

ISM-Houston Business Report

November 2018



Analysis and report by **Ross Harvison**,
Chair of the ISM-Houston Business Survey Committee

(Houston, Texas) – According to Houston supply chain executives, manufacturing activity in Houston expanded in November for the 14th consecutive month and overall economic activity expanded for the 28th month. The near term forecast points to continued growth.

The November Houston Purchasing Managers Index registered **54.9**, down minimally from 55.0 last month. The performance of the sales/new orders, employment and lead times indices, the three underlying indicators that have the strongest positive correlation with current economic activity, showed continued strength. The prices paid index fell significantly during the month moving from indicating rising prices to falling prices for the first time since the middle of 2017.

The three-month forecast for the Houston PMI registered **53.1**, down 0.5 points from its October reading of 53.6. Strong sales/new orders, production, and lead times, which are all directly correlated with economic activity at all forecast horizons, were the primary drivers for the continued strength in the forecast index.

On an industry specific basis Oil and Gas joined Health Care, Professional Services, and Non-Durable Goods Manufacturing, in reporting expansion. Durable Goods Manufacturing fell to below neutral. All other sectors were flat month to month. From a three-month forecast standpoint, Health Care, Oil and Gas, and Professional Services are expected to remain strong. Non-durable goods manufacturing should strengthen.

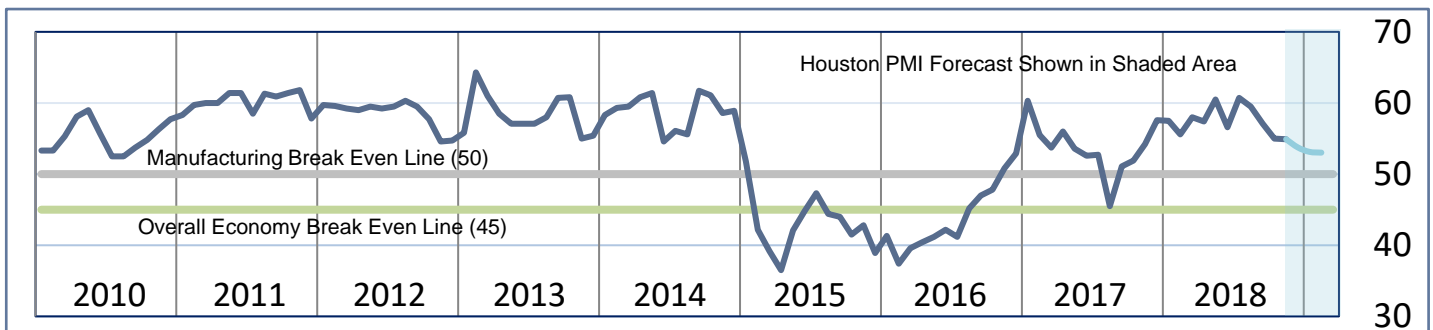
Indices at a Glance

Index	Nov	Oct	Change	Track	Rate	Trend*
Houston PMI - Current	54.9	55.0	-0.1	Expanding	Slower	14
Houston PMI - 3 Month Forecast	53.1	53.6	-0.5	Expanding	Slower	14
Sales/New Orders	56.6	55.8	0.8	Rising	Faster	13
Production	54.5	52.6	1.9	Rising	Faster	15
Employment	53.6	53.6	0.0	Rising	Unchanged	15
Purchases	54.6	60.0	-5.4	Rising	Slower	14
Prices Paid	47.4	62.0	-14.6	Falling	Fr. Rising	1
Lead Times	57.7	60.2	-2.5	Rising	Slower	24
Purchased Inventory	49.7	51.4	-1.7	Falling	Fr. Rising	1
Finished Goods Inventory	51.0	52.6	-1.6	Rising	Slower	5
Overall Houston Economy				Expanding	Slower	28

* Number of months on current track

Houston PMI Trend

Manufacturing expansion, including supporting services, continued for the 14th consecutive month in November with the Houston PMI registering 54.9, a decrease of 0.1 points from October. This growth was led by strong performance in the sales/new orders, production, employment, purchases, and lead times indices. The prices paid index fell significantly. Readings over 50 generally indicate manufacturing expansion; readings below 50 show contraction. A PMI above 45 generally correlates with expansion of the Houston-The Woodlands-Sugar Land Business Cycle Index.



Commodities Reported to have Notable Prices Changes or to be in Short Supply

Up in Price: Field services workers; natural gas; pediatric vaccines

Down in Price: Crude oil, motor fuels, ethane, propane, mixed ethane/propane, butanes, butadiene

In Short Supply: Craft labor, production technicians, oilfield services workers; qualified tax accounting professionals, experienced early career supply chain professionals

Sector Summaries

Oil and Gas Exploration, and Key Support Services:

- Procurement projections for next year are almost double that of the 2018 total spend
- *This sector reported improvement this month with rising production, employment, purchases, prices, and lead times*

Engineering and Construction:

- We anticipate further price increases in months ahead
- *Respondents in this sector reported growth falling to near neutral this month with nearly all indices coming in flat month to month; purchases were reported as falling*

Manufacturing - Durable Goods:

- Manufacturing for the oil and gas Industry continues strong, driven by strong international sales
- *This sector indicated significantly slower growth this month; while production, purchases and lead times pointed to continued strength, sales/new orders and prices fell to near neutral and employment contracted; inventories are rising at a fast pace*

Manufacturing - Non-Durable Goods:

- *This sector continued to report solid growth this month with the sales/new orders, employment, and purchases indices showing strong growth; prices paid where reported as falling; the production index stayed near neutral as did all other indices*

Mid-Stream Operations:

- *Respondents in this area also reported continued growth this period; the production, employment, purchases, prices paid, and lead times indices were all reported as rising*

Wholesale Trade:

- *Respondents in this area reported near neutral for the month; prices were indicated as down; purchases were up; inventories continue to rise*

Professional Services:

- Very steady on hourly contract rates and also compensation for full time staff-direct hires
- Some concern among hiring managers related to drop in oil prices and the impact it will have on capital projects
- The price of oil dropping to just above \$50/bbl is causing some concern and it is anticipated that in the staffing arena companies will delay actions to fill any new or existing positions
- Hiring activity expected to slow during holiday period
- *Overall, respondents in this area reported continued improvement; sales/new orders, prices paid, and lead times continue to increase; employment was reported as flat month to month*

Health Care:

- *This sector reported continued growth; the employment index continues to show strength; other indicators are moderating to near neutral*

Trend of Underlying Indicators

The Houston PMI is based on diffusion indices for eight underlying indicators. The net value of each indicator is simply the percentage of respondents who cite a positive shift from the previous month minus the percentage who cite a negative shift. The diffusion index is calculated based on the percent of respondents reporting higher results plus one-half of those responding the same with a seasonal adjustment based on an X13 ARIMA forecast. Seasonally adjusted values above 50 for the Sales/New Orders, Production, Employment, Prices Paid, and Lead Times indicators generally point towards expansion at all forecast horizons and values below 50 signal contraction. Note that the Prices Paid Index may not follow this trend late in an economic expansion. The Inventory measures have an inverse correlation at most forecast horizons, meaning that values below 50 point to expansion and values above point to contraction. The Purchases index is inversely correlated with economic activity at the two, three, and four month forecast horizons.

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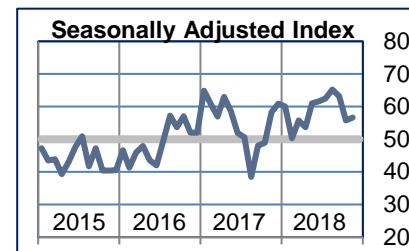
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Sales/New Orders Index

The sales/new orders index showed a rising track at a slightly higher pace. Durable goods manufacturing, wholesale trade, and EPC firms reported growth at a much slower pace. Non-durable goods remained strong.

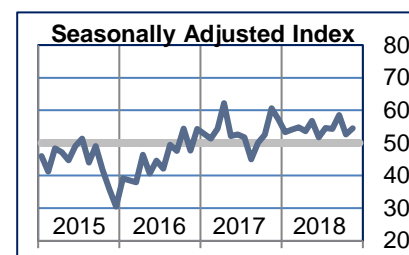
	Higher	Same	Lower	Net	Index
Jun/18	20%	79%	1%	19%	61.6
Jul/18	28%	71%	1%	27%	62.5
Aug/18	28%	71%	1%	27%	65.2
Sep/18	32%	61%	7%	25%	63.1
Oct/18	19%	69%	12%	7%	55.8
Nov/18	11%	83%	6%	5%	56.6



Production Index

The production index improved moderately as well. Oil and gas, durable goods manufacturing, and mid-stream operations reported continued strength. All other sectors reported near neutral.

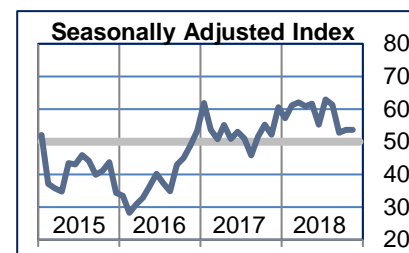
	Higher	Same	Lower	Net	Index
Jun/18	8%	88%	4%	4%	51.7
Jul/18	11%	88%	1%	10%	54.6
Aug/18	11%	87%	2%	9%	54.3
Sep/18	18%	81%	1%	17%	58.6
Oct/18	12%	83%	5%	7%	52.6
Nov/18	6%	93%	1%	5%	54.5



Employment Index

The employment index was unchanged. Oil and gas, non-durable goods manufacturing, mid-stream operations, and health care reported strength. Durable goods manufacturing reported lower employment.

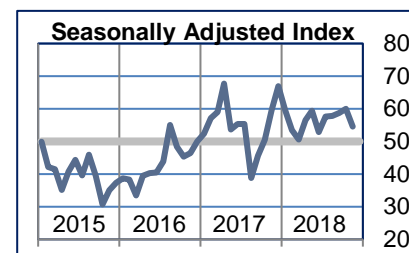
	Higher	Same	Lower	Net	Index
Jun/18	19%	77%	4%	15%	55.3
Jul/18	29%	66%	5%	24%	62.9
Aug/18	25%	68%	7%	18%	61.4
Sep/18	14%	78%	8%	6%	52.7
Oct/18	18%	73%	9%	9%	53.6
Nov/18	16%	75%	9%	7%	53.6



Purchases Index

The purchases index showed growth at a significantly slower pace. Oil & gas, manufacturing, and mid-stream operations reported this index as rising. Construction reported purchases as down.

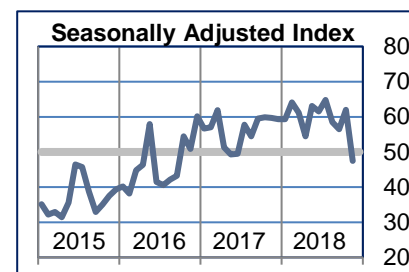
	Higher	Same	Lower	Net	Index
Jun/18	14%	78%	8%	6%	52.8
Jul/18	17%	78%	5%	12%	57.6
Aug/18	22%	74%	4%	18%	57.8
Sep/18	26%	66%	8%	18%	58.7
Oct/18	22%	70%	8%	14%	60.0
Nov/18	10%	87%	3%	7%	54.6



Prices Paid Index

The prices paid index fell below neutral. Only professional services reported this index as rising. Wholesale trade and non-durable goods manufacturing reported a significant number of price declines.

	Higher	Same	Lower	Net	Index
Jun/18	17%	82%	1%	16%	61.5
Jul/18	32%	67%	1%	31%	64.8
Aug/18	16%	83%	1%	15%	58.5
Sep/18	20%	72%	8%	12%	56.4
Oct/18	30%	69%	1%	29%	62.0
Nov/18	8%	81%	11%	-3%	47.4



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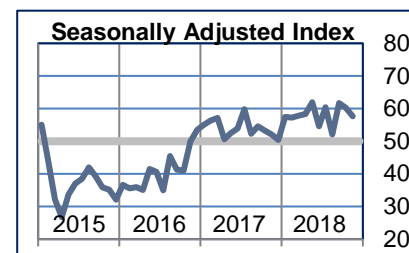
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Lead Times Index

The lead times index continued to point to growth with oil & gas, durable goods manufacturing, mid-stream operations, wholesale trade, and professional services reporting lead times as rising.

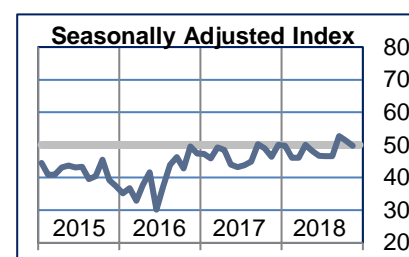
	Higher	Same	Lower	Net	Index
Jun/18	11%	88%	1%	10%	54.5
Jul/18	20%	77%	3%	17%	60.4
Aug/18	8%	91%	1%	7%	52.1
Sep/18	24%	75%	1%	23%	61.7
Oct/18	18%	81%	1%	17%	60.2
Nov/18	17%	82%	1%	16%	57.7



Purchased Inventory Index

The purchased goods inventory index moved from rising to falling. Durable goods manufacturing and wholesale trade reported inventories as rising. EPC firms reported falling inventories. Other sectors reported near neutral.

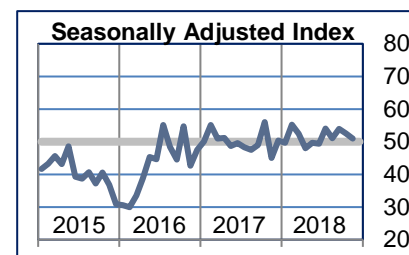
	Higher	Same	Lower	Net	Index
Jun/18	2%	89%	9%	-7%	46.7
Jul/18	1%	90%	9%	-8%	46.6
Aug/18	1%	92%	7%	-6%	46.6
Sep/18	8%	89%	3%	5%	52.7
Oct/18	4%	89%	7%	-3%	51.4
Nov/18	5%	90%	5%	0%	49.7



Finished Goods Inventory Index

The finished goods inventory index rose at a slower pace with only durable goods manufacturing and wholesale trade reporting these inventories as higher. All other sectors reported near neutral.

	Higher	Same	Lower	Net	Index
Jun/18	4%	91%	5%	-1%	49.3
Jul/18	13%	82%	5%	8%	54.0
Aug/18	11%	81%	8%	3%	51.1
Sep/18	9%	89%	2%	7%	53.9
Oct/18	5%	94%	1%	4%	52.6
Nov/18	5%	93%	2%	3%	51.0



Comments on Houston PMI Calculation Methods

The Houston PMI is calculated by applying optimal regression factors to each of the eight underlying indicators noted above. These regression factors are determined using standard regression techniques comparing these underlying indicators to the Houston-The Woodlands-Sugar Land Business Cycle Index (Houston BCI), which is reported on a monthly basis by the Federal Reserve Bank of Dallas. ISM-Houston periodically reviews the capability of its correlations and adjusts the regression factors when appropriate. The most recent revision occurred as a result of a review undertaken during the third quarter of 2018, which determined that changes in the Houston economy over the last decade have shifted the intercept of the correlation, causing a neutral Houston PMI to no longer align with a neutral Houston BCI. A Houston PMI of 45 points now equates to a neutral Houston BCI. A similar offset between the National PMI and the National economy has existed for some time.

The new regression factors have been utilized for this report. Additionally, the Houston PMI reported from the beginning of 2014 to present has been restated using the revised regression factors.

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