

ISM-Houston Business Report

September 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 at a strong pace in September. The overall ISM-Houston PMI diffusion index rose sharply. Manufacturing activities are expanding at a modestly slower pace than last month. Services activities reported stronger growth.

The Houston Purchasing Managers Index rose 2.0 points to 59.5 during the month. Improvement in the sales/new orders, and lead times indices drove this improvement. These three indicators have the strongest direct correlation with the economic activity in Houston. The sales/new orders index rose 2.1 points to 56.7. The lead times index rose 4.8 points to 67.9. The employment index rose 1.0 points to 58.9. The Finished goods inventory index, the underlying indicator that has the strongest inverse correlation with economic activity, rose 0.4 points to 47.0, continuing to point to economic expansion.

The three-month forecast for the Houston PMI rose 0.1 points to 56.3. Higher sales/new orders and prices paid indices offset the lower production index 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, trade and 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.

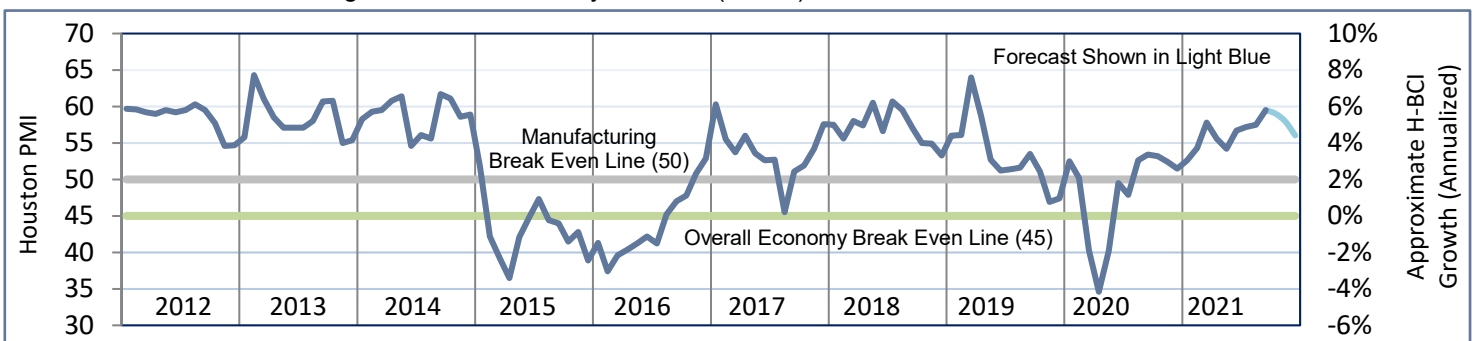
Indices at a Glance

Index	Sep	Aug	Change	Track	Rate	Trend*
Houston Overall PMI - Current	59.5	57.5	2.0	Expanding	Faster	14
Houston Overall PMI - 3M Forecast	56.3	56.2	0.1	Expanding	Faster	16
Sales/New Orders	56.7	54.6	2.1	Rising	Faster	16
Production	52.7	53.3	-0.6	Rising	Slower	16
Employment	58.9	57.9	1.0	Rising	Faster	8
Purchases	58.3	49.2	9.1	Rising	Fr. Falling	1
Prices Paid	71.1	66.7	4.4	Rising	Faster	13
Lead Times	67.9	63.1	4.8	Rising	Faster	18
Purchased Inventory	50.8	47.6	3.2	Rising	Fr. Falling	1
Finished Goods Inventory	47.0	46.6	0.4	Falling	Slower	9
Overall Houston Economy				Expanding	Faster	15

* Number of months on current track

Houston PMI Trend

Overall economic activity in Houston expanded in September. 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; Crude oil, gasoline, diesel, jet fuel, natural gas, natural gas liquids; ethane, propane, normal-butane, iso-butane, butadiene, styrene, xylene, methanol, ethylene glycol, propylene glycol, triethylene glycol, glycol ethers; PVC materials, lumber, carbon and alloy steel piping, electrical bulk materials; drilling rigs, oil country tubular goods; bulk and containerized ocean freight, rail and truck freight

Down in Price: Ethylene, propylene, benzene, toluene, high-density polyethylene; silver, palladium, and rhodium for catalysts

In Short Supply: Labor, truck drivers; seamless casing/tubing, steel products, pipe, valves, and fittings; ethylene oxide and derivatives, propylene oxide and derivatives; computer hardware

What Our Respondents Are Saying

Oil and Gas Exploration, and Key Support Services:

- Increasing activity and costs
- Market inflation is occurring across most commodities
- Production was impacted by Hurricane Ida
- *This sector rose modestly again this month; the production, employment, purchases, prices paid, and lead times indices are all pointing to strong expansion*

Construction:

- Freight costs and lead times for domestic transportation are increasing with the limited availability of trucks and drivers
- Seeing no commodities in short supply, but lead times have continued to increase across nearly all areas
- *This sector reported growth at a strong pace; the employment and purchases indices joined the prices paid and lead times indices pointing to significant growth*

Durable Goods Manufacturing:

- Still seeing price increases on most materials
- *This sector continues to report strong growth; the sales/new orders, production, employment, prices paid, and lead times indices continued to point to expansion; finished goods inventories continue to fall*

Non-durable Goods Manufacturing:

- Gulf Coast refinery and petrochemical plant rates are returning to normal following the recent tropical storms
- Projects are beginning to start-up and early 2022 will be huge; employment and wages should be up for Craft Labor
- Ethylene and propylene polymer prices appear to have stabilized
- *This sector expanded at a similar pace to last month; the sales/new orders, prices paid, and lead times indices continue to show expansion at a rapid pace; the production index joined employment and purchases near neutral*

Trade, Transportation, and Warehousing:

- Containerized ocean freight costs and delays are out of control
- Dislocations in the market place continue to drive shortages and higher prices
- This sector reported modestly stronger expansion; the employment, purchases, prices paid, and lead times indices continue to show strength; the sales/new orders index strengthened to above neutral

Real-Estate Services:

- New and existing homes listings and sales, while still strong, are slowing
- Apartment occupancy rates and prices continue to rise
- *This sector moderated during the month; new and existing home sales, while still near record pace, are now reporting as slowing compared to last month; apartment rentals continue to show strength*

Professional and Business Services:

- Seeing marginal improvement in direct hire salaries; hourly contract pricing remains low
- The year end budgeting process for oil and gas companies will be interesting with oil prices now above \$65/BBL; if this price holds we expect greater capital funding and employment needs
- *This sector improved significantly during the month; the sales/new orders and purchases indices joined the employment, 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 growth at a similar level to last month; the employment, purchases, prices paid, and lead times indices continue to point to strong growth; the sales/new orders remained near neutral

Health Care

- We are losing some employees due to their refusal to comply with COVID-19 vaccination mandates
 - This sector also reported expansion at a similar pace to last month

Trend of Underlying Indicators

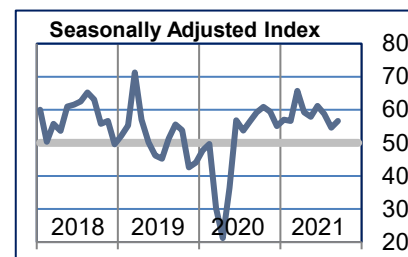
The Houston PMI is based on diffusion indices for eight underlying indicators. The net value of each indicator is simply the percentage of respondents who cite a positive shift from the previous month minus the percentage who cite a negative shift. The diffusion index is calculated based on the percent 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 moderately higher pace.

Manufacturing, real estate, and professional and business services reported strength. All other sectors reported near neutral.

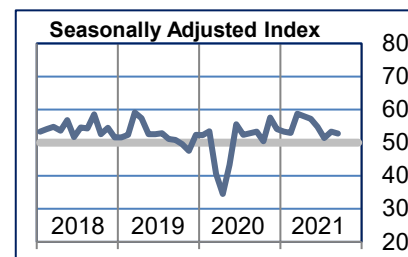
	Higher	Same	Lower	Net	Index
Apr/21	22%	77%	1%	21%	59.3
May/21	20%	79%	1%	19%	57.9
Jun/21	20%	79%	1%	19%	61.2
Jul/21	19%	81%	0%	19%	58.7
Aug/21	10%	89%	1%	9%	54.6
Sep/21	15%	84%	1%	14%	56.7



Production Index

The production index was relatively unchanged. Oil & gas, non-durable goods manufacturing, and wholesale trade reported strength; all other sectors reported near neutral.

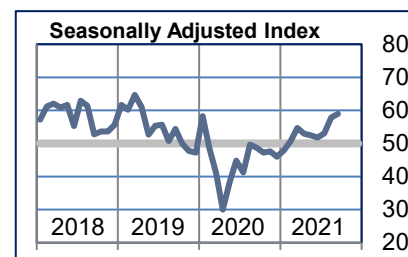
	Higher	Same	Lower	Net	Index
Apr/21	18%	82%	0%	18%	58.0
May/21	15%	85%	0%	15%	57.2
Jun/21	9%	89%	2%	7%	54.8
Jul/21	4%	95%	1%	3%	51.4
Aug/21	6%	94%	0%	6%	53.3
Sep/21	10%	86%	4%	6%	52.7



Employment Index

The employment index strengthened further. Durable goods manufacturing, construction, oil & gas, trade and transportation, health care, professional and business services, and leisure and hospitality reported above neutral.

	Higher	Same	Lower	Net	Index
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
Sep/21	19%	80%	1%	18%	58.9



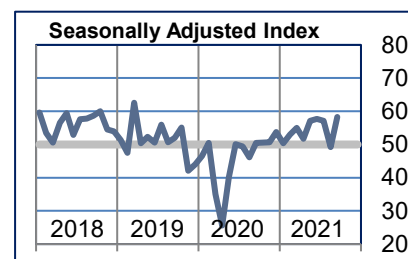
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Purchases Index

The purchases index strengthened significantly with oil & gas, construction, trade and transportation, professional and management services, and leisure and hospitality reporting well above neutral.

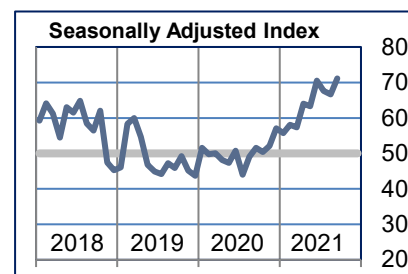
	Higher	Same	Lower	Net	Index
Apr/21	14%	78%	8%	6%	51.7
May/21	21%	71%	8%	13%	57.1
Jun/21	21%	72%	7%	14%	57.7
Jul/21	17%	77%	6%	11%	57.1
Aug/21	3%	94%	3%	0%	49.2
Sep/21	22%	78%	0%	22%	58.3



Prices Paid Index

The prices paid index rose to indicate further strengthening. Most sectors reported this index as expanding at rapid pace.

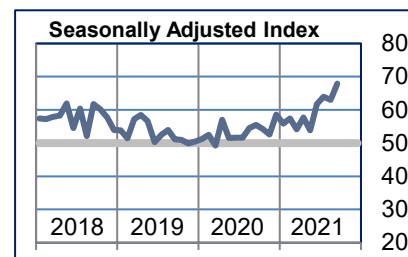
	Higher	Same	Lower	Net	Index
Apr/21	29%	70%	1%	28%	64.0
May/21	33%	66%	1%	32%	63.3
Jun/21	37%	63%	0%	37%	70.5
Jul/21	32%	68%	0%	32%	67.6
Aug/21	31%	69%	0%	31%	66.7
Sep/21	42%	58%	0%	42%	71.1



Lead Times Index

The lead times index strengthened further. As with the prices paid index, most sectors reported this index as expanding at rapid pace.

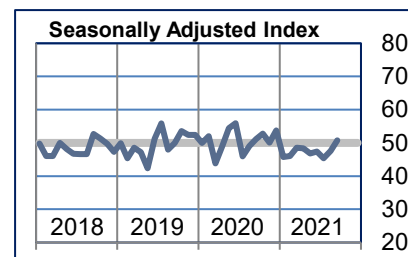
	Higher	Same	Lower	Net	Index
Apr/21	18%	81%	1%	17%	57.7
May/21	13%	85%	2%	11%	53.8
Jun/21	24%	75%	1%	23%	61.8
Jul/21	27%	73%	0%	27%	63.9
Aug/21	26%	74%	0%	26%	63.1
Sep/21	36%	64%	0%	36%	67.9



Purchased Inventory Index

The purchased inventory index rose modestly to move just above neutral. Durable goods reported these inventories as rising. All other sectors that report these inventories reported near or below neutral.

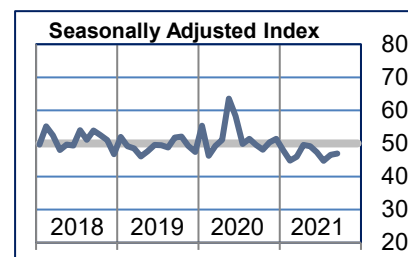
	Higher	Same	Lower	Net	Index
Apr/21	3%	91%	6%	-3%	48.4
May/21	2%	91%	7%	-5%	46.8
Jun/21	0%	95%	5%	-5%	47.4
Jul/21	0%	93%	7%	-7%	45.4
Aug/21	0%	95%	5%	-5%	47.6
Sep/21	2%	96%	2%	0%	50.8



Finished Goods Inventory Index

The finished goods inventory index remained below neutral. Oil & gas and manufacturing reported these inventories a contracting at a rapid pace.

	Higher	Same	Lower	Net	Index
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
Sep/21	0%	92%	8%	-8%	47.0



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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