OPEC meeting ends with market expecting deep production cut

U.S., China Finally Sign Phase-One Trade Deal.

FOMC votes unanimously to keep rates steady
Trump signs USMCA trade agreement into law

Brexit: UK begins new chapter outside European Union

WHO Declares Coronavirus A Global Public Health Emergency
December 6, 2019

OPEC expands production cuts
Production cuts
  - Additional 500,000 b/d
  - Now holding back 2.1 million b/d

Aramco IPO
  - $1.88 trillion value
Brent Crude Spot Price

$/Barrel

Source: U.S. Energy Information Administration
Production cuts
- Additional 500,000 b/d
- Now holding back 2.1 million b/d

Aramco IPO
- $1.88 trillion value

Member noncompliance
- 7 of 11 OPEC
- 4 of 10 Non OPEC

Who’s the boss?
- Not Russia
Source: U.S. Energy Information Administration
Russia Blocks OPEC Response to Coronavirus

The rejection of the Saudi plan is a setback for the OPEC-Moscow alliance
January 15, 2020

U.S. signs China trade deal
U.S. benefits

- Increased ag, auto, equipment, energy purchases
- Easier access to financial markets
- Some IP protections (?)
U.S. - China Deal (Phase One)

U.S. benefits

- Increased ag, auto, equipment, energy purchases
- Easier access to financial markets
- Some IP protections (?)

China benefits

- Halt in any escalation
- A few tariff reductions
To be negotiated

- Role of State-Owned Enterprises
- Chinese subsidies of exporting industries
- Further tariff reductions
Things won’t get any worse

Consensus that U.S. *should* challenge China’s worst practices

Win for Trump going into the election
## Houston’s Top Trading Partners

<table>
<thead>
<tr>
<th>Rank</th>
<th>Trading Partner</th>
<th>$ Billions</th>
<th>% Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mexico</td>
<td>21.7</td>
<td>9.1</td>
</tr>
<tr>
<td>2</td>
<td>Brazil</td>
<td>15.4</td>
<td>6.5</td>
</tr>
<tr>
<td>3</td>
<td>China</td>
<td>14.7</td>
<td>6.2</td>
</tr>
<tr>
<td>4</td>
<td>South Korea</td>
<td>13.5</td>
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</tr>
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<td>4.9</td>
</tr>
<tr>
<td>6</td>
<td>India</td>
<td>10.1</td>
<td>4.3</td>
</tr>
<tr>
<td>7</td>
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<td>10.0</td>
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</tr>
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<td></td>
<td>All Others</td>
<td>114.3</td>
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</tr>
<tr>
<td></td>
<td>Total</td>
<td>$237.0</td>
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Houston Trade with China – ’19

Exports

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>'18</td>
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</table>

Source: WISERTrade
January 28, 2020

FOMC leaves interest rates unchanged
Too soon to gauge impact of 2019 rate cuts
Too soon to gauge impact of 2019 rate cuts

Growth in consumer spending now “moderate”
Too soon to gauge impact of 2019 rate cuts

Growth in consumer spending now "moderate"

Keeping an eye on impact of coronavirus
Too soon to gauge impact of 2019 rate cuts

Growth in consumer spending now “moderate”

Keeping an eye on impact of coronavirus

Fed not concerned about a U.S. recession
January 29, 2020

USMCA signed
“One of the worst trade deals in history”
“One of the worst trade deals in history”

U.S. benefits
- Higher North American content in autos
- Access to Canadian dairy markets
- Protections for digital, ecommerce
- Addresses environmental and union concerns
“One of the worst trade deals in history”

**U.S. benefits**
- Higher North American content in autos
- Access to Canadian dairy markets
- Protections for digital, ecommerce
- Addresses environmental and union concerns

**Canada/Mexico benefits**
- Ceases negative rhetoric
- Eases uncertainty
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</table>
Houston Trade with Mexico – ’19

$ Billions

Source: WISERTrade
Houston Trade with Canada – ’19

$ Billions

Source: WISERTrade
January 31, 2020

UK withdraws from the EU
UK Withdraws from EU

- Political Union
  - January 31 exit

- Trade Union
  - December 31 exit

- Why?
  - To regain control/sovereignty

- Impact on trade and Investment
  - TBD
## Houston’s Top Trading Partners – ’19

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</table>
Houston Trade with UK – ’19

$ Billions

Exports

Imports

Source: WISERTrade
January 30, 2020

WHO declares coronavirus public health emergency
Extent of outbreak (as of 2/19/20)

- 75,204 cases
  - 924 outside China

- 25 countries
  - Mainly Asia
  - Now Europe and U.S.

- 2,006 deaths
  - 3 outside China
Projected Growth Rates

% Change from 2019 to 2020

1.3  |  2.0  |  2.3  |  3.2  |  3.2  |  5.8
---|---|---|---|---|---
Euro Area | U.S. | Latin America | Middle East | World | Emerging Asia

Source: International Monetary Fund
Spanish Influenza (January 1918 – December 1920)
- 500 million infected
- 50 million deaths
Spanish Influenza (January 1918 – December 1920)
- 500 million infected
- 50 million deaths

Severe Acute Respiratory Syndrome (November 2002 - July 2003)
- 8,098 infected
- 714 deaths
Coronavirus Health Emergency

- **Spanish Influenza** (January 1918 – December 1920)
  - 500 million infected
  - 50 million deaths

- **Severe Acute Respiratory Syndrome** (November 2002 and July 2003)
  - 8,098 infected
  - 714 deaths

- **2018-2019 U.S. Flu Season**
  - 35 million illnesses
  - 810,000 hospitalizations
  - 61,000 deaths
Coronavirus Health Emergency

- Initial impacts
  - Travel
  - Entertainment
  - Hotels
  - Restaurants
  - Retail

- Delayed impacts
  - Exports
  - Commodities
Residents Concerned They Would Catch SARS: 26.0%

Residents Who Actually Caught SARS: 0.3%

Source: Asian Development Bank
IEA: Oil Demand To Fall For First Time In A Decade
WE LOVE HOUSTON
Houston Employment Growth

12-Month Moving Total

Source: Texas Workforce Commission
**U.S. Real GDP**

Growth Rate, % Change from Previous Quarter

Source: U.S. Bureau of Economic Analysis
U.S. Real GDP

Average Annual Growth, % Change

<table>
<thead>
<tr>
<th>Period</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past 12 Months</td>
<td>2.1</td>
</tr>
<tr>
<td>Past 5 Years</td>
<td>2.3</td>
</tr>
<tr>
<td>Past 10 Years</td>
<td>2.3</td>
</tr>
<tr>
<td>Past 20 Years</td>
<td>2.1</td>
</tr>
<tr>
<td>Past 30 Years</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Source: U.S. Bureau of Economic Analysis data
U.S. Job Growth

1-Month Net Change

Source: U.S. Bureau of Labor Statistics
When do you expect the next recession?

% Respondents

<table>
<thead>
<tr>
<th>Year</th>
<th>% Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>'20</td>
<td>14.3%</td>
</tr>
<tr>
<td>'21</td>
<td>30.9%</td>
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<tr>
<td>'22</td>
<td>30.9%</td>
</tr>
<tr>
<td>'23</td>
<td>14.3%</td>
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<tr>
<td>'24</td>
<td>2.4%</td>
</tr>
<tr>
<td>'25</td>
<td>4.8%</td>
</tr>
<tr>
<td>'28</td>
<td>2.4%</td>
</tr>
</tbody>
</table>

Source: Wall Street Journal survey of 60 U.S. economists
Global Growth

Real GDP, % Change

Source: International Monetary Fund, January 2020
Metro Houston Exports

$ Billions

Source: WISERTrade
It’s like déjà vu all over again.  
--Yogi Berra
The Washington Post

The World’s Oil Glut Is Much Worse Than It Looks

Bloomberg Business

The World Is Facing Its Longest Oil Glut in at Least Three Decades
The global oil glut is squeezing the US shale industry

As Oil Prices Drop And Money Dries Up, Is The U.S. Shale Boom Going Bust?
The New York Times

Stock Prices Sink in a Rising Ocean of Oil

Oil sector cutting spending as Wall Street turns its back
Texas energy employment dips amid weak Q4 market outlook

Oil layoffs could come back to haunt the industry
<table>
<thead>
<tr>
<th>Period</th>
<th>Cause</th>
<th>Oil Prices ($)</th>
<th>Rigs Lost</th>
<th>Energy Jobs Lost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Peak</td>
<td>Trough</td>
<td>#</td>
</tr>
<tr>
<td>'82 – '87</td>
<td>Oil Price Bust</td>
<td>30.75</td>
<td>12.05</td>
<td>-3,766</td>
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<tr>
<td>'90 – '91</td>
<td>Interest Rate Spike</td>
<td>35.89</td>
<td>14.57</td>
<td>-526</td>
</tr>
<tr>
<td>'01 – '03</td>
<td>Enron/911</td>
<td>34.55</td>
<td>19.53</td>
<td>-528</td>
</tr>
<tr>
<td>'08 – '09</td>
<td>Great Recession</td>
<td>136.96</td>
<td>39.51</td>
<td>-1,119</td>
</tr>
<tr>
<td>'15 – '16</td>
<td>Fracking Bust</td>
<td>106.31</td>
<td>30.32</td>
<td>-1,527</td>
</tr>
<tr>
<td>'19 – ?</td>
<td>New Reality</td>
<td>70.98</td>
<td>53.84</td>
<td>-286</td>
</tr>
</tbody>
</table>

Note: All losses calculated from the monthly average
It’s like déjà vu all over again.

--Yogi Berra
Office Déjà Vu

1982 – 1986

- New Construction
  - 71.7 MSF
- Vacancy Rates:
  - ('87): 30.2%
  - ('96): 16.2%

Source: Houston Facts
2011 – 2016

- New Construction
  - 33.0 MSF
- Availability Rate
  - (Q4/19): 25.9%

Sources: Transwestern, NAI Partners
1981 – 1984
- New Units
  - 100,500

1985 – 1991
- New Units
  - 9,309

Source: Houston Facts
Multifamily Déjà Vu

2013 – 2019

- New Units: 107,603
- Under Construction: 22,690
- Proposed: 28,080

Source: Apartment Data Services
1983 – 1987

- New Inventory: 48 MSF
- Vacancy Rate:
  - '87 15.8%
  - '95 11.4%

Source: Houston Facts
2012 – 2019

New Inventory

86.0 MSF

Class A Availability

7.6% Q4/18

13.1% Q4/19

Source: Transwestern, NAI Partners
Growth will be slower than we’d like.
Houston Vehicle Sales

12-Month Moving Total

Source: TexAuto Facts by InfoNation
Houston Construction Starts

![12-Month Moving Total Chart]

Source: Dodge Data & Analytics
Sales Tax Collections, 12 Most Populous Cities*

% Change, 12-Month Moving Total

* Baytown, Conroe, Friendswood, Galveston, Houston, La Porte, League City, Missouri City, Pasadena, Pearland, Sugar Land and Texas City

Source: Partnership calculations based on data from the Texas Comptroller of Public Accounts
2020 Employment Forecast

42,300 Jobs
Metro Houston Job Growth

Annual Change from December to December (000s)

Source: Texas Workforce Commission & Greater Houston Partnership forecast
2020 Houston Job Forecast

Source: Greater Houston Partnership
2020 Employment Forecast

Source: Greater Houston Partnership
The 2020s are beginning to look a lot like the 1990s.
Source: Texas Workforce Commission, U.S. Energy Information Administration
Growth Rate, % Change from Previous Quarter

Source: U.S. Bureau of Economic Analysis
Foreign Shipments – Port of Houston

Million Short Tons

- '90: 63.0
- '00: 120.3

$, Billions

- '90: $23.8
- '00: $43.4

Source: Houston Facts
Source: Partnership Analysis of Pitchbook Data
Job Growth in the 1990s

Energy
4,500
0.9%

Everything Else
515,500
99.1%

Source: Texas Workforce Commission
Don’t write off oil and gas just yet.
Global Oil/Liquids Demand

Million Barrels/Per Day

<table>
<thead>
<tr>
<th>Year</th>
<th>Value</th>
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<tbody>
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<td>'10</td>
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</tr>
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<td>'40</td>
<td>107.7</td>
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Source: BP 2019 Energy Outlook
Thank you!!