

Analysis and report by **James Rosemond and Ross Harvison, CPSM** ISM-Houston Business Survey Committee

Houston PMI at 52.8 (up 0.5 points from July)

Sales/New Orders Expanding
Production Expanding
Employment Expanding
Prices Paid Expanding
Lead Times Expanding
Finished Goods Inventories Expanding

(Houston, Texas) – According to Houston area supply chain executives, economic activity in Houston continued to expand for the month of August. The manufacturing sector saw a slight contraction, while the non-manufacturing sector saw expansion for the third straight month. The overall economy expanded for the 63rd month in a row.

The Houston Purchasing Managers Index expanded to 52.8 points. The lead time, employment and sales/new order indexes, the three indicators with a strong positive correlation with the economy, all expanded for the first time in six months. Lead time rose 0.1 points to 53.6 points, while sales/new orders fell 3.0 points to 55.6 points. The employment index snapped four months of consecutive contraction to increase 2.9 points to 51.2 points. The finished goods inventory index, the underlying indicator that has the strongest inverse correlation with economic activity, fell 2.7 points to 50.4 points.

The Houston manufacturing PMI index fell 2.0 points during the month to 49.2 points; slipping back into contraction after one month of expansion. The nonmanufacturing PMI increased 1.0 points to 53.5 points.

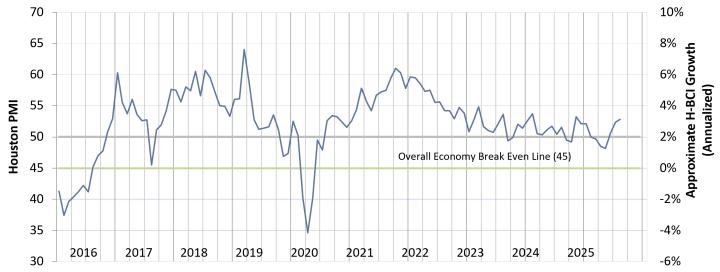
On an industry specific basis: health care, trade, transportation and warehousing reported strong expansion. No sectors indicated significant contraction.

Houston PMI Trend						
Index	Aug	Jul	Change	Track	Rate	Trend*
Houston Overall PMI	52.8	52.3	0.5	Expanding	Faster	3
Houston Manufacturing PMI	49.2	51.2	-2.0	Contracting	Fr. Exp.	1
Houston Non-Manufacturing PMI	53.5	52.5	1.0	Expanding	Faster	3
Sales/New Orders	55.6	58.6	-3.0	Rising	Slower	3
Production	52.9	54.2	-1.3	Rising	Slower	3
Employment	51.2	48.3	2.9	Rising	Fr. Falling	1
Purchases	50.8	54.1	-3.3	Rising	Slower	20
Prices Paid	50.1	57.6	-7.5	Rising	Slower	5
Lead Times	53.6	53.5	0.1	Rising	Faster	3
Purchased Inventory	50.9	52.4	-1.5	Rising	Slower	3
Finished Goods Inventory	50.4	53.1	-2.7	Rising	Slower	3
Overall Houston Economy				Expanding	Faster	63



Indices at a Glance

(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: Labor related to managed services; electrical equipment, electrical commodities, carbon steel, non-domestic stainless steel, aluminum, copper; software and hardware

Down in Price: Crude oil, diesel, jet fuel, propane, natural gas, natural gas, natural gas liquids, ethane, ethylene, propylene; oil country tubular goods (OCTG), carbon steel, catalysts, nickel, copper, lumber, ocean container freight

In Short Supply: Skilled labor; phthalic anhydride, perfluoroalkoxy alkane (PFA); electrical equipment, electrical bulks, electrical components, carbon steel

What Our Respondents Are Saying

Oil and Gas Exploration, and Key Support Services:

- Projects delayed due to much uncertainty
- We are seeing significant port congestion
- Tarriff impacts still somewhat unknown and reviewing strategies
- This sector saw slight expansion in August, reversing course from July. The sales index expanded at a slower rate than July; however, employment saw contracted at a slower rate as well. Purchased inventory saw a steep contraction, reversing course from July

Construction:

- The number of new nuclear projects planned for the US continues to increase; the supply chain will require significant expansion in capacity and capability to meet the demand
- Motor fuel prices fell in August
- This sector slipped flipped back to contraction after flipping each of the previous two months. Employment flipped from moderate expansion to deep contraction. Lead time also expanded at a much slower rate than July. The sales index still expanded but was just above neutral



What Our Respondents Are Saying (Continued)

Durable Goods Manufacturing:

• This sector contracted faster the month of August. Besides the production index, all indexes saw fell during the month. The purchases index has been on a steady decline and the purchased inventory index is following the same trajectory. The production index saw strong improvement and approached the neutral position.

Non-durable Goods Manufacturing:

- Olefins cracker feedstock and product prices remain low
- Refinery rates continue at high levels, but should fall as we move out of the summer driving season
- This sector expanded for the second month in a row; however, at a slower rate than July. The sales and purchase
 indexes slipped from strong expansion to just above neutral. The price, lead time and purchased inventory indexes
 saw strong expansion.

Health Care:

• This sector continues to indicate strong expansion with only the prices paid index indicating contraction. The employment index saw faster expansion in August.

Wholesale and Retail Trade:

- Defense spending still holding
- Tariffs affecting demand and also leading to price rises
- The trade sector expanded at a slower rate in August but still saw strong expansion. The price paid index flipped form expansion to steep contraction.

Professional and Business Services:

- Rates for professional services and general staffing remain very flat
- Except for unique job requirements, there is no shortage of supply in our market
- Even though the availability of qualified people exceeds the opportunities, we do not see any significant reductions in what companies are willing to pay when they are hiring
- Energy Company's view of their performance during the first half will drive hiring additions; we may see more layoffs and/or internal restructuring of staff organizations if oil remains in the \$60-65/barrel range
- This sector's performance continued slight expansion in July, with stronger expansion in sales. The production index still contracted but was just under neutral. The employment index and purchases index continued to see expansion. Lead times expanded at a much slower rate, just above neutral.

Transportation:

- Breakbulk and container shipping costs have fallen all summer
- Houston air-passenger traffic rose in July, consistent with normal seasonal changes
- The transportation sector saw faster expansion in August. The sales, prices paid, lead time and purchased inventory sectors saw strong expansion. Employment also saw slight expansion.

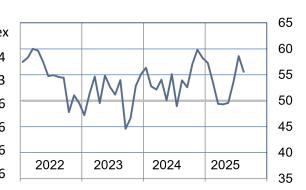


Trend of Underlying Indicators

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 seasonal adjustments to the Sales/New Orders, Production, Employment, and Prices Paid indices 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

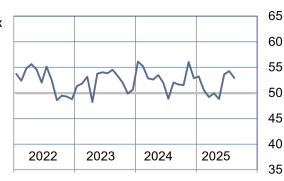
Sales/New Order Index (Seasonally Adjusted)

The sales index contin-		Higher	Same	Lower	Net	Index
ued expanding in August. The manufacturing sec-	Mar/25	14%	74%	12%	2%	49.4
tor slipped back into con-	Apr/25	16%	71%	13%	3%	49.3
traction and the non-	May/25	15%	75%	10%	5%	49.6
manufacturing sector	Jun/25	20%	67%	13%	7%	53.6
expanded at a slower rate.	Jul/25	20%	75%	5%	15%	58.6
	Aug/25	14%	82%	4%	10%	55.6



Production Index (Seasonally Adjusted)

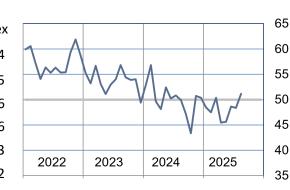
The production index		Higher	Same	Lower	Net	Index
continued to expand but	Mar/25	8%	85%	7%	1%	49.2
at a slower rate than July. Both indexes slipped,	Apr/25	8%	85%	7%	1%	50.0
with the manufacturing	May/25	6%	88%	6%	0%	48.9
sector falling into con-	Jun/25	14%	78%	8%	6%	53.6
traction. The non- manufacturing sector	Jul/25	12%	86%	2%	10%	54.2
expanded at a slower	Aug/25	10%	87%	3%	7%	52.9



Employment Index (Seasonally Adjusted)

The employment index
flipped from contraction
to expansion this month.
The non-manufacturing
sector flipped to expan-
sion and manufacturing
contracted at a slower
rate.

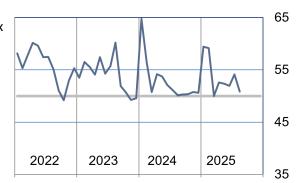
		Higher	Same	Lower	Net	Index
l	Mar/25	9%	83%	8%	1%	50.4
•	Apr/25	5%	84%	11%	-6%	45.5
	May/25	9%	75%	16%	-7%	45.6
	Jun/25	8%	83%	9%	-1%	48.6
	Jul/25	6%	84%	10%	-4%	48.3
	Aug/25	9%	82%	9%	0%	51.2





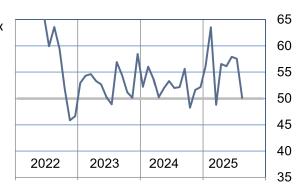
Purchases Index (Seasonally Adjusted)

The purchase index saw		Higher	Same	Lower	Net	Index
moderate expansion in August. The manufactur-	Mar/25	11%	80%	9%	2%	50.0
ing sector slipped back	Apr/25	19%	73%	8%	11%	52.6
into contraction and the	May/25	16%	76%	8%	8%	52.3
non-manufacturing sector expanded at a slower rate.		14%	75%	11%	3%	51.9
	Jul/25	13%	82%	5%	8%	54.1
	Aug/25	7%	87%	6%	1%	50.8



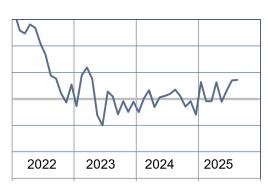
Prices Paid Index (Seasonally Adjusted)

The prices paid index ex-		Higher	Same	Lower	Net	Index
panded at a much slower	Mar/25	13%	76%	11%	2%	48.8
rate in August. The man- ufacturing sector contin-	Apr/25	18%	79%	3%	15%	56.5
ues to bolster this index	May/25	17%	80%	3%	14%	56.1
with strong expansion.	Jun/25	18%	78%	4%	14%	57.9
The non-manufacturing sector flipped to contrac-	Jul/25	17%	80%	3%	14%	57.6
tion.	Aug/25	12%	77%	11%	1%	50.1



Lead Time Index (Seasonally Adjusted)

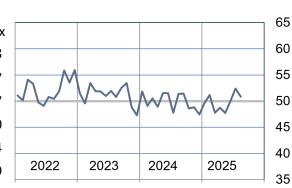
The lead time index indi-		Higher	Same	Lower	Net	Index
cated moderate expan-	Mar/25	8%	89%	3%	5%	49.6
sion in August with little	Apr/25	11%	87%	2%	9%	53.1
change in sector perior-				_,,		
mance. The manufactur-	iviay/25	4%	93%	3%	1%	49.5
ing sector expanded at a	Jun/25	6%	91%	3%	3%	51.7
slightly higher rate and non-manufacturing was	Jul/25	10%	88%	2%	8%	53.5
unchanged.	Aug/25	8%	90%	2%	6%	53.6



Purchased Inventory Index (Seasonally Adjusted)

The purchased inventory
index saw slight expan-
sion in August. Both the
manufacturing and non-
manufacturing sector
expanded but the non-
manufacturing sector
saw slower expansion.

	Higher	Same	Lower	Net	Index
Mar/25	6%	87%	7%	-1%	47.8
Apr/25	2%	93%	5%	-3%	48.7
May/25	2%	94%	4%	-2%	47.7
Jun/25	6%	89%	5%	1%	50.0
Jul/25	6%	91%	3%	3%	52.4
Aug/25	7%	89%	4%	3%	50.9



65

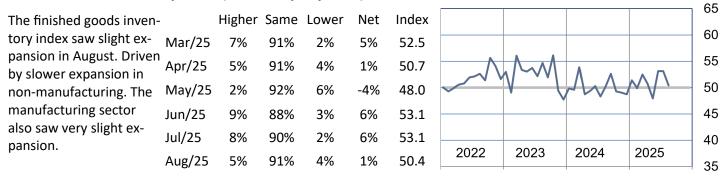
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45 40

35



Finished Goods Inventory Index (Seasonally Adjusted)

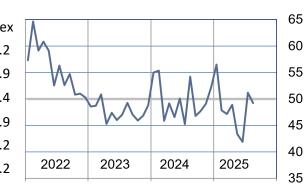


Projections for Key Long-Term Indicators

In addition to the current status of business activities, respondents to the ISM-Houston Business Survey also provide feedback on their view of the direction of the sales/new orders and employment indices six months into the future.

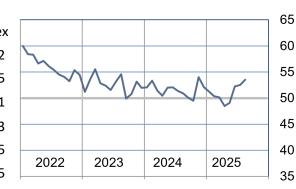
Future Sales Index Six Month Trend

The future sales index		Higher	Same	Lower	Net	Inde
indicates we will see	Mar/25	14%	75%	11%	3%	47.2
slight contraction. The manufacturing sector is	Apr/25	19%	73%	8%	11%	48.9
indicating weakness but the non-manufacturing	May/25	16%	76%	8%	8%	43.4
	Jun/25	14%	75%	11%	3%	41.9
sector still indicating expansion.	Jul/25	13%	82%	5%	8%	51.2
pa	Aug/25	7%	87%	6%	1%	49.2



Future Employment Index Six Month Trend

The future employment		Higher	Same	Lower	Net	Index
index continues to indi-	Mar/25	19%	71%	10%	9%	50.2
cate expansion. The non- manufacturing sector is	Apr/25	13%	72%	15%	-2%	48.5
indicating faster expansion; however, the manu-	May/25	12%	75%	13%	-1%	49.1
	Jun/25	13%	77%	10%	3%	52.3
facturing sector is indicating faster contraction.	Jul/25	10%	83%	7%	3%	52.5
cating faster contraction.	Aug/25	18%	69%	13%	5%	53.5





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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