The Economic and Policy Outlook: Another Dimension

National Conference of State Legislatures

August 7, 2019

*The views expressed herein are my views and do not necessarily represent those of the Atlanta Fed or the Federal Reserve System (although they probably should).*
The unemployment rate is at its lowest level since the late 1960s.
Underlying inflation is at target.

Trimmed-mean PCE inflation
year-over-year percent change, monthly

Source: Federal Reserve Bank of Dallas
For the first time in over a decade the FOMC decided to lower the overnight interest rate. Wait, what?
The Twilight Zone
What case(s) can be made for cutting rates?

1. *Data Dependence*. The economic data (especially inflation and inflation expectations) are deteriorating.

2. *Insurance Cut(s)*. Heightened uncertainty regarding trade policy and global economic conditions are weighing on businesses and households, causing them to pull-back.

3a. *Realignment*. Neutral interest rates have fallen precipitously. In this case, the previous stance of policy was unintentionally too tight.

3b. *Cointegration*. The US financial market is connected to global markets. Policy easing elsewhere across the globe suggests continued downward pressure on domestic long rates. The FOMC is risking a persistent yield curve inversion if they don’t lower short rates.
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The Blue Chip consensus (average) projects a moderate slowing in real GDP growth in the second half of the year and into 2020. However, the most pessimistic forecasters in the panel anticipate quarterly growth will fall to just above zero mid-2020.

Sources: Bureau of Economic Analysis, July 2019 Blue Chip Economic Indicators, and Haver Analytics. Actual data through 2019:Q2
So far this year, GDP growth has looked fairly solid. Real final sales of domestic product—a cleaner measure of underlying demand in the economy—looks even better.
The consumer rebounded in the second quarter from weakness during the winter months. Where is the consumer going to go from here?

**Real Personal Consumption Expenditures**

*Annualized quarterly percent change*

Sources: Bureau of Economic Analysis, FRBA GDPNow, and Haver Analytics.
Real disposable income continues to grow at a favorable clip and consumer attitudes remain near recent highs.

**Household Income**
annualized percent change

<table>
<thead>
<tr>
<th>Percent change (a.r.) over:</th>
<th>Real DPI ex farm &amp; div. income</th>
</tr>
</thead>
<tbody>
<tr>
<td>June ’19</td>
<td>4.0</td>
</tr>
<tr>
<td>May ’18</td>
<td>2.7</td>
</tr>
<tr>
<td>Past 3 months</td>
<td>2.4</td>
</tr>
<tr>
<td>Past 6 months</td>
<td>4.5</td>
</tr>
<tr>
<td>Past 12 months</td>
<td>3.5</td>
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</tbody>
</table>

**Consumer Attitudes***
Index: 1985=100

*Average of UM’s consumer sentiment and Conference Board’s consumer confidence indexes

Source: Bureau of Economic Analysis; Haver Analytics; staff calculations

*Source: University of Michigan Survey of Consumers; Conference Board; Haver Analytics; staff calculations

Data through June 2019 for Household Income and July 2019 for Consumer Attitudes.
By a variety of measures, the labor market is tighter than it was just prior to the last recession.
Wage growth measures are sending somewhat different signals about how much slack is left in the labor market. The Wage Growth Tracker tends to be more highly correlated with labor market slack than average hourly earnings.

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**Measures of Wage Growth**

- **Payroll survey: Average hourly earnings (y/y percent change)**
- **Atlanta Fed Wage Growth Tracker (3-mo moving avg.)**

Sources: Bureau of Labor Statistics, Federal Reserve Bank of Atlanta; Haver Analytics

Data through July 2019
Core PCE continues to rebound from transitory weakness earlier in the year (i.e. financial services prices), while the trimmed-mean PCE inflation continues to run “on target.”

**Core PCE**

- **Past 12 months:** 1.4%
- **Past 3 months:** 2.2%
- **May 2019:** 1.6%
- **June 2019:** 1.5%

**Traded Mean PCE**

- **Past 12 months:** 2.0%
- **Past 3 months:** 2.3%
- **May 2019:** 1.8%
- **June 2019:** 2.4%

**Overall PCE**

- **Past 12 months:** 1.4%
- **Past 3 months:** 2.2%
- **May 2019:** 1.9%
- **June 2019:** 3.0%

Sources: Bureau of Economic Analysis; FRB Dallas, Haver Analytics; staff calculations

Data through June 2019
An alternative perspective on inflation comes from a new measure of Cyclically Sensitive Inflation (CSI) created by economists Jim Stock and Mark Watson. This measure carries a higher correlation with measures of labor market slack than core PCE inflation and is also highly correlated with trimmed-mean measures. This suggests that the trimming process of removing noisy price changes have little to do with underlying inflation. Note that the CSI (cyclically sensitive index) has been rising over the past year or so, and is at a post-recession high.
Survey measures of inflation expectations, especially those of firms and professional forecasters, have been relatively stable. Market-based measures of inflation compensation (like the red line below) have edged lower in recent quarters. In recent years, firms and professionals have been relatively more accurate at predicting future inflation than households or inflation compensation measures.

Measures of long-run inflation expectations

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<tbody>
<tr>
<td>Households: University of Michigan (5-10 year, median)</td>
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<tr>
<td>Survey of Professional Forecasters (10-year PCE inflation, median)</td>
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<tr>
<td>Business Inflation Expectations (5-10 year, mean)</td>
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<tr>
<td>Inflation Compensation: 5-year, 5-year forward</td>
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Measures of Inflation Forecasting Performance*

<table>
<thead>
<tr>
<th>Measure</th>
<th>1-year ahead</th>
<th>2-years ahead</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPI Inflation</td>
<td>RMSE</td>
<td>RMSE</td>
</tr>
<tr>
<td>SPF 1-year CPI Expectations</td>
<td>0.88</td>
<td>0.94</td>
</tr>
<tr>
<td>SPF 10-year CPI Expectations</td>
<td>1.03</td>
<td>1.13</td>
</tr>
<tr>
<td>BIE 1-year inflation expectation</td>
<td><strong>0.86</strong></td>
<td><strong>0.95</strong></td>
</tr>
<tr>
<td>BIE 5-year inflation expectation</td>
<td>1.52</td>
<td>1.58</td>
</tr>
<tr>
<td>UM 1yr price expectations</td>
<td>1.70</td>
<td>1.87</td>
</tr>
<tr>
<td>UM 5yr price expectations</td>
<td>1.44</td>
<td>1.55</td>
</tr>
<tr>
<td>TIPS-based 5yr - 5yr forward inflation rate</td>
<td>1.19</td>
<td>1.36</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Measure</th>
<th>1-year ahead</th>
<th>2-years ahead</th>
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</thead>
<tbody>
<tr>
<td>Core CPI Inflation</td>
<td>RMSE</td>
<td>RMSE</td>
</tr>
<tr>
<td>SPF 1-year Core CPI Expectations</td>
<td>0.30</td>
<td><strong>0.23</strong></td>
</tr>
<tr>
<td>SPF 10-year Core CPI Expectations</td>
<td>0.42</td>
<td>0.45</td>
</tr>
<tr>
<td>BIE 1-year inflation expectation</td>
<td><strong>0.23</strong></td>
<td><strong>0.23</strong></td>
</tr>
<tr>
<td>BIE 5-year inflation expectation</td>
<td>0.92</td>
<td>0.90</td>
</tr>
<tr>
<td>UM 1yr price expectations</td>
<td>1.16</td>
<td>1.28</td>
</tr>
<tr>
<td>UM 5yr price expectations</td>
<td>0.86</td>
<td>0.92</td>
</tr>
<tr>
<td>TIPS-based 5yr - 5yr forward inflation rate</td>
<td>0.60</td>
<td>0.64</td>
</tr>
</tbody>
</table>

Notes: The sample runs from 2012:Q1 to 2018:Q1, which yields 25 observations for the 1-year ahead horizon and 21 for the 2-years ahead horizon. The forecast object at the 1-year and 2-year ahead horizons is the year-over-year growth rate in the inflation metric either 4-quarters (1-year) ahead or 8-quarters (2-years) ahead.

Sources: University of Michigan’s Survey of Consumers; FRB Philly’s Survey of Professional Forecasters; FRBA BIE Survey; Federal Reserve Board; Haver Analytics

*Firm inflation expectations data through 2019:Q2. SPF forecasts through 2019:Q1. UM and inflation compensation data for 2019:Q2 is average of currently available data for the quarter.
Market-based inflation compensation measures like the 5-year/5-year forward break-even inflation rate and longer-run household inflation expectations are highly correlated with energy price movements. This is a problem in that gasoline and oil price changes represent a relative price change (due to changes in supply and demand). Typically, energy price swings are undone relatively quickly. These are “real” price changes and have little or nothing to do with inflation in the longer-run.

**Inflation expectations and oil prices**

- Spot Oil Price: West Texas Intermediate $/Barrel (left axis)
- U of M: Expected Inflation Rate, Next 5 Years (%) (right axis)

**Inflation expectations and oil prices**

- Spot Oil Price: West Texas Intermediate $/Barrel (left axis)
- Calculated 5-Year Forward Inflation Rate (%) (right axis)

Sources: EIA/CME, University of Michigan; Haver Analytics, data through July 2019

Correlation: 0.68

Sources: EIA/CME, Federal Reserve Board; Haver Analytics, data through July 2019

Correlation: 0.87
Another concern with interpreting the market-based TIPS (5-year, 5-year forward) break-even inflation rate as a pure inflation expectation is that when a panel of large market participants responds to a survey question that is over an identical time frame, these two measures often diverge. Given that the survey is asking for a pure inflation expectation from a group of large market participants, it suggests that the market-based measure is moving around for other reasons.

5-year, 5-year forward inflation expectations
percent, annual average

Median Survey of Market Participants long-run CPI inflation expectations (dashed lines denote 25th and 75th percentiles)

TIPS Breakeven Inflation Rate

Sources: Federal Reserve Board; Federal Reserve Bank of New York; Haver Analytics

Tips data through July 2019, survey data through June 2019
One of the only areas of weakness in the current data is investment.

Real Business Fixed Investment
annualized quarterly percent change

Sources: Bureau of Economic Analysis, FRBA GDPNow; Haver Analytics.

data through 2019:Q2
What case(s) can be made for cutting rates?

1. *Data Dependence.* The economic data (especially inflation and inflation expectations) are deteriorating.

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3a. *Realignment.* Neutral interest rates have fallen precipitously. In this case, the previous stance of policy was unintentionally too tight.

3b. *Cointegration.* The US financial market is connected to global markets. Policy easing elsewhere across the globe suggests continued downward pressure on domestic long rates. The FOMC is risking a persistent yield curve inversion if they don’t lower short rates.
Some folks see the increase in trade policy uncertainty as *causing* the weakness in business investment.

Sources: Scott Baker, Nick Bloom and Steven J. Davis’ economic policy uncertainty website: [http://www.policyuncertainty.com](http://www.policyuncertainty.com) data through July 2019
Business expectations ticked down, but remain positive. Uncertainty moved lower, in contrast to some other risk/uncertainty indicators.

Source: Federal Reserve Bank of Atlanta/Chicago Booth School of Business/Stanford Survey of Business Uncertainty; data through July 2019
And, importantly, that tick down in Business Expectations didn’t come from lowered expectations about capital investment.

The Business Expectations Index reflects firms’ expectations about the growth of their own sales, employment, and capital expenditures over the next 12 months. The index can respond to news about the overall economy, changes in business sentiment, policy developments, stock market moves, interest rate changes, and changes in the outlook of firms in the sample.

The Business Uncertainty Index reflects firms’ uncertainty about the growth of their own sales, employment, and capital expenditures over the next 12 months. It responds to the same forces that move the Business Expectations Index.

The Business Uncertainty Index captures uncertainty about the outlook for sample firms, while the Business Expectations Index captures the expected direction and magnitude of change. Each index is standardized to have a mean of 100 and a standard deviation of 10 in the period from January 2015 to December 2018.

Based on the preliminary read (1/3 of the sample), the share of firms reassessing capital expenditure plans because of tariff hikes and trade policy tensions is similar to the previous two iterations of these questions. Based on a follow-up (not shown), roughly 15 percent of the sample has indicated they are dropping or postponing capital expenditures that would have occurred over the second half of 2019.

### Survey of Business Uncertainty

<table>
<thead>
<tr>
<th></th>
<th>July 8-19, 2019</th>
<th>January 14-25, 2019</th>
<th>July 9-20, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percent reassessing capex</td>
<td>number of responses</td>
<td>Percent reassessing capex</td>
</tr>
<tr>
<td>All Responding Firms</td>
<td>24</td>
<td>120</td>
<td>20</td>
</tr>
<tr>
<td>Goods Producers</td>
<td>33</td>
<td>39</td>
<td>26</td>
</tr>
<tr>
<td>Service Providers</td>
<td>20</td>
<td>81</td>
<td>16</td>
</tr>
<tr>
<td>Manufacturers</td>
<td>41</td>
<td>11</td>
<td>29</td>
</tr>
<tr>
<td>Retail &amp; Wholesale Trade, Transportation, Warehousing</td>
<td>29</td>
<td>28</td>
<td>30</td>
</tr>
</tbody>
</table>

**July 2019 question:** Have the tariff hikes and ongoing trade policy tensions caused your firm to re-assess or alter its capital expenditure plans for the second half of 2019?

**January 2019 question:** Have the 2018 tariff hikes and ongoing trade policy tensions caused your firm to re-assess its capital expenditure plans for 2019?

**July 2018 question:** Have the recently announced tariff hikes or concerns about retaliation caused your firm to re-assess its capital expenditure plans?

Source: Survey of Business Uncertainty conducted by the Federal Reserve Bank of Atlanta, Stanford University, and University of Chicago Booth School of Business.
Estimated Impact of Tariff Hikes and Trade Policy Tensions on Gross Capital Investment Expenditures by U.S. Businesses in 2018

Using Firm-Level Responses in the January 2019 Survey of Business Uncertainty

<table>
<thead>
<tr>
<th>Segment</th>
<th>(1) Percentage Impact on Capital Expenditures</th>
<th>(2) Impact on 2018 Capital Spending ($ billions)</th>
<th>(3) Number of Survey Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Sector</td>
<td>-1.2%</td>
<td>- $32.5</td>
<td>337</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>-4.2%</td>
<td>- $22.0</td>
<td>95</td>
</tr>
</tbody>
</table>

Notes: Column (1) reports the employment-weighted mean of firm-level responses to SBU questions about whether tariff hikes and trade policy tensions caused the firm to alter its capital expenditures in 2018 and, if so, by what percentage amount. To obtain the Private Sector dollar value in Column (2), we multiply the Column (1) figure by the 2018:Q3 value of nominal private nonresidential fixed investment in the BEA’s National Income and Product Accounts. For Manufacturing, we multiply by the corresponding nominal value for the manufacturing sector in 2017, scaled up by an adjustment factor of 1.067. We compute the adjustment factor using the percentage growth of private sector investment expenditures from 2017 to 2018:Q3. Column (3) reports the number of survey responses used to calculate Column (1).

Source: Authors’ calculations using data from the Survey of Business Uncertainty conducted by the Federal Reserve Bank of Atlanta, Stanford University, and the University of Chicago Booth School of Business.
And, tariffs and trade policy tensions are having modest (at best) impacts on employment and sales growth expectations.

### Effects of tariffs on sales growth and expectations

**What impact, if any, did recent tariff hikes and trade policy tensions have on your firm’s sales revenue in the first half of 2019?**

- Lower: 30
- No impact: 92
- Higher: 5

Net change = -1.5%

**What impact, if any, have recent tariff hikes and trade policy tensions had on your firm’s anticipated sales revenue for the second half of 2019?**

- Lower: 36
- No impact: 96
- Higher: 3

Net change = -2.8%

### Effects of tariffs on employment decisions

**What impact, if any, did recent tariff hikes and trade policy tensions have on your firm’s number of employees in the first half of 2019?**

- Lower: 6
- No impact: 126
- Higher: 7

Net change = -<1%

**What impact, if any, have recent tariff hikes and trade policy tensions had on your firm’s anticipated number of employees for the second half of 2019?**

- Lower: 10
- No impact: 134
- Higher: 1

Net change = -<1%

Source: Federal Reserve Bank of Atlanta/Chicago Booth School of Business/Stanford Survey of Business Uncertainty; data July 2019
Any further tariffs on Chinese imports are likely to include a greater share of final consumer goods.

### Composition of US tariffs on Chinese imports

#### Phase 1: $50 billion
- Intermediate goods: 53%
- Capital Goods: 42%
- Transport equipment: 4%
- Consumer goods: 1%

#### Phase 2: $200 billion
- Intermediate goods: 50%
- Capital Goods: 25%
- Transport equipment: 24%
- Consumer goods: 1%

#### Potential Phase 3: $300 billion
- Intermediate goods: 15%
- Capital Goods: 44%
- Transport equipment: 40%
- Consumer goods: 1%

### China’s share of total US imports

(2017, share of customs value)

<table>
<thead>
<tr>
<th>Category</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>21.7</td>
</tr>
<tr>
<td>Furniture &amp; Fixtures</td>
<td>56.0</td>
</tr>
<tr>
<td>Textile Mill Products</td>
<td>54.2</td>
</tr>
<tr>
<td>Leather &amp; Allied Products</td>
<td>53.5</td>
</tr>
<tr>
<td>Print Matter</td>
<td>50.7</td>
</tr>
<tr>
<td>Computer &amp; Electronic Products</td>
<td>46.2</td>
</tr>
<tr>
<td>Elec Equip/Appliance/Component</td>
<td>39.4</td>
</tr>
<tr>
<td>Apparel &amp; Accessories</td>
<td>34.9</td>
</tr>
<tr>
<td>Nonmetallic Mineral Products</td>
<td>34.3</td>
</tr>
<tr>
<td>Misc. Mfg Commodities</td>
<td>34.0</td>
</tr>
<tr>
<td>Fabricated Metal Products</td>
<td>32.9</td>
</tr>
<tr>
<td>Plastics &amp; Rubber Products</td>
<td>32.8</td>
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</tbody>
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Source: Census Bureau, staff calculations

Source: Peterson Institute for International Economics (PIIE), International Trade Centre
Global growth indicators still point to slowing trade volumes and conditions that will likely continue to weigh on domestic production.
What case(s) can be made for cutting rates?

1. Data Dependence. The economic data (especially inflation and inflation expectations) are deteriorating.

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3a. Realignment. Neutral interest rates have fallen precipitously. In this case, the previous stance of policy was unintentionally too tight.

3b. Cointegration. The US financial market is connected to global markets. Policy easing elsewhere across the globe suggests continued downward pressure on domestic long rates. The FOMC is risking a persistent yield curve inversion if they don’t lower short rates.
The meaning of a “neutral stance” of monetary policy has changed.
The meaning of a “neutral stance” of monetary policy has changed.

Sources: Federal Reserve Board; FRB New York (Laubach and Williams); Haver Analytics
A chart that may have some folks nervous…

Spread between 10-Year and 3-Month Treasuries
Percentage points

data through July 2019

Sources: Federal Reserve Board; FRB New York; Haver Analytics
The yield curve has flattened out (and the 10-yr minus 2-yr spread went negative for a brief period). One statistical estimate from the NY Fed suggests that some of the flattening is tied to falling (negative) term premia.

**Treasury Note Yield at Constant Maturity**
average, percent p.a.

- **10-year**
- **3-month**

**Estimate of the 10-year Term Premium**
end-of-period, percent

Source: Federal Reserve Board; Haver Analytics  
Data through August 2, 2019  
Source: FRBNY Adrian, Crump, Moench model; Haver Analytics  
Data through August 2, 2019
A chart that may have some folks nervous...

Spread between 10-Year and 3-Month Treasuries
Percentage points

Sources: Federal Reserve Board; FRB New York; NBER; Haver Analytics
A chart that may have some folks nervous?

Recession Probabilities
percent

Yield Spread (10yr - 3mo)

Sources: Federal Reserve Board; FRB New York; NBER; Haver Analytics; author’s calculations based on binary probit models.

data through July 2019
A chart that may have some folks nervous?

Recession Probabilities

percent

Yield Spread (10yr - 3mo)  Risk-Free Yield Spread (10yr-3mo)

data through July 2019

Sources: Federal Reserve Board; FRB New York; NBER; Haver Analytics; author’s calculations based on binary probit models
The real fed funds rate gap is a measure of how tight monetary policy is to neutral. Note that just about every time monetary policy becomes overly restrictive a subsequent recession ensues…

Sources: Federal Reserve Board; BEA; Haver Analytics; LH Meyer; NBER; author’s calculations based on binary probit models.
A chart that may have some folks nervous?

Recession Probabilities

percent

Yield Spread (10yr - 3mo)
Risk-Free Yield Spread (10yr-3mo)
Federal Funds Rate Gap

Sources: Federal Reserve Board; FRB New York; NBER; Haver Analytics; author’s calculations based on binary probit models
Where to next?
Where to next?

**Probability of a Rate Hike or Cut by 2019-09-16**

From the midpoint of the current target range: 212.5 basis points

Sources: FRB Atlanta; Our methodology uses data on three-month Eurodollar futures, options on three-month Eurodollar futures from the Chicago Mercantile Exchange
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