

ISM-Houston Business Report

August 2021



ISM—Houston, Inc.

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

(Houston, Texas) – According to Houston area supply chain executives, overall economic activity in Houston expanded again in August. The overall ISM-Houston PMI diffusion index rose modestly. Manufacturing activities strengthened significantly. Services activities, while continuing to point to growth, slowed minimally.

The Houston Purchasing Managers Index rose 0.3 points to 57.5 during the month. Improvement in the employment index was offset by declines in the sales/new orders and lead times indices. These three indicators have the strongest direct correlation with the economic activity in Houston. The sales/new orders index fell 4.1 points to 54.6. The lead times index fell 0.8 points to 63.1. The employment index rose 4.8 points to 57.9. The Finished goods inventory index, the underlying indicator that has the strongest inverse correlation with economic activity, rose 1.9 points to 46.6, continuing to point to economic expansion.

The three-month forecast for the Houston PMI rose 0.8 points to 56.2. A higher production index more than offset lower sales/new orders and prices paid indices to account for this gain. These indices have a strong direct correlation with economic activity at the three-month forecast horizon.

On an industry specific basis, oil & gas, construction, manufacturing, transportation, healthcare, new and existing home sales, professional services, and leisure and hospitality reported strong expansion. The three-month forecast continues to predict expansion, primarily due to the strength of the sales/new orders, production, and prices paid indices.

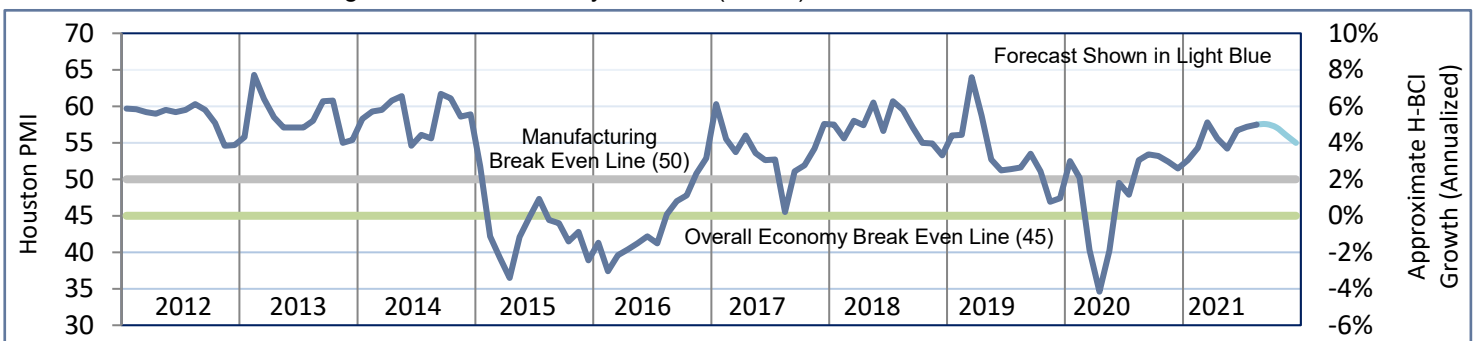
Indices at a Glance

Index	Aug	Jul	Change	Track	Rate	Trend*
Houston Overall PMI - Current	57.5	57.2	0.3	Expanding	Faster	13
Houston Overall PMI - 3M Forecast	56.2	55.4	0.8	Expanding	Faster	15
Sales/New Orders	54.6	58.7	-4.1	Rising	Slower	15
Production	53.3	51.4	1.9	Rising	Faster	15
Employment	57.9	53.1	4.8	Rising	Faster	7
Purchases	49.2	57.1	-7.9	Falling	Fr. Rising	1
Prices Paid	66.7	67.6	-0.9	Rising	Slower	12
Lead Times	63.1	63.9	-0.8	Rising	Slower	17
Purchased Inventory	47.6	45.4	2.2	Falling	Slower	8
Finished Goods Inventory	46.6	44.7	1.9	Falling	Slower	8
Overall Houston Economy				Expanding	Faster	15

* Number of months on current track

Houston PMI Trend

Overall economic activity in Houston expanded in August. HPMI readings over 50 generally indicate goods producing industry expansion; readings below 50 show contraction. An HPMI above 45 generally correlates with expansion of the Houston-The Woodlands-Sugar Land Business Cycle Index (H-BCI).



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

Up in Price: Craft labor rates; building materials, construction tools, drinking water; pumps, compressors, heat exchangers, alloy and carbon steel pipe, structural steel; aluminum, transformers, electrical equipment, MRO materials; natural gas, natural gas liquids, ethane, propane, butanes, propylene, butadiene, PVC components; domestic rail and truck freight; container and bulk ocean freight; software and hardware

Down in Price: Palladium and rhodium for catalysts

In Short Supply: Electronics; electrical steel plate; computer hardware; polymer resins, NMP, MEA, caustic soda, sulfuric acid, chlorine and derivatives; truck drivers

What Our Respondents Are Saying

Oil and Gas Exploration, and Key Support Services:

- Potential impacts as a result from Hurricane Ida
- DUCS (drilled and uncompleted wells) are pretty much gone
- *This sector report expansion again this month; the prices paid and lead times indices were reported as rising at a fast pace; the production, employment, and purchases indices also showed expansion*

Construction:

- Lead times have increased across nearly all commodities
- There are challenges with recruiting skilled labor, particularly electricians
- Both the direct and indirect effects of COVID continue to impact the supply chain
- Lumber prices have finally stabilized at a reasonable price
- *This sector reported growth at modestly lower level; the prices paid and lead times indices were reported as growing at a strong pace; the employment index continues to show expansion at a modest pace*

Durable Goods Manufacturing:

- Inflation is causing price increases on all materials
- Starting to see price weakening on some ethylene and propylene polymers
- *This sector reported stronger growth during August; the sales/new orders, production, employment, prices paid, and lead times indices showed expansion; inventories continue to fall at a fast rate*

Non-durable Goods Manufacturing:

- Given Hurricane Ida, there is more reliance on Texas Refineries near-term
- *This sector expanded at a faster pace during the month; the prices paid and lead times indices continue to expand at a rapid pace; the production and sales/new orders indices also indicate expansion; the sales/new orders, production, and employment indices returned to neutral*

Transportation and Warehousing:

- August airplane passenger traffic was near pre-pandemic levels
- *This sector reported moderate expansion; the employment, purchases, prices paid, and lead times indices continued to show strength; the sales/new orders index moderated to neutral*

Real-Estate Services:

- New listings and closings for existing homes fell but are above levels seen earlier in the year
- Apartment occupancy rates and prices have risen significantly since the lows seen in January
- Industrial real estate vacancy rates have dropped since the first quarter
- *This sector reported expansion again this month with continued strength in new and existing home sales, as well as apartment rentals*

Professional and Business Services:

- There continues to be a good supply of qualified professionals in every functional discipline
- Direct hire salaries and project staffing hourly rates remain as they were for past several months
- *This sector improved further during the month; the employment index joined the prices paid and lead times indices pointing to growth; all other indices were near neutral*

What Our Respondents Are Saying (Continued)

Leisure and Hospitality

- This sector reported somewhat lower growth during the month; the employment, purchases, prices paid, and lead times indices continue to point to strong growth; the sales/new orders index fell to neutral

Health Care

- This sector reported expansion at a slower pace this month with many indicators returning to neutral; the employment and prices paid indices continue to point to expansion at a rapid pace

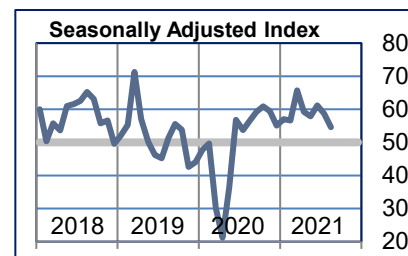
Trend of Underlying Indicators

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. Values above 50 for Sales/New Orders, Production, Employment, Prices Paid, and Lead Times generally point towards expansion 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 three-month forecast horizon.

Sales/New Orders Index

The sales/new orders index is pointing to expansion at a slower pace. Manufacturing and real estate reported strength. All other sectors reported near neutral.

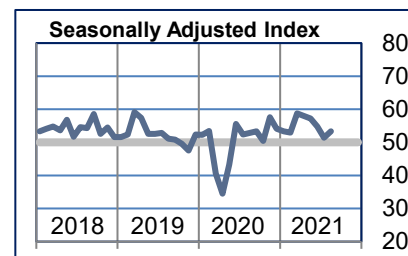
	Higher	Same	Lower	Net	Index
Mar/21	33%	66%	1%	32%	65.7
Apr/21	22%	77%	1%	21%	59.3
May/21	20%	79%	1%	19%	57.9
Jun/21	20%	79%	1%	19%	61.2
Jul/21	19%	81%	0%	19%	58.7
Aug/21	10%	89%	1%	9%	54.6



Production Index

The production index rose to show moderately higher expansion. Oil & gas and non-durable goods manufacturing joined non-durable goods manufacturing to report strength; all other sectors reported near neutral.

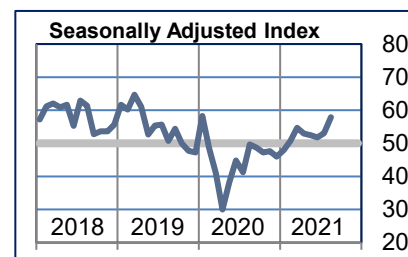
	Higher	Same	Lower	Net	Index
Mar/21	18%	82%	0%	18%	58.7
Apr/21	18%	82%	0%	18%	58.0
May/21	15%	85%	0%	15%	57.2
Jun/21	9%	89%	2%	7%	54.8
Jul/21	4%	95%	1%	3%	51.4
Aug/21	6%	94%	0%	6%	53.3



Employment Index

The employment index rose to indicate greater strength. Durable goods joined construction, oil & gas, transportation, health care, and leisure and hospitality reporting above neutral. Non-durable goods returned to neutral.

	Higher	Same	Lower	Net	Index
Mar/21	18%	73%	9%	9%	54.7
Apr/21	19%	73%	8%	11%	53.0
May/21	15%	76%	9%	6%	52.4
Jun/21	13%	82%	5%	8%	51.8
Jul/21	13%	79%	8%	5%	53.1
Aug/21	16%	81%	3%	13%	57.9



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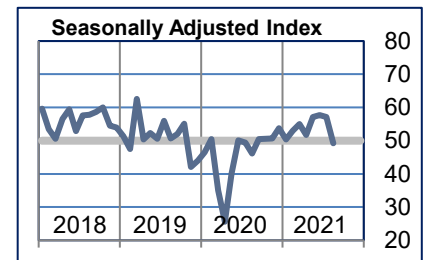


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Purchases Index

The purchases index fell to neutral. Leisure and hospitality, oil & gas, and transportation reported this index as expanding. Construction reported it as contracting. All other sectors reported near neutral.

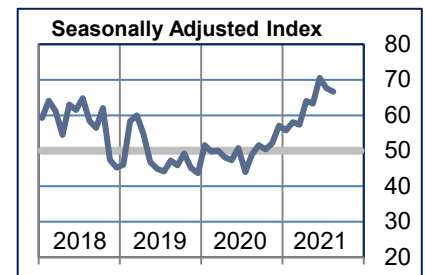
	Higher	Same	Lower	Net	Index
Mar/21	17%	77%	6%	11%	55.0
Apr/21	14%	78%	8%	6%	51.7
May/21	21%	71%	8%	13%	57.1
Jun/21	21%	72%	7%	14%	57.7
Jul/21	17%	77%	6%	11%	57.1
Aug/21	3%	94%	3%	0%	49.2



Prices Paid Index

The prices paid index fell modestly, but is still giving a strong expansion signal. Most sectors reported this index as expanding at rapid pace.

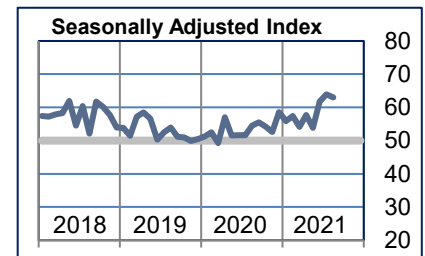
	Higher	Same	Lower	Net	Index
Mar/21	20%	79%	1%	19%	57.3
Apr/21	29%	70%	1%	28%	64.0
May/21	33%	66%	1%	32%	63.3
Jun/21	37%	63%	0%	37%	70.5
Jul/21	32%	68%	0%	32%	67.6
Aug/21	31%	69%	0%	31%	66.7



Lead Times Index

The lead times index was relatively unchanged indicating expansion at a fast pace. As with the prices paid index, most sectors reported this index as expanding at rapid pace.

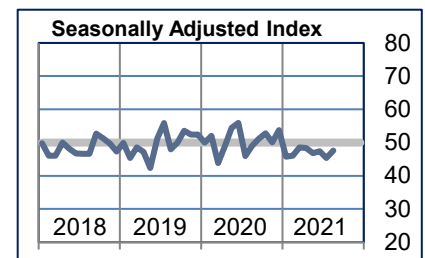
	Higher	Same	Lower	Net	Index
Mar/21	12%	88%	0%	12%	54.1
Apr/21	18%	81%	1%	17%	57.7
May/21	13%	85%	2%	11%	53.8
Jun/21	24%	75%	1%	23%	61.8
Jul/21	27%	73%	0%	27%	63.9
Aug/21	26%	74%	0%	26%	63.1



Purchased Inventory Index

The purchased inventory index remained below neutral continuing to give an economic expansion signal. All sectors that report these inventories reported near or below neutral.

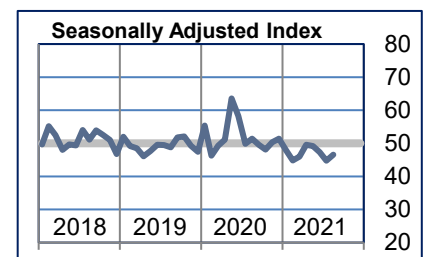
	Higher	Same	Lower	Net	Index
Mar/21	4%	89%	7%	-3%	48.6
Apr/21	3%	91%	6%	-3%	48.4
May/21	2%	91%	7%	-5%	46.8
Jun/21	0%	95%	5%	-5%	47.4
Jul/21	0%	93%	7%	-7%	45.4
Aug/21	0%	95%	5%	-5%	47.6



Finished Goods Inventory Index

The finished goods inventory index remained well below neutral, showing a strong economic expansion signal. Oil and gas, manufacturing, and new home sales reported these inventories as contracting at a rapid pace.

	Higher	Same	Lower	Net	Index
Mar/21	2%	88%	10%	-8%	46.0
Apr/21	5%	88%	7%	-2%	49.5
May/21	3%	91%	6%	-3%	49.2
Jun/21	0%	93%	7%	-7%	47.4
Jul/21	0%	92%	8%	-8%	44.7
Aug/21	0%	95%	5%	-5%	46.6



Houston PMI Calculation Methods

The Houston Purchasing Managers Index has been included as an integral part of the ISM-Houston Business Report since the Houston chapter of the Institute for Supply Management started publication of this document in January 1995. The report and index are published monthly as the primary deliverables from a survey of Houston area Supply Chain leaders regarding the status of key activities believed to provide insight into the strength of the economy. The respondents come from diverse organizations including construction, energy, engineering, health care, durable and non-durable goods manufacturing, financial and business services, wholesale and retail trade, and utilities related companies.

The Houston Purchasing Managers Index is determined from diffusion indices of the eight indicators of economic activity covered by the ISM-Houston Business Survey and Report. These underlying indicators are sales or new orders, production, employment, purchases, prices paid for major purchases, lead times from sellers, purchased materials inventory (raw materials and supplies), and finished goods inventories. The respondents to the survey report the direction of each these activities as either up, the same or down in comparison to the previous month. An index for each of these areas is then calculated by subtracting the percentage of respondents that sight a negative shift from the percentage that sight a positive shift. For indicators that are positively correlated with economic growth, this results in an underlying index that points to expansion when it is above zero. Indicators that are negatively correlated with growth point to expansion when they are below zero.

The final 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. This top-level index is converted to a 0 to 100 scale to match that of the national Purchasing Managers Index® (PMI®) which is published monthly by the Institute for Supply Management® (ISM®). Readings over 50 for the HPMI generally indicate manufacturing expansion in the Houston in the near term and readings below 50 show coming manufacturing contraction.

It is important to note that the manufacturing breakeven HPMI does not equate to the breakeven point for the overall Houston economy. 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 economy as measured by the Houston BCI. A similar offset between the National PMI and the National economy has existed for some time.

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