The Texas Gulf Coast

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Oil Prices Decline

Here We Go Again

U.S. Recessions (NBER)  Houston Recessions  WTI

*Houston recession start dates based on two consecutive quarters of decline; recession ending based on two consecutive quarters of growth.
Employment

Gulf Metros Level Off After 2014:Q4

Index, 2008:Q3=100

Houston
Texas
Victoria
Corpus Christi
Beaumont

Oil & Gas Extraction
Eagle Ford Production and Drilling Activity Falling

SOURCE: Energy Information Administration
Employment Growth

<table>
<thead>
<tr>
<th>Category</th>
<th>Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>-0.5</td>
</tr>
<tr>
<td>Trade, transp &amp; utilities (21)</td>
<td>1.0</td>
</tr>
<tr>
<td>Professional &amp; business svc (16)</td>
<td>-0.1</td>
</tr>
<tr>
<td>Government (13)</td>
<td>2.6</td>
</tr>
<tr>
<td>Educational &amp; health services (12)</td>
<td>3.1</td>
</tr>
<tr>
<td>Construction &amp; mining (11)</td>
<td>-6.6</td>
</tr>
<tr>
<td>Leisure &amp; hospitality (10)</td>
<td>5.2</td>
</tr>
<tr>
<td>Manufacturing (8)</td>
<td>-10.8</td>
</tr>
<tr>
<td>Financial activities (5)</td>
<td>-3.2</td>
</tr>
<tr>
<td>Other services (4)</td>
<td>-0.2</td>
</tr>
<tr>
<td>Information (1)</td>
<td>0.6</td>
</tr>
</tbody>
</table>

NOTES: Growth rates are seasonally adjusted and annualized. Numbers in parentheses are percent share of total.
Direct Energy Jobs

Percent change* **Oil Field Services & Support Activities Fall Rapidly**

- **Oil Field Services & Support Activities**: Employment in oil field services and support activities has fallen rapidly over the past four years, with significant declines in recent months.

- **Pipeline transportation**: Employment in pipeline transportation has remained relatively stable.

- **Oil & gas extraction**: Employment in oil & gas extraction has experienced fluctuations, with some periods of growth.

- **Support activities for mining**: Employment in support activities for mining has also seen significant declines.

*Note: Data are seasonally adjusted and annualized three-month growth rates.
Durable Goods manufacturing

Upstream Manufacturing Jobs Take the Biggest Hit.

- Non-durable goods: -16.4
- Fabricated metal products: -5.0
- Machinery: 0.5
- Chemical: -7.8
- Computer & electronic products: -9.6
- Petroleum & coal: -0.7

NOTES: Data show the annualized and seasonally adjusted change from December to February. Sorted from largest to smallest industry.
Refining & Petrochemicals
Refining & Petrochemicals

- Cheaper Oil & NGL’s (Ethane, Propane, Butane)
  - Raw materials

- Cheaper Natural Gas & NGL’s
  - heat, electricity

Houston, we have a cost advantage.
Advantage lower, but persistent.
Refining & Petrochemicals


Construction Workers in Shortage, particularly specialized skills.

Projects Will Partially Counter/Absorb job losses in oil field.

International Trade
Texas hydrocarbon exports dive in Q1 due to oil price decline and strong dollar.

**Note:** Data in parenthesis are real annualized export values in billions of dollars through 2015:Q1.

**SOURCE:** U.S. Census Bureau and Wisertrade.

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chemicals</strong></td>
<td>11</td>
<td>0</td>
<td>2</td>
<td>-3</td>
<td>-9</td>
</tr>
<tr>
<td><strong>Plastics &amp; Rubber</strong></td>
<td>4</td>
<td>21</td>
<td>11</td>
<td>12</td>
<td>4</td>
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<tr>
<td><strong>Petroleum &amp; Coal Products</strong></td>
<td>45</td>
<td>11</td>
<td>7</td>
<td>-1</td>
<td>-20</td>
</tr>
<tr>
<td><strong>Oil &amp; Gas</strong></td>
<td>22</td>
<td>72</td>
<td>107</td>
<td>-9</td>
<td>-28</td>
</tr>
</tbody>
</table>

*year-to-date, annual rate.

($31.6)   ($4.2)   ($36.1)   ($10.1)
# Texas hydrocarbon exports

<table>
<thead>
<tr>
<th>New Exports:</th>
<th>Old Exports:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquefied Natural Gas (Methane)</td>
<td>Motor Fuel</td>
</tr>
<tr>
<td>Natural Gas Liquids (Propane, Butane, Etc.)</td>
<td>(Gasoline, Diesel, Jet Fuel, Etc.)</td>
</tr>
<tr>
<td>“Stabilized” Condensate (Whatever that means)</td>
<td>Petrochemicals (PVC, Coatings, Etc.”)</td>
</tr>
<tr>
<td>Crude Oil???</td>
<td>Other Refined Products (lubricants, solvents, etc)</td>
</tr>
</tbody>
</table>
Outlook
Outlook

Job Ads Suggest Weaker Jobs Data Ahead

NOTE: Total and new ads are weighted moving averages, shifted forward two months.
SOURCES: Conference Board; author's calculations.
Houston PMI Suggests Weak Job Data Ahead

Houston PMI 46.7
U.S. PMI 59.4
Houston Employment 0.1

NOTE: Employment growth is a monthly, seasonally adjusted annual rate. Composite index values >50 indicate expansion, and vice-versa.
Outlook

A grim outlook for Upstream.

A good outlook for downstream.

A Healthier U.S. Economy will help everyone else

Houston and the Texas Gulf Coast to Grow 0-1 Percent in 2015?