

ISM-Houston Business Report

May 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 continued to expand in May. The overall ISM-Houston PMI diffusion index fell modestly. Manufacturing activities have now expanded for two quarters and services activities have expanded for more than three.

The Houston Purchasing Managers Index fell 1.4 points to 54.2 during the month. Continued strength was seen in the sales/new orders, employment, and lead times indices, which are the three underlying indicators that have the strongest direct correlation with the economy. The sales/new orders index fell 1.4 points to 57.9. The employment index fell 0.6 points to 52.4. The lead times index fell 3.9 points to 53.8. The Finished goods inventory index, the underlying indicator that has the strongest inverse correlation with economic activity, fell 0.3 points to 49.2, continuing to indicate a modest expansion signal.

The three-month forecast for the Houston PMI was fell 1.9 points to 55.7. Lower sales/new orders, production, and prices paid index contributed to this reduction. These indices have a strong direct correlation with economic activity at the three-month forecast horizon.

On an industry specific basis, oil & gas, construction, transportation, healthcare, and leisure and hospitality reported strong expansion. Manufacturing, while continuing to report expansion, moderated during the month. 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.

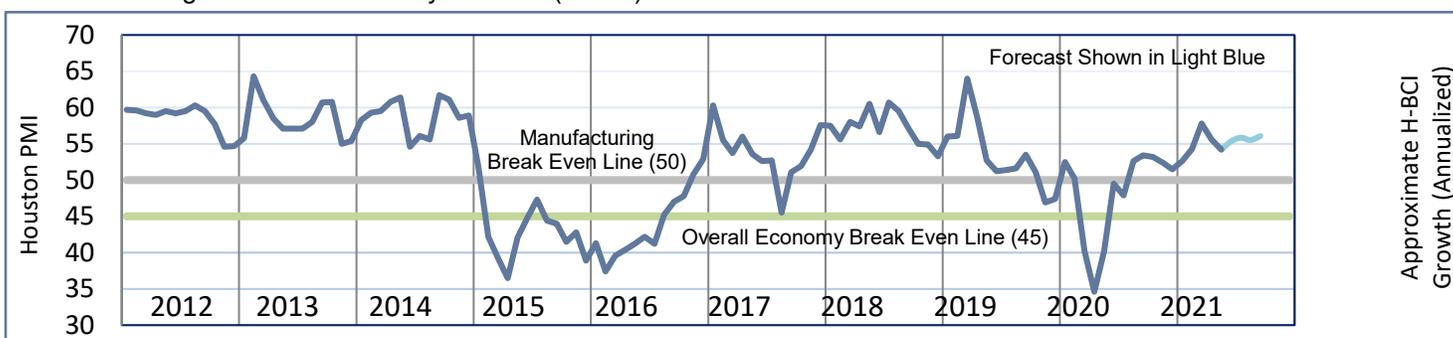
Indices at a Glance

Index	May	Apr	Change	Track	Rate	Trend*
Houston Overall PMI - Current	54.2	55.6	-1.4	Expanding	Slower	10
Houston Overall PMI - 3M Forecast	55.7	57.6	-1.9	Expanding	Slower	12
Sales/New Orders	57.9	59.3	-1.4	Rising	Slower	12
Production	57.2	58.0	-0.8	Rising	Slower	12
Employment	52.4	53.0	-0.6	Rising	Slower	4
Purchases	57.1	51.7	5.4	Rising	Faster	9
Prices Paid	63.3	64.0	-0.7	Rising	Slower	9
Lead Times	53.8	57.7	-3.9	Rising	Slower	14
Purchased Inventory	46.8	48.4	-1.6	Falling	Faster	5
Finished Goods Inventory	49.2	49.5	-0.3	Falling	Faster	5
Overall Houston Economy				Expanding	Slower	12

* Number of months on current track

Houston PMI Trend

Overall economic activity in Houston expanded in May. 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: Crude oil, motor fuels, natural gas; ethane, propane, butanes, propylene, PVC, sheet and extruded butyl rubber; industrial cleaning solutions; aluminum, copper, nickel; turbines, pumps, compressors, exchangers, fabricated structural steel, carbon and alloy pipes, electrical equipment, PVF materials, ready-mix concrete, lumber; containerized and bulk ocean freight; computer software and hardware

Down in Price: Ethylene

In Short Supply: Ocean shipping containers; chlorine

What Our Respondents Are Saying

Oil and Gas Exploration, and Key Support Services:

- Some Ex-Pat employees are not coming to the U.S. anymore and will be working remotely from their country
- *This sector continued to show strength during the month with all underlying indicators pointing to further expansion*

Construction:

- As of late May, we are seeing some relief on lumber prices but they are still too high
- *This sector reported modestly higher expansion; the sales/new orders, prices paid, and lead times indices reported additional strength; all other indices reported near neutral*

Durable Goods Manufacturing:

- Seeing price increases on almost everything we buy
- Concerned about inflation; prices are soaring on steel, wood, rubber, and many other materials
- *This sector continued to expand during the month but at a much slower pace; the sales, production, and employment indices fell to near neutral while the purchases, prices paid, and lead times indices remained well above neutral; inventories were reported as increasing*

Non-durable Goods Manufacturing:

- Continue to see a slight uptick in demand for jet fuel and chemicals
- *This sector also indicated expansion at a slower pace; the sales, production, purchases, prices paid, and lead times indices were all reported as rising at a strong pace; the employment index has shown contraction since early in the pandemic*

Transportation and Warehousing:

- Import and export activity on the Houston Ship Channel continues to be strong
- Project 11, the Houston Ship Channel expansion effort, is moving ahead at a good pace
- Airport passenger traffic is well above last year's levels but still below that of previous years
- *This sector continues to strengthen with strong performance of the sales/new orders, employment, purchases, and prices paid indices; all other indicators were reported near neutral*

Real-Estate Services:

- New single-family home sales continue to be strong with prices rising at above normal rates
- Sales levels and prices for existing homes continue to increase
- Industrial vacancy rates have risen modestly, partially due to addition space added in 2020
- *This sector reported just above neutral with continued strength in new and existing home sales; apartments are now also reporting strengthening; continued weakness was reported in industrial, office, and retail real estate*

Professional and Business Services:

- Now see salaried and hourly contract labor rates bottoming out after a 15-20% decline over the past year
- Seeing a shift in focus within the energy sector to more alternative energy sources
- There is increasing optimism in the energy sector now that oil is consistently over \$60/bbl; the upstream sector is still holding back while mid-stream and downstream activities are proceeding with caution
- *This sector reported just above neutral again this month; the prices paid index came in well above neutral and the purchases index was below neutral; all other indices were near neutral*

What Our Respondents Are Saying (Continued)

Leisure and Hospitality

- Things appear to be back to or above pre-pandemic levels for our restaurant businesses
- *This sector continues to report improvement in the sales, employment, and prices paid indices pointing to persistent strong growth*

Health Care

- *This sector continues to report expansion with all indicators showing strength*

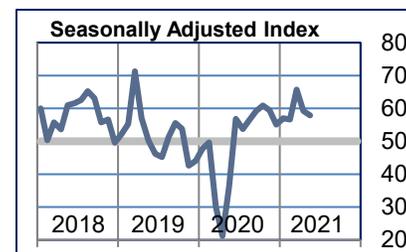
Trend of Underlying Indicators

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 moderated somewhat during the month. Construction joined oil & gas, leisure and hospitality, health care, transportation, and durable-goods manufacturing in showing strength.

	Higher	Same	Lower	Net	Index
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
Apr/21	22%	77%	1%	21%	59.3
May/21	20%	79%	1%	19%	57.9



Production Index

The production index fell a small amount. Oil & gas and non-durable goods manufacturing reported significant strength. Durable-goods manufacturing joined all other sectors near neutral.

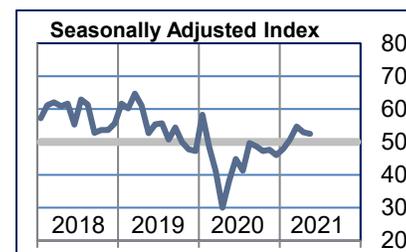
	Higher	Same	Lower	Net	Index
Dec/20	7%	91%	2%	5%	54.1
Jan/21	8%	92%	0%	8%	53.3
Feb/21	11%	84%	5%	6%	53.0
Mar/21	18%	82%	0%	18%	58.7
Apr/21	18%	82%	0%	18%	58.0
May/21	15%	85%	0%	15%	57.2



Employment Index

The employment index came in above neutral for the fourth month. Oil & gas, transportation, leisure and hospitality, and health care report continued strength. Non-durable goods manufacturing continues to report weakness.

	Higher	Same	Lower	Net	Index
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
Apr/21	19%	73%	8%	11%	53.0
May/21	15%	76%	9%	6%	52.4



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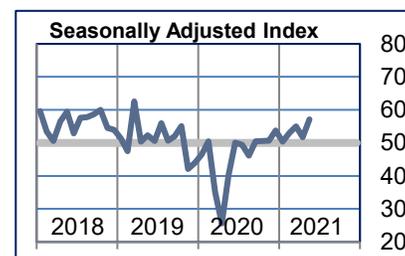


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Purchases Index

The purchases index strengthened to well above neutral. Health care, manufacturing, transportation, and oil & gas reported this index as expanding. This index stayed well below neutral for professional services.

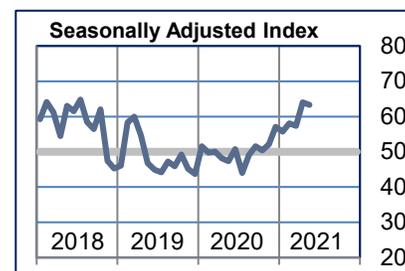
	Higher	Same	Lower	Net	Index
Dec/20	10%	83%	7%	3%	53.7
Jan/21	9%	85%	6%	3%	50.4
Feb/21	12%	82%	6%	6%	53.0
Mar/21	17%	77%	6%	11%	55.0
Apr/21	14%	78%	8%	6%	51.7
May/21	21%	71%	8%	13%	57.1



Prices Paid Index

The prices paid index continues to indicate rising prices with nearly all sectors reporting as well above neutral.

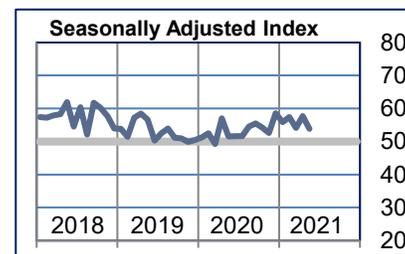
	Higher	Same	Lower	Net	Index
Dec/20	10%	89%	1%	9%	57.1
Jan/21	11%	89%	0%	11%	55.8
Feb/21	17%	82%	1%	16%	58.0
Mar/21	20%	79%	1%	19%	57.3
Apr/21	29%	70%	1%	28%	64.0
May/21	33%	66%	1%	32%	63.3



Lead Times Index

The lead times index moderated during the month but is still pointing to expansion. Construction, oil & gas, manufacturing, real estate, and health care continued to report this index as expanding. Transportation reported it as falling.

	Higher	Same	Lower	Net	Index
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
Apr/21	18%	81%	1%	17%	57.7
May/21	13%	85%	2%	11%	53.8



Purchased Inventory Index

This index fell modestly during the month, moving further below neutral. Oil & gas and construction reported these inventories as contracting. Durable goods manufacturing reported them as expanding.

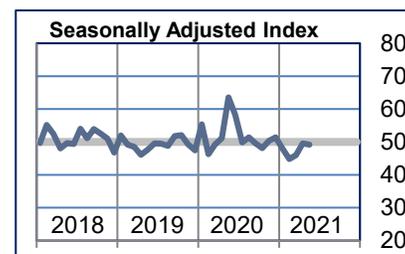
	Higher	Same	Lower	Net	Index
Dec/20	10%	83%	7%	3%	53.8
Jan/21	5%	89%	6%	-1%	45.8
Feb/21	1%	92%	7%	-6%	46.0
Mar/21	4%	89%	7%	-3%	48.6
Apr/21	3%	91%	6%	-3%	48.4
May/21	2%	91%	7%	-5%	46.8



Finished Goods Inventory Index

The finished goods inventory index was relatively unchanged. As with last month non-durable goods manufacturing reported these inventories as contracting and durable goods manufacturing reported them as expanding.

	Higher	Same	Lower	Net	Index
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
Apr/21	5%	88%	7%	-2%	49.5
May/21	3%	91%	6%	-3%	49.2



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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