

ISM-Houston Business Report

March 2022

Analysis and report by **Ross Harvison, CPSM**

Chair of the ISM-Houston Business Survey Committee

(Houston, Texas) – According to Houston area supply chain executives, economic activity in Houston expanded in March at a moderately slower rate than the previous month. The ISM-Houston PMI diffusion index fell minimally. Non-manufacturing activities expanded at a similar rate to last month, while manufacturing activities expanded at a significantly slower pace.

The Houston Purchasing Managers Index fell 1.0 points to 58.5. An improvement in the sales/new orders index was not enough to offset lower employment and lead times indices allowing for this modest slowing in economic growth. These indicators have the strongest direct correlation with economic activity in Houston. The sales/new orders index rose 1.7 points to 60.0, the employment index fell 3.2 points to 57.3, and the lead times index fell 0.5 points to 62.4. The Finished goods inventory index, the underlying indicator that has the strongest inverse correlation with economic activity, rose 0.6 points to remain just below neutral at 49.9, giving a very small indication of expansion.

As noted earlier this year, ISM-Houston is now reporting separate indices for manufacturing and non-manufacturing industries in addition to the overall Houston Purchasing Managers Index. The HPMI forecast has been eliminated from this report. The Houston Manufacturing PMI fell 5.4 points to 59.2, continuing to indicate strong expansion. The non-manufacturing PMI fell a minimal 0.1 points to 58.3 showing about the same month over month rate of expansion for the industries in this sector.

On an industry specific basis, oil & gas, leisure and hospitality, construction, healthcare, professional and management services, trade and transportation, and manufacturing reported strong expansion. Real estate improved to show modest expansion.

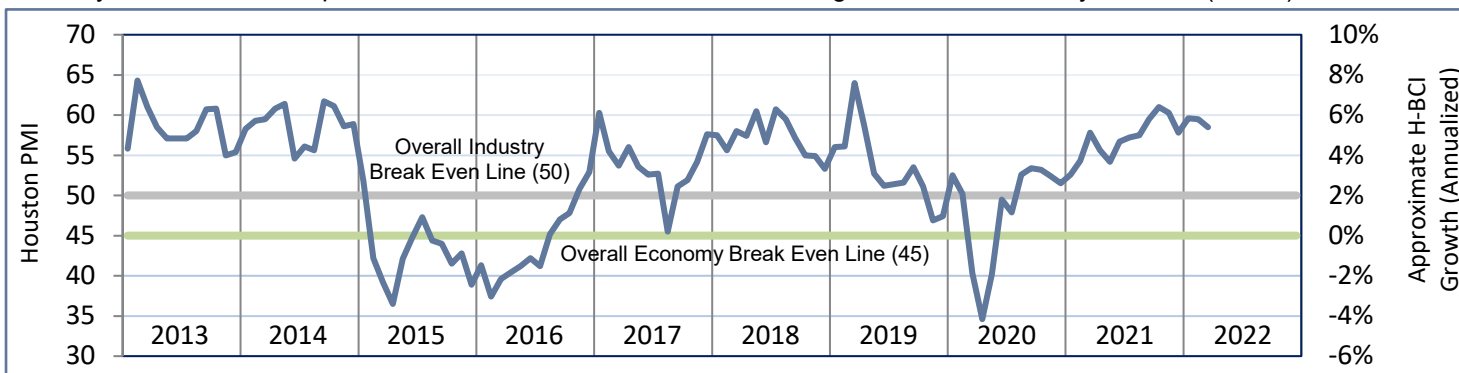
Indices at a Glance

Index	Mar	Feb	Change	Track	Rate	Trend*
Houston Overall PMI	58.5	59.5	-1.0	Expanding	Slower	20
Houston Manufacturing PMI	59.2	64.6	-5.4	Expanding	Slower	16
Houston Non-Manufacturing PMI	58.3	58.4	-0.1	Expanding	Slower	20
Sales/New Orders	60.0	58.3	1.7	Rising	Faster	22
Production	54.8	52.4	2.4	Rising	Faster	22
Employment	57.3	60.5	-3.2	Rising	Slower	14
Purchases	57.7	55.3	2.4	Rising	Faster	7
Prices Paid	66.4	68.7	-2.3	Rising	Slower	19
Lead Times	62.4	62.9	-0.5	Rising	Slower	24
Purchased Inventory	54.1	50.2	3.9	Rising	Faster	4
Finished Goods Inventory	49.9	49.3	0.6	Falling	Slower	2
Overall Houston Economy				Expanding	Slower	22

* Number of months on current track

Houston PMI Trend

Houston PMI readings over 50 generally indicate that respondents see their activities as expanding. An HPMI above 45 normally 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: Medical and surgical supplies; skilled, unskilled, professional, and technical labor; drilling rigs, oil country tubular goods (OCTG), proppant; crude oil, motor fuels, natural gas; ethane, propane, butanes, natural gasoline, natural gas liquids; propylene, ethylene and propylene oxide derivatives, toluene, xylene, styrene, chemicals; PVC, polyethylene, polypropylene; gold, silver, platinum, palladium, and rhodium for catalysts; aluminum, copper, nickel; carbon and alloy steel piping, valves, fittings; electronics, motors, transformers, lumber; computer and instrumentation hardware, software

Down in Price: Ethylene, butadiene; containerized freight from China

In Short Supply: Skilled labor, rig labor, light industrial labor, IT Professionals; drilling rigs, oil country tubular goods (OCTG), sand; rubber compounds, silicon, sealants, chemicals; carbon, stainless and high alloy piping, fittings, flanges, valves; motors, electrical equipment, control systems, computer equipment; marine transportation

What Our Respondents Are Saying

Oil and Gas Exploration, and Key Support Services:

- Literally everything is increasing in price
- Continued inflation, rising lead times, and decreased bid validity times
- Increased activity in the oil and gas fields
- Lead times increasing, pre-buying 12-18 months ahead of need
- *This sector continued its strong performance with the production, employment, purchases, prices paid, and lead times indices remaining well above neutral*

Construction:

- *This sector reported stronger growth; the sales/new orders and lead times indices joined the employment, purchases, and prices paid indices in reporting above neutral*

Durable Goods Manufacturing:

- We expect continued growth in both sales and production through the remainder of the year to support our O&G clients
- *This sector moderated during the month, but is still reporting good growth; the production index joined the sales, prices paid and lead times indices showing strength while the employment index fell to near neutral*

Non-durable Goods Manufacturing:

- Fuel gas surcharges from all directions, price increases tied to markers
- Expecting prices to peak in 2Q22 followed by some easing in 2H22
- Extended lead times forecasted to continue into early 2023
- Gulf Coast refinery utilization rates are near 95%
- *This sector fell modestly during the month; the sales/new orders, production, employment, purchases, prices paid, and lead times indices showed continued strength; the finished goods inventory index fell to well below neutral*

Trade, Transportation, and Warehousing:

- Covid, the Russian situation and debt are affecting the economy
- Major uptick in CapEx purchases
- Loaded import containers passing through the port of Houston continue to run well above previous year levels while loaded export containers have fallen; we are seeing much higher levels of unloaded export containers
- *This sector showed strength again this month with all indices, including the inventory indices, reporting above neutral*

Real-Estate Services:

- Existing and new home prices have risen about 18% on a year over year basis
- Our [new home] sales were in line with our expectations
- *This sector expanded at a moderately higher pace with the sales, prices paid, and lead times indices reporting above neutral; home, industrial, and apartment real estate reported strength while office real estate remained weak*

Professional and Business Services:

- Uncertainty is the new normal
- Demand for talent continues to exceed supply
- *This sector softened but remained well above neutral; the purchases index joined the sales/new orders, employment, prices paid, and lead times indices showing strength*

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What Our Respondents Are Saying (Continued)

Leisure and Hospitality

- Activity in this sector rose to significantly above neutral during the month with sharp increases in the sales, employment, prices paid, and lead times indices

Health Care

- This sector expanded at a slower rate during the month; the sales/new orders, purchases, prices paid, and lead times indices remained strong while the employment moderated but remained above neutral

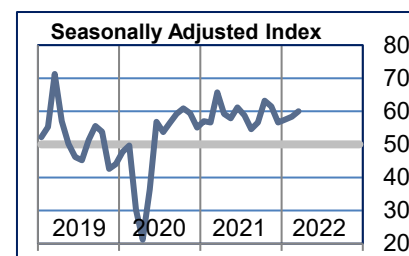
Trend of Underlying Indicators

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 modestly due to strengthening in the non-manufacturing sectors. The manufacturing sectors remained well above neutral but relatively unchanged.

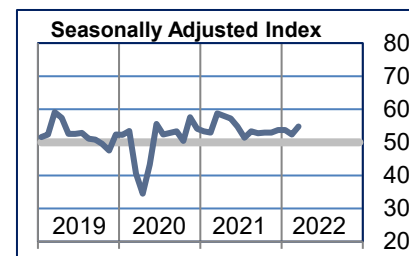
	Higher	Same	Lower	Net	Index
Oct/21	23%	75%	2%	21%	63.2
Nov/21	17%	82%	1%	16%	61.4
Dec/21	12%	82%	6%	6%	56.6
Jan/22	18%	80%	2%	16%	57.5
Feb/22	21%	78%	1%	20%	58.3
Mar/22	22%	77%	1%	21%	60.0



Production Index

The production index rose modestly with durable goods manufacturing, non-durable goods manufacturing, and O&G showing much greater strength.

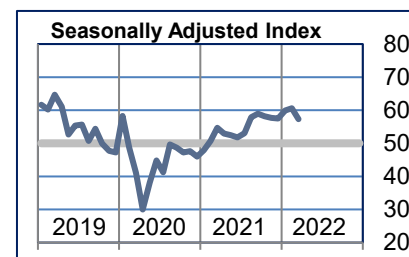
	Higher	Same	Lower	Net	Index
Oct/21	10%	86%	4%	6%	52.9
Nov/21	7%	92%	1%	6%	53.0
Dec/21	8%	90%	2%	6%	53.7
Jan/22	10%	89%	1%	9%	53.7
Feb/22	7%	92%	1%	6%	52.4
Mar/22	11%	88%	1%	10%	54.8



Employment Index

The employment index fell modestly. Oil and gas, professional and business services, leisure and hospitality, and construction all reported strength in this index. Health care reported weakening but remained above neutral.

	Higher	Same	Lower	Net	Index
Oct/21	21%	73%	6%	15%	58.2
Nov/21	20%	74%	6%	14%	57.7
Dec/21	16%	82%	2%	14%	57.5
Jan/22	18%	81%	1%	17%	59.9
Feb/22	21%	78%	1%	20%	60.5
Mar/22	15%	84%	1%	14%	57.3



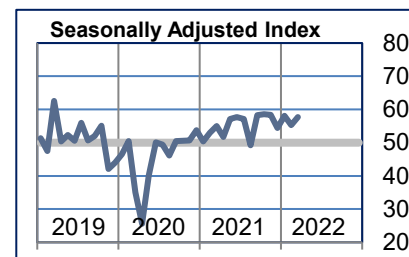
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Purchases Index

The purchases index rose modestly. Durable goods returned to indicating growth, joining non-durable goods, health care, oil & gas, construction, trade, transportation, warehousing, and professional and business services reporting strength.

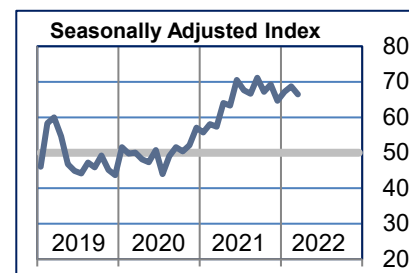
	Higher	Same	Lower	Net	Index
Oct/21	20%	78%	2%	18%	58.6
Nov/21	16%	82%	2%	14%	58.4
Dec/21	8%	88%	4%	4%	54.4
Jan/22	20%	79%	1%	19%	58.1
Feb/22	11%	88%	1%	10%	55.3
Mar/22	19%	80%	1%	18%	57.7



Prices Paid Index

The prices paid index fell modestly during the month. Almost all sectors continued to report this index as expanding at a rapid pace.

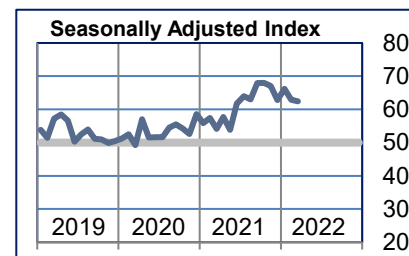
	Higher	Same	Lower	Net	Index
Oct/21	39%	61%	0%	39%	67.1
Nov/21	37%	62%	1%	36%	69.2
Dec/21	26%	72%	2%	24%	64.7
Jan/22	36%	63%	1%	35%	67.1
Feb/22	39%	60%	1%	38%	68.7
Mar/22	38%	61%	1%	37%	66.4



Lead Times Index

The lead times index fell minimally during the month. Most sectors reported this index as expanding at a brisk pace.

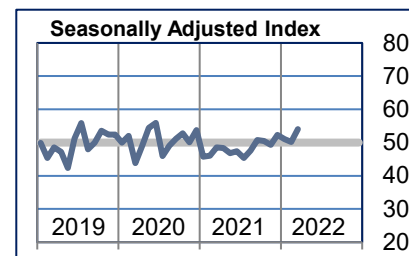
	Higher	Same	Lower	Net	Index
Oct/21	35%	64%	1%	34%	68.0
Nov/21	35%	62%	3%	32%	67.1
Dec/21	26%	70%	4%	22%	62.8
Jan/22	32%	64%	4%	28%	66.2
Feb/22	31%	65%	4%	27%	62.9
Mar/22	31%	64%	5%	26%	62.4



Purchased Inventory Index

The purchased inventory index rose, indicating moderate inventory growth. Oil & gas and manufacturing joined trade, transportation, and warehousing in reporting these inventories as expanding at a rapid pace.

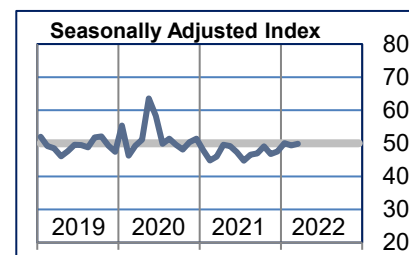
	Higher	Same	Lower	Net	Index
Oct/21	2%	95%	3%	-1%	50.4
Nov/21	2%	95%	3%	-1%	49.3
Dec/21	2%	97%	1%	1%	52.3
Jan/22	9%	90%	1%	8%	51.1
Feb/22	7%	90%	3%	4%	50.2
Mar/22	11%	88%	1%	10%	54.1



Finished Goods Inventory Index

The finished goods inventory index remained just below neutral. Non-durable goods manufacturing and construction continue to report this index as contracting at a rapid pace. Durable goods and warehousing reported them as expanding.

	Higher	Same	Lower	Net	Index
Oct/21	0%	93%	7%	-7%	49.1
Nov/21	1%	93%	6%	-5%	46.8
Dec/21	1%	95%	4%	-3%	47.5
Jan/22	8%	89%	3%	5%	50.0
Feb/22	6%	89%	5%	1%	49.3
Mar/22	5%	89%	6%	-1%	49.9



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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