Economic Developments and Monetary Policy Environment

Federal Reserve Bank of Chicago
Academic Advisory Council Meeting
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Senior Vice President
Federal Reserve Bank of Chicago

The views expressed here do not necessarily reflect the views of the Federal Reserve Bank of Chicago or the Federal Reserve System.
Labor market solid

Payroll gains
(3-month moving average, thousand persons, SA)

Net immigration
(millions, SA)

Source: Bureau of Labor Statistics via Haver Analytics

Source: CBO
Unemployment low; participation high

**Unemployment rate**
(percent, SA)

2006 2010 2014 2018 2022

<table>
<thead>
<tr>
<th>Year</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>15</td>
</tr>
<tr>
<td>2010</td>
<td>12</td>
</tr>
<tr>
<td>2014</td>
<td>9</td>
</tr>
<tr>
<td>2018</td>
<td>6</td>
</tr>
<tr>
<td>2022</td>
<td>3</td>
</tr>
</tbody>
</table>

**Labor force participation rate**
(percent, SA)

2006 2010 2014 2018 2022

<table>
<thead>
<tr>
<th>Year</th>
<th>79</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>87</td>
</tr>
<tr>
<td>2010</td>
<td>85</td>
</tr>
<tr>
<td>2014</td>
<td>83</td>
</tr>
<tr>
<td>2018</td>
<td>81</td>
</tr>
<tr>
<td>2022</td>
<td>79</td>
</tr>
</tbody>
</table>

Source: BLS via Haver Analytics
Job openings, quits near pre-pandemic

**Job openings**
(vacancies per unemployed worker, SA)

**Quits rate**
(percent of employment, SA)

Source: BLS via Haver Analytics
Compensation, productivity, and labor costs

**Compensation and wages**
(12-month percent change, private workers)

**Productivity and labor costs**
(4-quarter percent change, SA)

*Source: BLS via Haver Analytics*
Consumer spending

**Real personal consumption expenditures**

(% change, SAAR)

2020:Q1

Source: BEA via Haver Analytics

**Light vehicle sales**

(million units, SAAR)

Source: Autodata via Haver Analytics

**Real retail sales**

(control group; bil. 2017$, SA)

Source: BLS via Haver Analytics, staff calculations
Household balance sheets

Transitions to delinquency
(4-quarter moving sums, % of total debt, SA)

Households & nonprofit org. net worth
(percent of disposable personal income, EOP)

Source: Equifax

Source: Federal Reserve Board via Haver Analytics
Residential investment

**Housing starts**
(thous. units, SAAR)

- Single family
- Multifamily

**Mortgage rates and housing affordability**
(percent; index 100+ = more affordable)

Source: Census Bureau via Haver Analytics

Source: National Association of Realtors & Wall Street Journal via Haver Analytics
Nonresidential investment

**Equipment and intellectual property**
(bil. $ 2012, SAAR)

**Structures**
(bil. $ 2012, SAAR)

Source: Bureau of Economic Analysis via Haver Analytics
Business activity

Purchasing Managers' Indexes
(above 50 is expansion)

Source: Institute for Supply Management via Haver Analytics
Global growth outlook

<table>
<thead>
<tr>
<th>IMF GDP Forecasts(^1)</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Economies</td>
<td>1.6</td>
<td>1.7</td>
<td>1.8</td>
</tr>
<tr>
<td>October 2023</td>
<td>1.5</td>
<td>1.4</td>
<td>--</td>
</tr>
<tr>
<td>Emerging Economies</td>
<td>4.3</td>
<td>4.2</td>
<td>4.2</td>
</tr>
<tr>
<td>October 2023</td>
<td>4.0</td>
<td>4.0</td>
<td>--</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>0.1</td>
<td>0.5</td>
<td>1.5</td>
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<tr>
<td>October 2023</td>
<td>0.5</td>
<td>0.6</td>
<td>--</td>
</tr>
<tr>
<td>Euro Area</td>
<td>0.4</td>
<td>0.8</td>
<td>1.5</td>
</tr>
<tr>
<td>October 2023</td>
<td>0.7</td>
<td>1.2</td>
<td>--</td>
</tr>
<tr>
<td>China</td>
<td>5.2</td>
<td>4.6</td>
<td>4.1</td>
</tr>
<tr>
<td>October 2023</td>
<td>5.0</td>
<td>4.2</td>
<td>--</td>
</tr>
</tbody>
</table>

\(^1\) Percent change in average annual level of real GDP

Source: International Monetary Fund World Economic Outlook, April 2024 (current) and October 2023
Inflation cooling but still high

PCE price index
(12-month percent change)

<table>
<thead>
<tr>
<th>monthly % change</th>
<th>Jun-Dec*</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>April</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>0.2</td>
<td>0.4</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3**</td>
</tr>
<tr>
<td>Core</td>
<td>0.2</td>
<td>0.5</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3**</td>
</tr>
</tbody>
</table>

*Average monthly rate of inflation over the period

** April data are Bloomberg consensus forecasts

Source: Bureau of Labor Statistics via Haver Analytics, Bloomberg
Components of core PCE inflation

Core PCE inflation components
(12 month percent change)

<table>
<thead>
<tr>
<th>Monthly % change</th>
<th>Jun-Dec*</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core goods</td>
<td>-0.2</td>
<td>0.0</td>
<td>0.3</td>
<td>0.1</td>
</tr>
<tr>
<td>Housing</td>
<td>0.5</td>
<td>0.5</td>
<td>0.4</td>
<td>0.4</td>
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<tr>
<td>Core serv ex housing</td>
<td>0.2</td>
<td>0.8</td>
<td>0.2</td>
<td>0.4</td>
</tr>
</tbody>
</table>

*Average monthly rate of inflation over the period

Note: Core goods are goods less food and beverages purchased for off-premise consumption and gasoline and other energy goods. Core services are services less electricity and gas. Food services are included, as is the case in BEA core PCE prices.

Source: BEA via Haver Analytics; staff calculations
Supply side repair and lower rents

Global Supply Chain Pressure Index
(standard deviations from average)

CPI shelter spending & Zillow Observed Rent Index
(12-month percent change)

Source: FRBNY using data from BLS; Harper Petersen Holding GmbH; Baltic Exchange; IHS Markit; Institute for Supply Management; Haver Analytics; Refinitiv

Source: BLS and Zillow via Haver Analytics
Inflation expectations

Michigan Survey inflation expectations
(Percent)

TIPS Inflation Compensation
(Percent)

Source: Board of Governors of the Federal Reserve System

Source: University of Michigan via Haver Analytics
Financial market developments

**Treasury Yields**
(Percent)

Source: Board of Governors of the Federal Reserve System via Haver Analytics

**10-year treasury spreads**
(Percent)

Source: ICE/Bank of America Merrill Lynch, & Federal Reserve Board of Governors via Haver Analytics
Financial market developments, cont.

**Bank lending standards**
(percentage of banks tightening standards to)

- Large and medium firms
- Small firms

**Financial Conditions Impulse on Growth**
(contributions to reducing GDP growth over the next year, percent)

Source: Federal Reserve Board of Governors via Haver Analytics
Fed funds rate path

Median SEP Federal Funds Rate projection (percent)

Sources: FOMC Summary of Economic Projections via Haver Analytics
Balance sheet reduction

Key Federal Reserve Assets (tril. $)

Source: Federal Reserve Board via Haver Analytics; FRBNY Survey of Market Participants
### March FOMC SEP median outlook

<table>
<thead>
<tr>
<th>Projection</th>
<th>2023*</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>Long run</th>
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<tbody>
<tr>
<td>GDP</td>
<td>3.1</td>
<td>2.1</td>
<td>2.0</td>
<td>2.0</td>
<td>1.8</td>
</tr>
<tr>
<td>September</td>
<td>2.1</td>
<td>1.5</td>
<td>1.8</td>
<td></td>
<td>1.8</td>
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<tr>
<td>Unempl. rate</td>
<td>3.7</td>
<td>4.0</td>
<td>4.1</td>
<td>4.0</td>
<td>4.1</td>
</tr>
<tr>
<td>September</td>
<td>3.8</td>
<td>4.1</td>
<td>4.1</td>
<td></td>
<td>4.0</td>
</tr>
<tr>
<td>Total PCE</td>
<td>2.8</td>
<td>2.4</td>
<td>2.2</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>September</td>
<td>3.3</td>
<td>2.5</td>
<td>2.2</td>
<td></td>
<td>2.0</td>
</tr>
<tr>
<td>Core PCE</td>
<td>3.2</td>
<td>2.6</td>
<td>2.2</td>
<td>2.0</td>
<td></td>
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<tr>
<td>September</td>
<td>3.7</td>
<td>2.6</td>
<td>2.3</td>
<td></td>
<td></td>
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</tbody>
</table>

*Q4-to-Q4 percent change except for unemployment rate, which is Q4 average. 2023 upper row values are BEA advance estimates, not March SEP.

Source: FOMC Summary of Economic Projections, March 2024 & September 2023
## Survey of Professional Forecasters consensus forecasts

<table>
<thead>
<tr>
<th>Variable</th>
<th>'24:Q2</th>
<th>'24:Q3</th>
<th>2024</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP&lt;sup&gt;1&lt;/sup&gt;</td>
<td>2.1</td>
<td>2.0</td>
<td>1.8</td>
<td>1.9&lt;sup&gt;3&lt;/sup&gt;</td>
</tr>
<tr>
<td>November</td>
<td>1.3</td>
<td>1.5</td>
<td>1.3</td>
<td>1.8</td>
</tr>
<tr>
<td>Unemployment rate&lt;sup&gt;2&lt;/sup&gt;</td>
<td>3.9</td>
<td>4.0</td>
<td>4.0</td>
<td>4.1&lt;sup&gt;3&lt;/sup&gt;</td>
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<tr>
<td>November</td>
<td>4.0</td>
<td>4.2</td>
<td>4.2</td>
<td>4.2</td>
</tr>
<tr>
<td>PCE inflation&lt;sup&gt;1&lt;/sup&gt;</td>
<td>3.1</td>
<td>2.4</td>
<td>2.8</td>
<td>2.2</td>
</tr>
<tr>
<td>November</td>
<td>2.5</td>
<td>2.3</td>
<td>2.4</td>
<td>2.1</td>
</tr>
<tr>
<td>Core PCE inflation&lt;sup&gt;1&lt;/sup&gt;</td>
<td>3.0</td>
<td>2.5</td>
<td>2.9</td>
<td>2.2</td>
</tr>
<tr>
<td>November</td>
<td>2.4</td>
<td>2.3</td>
<td>2.4</td>
<td>2.1</td>
</tr>
</tbody>
</table>

<sup>1</sup>Quarterly data are quarterly change at an annual rate; annual data are Q4/Q4 percent changes  
<sup>2</sup>Quarterly data are quarterly average; annual data are Q4 level  
<sup>3</sup>Annual average GDP growth and unemployment rate

Source: Survey of Professional Forecasters, May 2024 (current) and November 2023