Weekly Chemistry and Economic Trends

ACC Economics & Statistics
23 January 2015

Macroeconomic Status

Our running tab of positive indicators for the macroeconomic status rose to 14 out of 20 this week. Thus, we continue to post a green banner.

Housing Starts ▲ 4.4%; ▲ 5.3% Y/Y
Building Permits ▼ 1.9%; ▲ 1.0% Y/Y
Existing Home Sales ▲ 2.4%; ▲ 3.5% Y/Y
LEI ▲ 0.5%; ▲ 6.2% Y/Y

It was a short week for economic reports, but several released on the housing market suggest the sector continues its long slog of a recovery. The pace of new residential construction accelerated in December, with starts reaching a higher-than-expected pace at the end of the year. The gains were concentrated entirely in the single-family segment. Building permits were lower, however, and concentrated in the multi-family segment. Overall, the report provided a refreshing finish to an otherwise difficult year for homebuilders. The market for existing homes also finished the year on a positive note with a gain in December. For the year as a whole, however, sales were lower than in 2013. Lower inventories of "mid-level" homes and higher interest rates curbed sales. Going into 2014, declining interest rates, less stringent lending standards and an improving labor market bode well for this important segment of the economy.

The LEI indicates a brighter short-term outlook and an economy continuing to gain momentum. Our chemical activity barometer for January will be released next week and the data gather thus far seem to suggest a slight to modest gain in activity.

Turning overseas, there were preliminary signs that economic activity in China is stabilizing. There were signs that global oil markets have reached a new plateau. There may be growing uncertainty in the world's second largest oil producing nation following the death Saudi Arabia's King Abdullah. He was succeeded by his brother Salman who has said he would continue his predecessor's policies.

Business of Chemistry Status

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

Oil ▲ $49.54 (Thursday)
Natural Gas ▼ $2.93 (Thursday)
Railcar Loadings ▲ 522 from a week ago; ▲ 1.3% Y/Y (13-week moving average)
U.S. Specialty Chemical Market Volumes ▲0.3%; ▲6.5% Y/Y
US CPRI ▲ 0.8%; ▲ 5.2% Y/Y

Turning to chemistry, chemical output improved in all regions. Compared to December 2013, total chemical production in all regions was ahead by 5.2% Y/Y, a strengthening trend. Chemical production was up from a year ago in all regions. U.S. specialty chemicals market volumes ended the 4th quarter on an expansionary note, rising 0.3% in December and following several months of good gains. Year-earlier gains are still fairly widespread among most market and functional specialty chemical segments and, in some cases, they are improving. Compared to last year, December volumes were up in 26 segments and down in only two segments.

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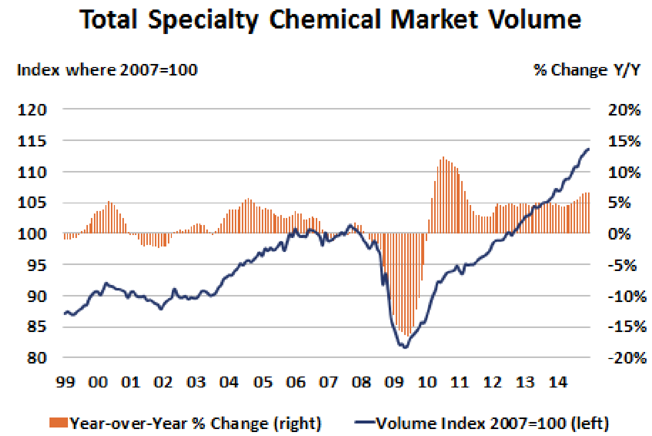
U.S. SPECIALTY CHEMICAL MARKET VOLUME

The American Chemistry Council (ACC) reported that U.S. specialty chemicals market volumes ended the 4th quarter on an expansionary note, rising 0.3% in December. This follows the strong 0.6% gain in November and a 0.4% gain in October. Of the 28 specialty chemical segments we monitor, 16 expanded in December, off from 21 expanding in November. Of the remaining segments in December, nine declined and three were flat. During December, segments experiencing large gains (1.0% and over) included: cosmetic chemicals, lubricant additives, mining chemicals and textile specialties. Overall performance was in line with the 0.3% gain in manufacturing activity during the month.

Market Volumes (% Change Y/Y - 3MMA)	Sept 14	Oct 14	Nov 14	Dec 14
Total Specialties	**5.9**	**6.3**	**6.7**	**6.5**
Adhesives & Sealants	8.4	9.3	10.6	9.3
Antioxidants	11.4	12.0	12.4	12.8
Biocides	5.9	5.8	6.0	6.0
Catalysts	4.8	3.1	3.0	3.2
Coatings	7.6	7.0	7.0	7.5
Construction Chemicals	3.7	4.2	5.2	4.9
Corrosion Inhibitors	7.4	7.2	7.3	7.3
Cosmetic Additives	11.3	14.4	15.8	16.0
Dyes	1.4	1.5	2.5	2.9
Electronic Chemicals	7.5	7.6	8.1	8.6
Flame Retardants	9.1	9.1	9.9	10.2
Flavors & Fragrances	5.7	7.0	7.8	7.7
Food Additives	2.8	2.9	3.4	3.2
Foundry Chemicals	13.9	13.3	12.1	9.8
Industrial & Institutional Cleaners	3.4	3.4	3.4	3.3
Lubricant Additives	1.5	1.4	2.1	3.4
Mining Chemicals	3.7	3.8	4.0	5.5
Oilfield Chemicals	10.1	10.7	10.8	10.7
Paint Additives	4.2	7.4	9.5	7.6
Paper Additives	-3.3	-2.9	-2.0	-1.5
Pigments	6.1	6.8	7.5	6.8
Plastic Additives	-0.7	0.5	1.8	2.3
Plasticizers	-3.6	-2.4	-1.1	-0.6
Plastic Compounding	4.2	4.4	4.2	3.3
Printing Ink	4.9	4.4	4.2	2.9
Rubber Processing	7.1	8.6	8.6	9.6
Textile Specialties	1.9	1.4	1.7	2.2
Water Management Chemicals	3.5	3.1	3.4	3.6

The index stood at 113.6% of its average 2007 levels. This is equivalent to 8.77 billion pounds, up from 8.27 billion pounds last December. The overall specialty chemicals volume index was up 6.5% year-over-year (Y/Y) on a three-month moving average (3MMA) basis. Year-earlier comparisons have generally been in the 4.0% to 6.8% range since January 2012. Year-earlier gains are still fairly widespread among most market and functional specialty chemical segments and, in some cases, they are improving. Compared to last year, December volumes were up in 26 segments and down in only two segments.



Source: American Chemistry Council

Chemistry directly touches over 96% of all manufactured goods and trends in these specialty chemical segments provide a detailed view of trends in manufacturing. The data represent the sales volume of various specialty chemical markets indexed where the average 2007 volume is equal to 100. Thus, a current reading of 111.9, for example, implies that the market volume of that segment is 11.9% above the average 2007 volumes. The data include 28 market and functional specialty chemical segments. There is some duplication. For example, pigments (a functional market) are included in paint additives, plastic additives, and other market-oriented specialty chemicals. These specialty chemical market indexes cover the U.S. markets for market and functional specialty chemical segments and are based upon the synthesis of annual market research data and monthly economic data. A spreadsheet, which contains monthly history back to January 1997 as well as notes on the methodology, is available for ACC members on MemberExchange.

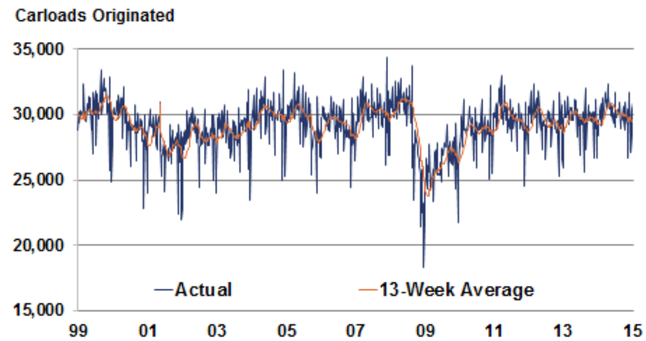
U.S. CHEMICAL PRODUCTION REGIONAL INDEX

According to the ACC, the U.S. Chemical Production Regional Index (U.S. CPRI) continued to expand, rising by 0.8 percent in December following an upwardly revised 0.9 percent gain in November. Chemical output remained ahead of month ago levels in all regions.

Also measured on a three-month moving average (3MMA) basis, chemical production by segment was mixed. There were gains in the output of organic chemicals, chlor-alkali, synthetic rubber, coatings, synthetic dyes and pigments, industrial gases, consumer products, pesticides, adhesives and pharmaceuticals. These gains were partially offset by declines in the production of fertilizers, plastic resins, synthetic fibers, acids, and other inorganic chemicals.

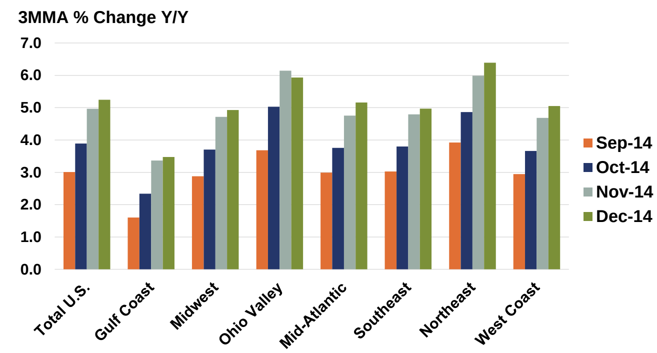
Nearly all manufactured goods are produced using chemistry in some form or another. Thus, manufacturing activity is an important indicator for chemical production. Overall manufacturing growth slowed during the last month of the year, but the trend was for higher growth in the fourth quarter. Production expanded in several chemistry-intensive manufacturing industries, including motor vehicles, construction materials, machinery, computers and electronics, structural panels, paper, printing, plastic and rubber products, structural panels, apparel, and furniture.

Chemical Railcar Loadings



Source: Association of American Railroads

U.S. Chemical Production Regional Index



Source: American Chemistry Council

Compared to December 2013, total chemical production in all regions was ahead by 5.2% on a year-over-year (Y/Y) basis, a strengthening trend. Chemical production was up from a year ago in all regions.

CHEMICAL RAILCAR LOADINGS

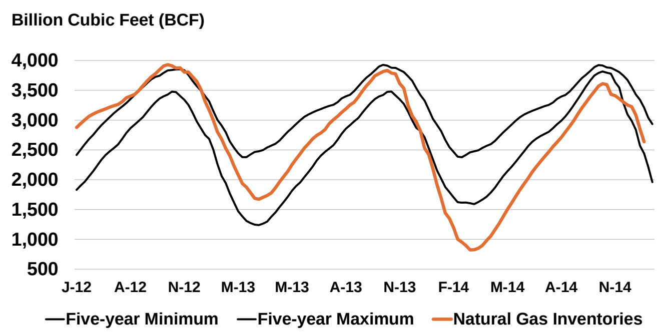
According to the Association of American Railroads (AAR), for the week ending 17 January (week 3), railcar loadings of polymers and basic chemicals (blue line) rose by 522 to 30,947 railcars. Compared to the same week last year, loadings were up 4.6% Y/Y and were up 5.8% YTD. Loadings have been on the rise for 6 of the last 13 weeks.

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 1.3% Y/Y, indicating improving activity.

ENERGY

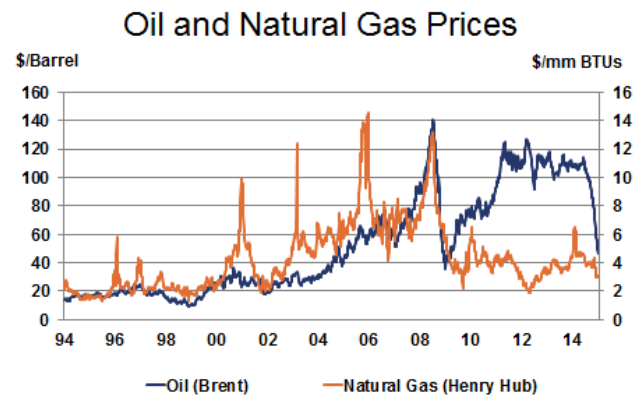
The Energy Information Administration (EIA) reported a 216 billion cubic feet (BCF) withdrawal in **natural gas inventories** during the week ending 16 January, somewhat larger than the typical draw for this week. Stocks were 8.2% higher than last year at this time, but 5.5% below the five-year average. At 2,637 BCF, total gas inventories remain within, but near the bottom of, the five-year historical range.

Natural Gas Inventories

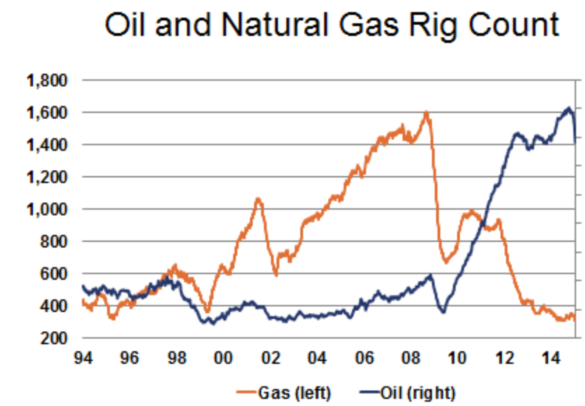


Source: Energy Information Administration

Despite rising supply in the United States, signs of stabilizing economic activity in China along with the death of Saudi Arabia's King Abdullah added to uncertainty on the global oil market. As a result, **oil prices** firmed to $49.54 per barrel yesterday (Thursday). A year ago, oil was $109.69 per barrel. Thus, recent prices represent a 54.8% Y/Y decline. That said, **natural gas prices** (the benchmark Henry Hub), closed at $2.93 per million BTUs on Thursday, down from $3.32 last Thursday. A year ago, the price was $4.92 per million BTUs. Thus, recent prices represent a 40.4% Y/Y decline.

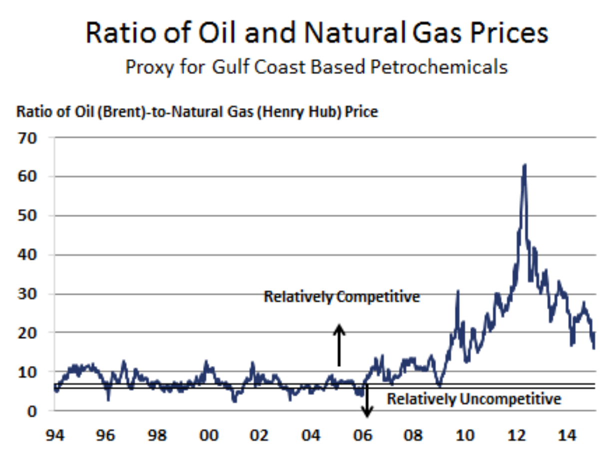


Source: Energy Information Administration



Source: Baker-Hughes

At 16.9, the ratio of oil prices to natural gas improved from 14.4 a week ago. One year ago, the ratio was 22.3. 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.



Source: based on data from the Energy Information Administration

According to Baker-Hughes, for the week ending 16 January, the North American **natural gas rig count** fell by 19 to 310 rigs. One year ago the rig count was 365 rigs. During the same week, the **oil rig count** fell by 55 to 1,366 rigs. One year ago the rig count was 1,408 rigs. Clearly, the decline in oil prices is having an effect on the rig count.

SURVEY OF FORECASTERS

Every month, ACC's Economics & Statistics Department collects the forecasts from a number of economic professionals who have a track record for accuracy and expert knowledge of manufacturing. Most, from industrial companies or consultancies, have expertise in the dynamics of the manufacturing sector. In the accompanying table, the data presented are strict averages of their input.

January Economic Forecasters Survey Results

% change Y/Y (Unless noted otherwise)	**12**	**13**	**14**	**15**	**16**
GDP	2.3	2.2	2.4	3.2	2.9
Consumer Spending	1.8	2.4	2.5	3.2	2.8
Business Investment	7.2	3.0	6.3	5.5	5.4
Industrial Production	3.8	2.9	4.3	3.7	3.4
Light Vehicle Sales (mm)	14.4	15.5	16.5	16.9	17.0
Housing Starts (mm)	0.78	0.93	1.00	1.21	1.40
Consumer Prices	2.1	1.5	1.6	0.9	2.3
10-Year Treasury Notes (%)	1.80	2.35	2.54	2.44	3.19
Unemployment Rate (%)	8.1	7.4	6.2	5.4	5.2
$/Euro	1.29	1.33	1.33	1.19	1.19

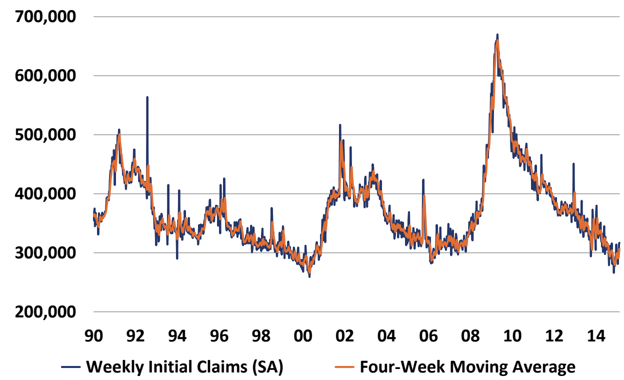
The economy in 2015 is now expected to rise by 3.2% in 2014, up 0.2 percentage points from last month. Consumer spending is also expected to rise 3.2%, up 0.4 percentage points from last month. There was no change in the outlook for business investment, which is still expected to increase 5.5% in 2015. Expectations for light vehicle sales are at 16.9 million units, up from 16.5 million in 2014 but still off from 17.0 million in 2005. Expectations for 2015 housing starts are for 1,207,000 units, down 14,000 units from last month's survey. Expected housing starts will still be well below the peak of 2.07 million units in 2005. Expectations for inflation point to a 0.9% rise in headline consumer prices. This is off 0.8 percentage points from last month and reflects the effects of lower energy prices. Industrial production is now expected to rise 3.7% in 2015, up 0.2 percentage points from last month. Industrial output is a more meaningful benchmark than GDP for comparing performance of basic and specialty chemicals. The unemployment rate is expected to average 5.4% for the year. This is off 0.3 percentage points from last month. The 10-year Treasury note is expected to average 2.44% in 2015.

In general, expectations for 2016 continue to be positive. Economic growth is still expected to average 2.9%, with growth led by increased business investment, which is anticipated to rise 5.4%, a gain that is off 0.2 percentage points from last month. Consumer spending is expected to rise 2.8%, the same gain as last month. Overall consumer prices are still expected to rise 2.3% in 2016 (up 0.2 percentage points from last month) and the unemployment rate is still expected to average 5.2%, a level off 0.4 percentage points from last month. The 10-year Treasury note is expected to average 3.19% in 2016, off from last month's survey. Turning to the real economy, light vehicle sales are expected to reach 17.0 million units in 2016 (up 300,000 units from last month) and housing starts will rise to 1.40 million, a level still below the last peak. Expectations for housing starts were revised down up by 31,000 units from last month's survey. The forecasters expect a slightly slower (by 0.2 percentage points) 3.4% gain for industrial production in 2016. The year will, nonetheless, mark the seventh consecutive year in which industrial production gains outstrip that of the overall economy. This is a result of the renaissance in manufacturing. This stands in contrast to the recovery/expansion in the 2000s when industrial production lagged overall GDP in all years save one.

The latest forecasters' survey results (including the range of responses, historical data and farther forecasts) are available on MemberExchange for ACC members (see details under For More Information).

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.

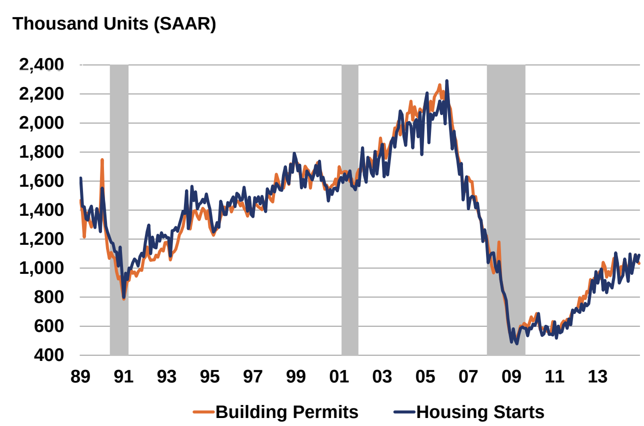
Initial Claims for Unemployment Insurance



Source: Department of Labor

The Department of Labor reported that **initial claims** for unemployment insurance fell by 10,000 to 307,000 during the week ending 17 January. The four-week moving average was 306,500, an increase of 6,500 from the previous week's revised average.

Housing Starts and Building Permits

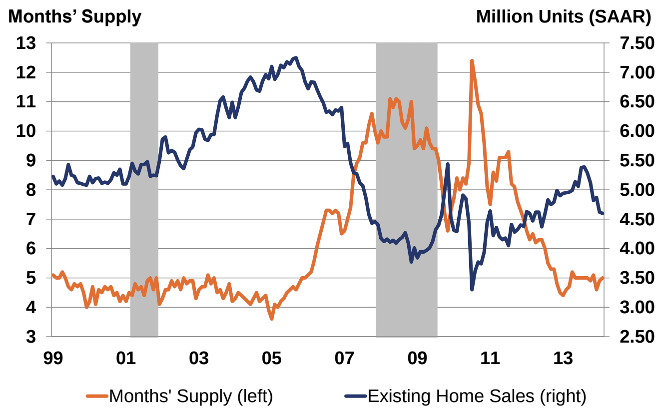


Source: Census Bureau

The Census Bureau reported that **housing starts** rose 4.4% to a 1.089 million pace during December. Housing starts accelerated during the fourth quarter and finished 2014 with just over 1 million starts, the best performance since 2007. December's gain was led by a 7.2% gain in single-family starts, the fastest pace in nearly seven years. Forward-looking **building permits** were lower by 1.9%, however. Permits for single-family homes jumped 4.5%, while those for multi-family properties fell to the slowest pace in six months. Lower mortgage rates and more robust job gains are expected to generate higher demand for housing in 2015. *This is a key indicator for the business of chemistry because housing is an important end-use market for chemistry products. New housing also generates sales of appliances, furniture, carpet, fixtures, and window treatments. In total, each start engenders on average over $15,000 worth of chemistry.*

The **NAHB/Wells Fargo Housing Market Index,** a measure of homebuilder confidence, edged lower by one point to 57 in January from an upwardly revised December number. Current sales remained stable, but expectations for future sales and buyer traffic were lower.

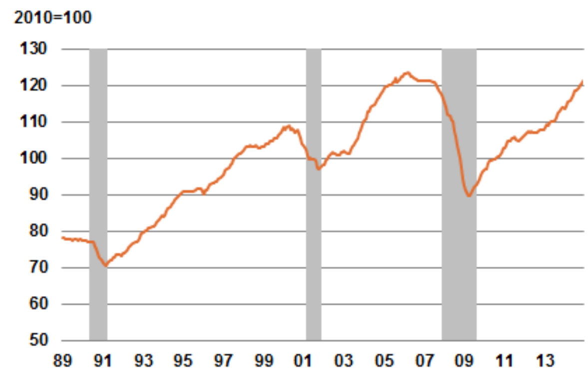
Existing Home Sales and Months' Supply



Source: National Association of Realtors

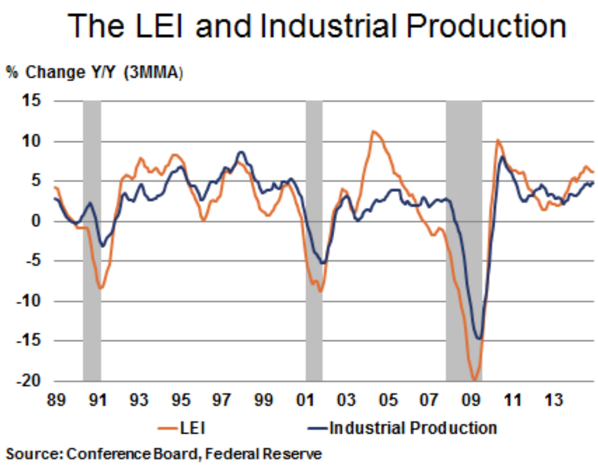
The National Association of Realtors reported that **existing home sales** bounced back in December, rising by 2.4% to a 5.04 million unit pace. Compared to last December, sales were up by 3.5% Y/Y, the third consecutive Y/Y gain. Inventories dropped 11.1% in December to 1.85 million units. This represents a 4.4-month supply, down from 5.1 months in November. Unsold inventories are 0.5% lower than a year ago. Fewer homes available for sale have put pressure on prices. The median sales price was up by 6.0% Y/Y, the 34th consecutive month of Y/Y gains. For the year as a whole, existing home sales totaled 4.93 million, lower than 2013 by 3.1%. Lower inventories of "mid-level" homes and higher interest rates curbed sales. Moving into 2014, declining interest rates, less stringent lending standards and an improving labor market bode well for this segment of the economy. *This report is important to the business of chemistry. Existing home sales, for example, generate sales of chemistry through purchases of paints & coatings, new furniture, carpet, resilient flooring, window treatments, appliances, and fixtures. In architectural coatings, about 80% of sales are tied to existing home sales.*

Index of Leading Economic Indicators (LEI)



Source: Conference Board

The Conference Board reported that its **leading economic index (LEI)** for the United States increased 0.5% in December to 121.1 (2010 = 100), following a 0.4% increase in November, and a 0.6% increase in October. Eight of the ten indicators that make up the LEI increased in December. As a result, strength was widespread. The positive contributors -- beginning with the largest positive contributor -- were the interest rate spread; the Leading Credit Index; weekly initial unemployment claims; consumer expectations; new orders for capital goods excluding aircraft; the ISM new orders index; stock prices; and new orders for consumer goods and materials. At the same time, the coincident economic index (CEI), a measure of current economic conditions, increased 0.2% in December. These composite economic indexes are the key elements in an analytic system designed to signal peaks and troughs in the business cycle. The leading, coincident, and lagging economic indexes are essentially composite averages of several individual leading, coincident, or lagging indicators. They are constructed to summarize and reveal common turning point patterns in economic data in a clearer and more convincing manner than any individual component – primarily because they smooth out some of the volatility of individual components. Taken together, the current behavior of the composite indexes suggests a brighter short-term outlook and an economy continuing to gain momentum. (See www.conference-board.org for details.) *This indicator is important to the business of chemistry as the Y/Y change in industrial production generally follows the Y/Y change in the LEI. The LEI is up 6.2% Y/Y on a three-month moving (3MMA) basis, an improvement from earlier in the year, but off from the strong pace in the 3rd quarter. Industrial production is an important indicator for underlying demand for basic and specialty chemicals.*



NEXT WEEK

Economic reports released next week include the Chemicals Activity Barometer (CAB), Texas manufacturing outlook survey, durable goods orders, new home sales, a first look at 4th quarter GDP, and the Chicago PMI. The Global CPRI will also be released.

UPCOMING EVENTS OF INTEREST

"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

"McKinsey: Profit from 4 Disruptive Technologies"
Chemical Marketing & Economics Luncheon and Live Webcast
G. Sam Samdani, PhD, McKinsey & Company
ACS NY Section – Chemical Marketing & Economics
5 February 2015
Yale Club of New York
www.cmeacs.org

"Hard Truths, Difficult Choices"
NABE Economic Policy Choices
8-10 March 2015
Capital Hilton
Washington, DC
www.nabe.com

"Argus DeWitt Petrochemical Summit"
23-25 March 2015
Houston, TX
www.argusmedia.com

"Applied Econometrics"
National Association for Business Economics (NABE)
23-26 March 2015
Federal Reserve Bank of New York
NY, NY
www.nabe.com

Propane to Propylene Markets Summit
31 March – 1 April
Houston, TX
www.propane-propylene-markets.com

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).