

ISM-Houston Business Report

March 2019



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

(Houston, Texas) – According to Houston supply chain executives, manufacturing activity in Houston expanded in March for the 19th consecutive month and overall economic activity expanded for the 32nd month. The near-term forecast points to higher manufacturing and overall economic growth than previously reported.

The March Houston Purchasing Managers Index registered **64.0**, up significantly from its February reading of 56.1. The three underlying indicators that have the strongest direct correlation with current economic activity (sales/new orders, employment, and lead times) strengthened considerably during the month. The underlying indicator that has the largest inverse correlation, finished goods inventory, continues to track just below neutral.

The three-month forecast for the Houston PMI registered **58.5**, up 4.8 points from its February reading of 53.9. Sizable increases in the sales/new orders, production, and lead times indices along with the continued strength of the prices paid index drove this large improvement in the forecast index. These indices are all directly correlated with economic activity at all forecast horizons.

On an industry specific basis Oil & Gas, EPC activities, Manufacturing, Mid-Stream Operations, Wholesale Trade, and Professional Services all reported strong expansion while Health Care returned to near neutral. From a three-month forecast standpoint, all these sectors are pointing to moderate to strong expansion.

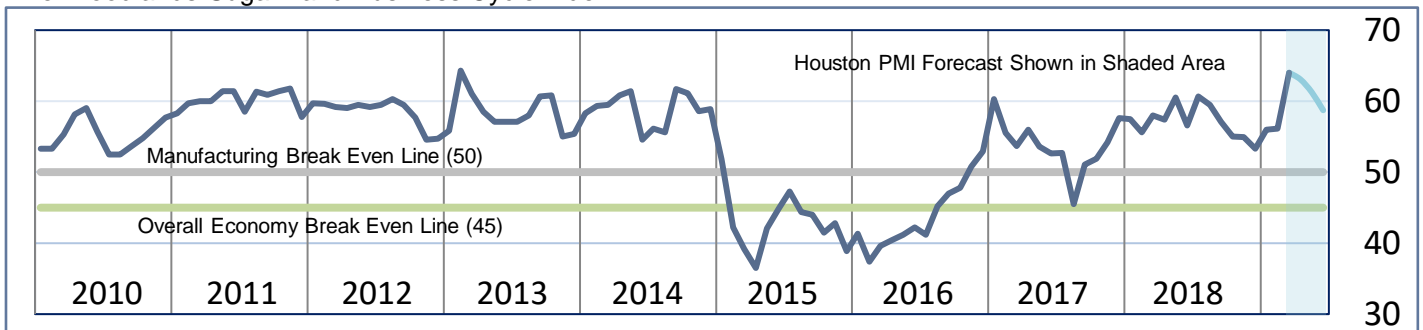
Indices at a Glance

Index	Mar	Feb	Change	Track	Rate	Trend*
Houston PMI - Current	64.0	56.1	7.9	Expanding	Faster	19
Houston PMI - 3 Month Forecast	58.5	53.7	4.8	Expanding	Faster	3
Sales/New Orders	71.3	55.2	16.1	Rising	Faster	3
Production	59.1	52.3	6.8	Rising	Faster	19
Employment	64.7	60.2	4.5	Rising	Faster	19
Purchases	62.6	47.5	15.1	Rising	Fr. Falling	1
Prices Paid	60.0	58.4	1.6	Rising	Faster	2
Lead Times	57.3	51.4	5.9	Rising	Faster	28
Purchased Inventory	48.6	45.4	3.2	Falling	Slower	5
Finished Goods Inventory	48.5	49.2	-0.7	Falling	Faster	2
Overall Houston Economy				Expanding	Slower	32

* Number of months on current track

Houston PMI Trend

With the Houston PMI registering 64.0 in March, manufacturing activity in Houston has expanded for nearly two years and overall economic activity has grown for almost three years. 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: Crude and motor fuels; butadiene and methanol; copper wire and cable; heat exchangers, pumps, compressors, and turbines; construction labor; vaccines

Down in Price: Carbon steel pipe, structural fabrication steel, flat rolled carbon steel products

In Short Supply: Craft, manufacturing, and skilled trade labor; CDL drivers; EPI Pens and lidocaine; lined pipe and some steel products

Sector Summaries

Oil and Gas Exploration, and Key Support Services:

- *This sector reported significant increases in most of the underlying indices with strong increases in the sales, production, employment, purchases, prices paid, and lead times indices*

Engineering and Construction:

- Continue to see improvement, although slow and steady

- *Respondents in this sector reported additional improvement this month; new orders, employment, purchases, and prices paid were all reported as rising at a fast pace*

Manufacturing - Durable Goods:

- We have a strong forecast for the second quarter

- Manufacturing of oil and gas drilling components continues to be strong; primarily driven by international sales

- *This sector reported significant improvement this month with sales, production, employment, purchases, and lead times indicated as rising at a fast pace; prices paid and inventories were relatively flat*

Manufacturing - Non-Durable Goods:

- Closure and constrained operation of the ship channel has made business "interesting"

- *This sector also reported significant improvement; the sales, production, purchases, and lead times indices were up substantially; prices paid also rose; employment and inventories were relatively flat*

Mid-Stream Operations:

- *This sector reported improvement this month consistent with the improvement in oil & gas and manufacturing*

Wholesale Trade:

- *Respondents in this area reported strong performance this month, led by significantly improved sales and employment indices*

Professional Services:

- Salaries and hourly pay for staffing professionals remains flat

- The energy industry remains guarded in terms of capital expansion and hiring; the mid-stream and downstream sectors continue to be more aggressive, but cautious

- Hiring in support of oilfield operations is declining as the ability to move out of shale plays remains constrained

- *Respondents in this area indicated softening this month; sales and employment are expanding at a slower pace*

Health Care:

- Flu Season ordering for 2019-2020 season is complete

- *This sector reported significantly moderated growth this month with most indicators coming in near just above neutral; purchases continue at fast pace*

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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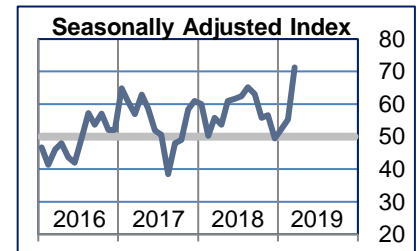
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Sales/New Orders Index

The sales/new orders index rose significantly in March. Oil & gas, manufacturing, mid-stream operations, and wholesale trade joined EPC firms and professional services reporting rising sales.

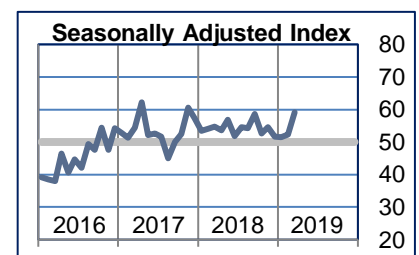
	Higher	Same	Lower	Net	Index
Oct/18	19%	69%	12%	7%	55.8
Nov/18	11%	83%	6%	5%	56.6
Dec/18	9%	77%	14%	-5%	49.5
Jan/19	11%	81%	8%	3%	52.2
Feb/19	20%	75%	5%	15%	55.2
Mar/19	42%	57%	1%	41%	71.3



Production Index

The production index also rose during the month. Manufacturing and mid-stream operations reported significant gains. Oil & gas strengthened further.

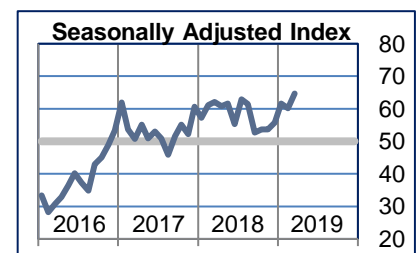
	Higher	Same	Lower	Net	Index
Oct/18	12%	83%	5%	7%	52.6
Nov/18	6%	93%	1%	5%	54.5
Dec/18	5%	92%	3%	2%	51.6
Jan/19	3%	96%	1%	2%	51.5
Feb/19	8%	90%	2%	6%	52.3
Mar/19	21%	77%	2%	19%	59.1



Employment Index

The employment index also showed improvement. Oil & gas, construction, durable goods manufacturing, and wholesale trade showed greater strength. Health care joined the remaining sectors, reporting near neutral.

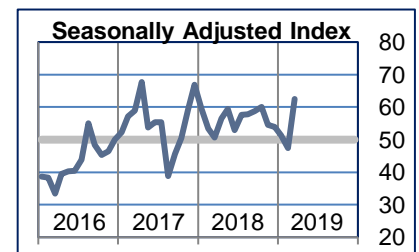
	Higher	Same	Lower	Net	Index
Oct/18	18%	73%	9%	9%	53.6
Nov/18	16%	75%	9%	7%	53.6
Dec/18	20%	74%	6%	14%	55.7
Jan/19	35%	50%	15%	20%	61.7
Feb/19	24%	70%	6%	18%	60.2
Mar/19	27%	72%	1%	26%	64.7



Purchases Index

After only one month below neutral, the purchases index rebounded substantially. Oil & gas, EPC firms, manufacturing, mid-stream operations, and health care all reported increased purchases.

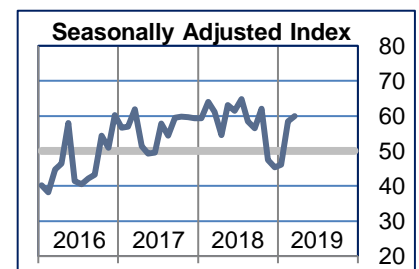
	Higher	Same	Lower	Net	Index
Oct/18	22%	70%	8%	14%	60.0
Nov/18	10%	87%	3%	7%	54.6
Dec/18	12%	82%	6%	6%	54.0
Jan/19	16%	72%	12%	4%	51.3
Feb/19	6%	84%	10%	-4%	47.5
Mar/19	28%	70%	2%	26%	62.6



Prices Paid Index

The prices paid index rose marginally this month. Non-durable goods manufacturing, oil & gas, EPC, and mid-stream operations all reported accelerating price growth. Health care reported prices paid as flat.

	Higher	Same	Lower	Net	Index
Oct/18	30%	69%	1%	29%	62.0
Nov/18	8%	81%	11%	-3%	47.4
Dec/18	10%	74%	16%	-6%	45.3
Jan/19	12%	68%	20%	-8%	46.1
Feb/19	19%	78%	3%	16%	58.4
Mar/19	22%	76%	2%	20%	60.0



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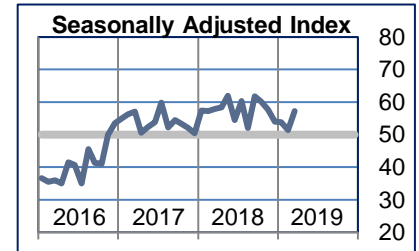
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Lead Times Index

The lead times index returned to the elevated levels seen during most of 2018. Manufacturing, oil & gas, and mid-stream operations all reported rising lead times. The lead time index for health care fell to neutral.

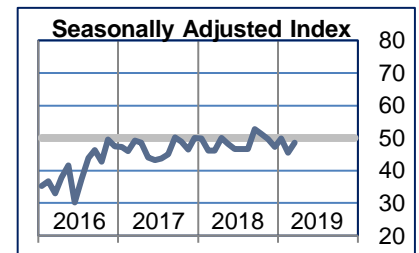
	Higher	Same	Lower	Net	Index
Oct/18	18%	81%	1%	17%	60.2
Nov/18	17%	82%	1%	16%	57.7
Dec/18	11%	85%	4%	7%	54.0
Jan/19	10%	85%	5%	5%	53.9
Feb/19	9%	88%	3%	6%	51.4
Mar/19	15%	84%	1%	14%	57.3



Purchased Inventory Index

The purchased goods inventory index rose modestly this month, ending just below neutral. Durable goods manufacturing reported a significant increase in this index. EPC firms reported continued inventory contraction.

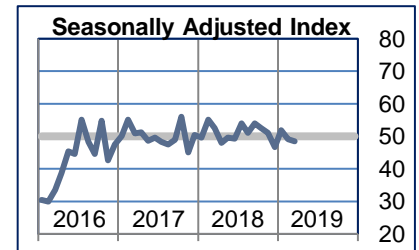
	Higher	Same	Lower	Net	Index
Oct/18	4%	89%	7%	-3%	51.4
Nov/18	5%	90%	5%	0%	49.7
Dec/18	1%	89%	10%	-9%	47.3
Jan/19	10%	87%	3%	7%	49.9
Feb/19	4%	88%	8%	-4%	45.4
Mar/19	2%	95%	3%	-1%	48.6



Finished Goods Inventory Index

The finished goods inventory index fell marginally. All sectors that report inventories indicated this index as near or just below neutral.

	Higher	Same	Lower	Net	Index
Oct/18	5%	94%	1%	4%	52.6
Nov/18	5%	93%	2%	3%	51.0
Dec/18	1%	94%	5%	-4%	46.8
Jan/19	10%	89%	1%	9%	51.9
Feb/19	4%	92%	4%	0%	49.2
Mar/19	1%	94%	5%	-4%	48.5



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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