ISM-Houston Business Report

May 2020

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 contracted at a slower pace in May than it did in April. Overall economic activity has now contracted for three months.

The Houston Purchasing Managers Index rose 5.6 points to 40.2 in May. Two of the three underlying indicators that have a strong direct correlation with the economy, sales/new orders and employment, improved but continue to point to contraction. The third, lead times, is giving what is believed to be a contradictory signal of near term modest expansion, however, this signal for improvement is most probably caused by supply chain disruptions rather than a supply shortages. The sales/new orders index rose 15.2 points to 36.4. The employment index rose 8.1 points to 38.1. The lead times index fell 5.6 points to 51.5. The underlying indicator that has the strongest inverse correlation with economic activity, finished goods inventory, rose an additional 12.5 points this month to 63.6, its highest level on record.

The three-month forecast for the Houston PMI rose 3.8 points to 45.7. This was primarily driven by an increase in the sales/new orders index with a negative offset caused by a lower lead times index. These indices have a strong direct correlation with economic activity at the three-month forecast horizon.

On an industry specific basis, no sector reported expansion this month. Transportation, utilities, wholesale trade, health care, and real estate reported near neutral. Oil & gas, construction, manufacturing, professional services, and accommodations/food services all reported significant weakness. From a three-month forecast standpoint, all sectors are anticipated to show moderate to strong improvement if the economic impact of the COVID-19 virus continues to improve.

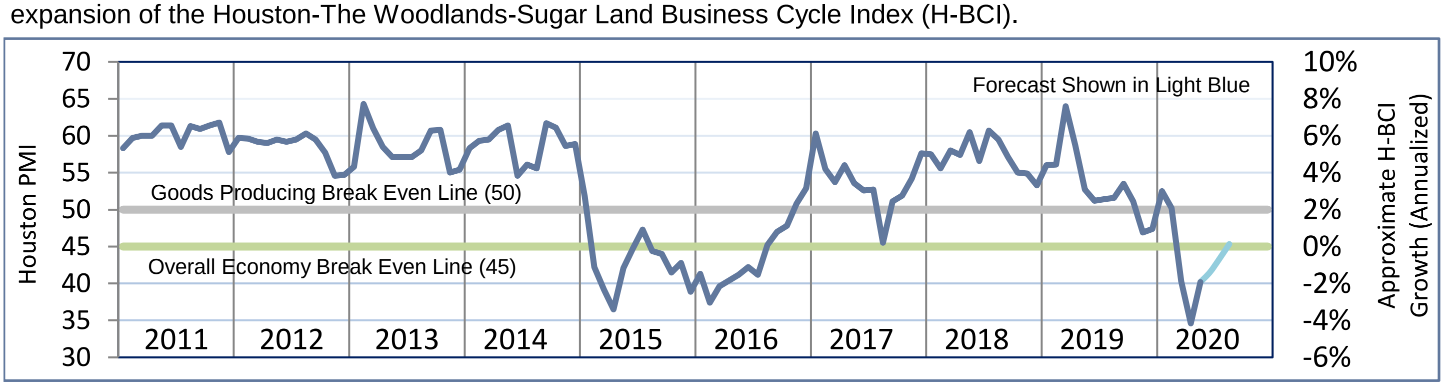
Indices at a Glance

Index	May	Apr	Change	Track	Rate	Trend*
Houston PMI - Current	40.2	34.6	5.6	Contracting	Slower	3
Houston PMI - 3 Month Forecast	45.7	41.9	3.8	Contracting	Slower	3
Sales/New Orders	36.4	21.2	15.2	Falling	Slower	7
Production	43.2	34.5	8.7	Falling	Slower	3
Employment	38.1	30.0	8.1	Falling	Slower	4
Purchases	40.2	25.6	14.6	Falling	Slower	3
Prices Paid	47.4	48.1	-0.7	Falling	Faster	2
Lead Times	51.5	57.1	-5.6	Rising	Slower	2
Purchased Inventory	54.4	49.0	5.4	Rising	Fr. Falling	1
Finished Goods Inventory	63.6	51.1	12.5	Rising	Faster	2
Overall Houston Economy				Contracting	Slower	3

* Number of months on current track

Houston PMI Trend

Overall economic activity in Houston contracted in May for the third month. 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: Personal Protective Equipment (PPE); crude oil, gasoline, diesel, jet fuel; ethane, propane, butanes, natural gas liquids; ethylene, propylene; ethylene oxide, propylene oxide, glycols; industrial metals; ready mix concrete

Down in Price: Transformers, electrical equipment, copper wire and cable; fabricated steel, carbon steel pipe, alloy pipe; pumps, compressors; natural gas; ethanol

In Short Supply: PPE, disinfectant supplies; COVID-19 test kits; acetone; iodine

What Our Respondents Are Saying

Oil and Gas Exploration, and Key Support Services:
- Global crude supply is coming in line with the lower demand but inventories are still very high
- The Texas rig count is down to about a quarter of what it was at year end
- Continued uncertainty and lower spending
- We are seeing continued downward pressure on capital and manpower expenditures
- Recovery in the oil and gas industry is expected to take several years

Engineering and Construction:
- Our client's capital budgets have been cut due low oil prices and COVID-19
- Construction permit count has stabilized but continues to be well below normal

Manufacturing - Durable Goods:
- Manufacturing for the energy industry has almost stopped; the domestic and world economy must improve for demand for products and services to return
- The decrease of truck production is causing our business to fall

Manufacturing - Non-Durable Goods:
- Gulf coast refinery utilization is way down; inventories are high but leveling off
- Lack of travel has significantly reduced demand for mo-gas and jet fuels
- The chemical industry is suffering due to the reduction in business activities caused by COVID-19

Wholesale Trade:
- Focusing on PPE for future growth opportunities

Transportation and Utilities (including mid-stream operations):
- Houston Airport traffic increased modestly in May but is still less than 10% of normal levels; carriers are adding back capacity at a good pace; some international airlines have announced they will be restarting flights to the U.S. soon
- Container volume took a hit in April but is now up year to date; lower volume from China is being offset by other East Asia trade; crude oil and refined product movements are also up

Financial Services and Real-estate
- Apartment prices and adsorption were down again in May
- Apartment tenant rent delinquencies are near normal
- New home sales and prices increased in May
- New home construction matched pre-virus plans
- Many office tenants indicate that they are considering implementing long term work from home policies

Professional Services:
- The Houston Energy market is focused on cost reduction and cost containment
- Clients are re-negotiating all of their contracts almost without exception; we foresee this to be the case for remainder of the summer and hopefully it will level off toward the end of the year
- Our upstream clients are hardest hit and will face difficult times for the balance of year
- Most mid-stream and downstream companies have cost containment measures in place but very few layoffs
- Recent oil price improvements have had very little, if any, positive impact on demand for hiring of direct employees or consulting services
- O&G company layoffs are now reaching the corporate offices after beginning with field roles; expect June to see continued permanent reductions in headcount in professional and technical roles

What Our Respondents Are Saying (Continued)

Health Care:
- Cost reduction initiatives are taking place including the elimination of coffee services, reduction in office supply expenses, and reduction in contingent labor

Accommodations and Food Services:
- Hotel occupancy rates and revenues have leveled off but remain very low
- Many single location restaurants will not reopen

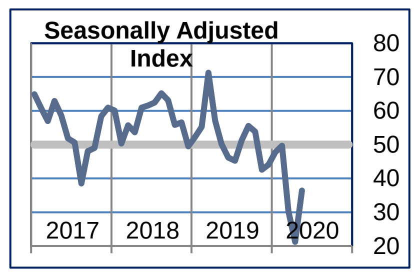
Trend of Underlying Indicators

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 contracted at a much slower pace in May. Health Care and transportation returned to growth. Construction, manufacturing, O&G and most other service sectors reported weakness.

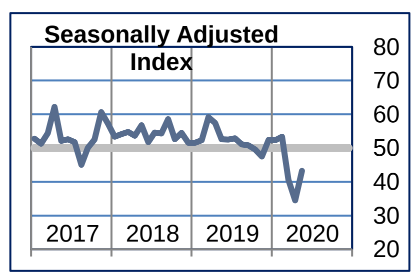
	Higher	Same	Lower	Net	Index
Dec/19	4%	77%	19%	-15%	44.1
Jan/20	14%	71%	15%	-1%	47.7
Feb/20	17%	69%	14%	3%	49.7
Mar/20	4%	54%	42%	-38%	30.2
Apr/20	5%	34%	61%	-56%	21.2
May/20	18%	40%	42%	-24%	36.4



Production Index

The production index also showed contraction at a slower pace with industry results related to this index mirroring those of the sales/new orders index.

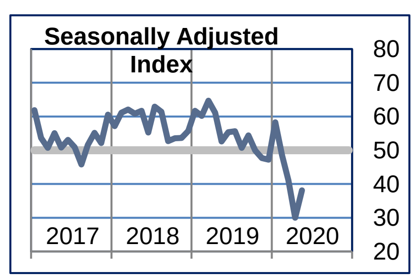
	Higher	Same	Lower	Net	Index
Dec/19	6%	89%	5%	1%	52.4
Jan/20	9%	87%	4%	5%	52.3
Feb/20	13%	82%	5%	8%	53.4
Mar/20	2%	77%	21%	-19%	40.6
Apr/20	1%	70%	29%	-28%	34.5
May/20	6%	75%	19%	-13%	43.2



Employment Index

The employment index showed contraction at a slower rate as well. Transportation and trade reported this index near neutral. All other industries reported further contraction.

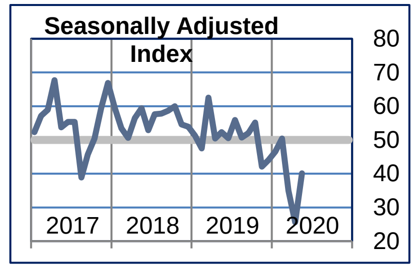
	Higher	Same	Lower	Net	Index
Dec/19	8%	78%	14%	-6%	47.2
Jan/20	22%	74%	4%	18%	58.3
Feb/20	3%	91%	6%	-3%	48.6
Mar/20	1%	80%	19%	-18%	41.0
Apr/20	2%	59%	39%	-37%	30.0
May/20	2%	74%	24%	-22%	38.1



Purchases Index

The purchases index was also reported as contracting at a much slower pace. Industries reported very similar results on this index as noted for the sales/new orders and production indices.

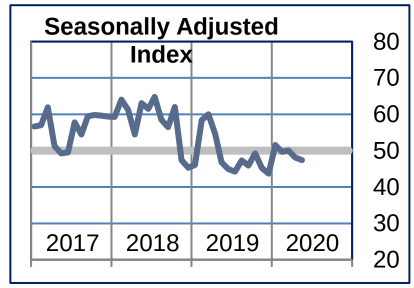
	Higher	Same	Lower	Net	Index
Dec/19	8%	68%	24%	-16%	44.0
Jan/20	4%	88%	8%	-4%	46.5
Feb/20	9%	82%	9%	0%	50.4
Mar/20	7%	56%	37%	-30%	35.0
Apr/20	1%	51%	48%	-47%	25.6
May/20	13%	53%	34%	-21%	40.2



Prices Paid Index

The prices paid index was relatively unchanged this month. Health care and wholesale trade reported this index as rising. Non-durable goods manufacturing reported it as falling. All other industries reported near neutral.

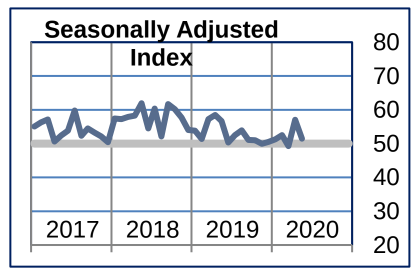
	Higher	Same	Lower	Net	Index
Dec/19	2%	80%	18%	-16%	43.7
Jan/20	4%	95%	1%	3%	51.5
Feb/20	4%	94%	2%	2%	49.7
Mar/20	16%	74%	10%	6%	50.1
Apr/20	15%	68%	17%	-2%	48.1
May/20	11%	74%	15%	-4%	47.4



Lead Times Index

The lead times index fell back to near neutral. Health care, wholesale trade, durable goods manufacturing, and O&G reported higher lead times while non-durable goods and professional services reported reductions.

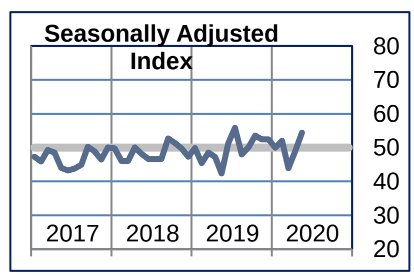
	Higher	Same	Lower	Net	Index
Dec/19	5%	90%	5%	0%	50.5
Jan/20	5%	92%	3%	2%	51.2
Feb/20	7%	92%	1%	6%	52.5
Mar/20	12%	78%	10%	2%	49.3
Apr/20	24%	66%	10%	14%	57.1
May/20	16%	75%	9%	7%	51.5



Purchased Inventory Index

The purchased inventory index rose above neutral during the month. Wholesale trade and durable goods manufacturing reported this index as rising. Non-durable goods and transportation reported in as falling.

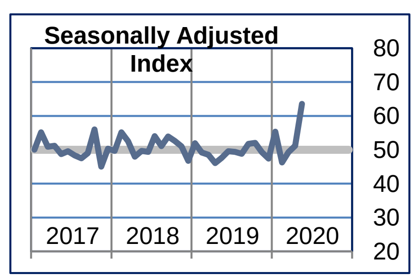
	Higher	Same	Lower	Net	Index
Dec/19	2%	95%	3%	-1%	52.4
Jan/20	8%	88%	4%	4%	50.0
Feb/20	9%	88%	3%	6%	52.1
Mar/20	4%	80%	16%	-12%	43.9
Apr/20	15%	69%	16%	-1%	49.0
May/20	20%	71%	9%	11%	54.4



Finished Goods Inventory Index

The finished goods inventory index rose significantly during the month to well above neutral. Manufacturing and wholesale trade reported rising inventories, while transportation reported falling inventories.

	Higher	Same	Lower	Net	Index
Dec/19	2%	94%	4%	-2%	47.4
Jan/20	16%	80%	4%	12%	55.3
Feb/20	5%	86%	9%	-4%	46.3
Mar/20	8%	81%	11%	-3%	49.3
Apr/20	16%	68%	16%	0%	51.1
May/20	30%	67%	3%	27%	63.6



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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