

# ISM-Houston Business Report

## September 2018



ISM—Houston, Inc.

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

(Houston, Texas) – According to Houston supply chain executives, economic activity in Houston expanded in September for the 26th consecutive month, and the near term forecast points to continued growth.

The September Houston Purchasing Managers Index registered **57.1**, down 2.4 points from a revised reading of 59.5 last month. The performance of the sales/new orders and lead times indicators, two of the three underlying indicators that have the strongest positive correlation with current economic activity, showed strength again this month. The third indicator that has a strong positive correlation with the current economy, employment, weakened to just above neutral during the month.

The three-month forecast for the Houston PMI registered **57.2**, up 2.0 points from its revised August reading of 55.2. The primary drivers for maintaining this high level were strong sales/new orders, production, prices, and lead times, which are all directly correlated with economic activity at all forecast horizons.

On an industry specific basis Professional Services, Health Care, Manufacturing, Mid-stream Operations, and EPC firms reported expansion. All other sectors were near neutral. From a three-month forecast standpoint, Oil & Gas is expected to join the above sectors indicating healthy growth.

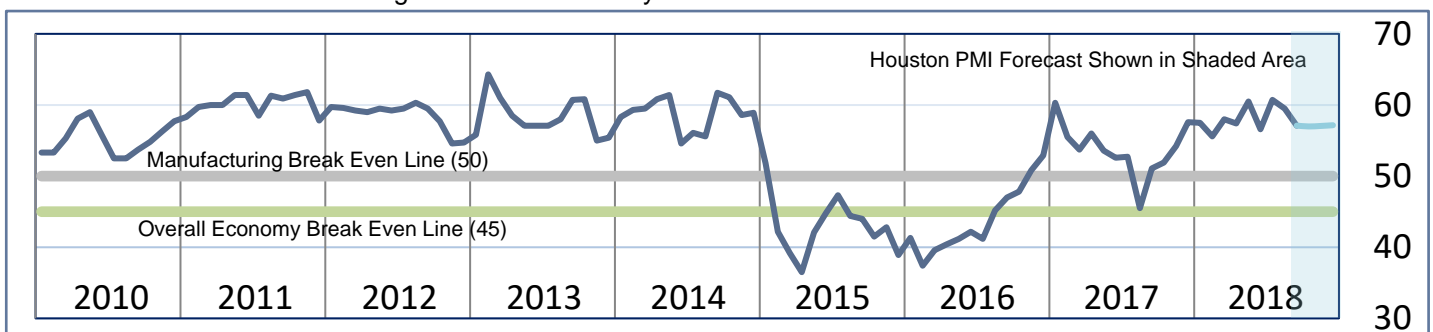
### Indices at a Glance

Index	Sep	Aug	Change	Track	Rate	Trend*
Houston PMI - Current	57.1	59.5	-2.4	Expanding	Slower	12
Houston PMI - 3 Month Forecast	57.2	55.2	2.0	Expanding	Faster	12
Sales/New Orders	63.1	65.2	-2.1	Rising	Slower	11
Production	58.6	54.3	4.3	Rising	Faster	13
Employment	52.7	61.4	-8.7	Rising	Slower	13
Purchases	58.7	57.8	0.9	Rising	Faster	12
Prices Paid	56.4	58.5	-2.1	Rising	Slower	15
Lead Times	61.7	52.1	9.6	Rising	Faster	22
Purchased Inventory	52.7	46.6	6.1	Rising	Fr. Falling	1
Finished Goods Inventory	53.9	51.1	2.8	Rising	Faster	3
Overall Houston Economy				Expanding	Slower	26

\* Number of months on current track

### Houston PMI Trend

Manufacturing expansion, including supporting services, continued for the 12th consecutive month in September with the Houston PMI registering 57.1, a decrease of 2.4 points from the revised August reading of 59.5. This growth was lead by strong performance in the sales/new orders, production, purchases, prices paid, and lead times indices. The employment index moderated significantly, but continued to show growth overall. 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:** **Steel goods;** carbon and alloy pipe; tariff items; electrical equipment, wire, and cable; bunker and motor fuels; caustic soda, butadiene and methanol; wages for contingent workers; advisory services

**Down in Price:** Stainless and carbon steel sheets and plates; MRO and PVF materials; turbines; copper based wire and cable

**In Short Supply:** Galvanized and stainless steel products; lined pipe; skilled craft labor; qualified professional labor

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### Sector Summaries

#### Oil and Gas Exploration, and Key Support Services:

- Prices on purchased goods have been stable
- *This sector reported near neutral this month, with a moderately increased production index and a falling employment index; key support services for this sector strengthened*

#### Engineering and Construction:

- Indirect impact from tariffs have caused instability in pricing
- *Respondents in this sector reported growth as stronger than last month; the sales/new orders index was up considerably as was the prices paid index; the purchased inventories index was down; all other indices were flat*

#### Manufacturing - Durable Goods:

- Deliveries of needed raw materials are getting more expensive and lead times are getting longer
- *This sector indicated significant growth this month; the sales, production, employment, purchases, and lead times indices all rose; the finished goods inventory index fell*

#### Manufacturing - Non-Durable Goods:

- Overall robust business outlook
- *Respondents in this sector reported improvement from last month; the sales, production, purchases, prices paid, and lead times indices all indicate strong growth; the employment index continues show job reductions*

#### Mid-Stream Operations:

- *Respondents in this area reported strong growth this period; the sales, production, purchases, prices paid, and lead times indices were all reported as rising at a good pace; the employment index moderated to neutral*

#### Wholesale Trade:

- New order entry was down this month; this is a seasonal occurrence for us
- *Respondents indicated weakening overall; the sales and prices paid indices fell substantially; the purchased and finished goods inventory indices rose*

#### Professional Services:

- Staff pricing seems to be stable with no signs of companies paying more or less than they did last month
- Hiring remains strong in certain sectors of O&G, particularly oilfield services and on shore drilling; downstream and petrochemical hiring is steady; off shore drilling remains slow
- *Overall, respondents in this area reported continued improvement in the sales index; the employment index rose at a faster pace; the prices paid and lead times indices were up*

#### Health Care:

- Busy but normal for this time of year
- *This sector reported continued growth with the employment, purchases, and prices paid indices all increasing*

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### 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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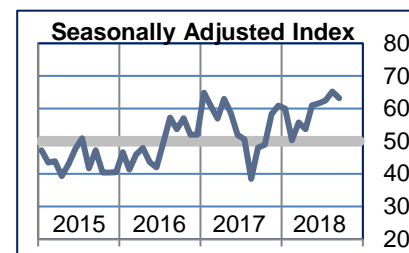
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### Sales/New Orders Index

The sales/new orders index exhibited expansion at a slower pace. Mid-stream, manufacturing, EPC firms, and financial and professional services indicated strength. Wholesale trade reported this

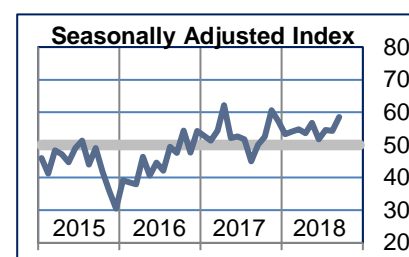
	Higher	Same	Lower	Net	Index
Apr/18	18%	78%	4%	14%	53.7
May/18	29%	68%	3%	26%	61.0
Jun/18	20%	79%	1%	19%	61.6
Jul/18	28%	71%	1%	27%	62.5
Aug/18	28%	71%	1%	27%	65.2
Sep/18	32%	61%	7%	25%	63.1



### Production Index

The production index showed growth at a faster pace. Manufacturing and mid-stream operations reported continued strength in this index again this month. All other sectors reported near neutral.

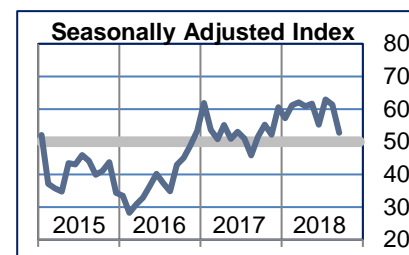
	Higher	Same	Lower	Net	Index
Apr/18	16%	81%	3%	13%	53.6
May/18	14%	83%	3%	11%	56.8
Jun/18	8%	88%	4%	4%	51.7
Jul/18	11%	88%	1%	10%	54.6
Aug/18	11%	87%	2%	9%	54.3
Sep/18	18%	81%	1%	17%	58.6



### Employment Index

The employment index showed expansion at a much slower pace. Durable goods manufacturing, health care, and professional services reported strength. Oil & gas and non-durable goods reported lower

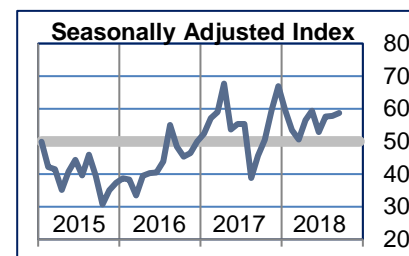
	Higher	Same	Lower	Net	Index
Apr/18	29%	67%	4%	25%	60.9
May/18	25%	73%	2%	23%	61.7
Jun/18	19%	77%	4%	15%	55.3
Jul/18	29%	66%	5%	24%	62.9
Aug/18	25%	68%	7%	18%	61.4
Sep/18	14%	78%	8%	6%	52.7



### Purchases Index

The purchases index showed growth at a faster pace. Manufacturing, mid-stream operations, financial services, and health care reported this index as rising. Oil & gas reported purchases as falling.

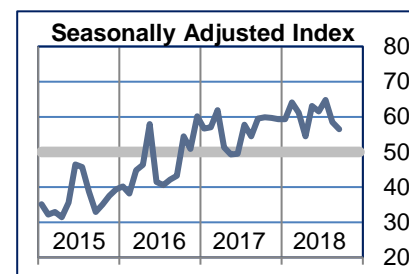
	Higher	Same	Lower	Net	Index
Apr/18	22%	69%	9%	13%	56.5
May/18	20%	75%	5%	15%	59.4
Jun/18	14%	78%	8%	6%	52.8
Jul/18	17%	78%	5%	12%	57.6
Aug/18	22%	74%	4%	18%	57.8
Sep/18	26%	66%	8%	18%	58.7



### Prices Paid Index

The prices paid index pointed to growth at a moderately slower pace. Professional services, non-durable goods, mid-stream, EPC firms, and health care reported rising prices. Wholesale trade reported prices as falling.

	Higher	Same	Lower	Net	Index
Apr/18	21%	68%	11%	10%	54.5
May/18	27%	69%	4%	23%	63.1
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



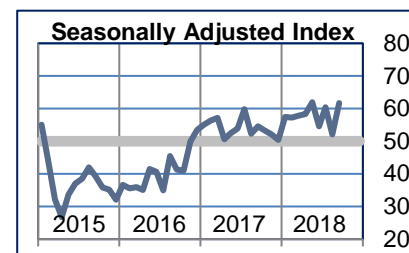
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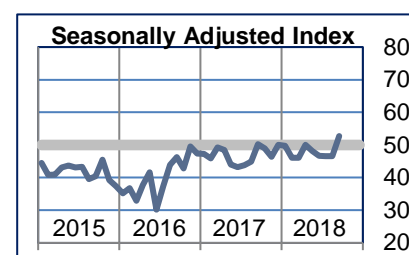
### Lead Times Index

The lead times index showed growth at a faster pace. Manufacturing, mid-stream, wholesale trade, and financial and professional services reported lead times as rising. No sector reported lead times as		Higher	Same	Lower	Net	Index
Apr/18	17%	80%	3%	14%	58.3	
May/18	24%	75%	1%	23%	62.0	
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	



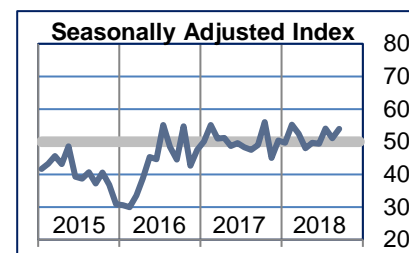
### Purchased Inventory Index

The purchased goods inventory index rose modestly during the month with wholesale trade reporting inventories as up and EPC firms reporting inventories as down. All other sectors reported near neutral.		Higher	Same	Lower	Net	Index
Apr/18	6%	89%	5%	1%	50.0	
May/18	4%	92%	4%	0%	48.2	
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	



### Finished Goods Inventory Index

The finished goods inventory index also rose modestly. Durable goods manufacturing and wholesale trade reported inventories as higher. All other sectors reported finished goods inventories as unchanged.		Higher	Same	Lower	Net	Index
Apr/18	2%	93%	5%	-3%	48.0	
May/18	7%	86%	7%	0%	49.6	
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	



### 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 and will be applied going forward. Additionally, the Houston PMI reported from the beginning of 2014 to present has been restated using the revised regression factors.

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