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An Examination of Current Economic Conditions in the Nation and in the Louisville Area

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Federal Reserve Bank of St. Louis
Disclaimer

The views we will express are our own and do not necessarily reflect the positions of the Federal Reserve Bank of St. Louis or the Federal Reserve System.
The Big Picture

• We’re into the 8th year of expansion . . . The average expansion lasts about 5 years. The record is 10 years.

• Real GDP growth during this expansion has averaged about 2.25% per year. Historically, growth has averaged about 3% per year.

• Inflation has been below the FOMC’s 2% target for most of the past five years.

• Monetary and fiscal policies remain accommodative to growth, but the Fed is in the process of “normalizing” monetary policy. Era of low volatility may be ending.
So Many Questions!

• Is 2.25% economic growth still the norm?

• Or, will new technologies (robotics, AI, etc.) and tax reform boost the economy’s short- and long-term prospects?

• Is inflation poised to accelerate?

• Will the Fed tighten too much?
Current Economic Conditions
DATA HEAVEN RESIDES HERE!

ECONOMIC DATA | ST. LOUIS FED
Low Unemployment Rates, Increasing Wage Pressures According to Surveys

The U-3 (Official) and U-6 Unemployment Rates and their Long-Run Median Unemployment Rates

<table>
<thead>
<tr>
<th>Year</th>
<th>U-3</th>
<th>U-6</th>
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<tbody>
<tr>
<td>1992</td>
<td>9.7</td>
<td>12.0</td>
</tr>
<tr>
<td>1995</td>
<td>8.2</td>
<td>11.0</td>
</tr>
<tr>
<td>1998</td>
<td>6.0</td>
<td>10.0</td>
</tr>
<tr>
<td>2001</td>
<td>5.6</td>
<td>9.0</td>
</tr>
<tr>
<td>2004</td>
<td>4.1</td>
<td>8.0</td>
</tr>
<tr>
<td>2007</td>
<td>3.0</td>
<td>7.0</td>
</tr>
<tr>
<td>2010</td>
<td>2.0</td>
<td>6.0</td>
</tr>
<tr>
<td>2013</td>
<td>1.0</td>
<td>5.0</td>
</tr>
<tr>
<td>2016</td>
<td>0.0</td>
<td>4.0</td>
</tr>
</tbody>
</table>

(Dotted Lines are Long-Run Medians)


Wage Pressure Surveys and Inflation

<table>
<thead>
<tr>
<th>Year</th>
<th>Duke CFO (Right)</th>
<th>Inflation (Left)</th>
<th>NFIB (Left)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>-2.0</td>
<td>2.0</td>
<td>5.0</td>
</tr>
<tr>
<td>2006</td>
<td>3.0</td>
<td>3.0</td>
<td>6.0</td>
</tr>
<tr>
<td>2008</td>
<td>4.0</td>
<td>4.0</td>
<td>7.0</td>
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<td>2009</td>
<td>5.0</td>
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<td>2011</td>
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<td>9.0</td>
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<td>2012</td>
<td>7.0</td>
<td>7.0</td>
<td>10.0</td>
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<tr>
<td>2014</td>
<td>8.0</td>
<td>8.0</td>
<td>11.0</td>
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<tr>
<td>2015</td>
<td>9.0</td>
<td>9.0</td>
<td>12.0</td>
</tr>
<tr>
<td>2017</td>
<td>10.0</td>
<td>10.0</td>
<td>13.0</td>
</tr>
</tbody>
</table>

Source: Duke University, NFIB, and Haver Analytics.
Inflation and the Misery Index are Low

Inflation and Long-Term Inflation Expectations
(Inflation is percent change from a year earlier)

Headline Inflation

The U.S. Misery Index
Percent

NOTE: Index is sum of the inflation rate and the unemployment rate.

Last actual observation is 2017:Q4

Headline Inflation

Misery Index

NOTE: Inflation calculated from the personal consumption expenditures price index. Inflation expectations are 5-year, 5-year forward break-even inflation rates.
Modestly Higher Inflation Risk According to The St. Louis Fed’s Model

The St. Louis Fed's Price Pressures Measures: Inflation Probability Buckets Over the Next 12 Months

SOURCE: Federal Reserve Bank of St. Louis
A Modest Rise in Interest Rates

**Short- and Long-Term Interest Rates**

- **3-Month T-Bills**
- **10-Year Treasury**

*Last actual observation is February 2018.*

**Interest Rates Homes and New Automobiles**

- **30-Year Mortgages**
- **New Car Loans**

*Last actual observation is February 2018.*
But Confidence is at Multi-Year Highs

Consumer Confidence

![Graph showing Consumer Confidence Index from Jan. 2000 to Jan. 2018. The index is indicated by a line on a graph with a y-axis ranging from 30 to 130. The x-axis represents the years from Jan. 2000 to Jan. 2018. The graph includes a shaded area from Jan. 2007 to Jan. 2009. The notes indicate that the average is of the Michigan and Conference Board surveys and the last monthly observation is Feb. 2018.]

Forward-Looking (6-month ahead) CapEx Surveys From Federal Reserve Banks and the NFIB (Small Businesses)

![Graph showing forward-looking CapEx surveys from Federal Reserve Banks and the NFIB for small businesses, with a y-axis ranging from -20 to 40. The x-axis represents years from 2004 to 2018. The graph includes a note indicating that the average is of surveys published by the New York, Boston, Philadelphia, Dallas, Kansas City, and Richmond Banks. NFIB is the National Federation of Independent Business.]
Louisville-Area Industries Look Solid

U.S. Light-Truck Sales and Production

Logistics and Transportation

Domestic Light Truck Sales and Production
Millions of units, SAAR

Production
Sales

University of Louisville Logistics and Distribution Activity Index

SOURCE: St. Louis Fed (FRED), the University of Louisville, and Oklahoma State Univ.

Last actual observation is Feb. 2018.
Professional Forecasters: CapEx, Manufacturing Prospects Look Solid

What Are Forecasters Predicting for Real Business Capital Expenditures (Fixed Investment)?
Percent changes at annual rates

Feb. 2018 Forecasts
Aug. 2017 Forecasts

Industrial Production: Actual and Blue Chip Forecast
Percent change, annual rate

Business Capital Expenditures


SOURCE: Blue Chip Economic Indicators and Haver Analytics
Financial Market Stresses Increase Modestly

The St. Louis Fed’s Financial Stress Index
Weekly data

The CBOE Equity Market Volatility Index (VIX)
Weekly data

St. Louis Fed Financial Stress Index

Equity Market Volatility Index (VIX)

Long-run average, 19.7
The FOMC: We’re Bullish on the U.S. Economy!

“The Actual and Projected Federal Funds Target Rate

Information received since the Federal Open Market Committee met in December indicates that the labor market has continued to strengthen and that economic activity has been rising at a solid rate. Gains in employment, household spending, and business fixed investment have been solid, and the unemployment rate has stayed low.” [FOMC Statement, Jan. 31, 2018]
Kliesen’s Fearless Forecast

• Projected averages, 2018 to 2020:
  – Real GDP growth: 2.5% to 3.0%
  – Unemployment rate: 3.75% to 4.25%
  – Headline inflation: 2%

• Punchline: Policy changes will provide a modest boost economic growth, but some downside risks have cropped up. Inflation fears have crept into the market, so the Fed will need to remain vigilant.
Risks to the Forecast

• Some of the January data suggest first-quarter real GDP growth could be weaker than initially expected?

• Fiscal stimulus could produce faster-than-expected real GDP growth (a good thing!).

• Larger-than-expected budget deficits could cause a spike in inflation expectations and thus interest rates.

• International trade disruptions could roil markets, raise business uncertainty, and lead to lower growth.
Current Economic Conditions

Overview on Trade in Louisville
Current Economic Conditions

Overview on Trade in Louisville
Louisville economic growth continued to outpace the US in 2017
Positive growth for other economic indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Louisville</th>
<th>US</th>
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</thead>
<tbody>
<tr>
<td>Unemployment Rate (Dec '17)</td>
<td>3.6%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Job Growth (Dec '17 Y/Y)</td>
<td>2.1%</td>
<td>1.5%</td>
</tr>
<tr>
<td>House Price Growth (Q4' 17 Y/Y)</td>
<td>6.2%</td>
<td>6.3%</td>
</tr>
<tr>
<td>Single Family Building Permits (2017 Y/Y)</td>
<td>0.3%</td>
<td>4.2%</td>
</tr>
<tr>
<td>Bank (asset &lt;$5b) ROA Growth (Q4 '17)</td>
<td>1.4%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Average Hourly Earnings Growth (2017)</td>
<td>0.9%</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

Note: FRED Dashboard can be found at https://research.stlouisfed.org/dashboard/17682
February Beige Book: 2018 off to a good start

“Economic activity expanded at a modest to moderate pace across the 12 Federal Reserve Districts in January and February.”

“Across the country, contacts observed persistent labor market tightness and brisk demand for qualified workers, as well as increased activity at staffing placement services.”

“Prices increased in all Districts, and most reports noted moderate inflation. Four Districts saw a marked increase in steel prices, due in part to a decline in foreign competition.”
February Beige Book: 2018 off to a good start

Cleveland: “The Tax Cut and Jobs Act is reportedly enabling firms to invest more and to increase worker pay.”

Richmond: “Exporting activity rose more quickly and, for some ports, came more in line with imports.”

Dallas: “...sectors like manufacturing and energy continuing their solid expansions while others cooled somewhat.”
February Beige Book: 2018 off to a good start

“The outlook among firms surveyed in mid-February was slightly more optimistic than the outlook in our mid-November survey and generally unchanged from one year ago.”
Current Economic Conditions

Overview on Trade in Louisville
Setting the foundation

• **Trade Flows**
  – **Outflows**: Goods produced (or value-added) in Louisville and shipped elsewhere
  – **Inflows**: Goods shipped to Louisville
  – **Gross Flows**: Inflows + Outflows
  – **Trade Balance**: Outflows – Inflows

• **Exports**: Outflows shipped directly overseas
• **Imports**: Inflows shipped directly to Louisville
Setting the foundation

**Gross International Trade is equal to**
28% of US GDP
32% of Louisville GDP
*about $13,000 per person*

**North American trade comprises**
30% of US Gross Trade
40% of Louisville Gross Trade

**International Trade Balance equals**
-3% of US GDP
-6% of Louisville GDP

Source: Brookings Goods Trade Database
International trade per-capita is highest in Midwest
Louisville’s trade is predominantly within the US

$123 Billion

87%
$108 billion
Domestic

13%
$15 billion
International

Source: Brookings Goods Trade Database
Largest trading partners are nearby metro areas

Source: Brookings Goods Trade Database
Primary traded goods are chemicals, machinery, and transportation equipment

Trade Shares

Agricultural Products
Stones / Ores
Energy Products
Chemicals / Plastics
Wood Products
Textiles
Metals
Machinery / Tools
Electronics
Transportation Equipment
Precision Instruments
Furniture
Waste / Scrap
Mixed Freight
Unknown

Source: Brookings Goods Trade Database
Trade Surpluses are in Textiles, Scrap, and Mixed Freight

Source: Brookings Goods Trade Database
Overall, Louisville has one of the largest trade deficits

Source: Brookings Goods Trade Database
### Summary of key statistics

#### Domestic and International Trade

<table>
<thead>
<tr>
<th></th>
<th>GDP (Mil. $)</th>
<th>Gross Flows (Mil. $)</th>
<th>Gross Flows as % of GDP</th>
<th>Trade Balance (% of GDP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Louisville MSA</td>
<td>$49,767</td>
<td>$123,830</td>
<td>249%</td>
<td>-49%</td>
</tr>
<tr>
<td>Median MSA</td>
<td>$45,947</td>
<td>$76,630</td>
<td>159%</td>
<td>-6%</td>
</tr>
<tr>
<td>Louisville Rank</td>
<td>47</td>
<td>34</td>
<td>13</td>
<td>97</td>
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</table>

#### International Trade

<table>
<thead>
<tr>
<th></th>
<th>Gross Flows (Mil. $)</th>
<th>Exports (Mil. $)</th>
<th>Gross Flows as % of GDP</th>
<th>Trade Balance (% of GDP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Louisville MSA</td>
<td>$15,784</td>
<td>6,382</td>
<td>32%</td>
<td>-6%</td>
</tr>
<tr>
<td>Median MSA</td>
<td>$10,101</td>
<td>4,110</td>
<td>21%</td>
<td>-5%</td>
</tr>
<tr>
<td>Louisville Rank</td>
<td>36</td>
<td>34</td>
<td>15</td>
<td>75</td>
</tr>
</tbody>
</table>
Final Thoughts

• Louisville’s economic performance has outpaced the nation during much of the recovery.
• In recent years that has convergence in growth.
• My outlook for Louisville is driven by the national outlook.
• A cursory review of the trade data provides further evidence of how intertwined Louisville’s economy is with the nation and the world.
Please share your insights on the current economic conditions

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