

ISM-Houston Business Report

May 2022



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, economic activity in Houston expanded in May at a slightly faster rate than April. Non-manufacturing activities expanded at a minimally faster rate compared to last month. Manufacturing activities expanded at a moderately lower pace.

The Houston Purchasing Managers Index rose 0.2 points to 57.5. Modestly lower sales/new orders and lead times indices were offset by gains in the employment index to result in this minimal change. These indicators have the strongest direct correlation with economic activity in Houston. The sales/new orders index fell 2.3 points to 57.4, the employment index rose 2.3 points to 56.4, and the lead times index fell 0.6 points to 63.4. The Finished goods inventory index, the underlying indicator that has the strongest inverse correlation with economic activity, rose 0.3 points to 50.8, giving a modest indication of contraction.

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 1.7 points to 59.1, still pointing to strong expansion. The non-manufacturing PMI rose 0.5 points to 57.1 showing continued expansion for the industries in this sector.

On an industry specific basis healthcare, oil & gas extraction, leisure and hospitality, construction, professional and management services, and manufacturing reported strong expansion. Transportation, trade, warehousing, and real estate reported modest expansion.

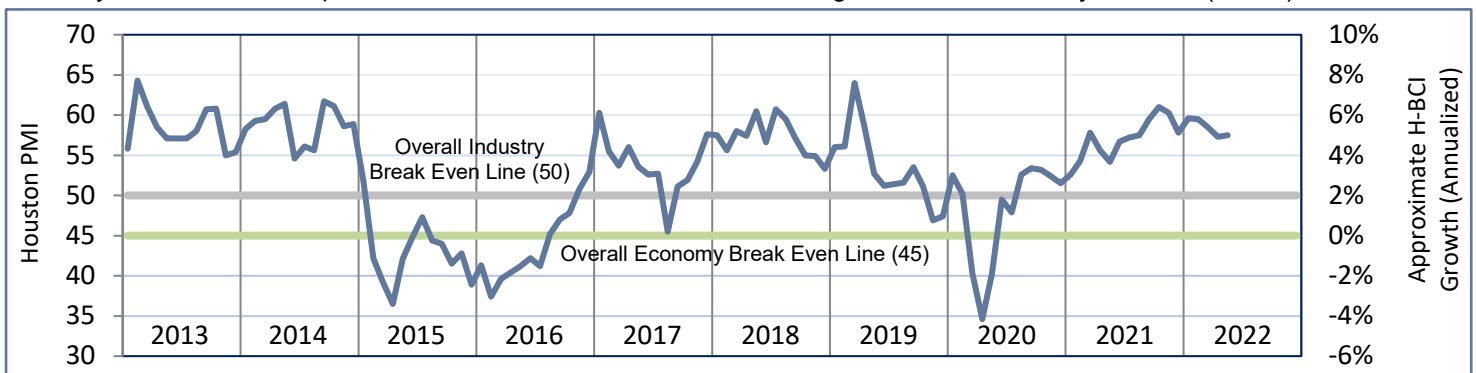
Indices at a Glance

Index	May	Apr	Change	Track	Rate	Trend*
Houston Overall PMI	57.5	57.3	0.2	Expanding	Faster	22
Houston Manufacturing PMI	59.1	60.8	-1.7	Expanding	Slower	18
Houston Non-Manufacturing PMI	57.1	56.6	0.5	Expanding	Faster	22
Sales/New Orders	57.4	59.7	-2.3	Rising	Slower	24
Production	54.6	55.6	-1.0	Rising	Slower	24
Employment	56.4	54.1	2.3	Rising	Faster	16
Purchases	59.6	60.1	-0.5	Rising	Slower	9
Prices Paid	68.4	67.4	1.0	Rising	Faster	21
Lead Times	63.4	64.0	-0.6	Rising	Slower	26
Purchased Inventory	49.7	53.3	-3.6	Falling	Fr. Rising	1
Finished Goods Inventory	50.8	50.5	0.3	Rising	Faster	2
Overall Houston Economy				Expanding	Faster	23

* 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 and professional labor, frac crews; drilling rigs, oil country tubular goods (OCTG), oil field chemicals; crude oil, gasoline, natural gas; ethane, toluene, xylene, styrene, alkylate, rubber compounds; alloy and carbon products, valves, steel castings, steel pipe, capital equipment, heat exchangers; electrical equipment, electrical cables, motors; computer software and hardware, electronics, instrumentation; rail and truck freight

Down in Price: Propane, butane, iso-butane, propylene, methanol, PVC, polyethylene film products, precious metals for catalysts (gold, silver, palladium, rhodium), industrial metals and inputs to carbon and alloy steel manufacturing (aluminum, copper, nickel, cobalt, magnesium, iron ore), lumber

In Short Supply: Baby formula products; light industrial labor, frac crews, truck drivers; drilling rigs, oil country tubular goods (OCTG); sulfuric and phosphoric acid, silicon, sealants, rubber compounds, oil field chemicals; stainless, alloy and electrical steel; electrical equipment and components, control systems, computer hardware, microchips; ground transportation

What Our Respondents Are Saying

Oil and Gas Exploration, and Key Support Services:

- Continued price inflation across almost all equipment and material categories
- Rig counts continue to rise at a modest pace but remain far short of the levels seen just prior to the pandemic
- *This sector continued strong performance with the production, employment, purchases, prices paid, and lead times indices remaining well above neutral*

Construction:

- *This sector reported continued strong growth; the sales/new orders, employment, purchases, prices paid, and lead times indices reported well above neutral*

Durable Goods Manufacturing:

- Surcharges are increasing for nearly all contracted raw materials
- We expect business levels to increase in the coming months and commodity prices and lead times to normalize by year-end
- *This sector's overall performance fell to near neutral driven by the sales index falling to neutral and continued high feedstock and finished goods inventories; the employment index stayed near neutral; all other indices reported above neutral*

Non-durable Goods Manufacturing:

- We are seeing overall increases in capital project orders for the rest of the year; the business will potentially re-evaluate investment plans for later years
- Gulf coast refinery utilization continues to increase
- *This sector continued to show strength with the sales/new orders, production, employment, purchases, prices paid, and lead times indices remaining well above neutral; both inventory indices reported well below neutral*

Trade, Transportation, and Warehousing:

- Seeing inflated pricing across all acquisitions
- Carriers are increasing fuel surcharges
- Containerized ocean freight prices have stabilized
- *This sector moderated further to just above neutral; the employment and inventory indices are pointing to significant contraction while most other indices are showing a moderate to high expansion signal*

Real-Estate Services:

- *This sector expanded at a similar pace to last month with the sales, prices paid, and lead times indices reported above neutral; home, industrial, and apartment real estate reported strength while office real estate remained weak*

Professional and Business Services:

- The job market remains strong in manufacturing and O&G; high tech is experiencing some decline in open jobs; the overall gap between job openings and job applicants remains between 10% and 20% depending on the industry sector and job role
- There is no shortage of people, but matching the right person with the job requirements is difficult
- Salaries for direct hires and rates for hourly contractors are rising
- People are asking for higher wages and salaries and companies are giving a bit to attract people with the skill set needed
- With \$100/bbl plus oil anticipated over the next several months, the energy sector people business will be robust
- *This sector continued to show strength; the sales/new orders, employment, purchases, prices paid, and lead times indices all reported well above neutral*

What Our Respondents Are Saying (Continued)

Leisure and Hospitality

- This sector strengthened during the month with the sales/new orders, employment, prices paid, and lead times indicators reporting significant strength

Health Care

- The Ukraine war continues to cause shortages of medical and surgical supplies that are sourced from the conflict area
 - This sector reported expansion at a similar rapid pace to last month with all positively correlated indicators reporting robust expansion

Trend of Underlying Indicators

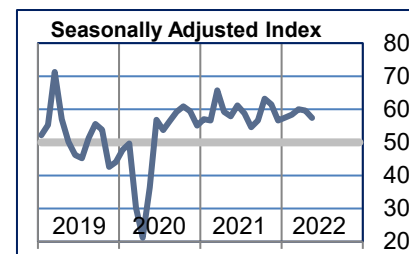
The Houston PMI is based on diffusion indices for eight underlying indicators. The net value of each indicator is simply the percentage of respondents who cite a positive shift from the previous month minus the percentage who cite a negative shift. The diffusion index is calculated based on the percent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

Weakening in manufacturing caused most of this decline as this index fell minimally for services. While non-durable goods manufacturing weakened modestly, durable goods fell significantly to near neutral.

	Higher	Same	Lower	Net	Index
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
Apr/22	24%	75%	1%	23%	59.7
May/22	21%	77%	2%	19%	57.4

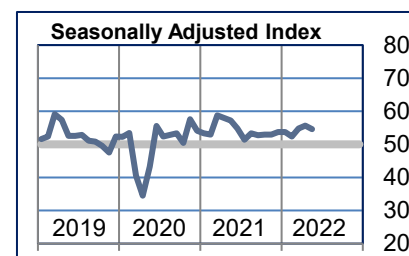


Production Index

The production index fell modestly.

While this index pointed to slower growth for durable goods manufacturing, O&G and non-durable goods manufacturing continued to show significant strength.

	Higher	Same	Lower	Net	Index
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
Apr/22	13%	86%	1%	12%	55.6
May/22	12%	87%	1%	11%	54.6

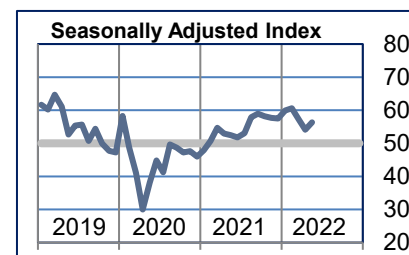


Employment Index

The employment index rose

modestly led by improvements in services. Leisure and hospitality joined oil and gas, construction, and professional and business services in reporting significant strength. Non-durable goods remained strong.

	Higher	Same	Lower	Net	Index
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
Apr/22	15%	83%	2%	13%	54.1
May/22	17%	81%	2%	15%	56.4



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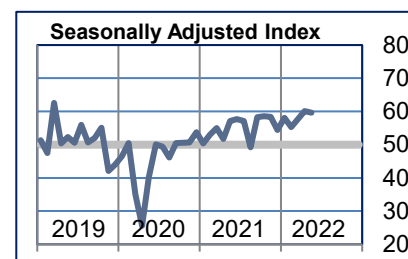


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Purchases Index

The purchases index fell minimally. Manufacturing, health care, oil & gas, construction, trade, transportation, warehousing, and professional and business services continue to report strength in this index.

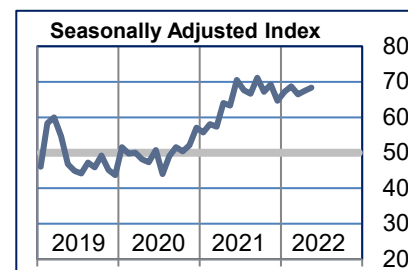
	Higher	Same	Lower	Net	Index
Dec/21	8%	88%	4%	4%	54.4
Jan/22	20%	79%	1%	19%	58.1
Feb/22	11%	88%	1%	10%	55.3
Mar/22	19%	80%	1%	18%	57.7
Apr/22	22%	77%	1%	21%	60.1
May/22	21%	77%	2%	19%	59.6



Prices Paid Index

The prices paid index rose minimally again this month. While most sectors reported this index as expanding, similarly to last month a greater number of commodities were listed as down in price when compared to the previous month.

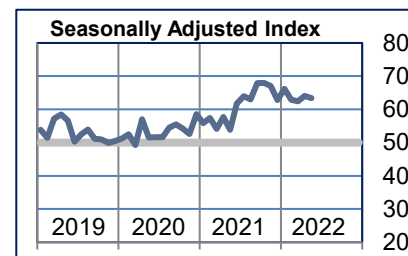
	Higher	Same	Lower	Net	Index
Dec/21	26%	72%	2%	24%	64.7
Jan/22	36%	63%	1%	35%	67.1
Feb/22	39%	60%	1%	38%	68.7
Mar/22	38%	61%	1%	37%	66.4
Apr/22	41%	58%	1%	40%	67.4
May/22	41%	58%	1%	40%	68.4



Lead Times Index

The lead times index fell minimally during the month. All sectors continue to report this index as expanding at a rapid pace.

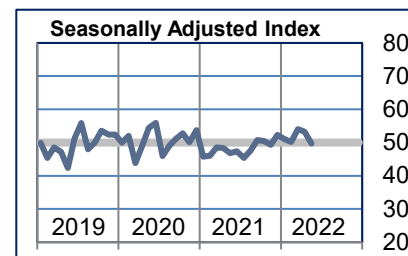
	Higher	Same	Lower	Net	Index
Dec/21	26%	70%	4%	22%	62.8
Jan/22	32%	64%	4%	28%	66.2
Feb/22	31%	65%	4%	27%	62.9
Mar/22	31%	64%	5%	26%	62.4
Apr/22	36%	61%	3%	33%	64.0
May/22	33%	63%	4%	29%	63.4



Purchased Inventory Index

The purchased inventory index fell below neutral. Health care, trade, transportation, warehousing, and durable goods reported these inventories as expanding at a strong rate. Nondurable goods reported them as contracting at a fast pace.

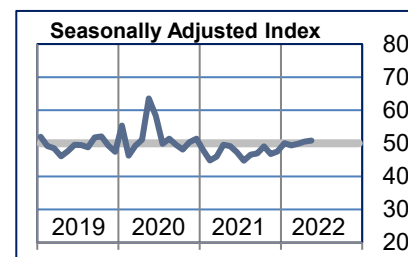
	Higher	Same	Lower	Net	Index
Dec/21	2%	97%	1%	1%	52.3
Jan/22	9%	90%	1%	8%	51.1
Feb/22	7%	90%	3%	4%	50.2
Mar/22	11%	88%	1%	10%	54.1
Apr/22	10%	88%	2%	8%	53.3
May/22	6%	92%	2%	4%	49.7



Finished Goods Inventory Index

The finished goods inventory index rose minimally. While non-durable goods manufacturing reported this index as contracting at a rapid pace, durable goods, trade, transportation and warehousing reported them as expanding.

	Higher	Same	Lower	Net	Index
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
Apr/22	6%	91%	3%	3%	50.5
May/22	5%	91%	4%	1%	50.8



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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