

ISM-Houston Business Report

November 2020



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 in November for the sixth month. Non-durable goods manufacturing joined services in pointing to expansion. Durable goods manufacturing, while improving, continued to report contraction.

The Houston Purchasing Managers Index fell 0.8 points to 52.4 during the month. Sales/new orders and lead times, two of the three underlying indicators that have a strong direct correlation with the economy, moderated somewhat but continue to point to strong expansion. Employment, the third indicator with a strong positive correlation, continues to show economic weakness. The sales/new orders index fell 1.5 points in November to 59.4. The lead times index fell 1.6 points to 52.6. The employment index rose 0.4 points to 47.6. Finished goods inventory, the underlying indicator that has the strongest inverse correlation with economic activity, rose 2.2 points to 50.3, showing a very modest contraction signal.

The three-month forecast for the Houston PMI rose 2.5 points to 55.5. This was driven by strengthening production and prices paid indices offset modestly by weakening in the sales/new orders index. These indices have a strong direct correlation with economic activity at the three-month forecast horizon.

On an industry specific basis transportation, wholesale trade, accommodations and foods services, and health care reported expansion. Durable goods manufacturing reported contraction at a slower pace. All other sectors reported near neutral. The three-month forecast predicts strong improvement for all sectors primarily due to the current strength of the production and sales/new orders indices. As noted previously, this is dependent on the severity of the current pandemic.

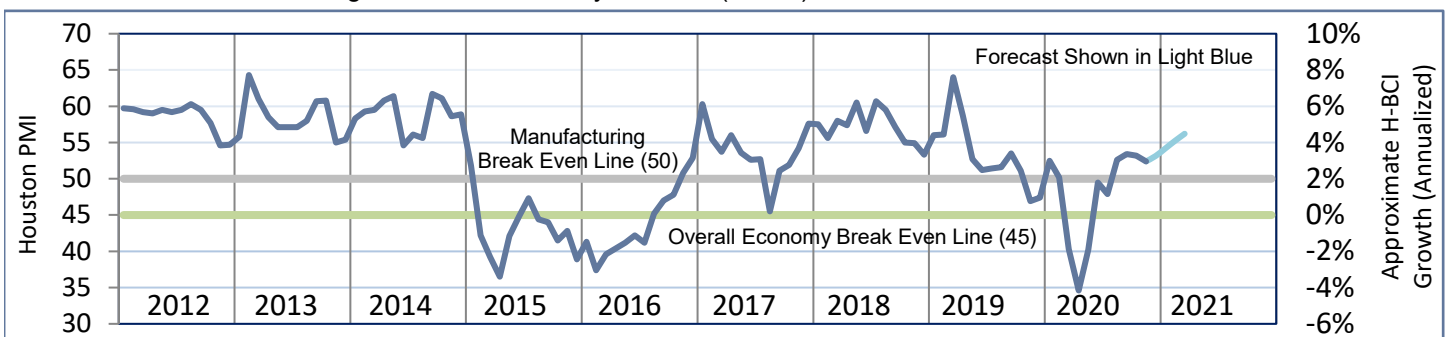
Indices at a Glance

| Index | Nov | Oct | Change | Track | Rate | Trend* |
|-----------------------------------|------|------|--------|-----------|-------------|--------|
| Houston Overall PMI - Current | 52.4 | 53.2 | -0.8 | Expanding | Slower | 4 |
| Houston Overall PMI - 3M Forecast | 55.5 | 53.0 | 2.5 | Expanding | Faster | 6 |
| Sales/New Orders | 59.4 | 60.9 | -1.5 | Rising | Slower | 6 |
| Production | 57.6 | 50.4 | 7.2 | Rising | Faster | 6 |
| Employment | 47.6 | 47.2 | 0.4 | Falling | Slower | 10 |
| Purchases | 50.7 | 50.5 | 0.2 | Rising | Faster | 3 |
| Prices Paid | 52.1 | 50.4 | 1.7 | Rising | Faster | 3 |
| Lead Times | 52.6 | 54.2 | -1.6 | Rising | Slower | 8 |
| Purchased Inventory | 50.1 | 52.8 | -2.7 | Rising | Slower | 3 |
| Finished Goods Inventory | 50.3 | 48.1 | 2.2 | Rising | Fr. Falling | 1 |
| Overall Houston Economy | | | | Expanding | Slower | 6 |

* Number of months on current track

Houston PMI Trend

Overall economic activity in Houston expanded in November. 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, diesel, jet fuel, mogas, natural gas[†]; propane, butane, isobutane; propylene and derivatives, butadiene; ammonia, acids; carbon and alloy steel pipe, copper based wire and cable; ready mix concrete; lumber; containerized ocean freight

Down in Price: PPE supplies (masks and gloves); natural gas[†]; ethanol; electrical equipment, ANSI pumps, compressors, turbines; fabricated structural steel, skid packaged equipment; direct hire and contract rates

In Short Supply: Hypodermic needles and syringes; propylene and derivatives, butadiene, commodity chemicals

[†] reported as both up and down in price by different respondents

What Our Respondents Are Saying

Oil and Gas Exploration, and Key Support Services:

- US and Texas rig counts continue to rise
- *This sector remained near neutral; the production, purchases, and lead times indices all reported above neutral while the employment index fell back below neutral*

Construction:

- Recent stability in crude oil prices have created an optimistic view of capital project approvals in 2021
- *This sector returned to neutral during the month; the sales/new orders and lead times indices returned to just above neutral while the employment and purchases indices continue to indicate contraction*

Durable Goods Manufacturing:

- With all the activity caused by Covid and the election, business was down and unprofitable
- This is a difficult time to be manufacturing for the energy industry; we have the people, equipment, and inventory to excel but our industry has no demand; hopefully the world economy will have a major recovery in 2021
- *This sector reported continued contraction, but at a slower pace; the sales/new orders, production, and purchases indices rose to near neutral; the employment index continues to show contraction; inventories are now rising*

Non-durable Goods Manufacturing:

- Still have a very stifled oil and gas market but more people were on the road and in the air over the holiday
- *This sector report near neutral again this month; strong results for the sales, production, prices paid, and finished goods inventory indices were offset by continued weakness in the employment index*

Transportation:

- Airport passenger traffic increased significantly this month due to holiday travel but it is still below normal levels
- *This sector reported expansion at a moderately faster pace this month; the employment index continues to show strong expansion while all other indicators were near neutral*

Financial Services and Real-estate:

- We continue to see strong new home starts and sales
- *This sector reported modestly above neutral overall again this month; the sales index fell to near neutral while the employment index rose to indicate modest expansion*

Professional Services:

- Positive news related to multiple COVID-19 vaccine trials created some optimism within the O&G industry; as vaccines are administered and COVID cases are reduced, demand for oil is expected to increase; hiring and capital spending is not expected to increase significantly until late 2021 at the earliest
- There are no functional areas in short supply for the staffing business; demand is nil and supply is great
- We do not expect improvement in the staffing business until 2022 unless the oil price reaches \$70, which is highly unlikely
- *This sector returned to indicating contraction; the employment, purchases, and prices paid indices reported well below neutral; all other indices were near neutral*

What Our Respondents Are Saying (Continued)

Health Care:

- With the advent of the COVID-19 vaccine, specific sizes of syringes and needles are in short supply; healthcare providers and facilities are experiencing long lead times to obtain these products
- The usage rate of PPE supplies is continuing to increase; we anticipate a strain on the supply chain
- *This sector continues to report strength with sales, purchases, and lead times all pointing to expansion; the employment and prices paid indices remained at neutral during the month*

Accommodations and Food Services:

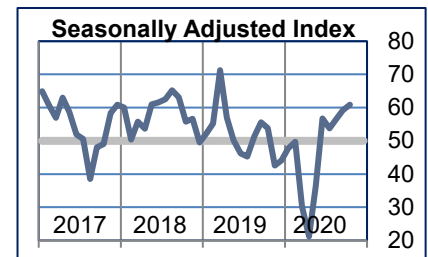
- *This sector reported further strength with the sales and employment indices pointing to strong expansion*

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.

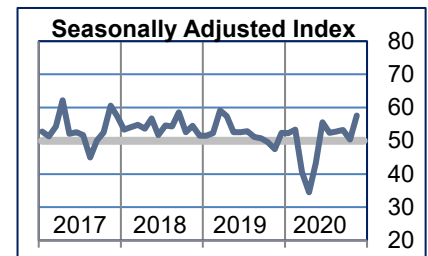
Sales/New Orders Index

| | | Higher | Same | Lower | Net | Index |
|---|--------|--------|------|-------|-----|-------|
| The sales/new orders index showed continued strength. Non-durable goods manufacturing, health care, and accommodations and food services showed expansion. Durable goods manufacturing improved to neutral. | Jun/20 | 36% | 39% | 25% | 11% | 56.8 |
| | Jul/20 | 18% | 72% | 10% | 8% | 53.7 |
| | Aug/20 | 20% | 74% | 6% | 14% | 56.5 |
| | Sep/20 | 26% | 69% | 5% | 21% | 59.2 |
| | Oct/20 | 25% | 67% | 8% | 17% | 60.9 |
| | Nov/20 | 18% | 78% | 4% | 14% | 59.4 |



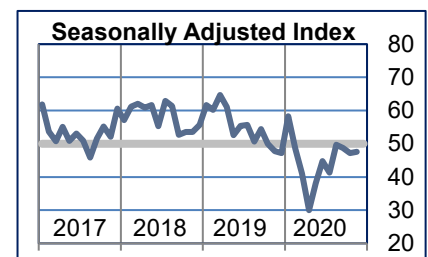
Production Index

| | | Higher | Same | Lower | Net | Index |
|---|--------|--------|------|-------|-----|-------|
| The production index improved significantly to indicate strong expansion. Oil & gas, and both durable and non-durable goods manufacturing reported well above neutral. All other industries came in near neutral. | Jun/20 | 14% | 80% | 6% | 8% | 55.5 |
| | Jul/20 | 9% | 88% | 3% | 6% | 52.4 |
| | Aug/20 | 10% | 85% | 5% | 5% | 52.8 |
| | Sep/20 | 10% | 87% | 3% | 7% | 53.3 |
| | Oct/20 | 6% | 88% | 6% | 0% | 50.4 |
| | Nov/20 | 14% | 86% | 0% | 14% | 57.6 |



Employment Index

| | | Higher | Same | Lower | Net | Index |
|--|--------|--------|------|-------|------|-------|
| The employment index continues to point to contraction. Oil & gas, construction, manufacturing, and professional service reported further contraction in this indicator. Leisure and hospitality reported this index as expanding. | Jun/20 | 7% | 79% | 14% | -7% | 44.8 |
| | Jul/20 | 2% | 78% | 20% | -18% | 41.3 |
| | Aug/20 | 9% | 78% | 13% | -4% | 49.7 |
| | Sep/20 | 9% | 79% | 12% | -3% | 48.7 |
| | Oct/20 | 4% | 84% | 12% | -8% | 47.2 |
| | Nov/20 | 7% | 78% | 15% | -8% | 47.6 |



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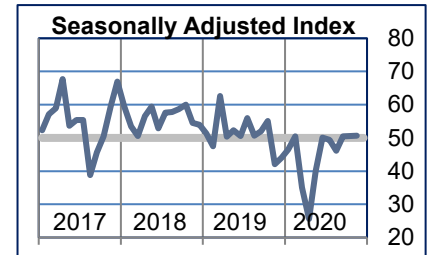


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Purchases Index

The purchases index remained close to neutral again this month. Oil & gas and health care reported higher purchases while construction, transportation, and professional services reported lower purchases.

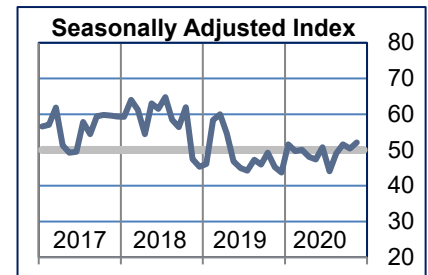
| | Higher | Same | Lower | Net | Index |
|--------|--------|------|-------|-----|-------|
| Jun/20 | 12% | 74% | 14% | -2% | 50.1 |
| Jul/20 | 7% | 84% | 9% | -2% | 49.4 |
| Aug/20 | 6% | 83% | 11% | -5% | 46.1 |
| Sep/20 | 15% | 75% | 10% | 5% | 50.5 |
| Oct/20 | 13% | 74% | 13% | 0% | 50.5 |
| Nov/20 | 7% | 85% | 8% | -1% | 50.7 |



Prices Paid Index

The prices paid index rose modestly, but stayed near neutral. Manufacturing and wholesale trade reported this index as rising. Construction and professional services reported it as falling. All other sectors reported near neutral.

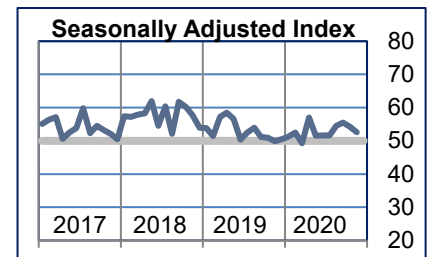
| | Higher | Same | Lower | Net | Index |
|--------|--------|------|-------|------|-------|
| Jun/20 | 12% | 74% | 14% | -2% | 50.7 |
| Jul/20 | 8% | 72% | 20% | -12% | 44.0 |
| Aug/20 | 8% | 80% | 12% | -4% | 49.0 |
| Sep/20 | 11% | 80% | 9% | 2% | 51.5 |
| Oct/20 | 11% | 82% | 7% | 4% | 50.4 |
| Nov/20 | 10% | 82% | 8% | 2% | 52.1 |



Lead Times Index

The lead times index fell modestly, but continues to indicate increasing lead times overall. Oil & gas and health care reported this index as expanding at a high rate. All other sectors reported near neutral.

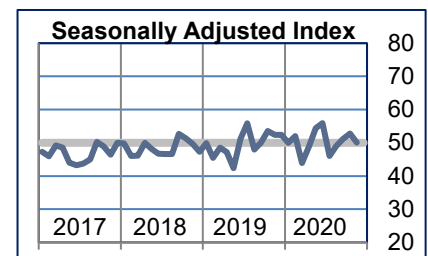
| | Higher | Same | Lower | Net | Index |
|--------|--------|------|-------|-----|-------|
| Jun/20 | 9% | 84% | 7% | 2% | 51.7 |
| Jul/20 | 4% | 94% | 2% | 2% | 51.7 |
| Aug/20 | 12% | 85% | 3% | 9% | 54.5 |
| Sep/20 | 13% | 86% | 1% | 12% | 55.5 |
| Oct/20 | 7% | 93% | 0% | 7% | 54.2 |
| Nov/20 | 7% | 90% | 3% | 4% | 52.6 |



Purchased Inventory Index

The purchased goods inventory index fell modestly to just above neutral. Durable goods manufacturing, wholesale trade, and transportation reported these inventories as expanding. Oil & gas reported them as contracting.

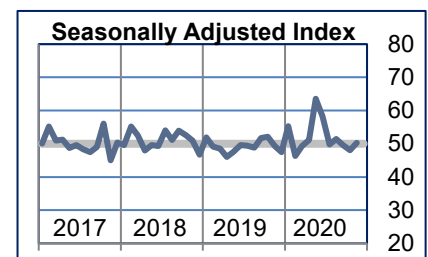
| | Higher | Same | Lower | Net | Index |
|--------|--------|------|-------|-----|-------|
| Jun/20 | 15% | 82% | 3% | 12% | 55.9 |
| Jul/20 | 1% | 91% | 8% | -7% | 46.0 |
| Aug/20 | 2% | 93% | 5% | -3% | 49.0 |
| Sep/20 | 6% | 88% | 6% | 0% | 51.2 |
| Oct/20 | 9% | 84% | 7% | 2% | 52.8 |
| Nov/20 | 8% | 85% | 7% | 1% | 50.1 |



Finished Goods Inventory Index

The finished goods inventory index rose above neutral. Non-durable goods manufacturing reported falling finished goods inventories. Durable goods manufacturing and wholesale trade noted them as rising.

| | Higher | Same | Lower | Net | Index |
|--------|--------|------|-------|-----|-------|
| Jun/20 | 15% | 84% | 1% | 14% | 58.3 |
| Jul/20 | 5% | 90% | 5% | 0% | 49.8 |
| Aug/20 | 6% | 93% | 1% | 5% | 51.4 |
| Sep/20 | 5% | 87% | 8% | -3% | 49.6 |
| Oct/20 | 6% | 83% | 11% | -5% | 48.1 |
| Nov/20 | 12% | 79% | 9% | 3% | 50.3 |



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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