	-0.9	-1.6
Asia-Pacific ex. Japan	6.5	6.3	6.4	6.5
China	8.7	8.6	9.3	9.7
India	3.4	1.7	-0.3	-3.6
Australia	0.4	0.4	0.5	0.4
South Korea	0.7	0.3	0.6	1.2
Singapore	8.9	9.0	8.2	7.0
Taiwan	5.5	4.2	2.3	1.1
Other Asia-Pacific	1.9	2.9	3.4	3.4

Weakness in the region's economies continue to affect performance and chemical industry output in **Latin America** fell for the 10th consecutive month during October. Production was off 4.0% Y/Y. Compared to last year, chemical production was off in Brazil, Columbia, Peru and Venezuela but up in Argentina, Chile and Uruguay.

Chemical production in **Western Europe** was weak again in October as the possibility of a tertiary recession is now affecting regional production. In October, production was up only 2.0% Y/Y. Year-over-year gains occurred in the United Kingdom as well as The Netherlands, Norway, Portugal and Spain. Year-earlier comparisons were negative for France and Italy, as well as in Denmark, Greece, Sweden and Switzerland. Germany and Austria were flat compared to a year ago. There continues to be volatility in the data for Ireland, which is hindering confidence in the underlying time series and making it hard to discern trends.

Chemical industry production rose 0.8% in **Central and Eastern Europe** during October. Production gains were led by Russia. Compared to October last year, regional production was off 1.2% Y/Y. Year-earlier gains in Bulgaria, the Czech Republic, Hungary, Latvia, Lithuania, Poland and Romania were offset by declines in Estonia, Russia and the Ukraine. The conflict in the Ukraine continues to weigh on the region's chemical industry performance.

Chemical production in **Africa and the Middle East** grew 0.4% in October and was up 6.5% Y/Y. Africa and the Middle East had the strongest Y/Y regional performance despite economic weakness and ongoing conflict facing some of the region's countries. Comparisons to last year were positive in Israel, Jordan, South Africa and the Gulf Region but production was down in Tunisia and Turkey.

Chemical production in the **Asia-Pacific** region rose just 0.1% during October but performance continues to be solid on a Y/Y basis. Chemicals production was up 5.1% Y/Y in October. Many of the nations in this region are early in the global supply chain and activity has improved. Strong year-earlier comparisons were seen in China and Singapore while gains were more modest in Australia, Malaysia, Pakistan, South Korea, Taiwan and Thailand. Chemical industry performance has been weak in Japan, India, New Zealand and The Philippines.

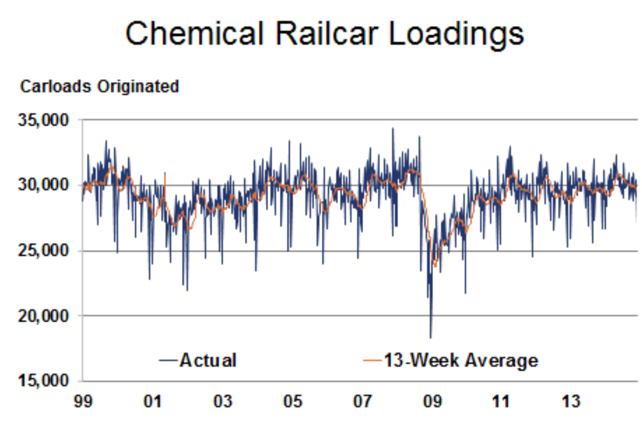
All **segments of the business of chemistry** have improved from the trough of the recession with the most pronounced recovery having occurred in the cyclical segments. Thus far in 2014, however, the growth pattern from month to month has not been strong. During October, results were good, with global weakness only in pharmaceuticals. Production of agricultural chemicals, consumer products, inorganic chemicals, bulk petrochemicals, plastic resins, synthetic rubber, manufactured fibers, coatings and other specialty chemicals all increased. Year-over-year comparisons were strongest in plastic resins followed by other specialties, consumer products, inorganic chemicals and pharmaceuticals.

Data, charts, and this monthly report are available for ACC members on MemberExchange or by email distribution [send your request to Emily Sanchez].

Production Volumes (% Change Y/Y - 3MMA)	**July 14**	**Aug 14**	**Sept 14**	**Oct 14**
World Total - Chemistry	**3.4**	**3.4**	**3.3**	**3.2**
Pharmaceuticals	5.8	4.7	3.8	3.3
Total Chemistry, ex Pharma	2.7	2.9	3.3	3.2
Agricultural Chemicals	-1.6	-0.5	1.4	1.9
Consumer Products	4.9	4.9	4.8	4.7
Basic Chemicals	2.7	2.9	3.0	2.9
Inorganic Chemicals	2.8	3.2	3.4	3.3
Petrochemicals & Organic Chemicals	0.6	0.5	1.0	1.0
Plastic Resins	5.8	6.5	6.4	6.1
Synthetic Rubber	0.6	0.3	0.2	0.7
Manufactured Fibers	2.8	2.0	1.3	1.1
Specialty Chemicals	3.3	3.3	3.5	4.0
Coatings	2.3	1.7	1.3	1.6
Other Specialties	3.7	3.9	4.4	4.8

CHEMICAL RAILCAR LOADINGS

According to the Association of American Railroads (AAR), for the week ending 29 November (week 48), railcar loadings of polymers and basic chemicals (blue line) fell by 3,758 to 26,639 railcars; much of this drop can be attributed to the Thanksgiving holiday. Compared to the same week last year, loadings were down 0.1% Y/Y and were up 1.2% YTD. Loadings have been on the rise for 6 of the last 13 weeks.

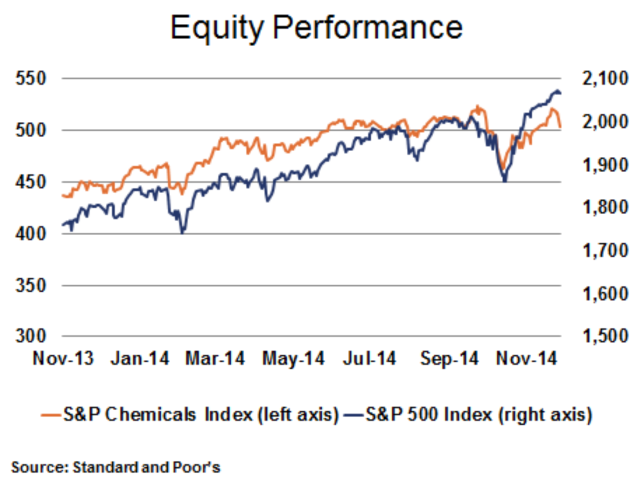


Source: Association of American Railroads

The railcar loadings data are the best 'real time' indicator of industry — especially basic chemicals and polymers — activity. Because the data are fairly erratic, we employ a 13-week moving average (MA) to smooth out seasonal irregularities. The 13-week MA of railcar loadings is up 0.2% Y/Y.

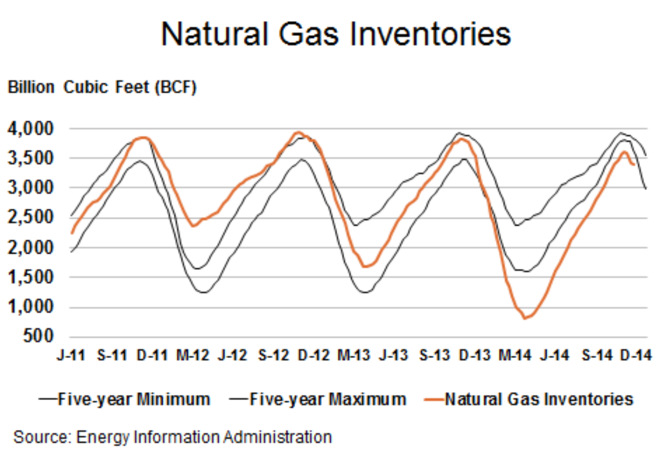
CHEMICAL EQUITY PERFORMANCE

Equity prices are often a good indicator of future activity and represent one component of the leading economic indicators. The S&P 500 index gained 2.6% during November. The S&P index for chemical companies also rose, by 1.1%. The S&P chemicals index was up 8.2% from the beginning of the year. By comparison, the S&P 500 index was up 11.9% from the start of the year.

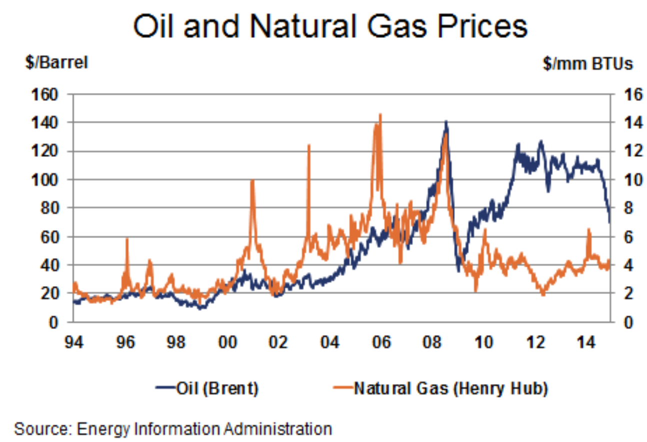


ENERGY

The Energy Information Administration (EIA) reported a 42 billion cubic feet (BCF) withdrawal in **natural gas inventories** during the week ending 28 November, below the typical 55 BCF build for this week. Stocks were 6.2% (227 BCF) lower than last year at this time and 9.8% (372 BCF) below the five-year average. At 3,410 BCF, total gas inventories remain below the five-year historical range.



With ample global supplies and an OPEC announcement that it will maintain its current production quotas, **oil prices** sank to $69.64 per barrel yesterday (Thursday). A year ago, oil was $111.95 per barrel. Thus, recent prices represent a 37.8% Y/Y decline. With a lower than expected inventory draw last week, **natural gas prices** (the benchmark Henry Hub), closed at $3.55 per million BTUs on Thursday, down from $4.30 last Friday. A year ago, the price was $3.93 per million BTUs. Thus, recent prices represent a 9.6% Y/Y decline.



At 19.6:1, the ratio of oil prices to natural gas improved from 16.7:1 a week ago. One year ago, the ratio was 28.5:1. As a rough rule of thumb, when the ratio is above 7, the competitiveness of Gulf Coast-based petrochemicals and derivatives vis-à-vis other major producing regions is enhanced. As the following chart shows, we've been above 7 for several years. In the US, nearly 90% of ethylene, for example, is derived from natural gas liquids while in Western Europe, over 85% is derived from naphtha, gas oil and other light distillate oil-based products. Historically, other factors (co-product prices, exchange rates, capacity utilization, etc.) have played a role in competitiveness as well. The current ratio is favorable for US competitiveness and exports of petrochemicals, plastics and other derivatives.

According to Baker-Hughes, for the week ending 26 November the North American **natural gas rig count** fell by 11 to 344 rigs. One year ago the rig count was 367 rigs. During the same week, the **oil rig count** fell by two to 1,572 rigs. One year ago the rig count was 1,391 rigs.

BEIGE BOOK

The Federal Reserve collects anecdotal reports from each of the 12 District banks about economic conditions in their region. This compendium of reports is assembled and disseminated in the *Beige Book*. Reports from the 12 Federal Reserve Districts suggest that national economic activity continued to expand in October and November. A number of Districts also noted that contacts remained optimistic about the outlook for future economic activity. Consumer spending continued to advance in most Districts, and reports on tourism were mostly positive. Employment gains were widespread across Districts, and Districts reporting on business spending generally noted some improvement. Construction and real estate activity expanded overall, but at a pace that varied by sector and by District. Manufacturing activity strengthened in most Districts. The automotive and aerospace industries continued to be sources of strength.

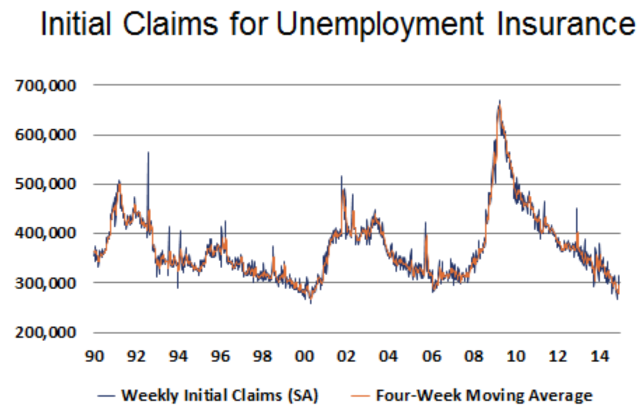
Chemical manufacturers in the Boston District indicated that the falling price of oil relative to natural gas had made U.S. producers less competitive, because foreign chemical producers rely more heavily on oil for feedstock and production. A chemical firm in the Philadelphia District reported growing demand for products used for medical diagnostics but flat demand for lab chemicals. In the Richmond District an engineered plastics producer in North Carolina reported steady demand and new purchases of equipment. In the Atlanta District volumes of chemical products posted double-digit increases from a year ago. In the Minneapolis District a partnership among several firms announced plans for a $4 billion petrochemical facility in North Dakota that would be the largest private investment in the state's history. The Kansas City District noted that activity at chemical (and plastics) plants continued to decline. The Dallas District noted reports of hiring by petrochemical manufacturers. Gulf Coast chemical producers reported higher production rates, with the end of several planned and unplanned plant outages. Domestic sales of PVC and polyethylene were strong, while export demand for these products declined.

The *Beige Book* report is of importance to the business of chemistry as it provides insight into trends in key end-use customer industries as well as the industry itself. Searches of the text of the Beige Book can easily identify reports on end-use customer industries. (For more details, see www.federalreserve.gov.)

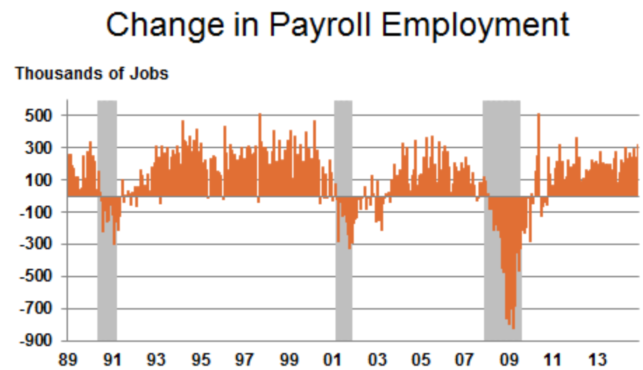
INDICATORS IN DETAIL

Note that economic statistics tend to be somewhat erratic in nature. Seasonality often plays a role and one must be careful in placing too much emphasis on a single month's figures. Analysts often use a three-month moving average or employ Y/Y comparisons to deal with the volatility.

The Department of Labor reported that **initial claims** for unemployment insurance in the week ending 29 November fell by 17,000 to 297,000. The four-week moving average rose by 4,750 claims to 299,000.



Source: Department of Labor



Source: Bureau of Labor Statistics

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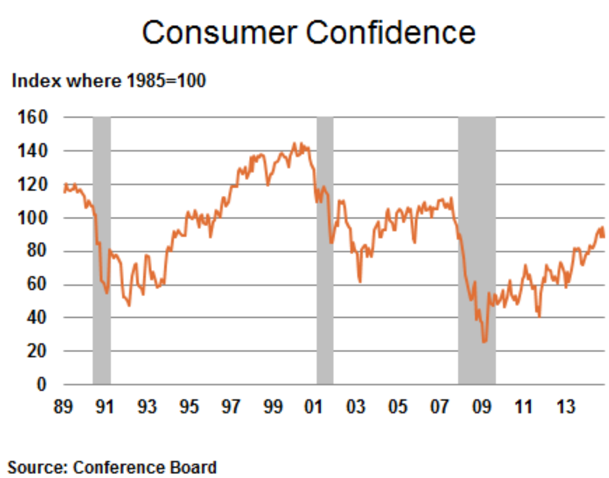
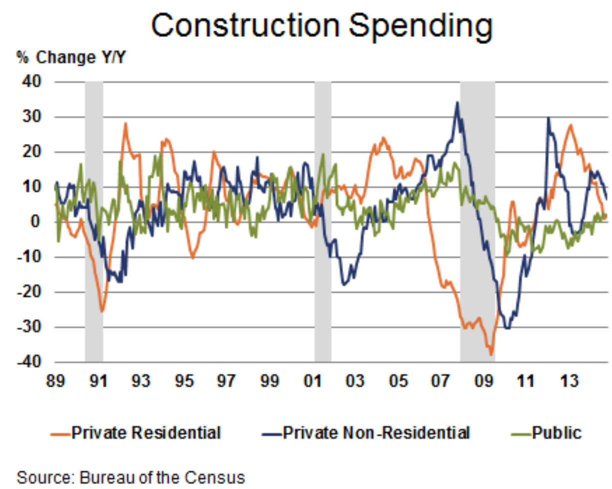
The Bureau of Labor Statistics (BLS) reported good news on the employment situation. **Non-farm payrolls** added 321,000 jobs last month reflecting gains in manufacturing, construction, retail trade, healthcare, finance and insurance, leisure and hospitality, and professional and business services. So far this year, payroll growth has averaged 241,000 per month. Within professional and business services, employment in temporary help services continued to increase in November with a gain of 22,700. This segment is a leading indicator of future change in payrolls. Average hourly earnings for nonsupervisory workers rose by 4 cents to $20.74 per hour, suggesting modest income growth during the month. The BLS's separate household survey, which can sometimes paint a different picture, was that the number of unemployed persons was about the same at 9.1 million in November. The survey also showed that the **unemployment rate** held steady at 5.8% - this is down from a 7.0% rate last year. It should be noted that the labor force participation rate was also unchanged at 62.8%.

In the business of chemistry, overall employment declined 0.1% (or 1,200 jobs) to 806,400 in November. The decline reflects a 0.7% drop in supervisory and nonproduction jobs and a 0.2% gain production jobs. Average production worker workweek rose 0.3 hours to 43.3 hours. As a result, the overall labor input to the chemical industry jumped 0.9% for the month and was up 4.5% Y/Y. After allowing for normal productivity gains the report suggests strong gains in production. Hourly wages rose by 11 cents to $21.64 per hour but were flat on a Y/Y basis. Overall employment was up 15,200 jobs (or 1.9%) compared to a year ago. The number of production workers was up 3.1% Y/Y, or 15,200 jobs.

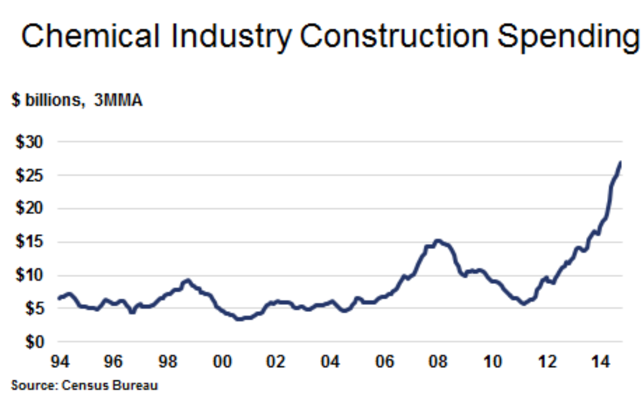


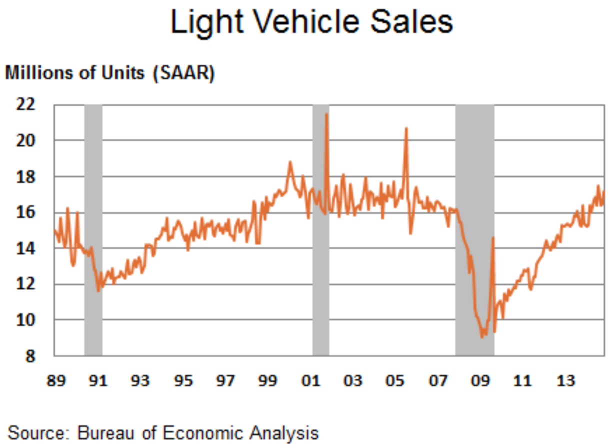
The Conference Board reported that **consumer confidence**, which had rebounded in October, retreated back 5.4 points to 88.7 (1985=100) in November. Consumers' assessment of present-day conditions was moderately less favorable in November than it was in October, with the Present Situation Index declining 3.1 points to 91.3. Consumers were somewhat less optimistic about current business conditions and the state of the job market. Plans for purchasing homes and appliances strengthened and plans for buying new automobiles held steady. Consumers' outlook which had improved in October, retreated in November with the Expectations Index decreasing sharply (by 6.8 points) to 87.0. Their optimism in the short-term outlook for business conditions and job prospects has waned. That said, income expectations were virtually unchanged and gasoline prices remain low, which should help boost sales in the Christmas season. *This report is important to the business of chemistry as an explanatory variable for both pharmaceuticals and consumer products (e.g., soaps, detergents, and toiletries). To the limited extent that it foreshadows consumer spending (and the chemistry associated with that) it is also an important indicator.*



The Census Bureau reported that **construction spending** rose by 1.1% in October to a $971.0 billion pace, with activity increasing in both private residential and publically funded construction. Spending on privately-funded nonresidential projects edged lower (following an upward revision to September's numbers). There was mixed performance among the sectors included in nonresidential. However, manufacturing continued to gain reflecting new investments in the manufacturing base. Spending on lodging and commercial projects also rose. Compared to a year ago, overall construction spending was up 3.3% Y/Y.

Turning to chemistry, new construction of chemical facilities rose 2.4% to a $27.3 billion pace. Compared to a year ago, new construction spending for chemical manufacturing was up 65.8% Y/Y reflecting shale-advantaged chemical investments. Construction in plastic and rubber products manufacturing edged lower in October, but was ahead 63.3% Y/Y.

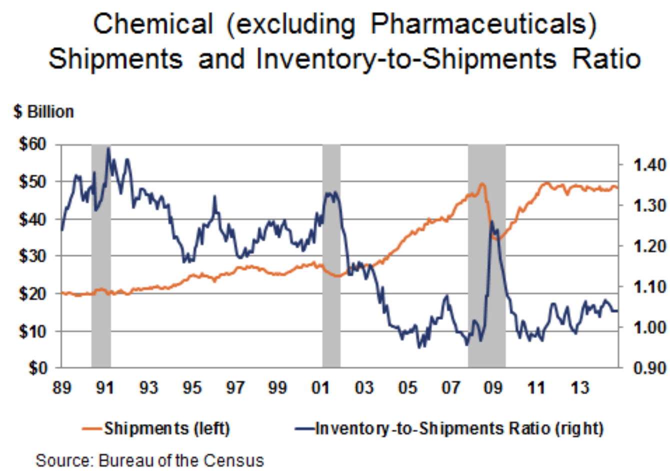




With lower gasoline prices, the automobile companies reported that **light vehicle sales** jumped to a larger-than-expected 17.2 million-unit pace in November. This was despite severe winter weather in Buffalo and other parts of the nation. Improving consumer fundamentals, access to credit, and strong promotions were also factors. Overall U.S. sales were up 5.6% Y/Y last month. Demand for sport-utility vehicles continued to rise amid lower gasoline prices. More efficient designs are aiding sales as well. Compared to a year ago, sales were up strongly at General Motors, Chrysler and Nissan but off slightly for Ford Motor. Toyota Motor and Honda's sales rose as well. Sales to both consumers and fleets rose in November. *This sector is important to the business of chemistry because a typical vehicle contains $3,481 of chemistry (chemical products and chemical processing). Included, for example, are antifreeze and other fluids, catalysts, plastic dashboards and other components, rubber tires and hoses, upholstery fibers, coatings and adhesives. Virtually every component of a light vehicle, from the front bumper to the rear taillights features some chemistry. The latest data indicate that polymer use is 336 pounds per vehicle. More details are available in our annual Chemistry and Light Vehicle report.*

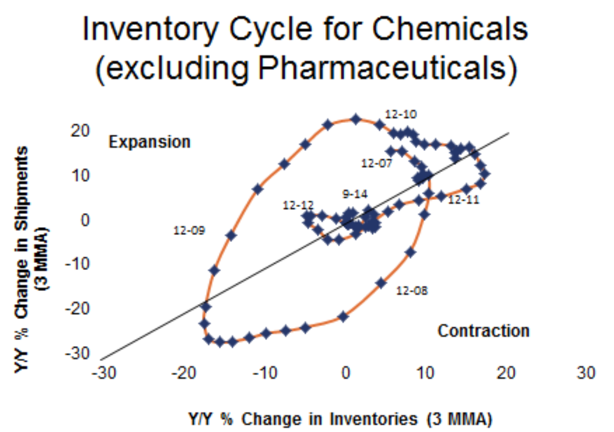
The Census Bureau reported that the **trade deficit** in goods and services declined $0.2 billion in October. Exports were up $2.3 billion to $197.5 billion from September. Imports were $241.0 billion in October, up $2.1 billion from September. Exports of goods were about $2 billion higher reflecting increased capital goods exports. At the same time, imports of goods also increased by about $2 billion as imports of capital goods and automotive vehicles, parts, and engines increased. Looking at the country and regional details, trade deficits with China, OPEC and the EU declined. At the same time, net exports decreased to South/Central America. *Turning to the business of chemistry, on an SITC basis, exports of chemicals grew to nearly $18 billion and imports remained steady also, at about $18 billion. Year-to-date, imports of chemicals are outpacing exports by about $4 billion. More details (at the NAICS level) will be available next week.*

The Census Bureau reported that **factory orders** were down for the third month in a row in October. New orders fell 0.7% to $496.6 but were up 2.1% Y/Y. Excluding transportation, new orders were down 1.4% on October. Orders were down in many industries. Notable declines were recorded in primary metals, machinery, and electrical equipment, appliances and components. A jump in orders for transportation equipment was not enough to offset declines elsewhere. Nondurable orders were down nearly $4 billion (or 1.5%). **Unfilled orders** (a measure of the depth of the manufacturing pipeline) continued to expand. Manufacturers' shipments declined 0.8% after a 0.1% rise in September. **Inventories** also edged higher by 0.1%. Inventories were up 3.5% Y/Y while shipments were up 2.2%. The inventories-to-shipments ratio remained rose slightly to 1.31, about the same level as a year ago.



Turning to the business of chemistry, shipments of chemicals were down 1.1% in October following small builds in recent months. Pharmaceutical shipments slipped 3.7% in October, and as a result, shipments of chemicals excluding pharmaceuticals were down 0.4% to $48.55 billion. Compared to October 2013, chemical shipments were down 2.2% Y/Y (excluding pharmaceuticals, they were up 0.8%).Shipments of agricultural chemicals were up while shipments of coatings and adhesives were down. Inventories of chemicals were down 0.1% in October to $81.7 billion. Inventories of pharmaceuticals were down 0.4% during October. Excluding pharmaceuticals, chemical inventories held steady at $50.7 billion. Inventories of chemicals were up 0.7% Y/Y. Excluding pharmaceuticals, chemicals inventories were up 1.6% Y/Y. The inventory-to-shipments ratio for chemicals excluding pharmaceuticals has held steady at 1.04 since July. This ratio is low.

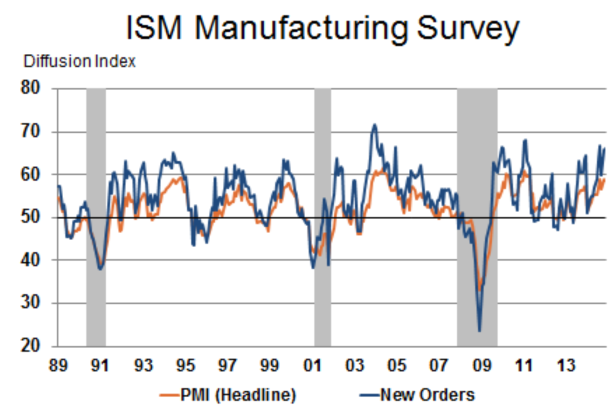
The next chart shows the relationship between shipments and inventories for chemicals, excluding pharmaceuticals, over time. It compares a Y/Y change using a three-month moving average (3MMA) to smooth out volatility. This type of chart is used to illustrate inventory cycles. In this case, it is used to compare the Y/Y growth *in shipments and inventories for chemicals (excluding pharmaceuticals) for the December 2007 (start of the recession) through October 2014 period. In a perfect world where inventories and shipments are matched, the shape of the line would be fairly symmetric, a balance of centrifugal and centripetal forces. That is, growth in inventories would parallel that of growth in shipments. This is illustrated by the 45° blue line, which represents a balanced norm. In this perfect world, growth or shrinkage of both would move in tandem, with sufficient inventories to meet rising demand and vice versa. Deviations or volatility represent another name for a mismatch of sales and inventories, with a subsequent and hopefully, very short cycle of correction. This is particularly the case should the line connecting Y/Y growth for both variables shift toward the right. This would indicate a build-up of inventories without the similar gain in shipments.*



Source: Census Bureau, ACC analysis

The chart provides a fairly simple yet good visual aide for evaluating the stages of the inventory cycle. In this particular chart the data are presented on a monthly basis, using a 3MMA. This makes the chart easier to read and using monthly data instead of quarterly allows easier identification of turning points. It can also be adapted to actual chemical and polymer products. The most recent data indicate that for the industry as a whole (excluding pharmaceuticals) inventories expanded to a 0.9% Y/Y gain (from a 0.4% Y/Y gain the prior month) on a 3MMA basis. Inventories lagged shipments which were up 1.6% Y/Y on a 3MMA basis. The gap (shipment growth over inventories growth) narrowed from 1.2 percentage points in September to 0.7 points in October, suggesting that the balance is moving toward normal.

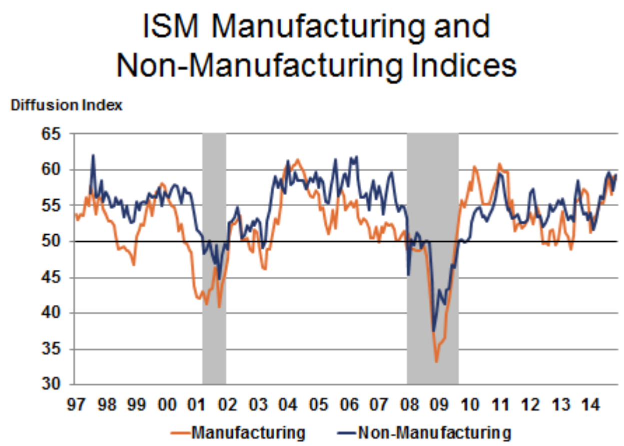
The Institute for Supply Management (ISM) reported that manufacturing activity expanded in November for the 18th consecutive month. The headline **ISM purchasing managers index (PMI)** slipped 0.3 points to 58.7 in November, suggesting that growth in the 4th quarter will be a solid gain. (With this type of diffusion index, a reading above 50 indicates expanding business activity, while a reading below 50 signals contraction.) The production index slipped 0.4 points to 64.4 but important for future production, the new orders index rose 0.2 points to 66.0. The index for inventories fell by 1.0 point (to 51.5) and suggests that inventories are growing at a slower pace. Respondents are neutral about their customers' inventories being too low. The backlog of orders index increased (by 2.0 points) to 55.0, an expanding trend. Prices paid slumped 9.0 points to 44.5 in November and mark a change from increasing to decreasing. Lower oil prices were a factor. Employment expanded at a slower pace in November, falling 0.6 points to 54.9. Of the 18 manufacturing industries, 14 were reporting growth which still sends a good signal on the breadth of this expansion. One industry contracted and three were flat. Overall, the report suggests an industrial sector growing but at a modest pace. (See www.ism.ws for more details.)



Source: Institute for Supply Management

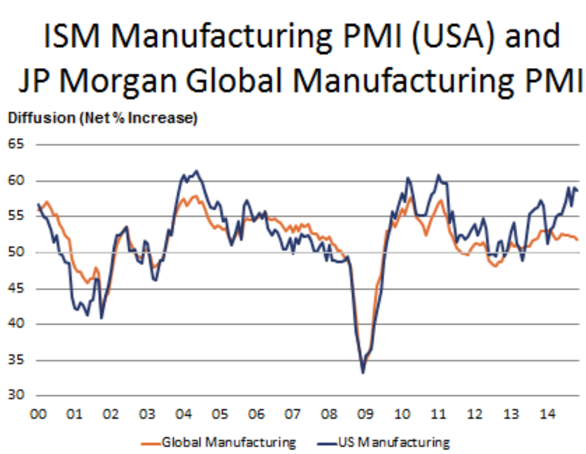
Turning to the business of chemistry, the details in the ISM manufacturing report indicate that the chemical industry was one of the industries that was flat in November. Production slipped but new orders expanded, which is good for future production. Moreover, the backlog of orders, contracted. Export orders contracted but imports expanded. Inventories trended lower during the month and faster supplier deliveries were noted. Customer inventories were deemed to too high. Employment was flat during the month. One chemical industry respondent noted that the "West Coast port longshoreman slowdown is affecting business with longer lead times." This ISM report is of significance to the business of chemistry because on average, the goods sectors purchase $43 worth of chemistry for every $1,000 worth of output (or revenues). In contrast, the services sectors purchase only $11 for every $1,000 worth of output. As a result, production of basic industrial chemicals and specialties tends to track this PMI fairly well.

The ISM reported that its **Non-Manufacturing NMI** leaped by 2.2 points to 59.3, the third highest reading on record and a signal that the pace of growth in the non-manufacturing sector (dominated by service industries) accelerated in November. (With this type of diffusion index, a reading above 50 indicates expanding business activity, while a reading below 50 signals contraction.) It was the 58th consecutive monthly gain and was led by higher new orders. Comments from the majority of the respondents indicate that business conditions are on track for continued growth.



Source: Institute for Supply Management

The **JPMorgan Global Manufacturing PMI** declined 0.4 points to 51.8 (with this type of diffusion index, a reading above 50 indicates expanding business activity, while a reading below 50 signals contraction) in November. The reading signaled that global manufacturing production expanded at the slowest pace in 15 months. Growth in production and new orders (which hit a 16-month low) moderated and the trend in international trade volumes stagnated. The forward looking orders-to-inventory ratio also edged down to its weakest level since the end of 2012. Manufacturing production rose for the 25th successive month in November, but the rate of expansion eased to its lowest since August 2013. North America was a key growth engine with particularly good dynamics in Canada and Mexico offsetting the U.S. setback. The UK and Japan also reported solid expansions. Apart from the slower U.S. expansion, the weakness in the global manufacturing sector reflected stagnation in China and subdued growth in the Euro Area.



Source: Institute for Supply Management, JP Morgan

NEXT WEEK

Economic reports released next week include consumer credit, NFIS small business optimism index, wholesale trade, retail sales, business inventories, import prices and producer prices. The December *Short-Term Energy Outlook* will also be released by EIA.

UPCOMING EVENTS OF INTEREST

Business Applications of Statistics and Data Analytics
National Association for Business Economics (NABE)
8-10 December 2014
John Hopkins University, Washington Campus
Washington, DC
www.nabe.com

2nd ICIS US Butadiene & Derivatives Conference
ICIS
10 December 2014
Sofitel New York
New York, NY
http://www.icisconference.com/USbutadiene14

"Global Renaissance - Contemplating Long Term Chemical Industry Evolution"
Joseph L. Coote, Alvarez & Marsal, Inc
Société de Chimie Industrielle
17 December 2014
The Yale Club
50 Vanderbilt Avenue
New York, NY
www.societe.org

"Communication and Presentation Skills for Business Economists and Analysts"
National Association for Business Economics (NABE)
27-28 January 2015
Federal Reserve Bank of Dallas, Houston Branch
1801 Allen Parkway
Houston, TX
www.nabe.com

The 3rd ICIS Pan American Phenol-Acetone Conference
ICIS
28-29 January 2015
Houston, TX
www.icisconference.com/panamphenol

FOR MORE INFORMATION

For ACC members, our section of the members-only extranet, MemberExchange, contains a plethora of data, economic analyses, presentations, outlooks, weekly economic updates, and much more. You can access frequently updated data files (which provide the most recent and historical data for the business of chemistry - including trade data) as well as the economic data that enable you to track worldwide industry trends, follow developments as they unfold and gain insight into the long-term outlook. These include the indicators covered in this weekly report. To request access to the site, go to: https://memberexchange.americanchemistry.com, and select “Economics and Statistics,” and complete the registration process.

In addition to this weekly newsletter, ACC offers monthly, semi-annual and annual economic data publications that enable users to track worldwide industry trends, follow developments as they unfold and gain insight into the long-term outlook. These products contain comprehensive statistics and analyses that cover worldwide production, trade, shipments, inventories, price indices, energy, employment, investment, R&D, EH&S, financial performance measures, macroeconomic data, plus MUCH more. To order, call 301-617-7824 or visit ACC online at http://americanchemistry.com/thestore and select Software.

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Note on the color codes: The banner colors represent observations about the current conditions in the overall economy and the business of chemistry. For the overall economy we keep a running tab of 20 indicators. The banner color for the macroeconomic section is determined as follows:

Green – 13 or more positives
Yellow – between 8 and 12 positives
Red – 7 or fewer positives

For the chemical industry, there are fewer indicators available. As a result we rely upon judgment whether production in the industry (defined as chemicals excluding pharmaceuticals) has increased or decreased three consecutive months).

ACC MEMBER BENEFITS