

ISM-Houston Business Report

March 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 significantly in March. The overall ISM-Houston PMI diffusion index is at its highest level since early 2019. Manufacturing activities expanded for the fourth month and services activities have expanded for the last eight months.

The Houston Purchasing Managers Index rose 3.5 points to 57.8 during the month. The three underlying indicators that have the strongest direct correlation with the economy (sales/new orders, employment, and lead times) are now showing significant strength. The sales/new orders index rose 9.1 points to 65.7, its highest level in two years. The employment index rose 3.9 points to 54.7, only its second month indicating expansion since the beginning of the recent downturn. The lead times index fell 3.3 points to 54.1, its tenth month pointing to expansion. The Finished goods inventory index, the underlying indicator that has the strongest inverse correlation with economic activity, rose 1.2 points to 46.0, continuing to indicate a modest expansion signal.

The three-month forecast for the Houston PMI rose 3.4 points to 57.5. This was driven by improvements in the sales/new orders and production indices with a modest offset by a reduced prices paid index. These indices have a strong direct correlation with economic activity at the three-month forecast horizon.

On an industry specific basis, leisure and hospitality joined oil & gas, construction, manufacturing, transportation, and healthcare in reporting strong expansion. All other sectors reported near neutral. The three-month forecast continues to predict further expansion, primarily due to the strength of the sales/new orders, production, and prices paid indices.

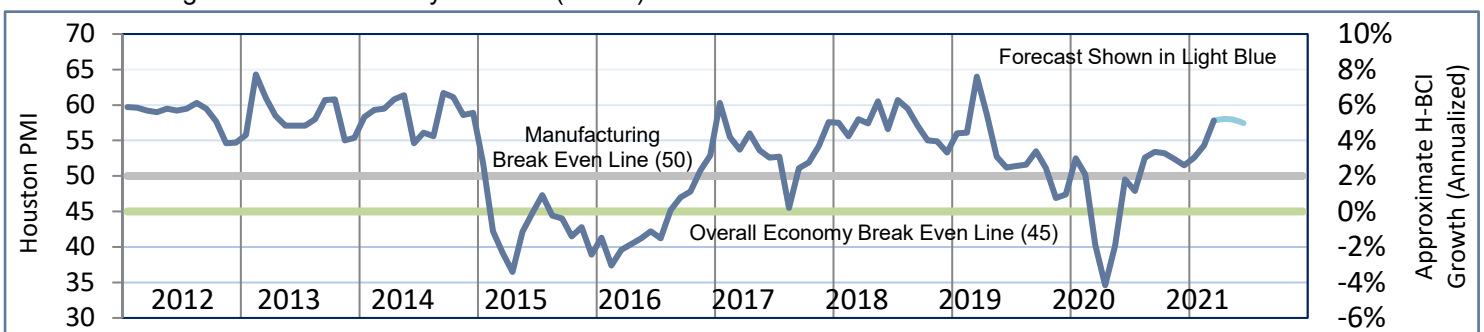
Indices at a Glance

Index	Mar	Feb	Change	Track	Rate	Trend*
Houston Overall PMI - Current	57.8	54.3	3.5	Expanding	Faster	8
Houston Overall PMI - 3M Forecast	57.5	54.1	3.4	Expanding	Faster	10
Sales/New Orders	65.7	56.6	9.1	Rising	Faster	10
Production	58.7	53.0	5.7	Rising	Faster	10
Employment	54.7	50.8	3.9	Rising	Faster	2
Purchases	55.0	53.0	2.0	Rising	Faster	7
Prices Paid	57.3	58.0	-0.7	Rising	Slower	7
Lead Times	54.1	57.4	-3.3	Rising	Slower	12
Purchased Inventory	48.6	46.0	2.6	Falling	Slower	3
Finished Goods Inventory	46.0	44.8	1.2	Falling	Slower	3
Overall Houston Economy				Expanding	Faster	10

* Number of months on current track

Houston PMI Trend

Overall economic activity in Houston expanded in March. 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: 3ML/3CC Syringes; crude oil, gasoline, diesel, jet fuel; ethylene, polyethylene and polypropylene resins; rhodium for catalysts; copper wire and cable, fabricated structural steel, carbon pipe, alloy pipe, heat exchangers, transformers, electrical equipment; ready mix concrete; lumber; bulk and containerized ocean freight

Down in Price: Isolation gowns; propylene

In Short Supply: 1ML/1CC Syringes and 5ML/5CC Syringes; MRO pipes, valves, and fittings

What Our Respondents Are Saying

Oil and Gas Exploration, and Key Support Services:

- Rig counts and drilling activities continue to increase
- *This sector showed continued strength during the month; as in February, the production, purchases, and lead times indices were all well above neutral; the employment index remained just below neutral*

Construction:

- We are paying 4 to 5 times what we did 5 years ago for lumber
- *This sector was improved modestly; the sales and purchases indexes rose to well above neutral joining the prices paid and lead times indices pointing to strength*

Durable Goods Manufacturing:

- As business returns to a more normal pattern, material shortages are becoming the new problem to meeting customer needs
- *This sector improved again this month to show even greater strength; all underlying indices continue to point to significant growth*

Non-durable Goods Manufacturing:

- The Houston Ship Channel is returning to normal after the freeze event in February
- Natural gas prices fell back to January levels quickly after the spike caused by the freeze
- Refinery and chemical production was impacted by Texas winter storm
- Polymer prices rose sharply this month
- *This sector showed further strengthening this month with the sales/new orders, production, lead times, and finished goods inventory indices all showing strength; the employment index for this sector remains well below neutral*

Real-Estate Services:

- Apartment occupancy and rental rates are now improving after a tough 2020
- Office and industrial real estate vacancies continue to rise
- New home sales continue to be strong
- *This sector reported above neutral this month with significant strength in new and existing home sales; continued weakness was reported in industrial, office, and retail real estate*

Professional and Business Services:

- Seeing more interest in hiring with the energy sector lagging behind other areas
- Expect hiring to get better in the coming months due to COVID being somewhat under control and the price of oil staying above \$55/bbl
- Continue to see a great number of people in the market looking for jobs; no skill sets are in significantly short supply
- Salaries and hourly pay have not increased
- *This sector reported strong improvement this month; the sales/new orders, employment, and prices paid indices all reported well above neutral; all other indices reported near neutral*

Leisure and Hospitality

- *This sector reported significant improvement during the month; the sales, employment, and prices paid indices are now pointing to strong growth*

ISM-Houston Business Report

March 2021



What Our Respondents Are Saying (Continued)

Health Care:

- Now with the wide availability of COVID-19 vaccines, specific syringe sizes are on very short supply and strict allocation; this is critical since syringes are used for many other applications other than vaccine administration; healthcare facilities are looking for alternative solutions by exploring other available sizes
- *This sector strengthened further this month with the employment index joining the sales, purchases, and prices paid indices in pointing to expansion; the lead times index fell to near neutral*

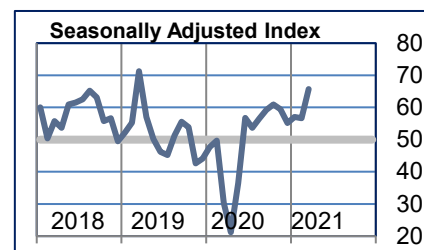
Trend of Underlying Indicators

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. 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 rose significantly to point to even stronger expansion. Health care, transportation, manufacturing, oil & gas, real estate, and health care showed significant strength.

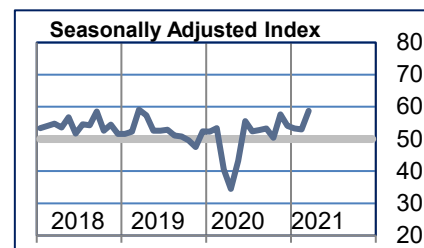
	Higher	Same	Lower	Net	Index
Oct/20	25%	67%	8%	17%	60.9
Nov/20	18%	78%	4%	14%	59.4
Dec/20	15%	75%	10%	5%	55.1
Jan/21	19%	80%	1%	18%	57.0
Feb/21	20%	76%	4%	16%	56.6
Mar/21	33%	66%	1%	32%	65.7



Production Index

The production index also rose significantly. Transportation and durable goods manufacturing joined non-durable goods manufacturing and oil & gas showing significant strength.

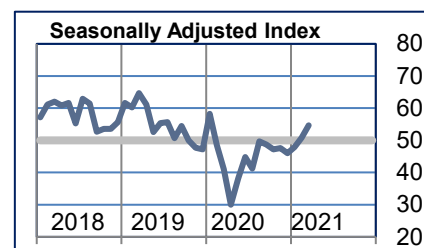
	Higher	Same	Lower	Net	Index
Oct/20	6%	88%	6%	0%	50.4
Nov/20	14%	86%	0%	14%	57.6
Dec/20	7%	91%	2%	5%	54.1
Jan/21	8%	92%	0%	8%	53.3
Feb/21	11%	84%	5%	6%	53.0
Mar/21	18%	82%	0%	18%	58.7



Employment Index

The employment index rose to well above neutral. Professional services and health care joined durable goods manufacturing reporting strength. Oil & gas and non-durable goods continue to report weakness in this index.

	Higher	Same	Lower	Net	Index
Oct/20	4%	84%	12%	-8%	47.2
Nov/20	7%	78%	15%	-8%	47.6
Dec/20	4%	83%	13%	-9%	46.0
Jan/21	6%	83%	11%	-5%	47.9
Feb/21	7%	85%	8%	-1%	50.8
Mar/21	18%	73%	9%	9%	54.7



ISM-Houston Business Report

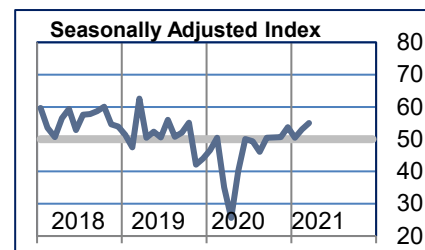
March 2021



Purchases Index

The purchases index continues to point to expansion. Transportation, construction, and professional services joined non-durable goods manufacturing, O&G, and health care reporting this index as expanding.

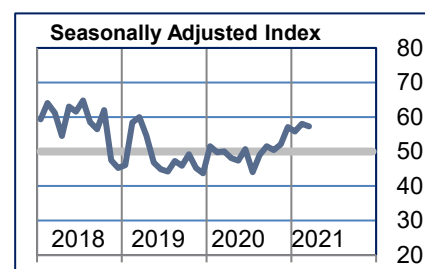
	Higher	Same	Lower	Net	Index
Oct/20	13%	74%	13%	0%	50.5
Nov/20	7%	85%	8%	-1%	50.7
Dec/20	10%	83%	7%	3%	53.7
Jan/21	9%	85%	6%	3%	50.4
Feb/21	12%	82%	6%	6%	53.0
Mar/21	17%	77%	6%	11%	55.0



Prices Paid Index

The prices paid index continues to point to strong expansion. Transportation joined real estate, construction, durable goods manufacturing, professional services, and health care reporting this index as expanding.

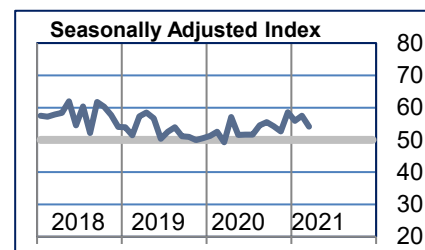
	Higher	Same	Lower	Net	Index
Oct/20	11%	82%	7%	4%	50.4
Nov/20	10%	82%	8%	2%	52.1
Dec/20	10%	89%	1%	9%	57.1
Jan/21	11%	89%	0%	11%	55.8
Feb/21	17%	82%	1%	16%	58.0
Mar/21	20%	79%	1%	19%	57.3



Lead Times Index

The lead times index moderated, but continues to point to expansion. Real estate, oil & gas, construction, manufacturing, and health care reported this index as expanding. All other sectors reported near neutral.

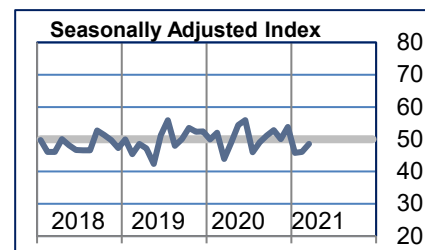
	Higher	Same	Lower	Net	Index
Oct/20	7%	93%	0%	7%	54.2
Nov/20	7%	90%	3%	4%	52.6
Dec/20	13%	87%	0%	13%	58.6
Jan/21	11%	89%	0%	11%	55.9
Feb/21	16%	84%	0%	16%	57.4
Mar/21	12%	88%	0%	12%	54.1



Purchased Inventory Index

The index rose modestly, but stayed below neutral. Construction reported these inventories as contracting. Non-durable goods manufacturing reported them as expanding. All other sectors were near neutral.

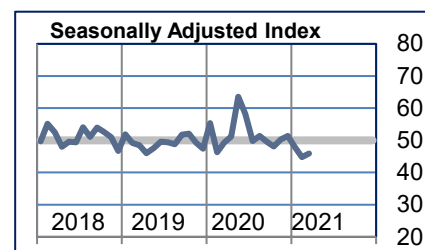
	Higher	Same	Lower	Net	Index
Oct/20	9%	84%	7%	2%	52.8
Nov/20	8%	85%	7%	1%	50.1
Dec/20	10%	83%	7%	3%	53.8
Jan/21	5%	89%	6%	-1%	45.8
Feb/21	1%	92%	7%	-6%	46.0
Mar/21	4%	89%	7%	-3%	48.6



Finished Goods Inventory Index

The finished goods inventory index showed further contraction. Non-durable goods manufacturing reported these inventories as contracting at a rapid pace. All other sectors reported near neutral.

	Higher	Same	Lower	Net	Index
Oct/20	6%	83%	11%	-5%	48.1
Nov/20	12%	79%	9%	3%	50.3
Dec/20	10%	82%	8%	2%	51.4
Jan/21	6%	87%	7%	-1%	47.9
Feb/21	1%	89%	10%	-9%	44.8
Mar/21	2%	88%	10%	-8%	46.0



ISM-Houston Business Report

March 2021



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.

Use of ISM-Houston Business Report Content

All information contained in this report is protected by copyright laws and ISM-Houston retains all rights to this Content. ISM-Houston hereby grants you a limited, revocable license to access, print, and display this Content solely for your personal, non-commercial use. Requests for permission to reproduce or redistribute ISM-Houston Business Report Content can be made by contacting the ISM-Houston Business Survey Committee at hpmi@ism-houston.org.

ISM-Houston shall not have any liability, duty, or obligation for or relating to the ISM-Houston Business Report Content or other information contained herein, any errors, inaccuracies, omissions or delays in providing any ISM-Houston Business Report Content, or for any actions taken in reliance thereon. In no event shall ISM-Houston be liable for any special, incidental, or consequential damages, arising out of the use of the ISM-Houston Business Report.