Economic Developments and Monetary Policy Environment

Federal Reserve Bank of Chicago
Academic Advisory Council Meeting
April 21, 2023

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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 strong

Nonfarm payroll employment (millions, SA)

Unemployment rate (percent, SA)

Source: Bureau of Labor Statistics via Haver Analytics

Source: Bureau of Economic Analysis from Haver Analytics
Labor force participation rates

Prime age (25-54 years old)
(percent, SA)

55 and older
(percent, SA)

Job openings and quits off peak, but still high

**Job opening rate**
(vacancies as a percent of labor force, SA)

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

Source: Bureau of Labor Statistics via Haver Analytics
Compensation, labor costs, and prices

**Compensation and wages**
(private workers, percent change year-to-year, SA)

**Unit labor costs and inflation**
(business sector, four-quarter percent change, SA)

Source: Bureau of Labor Statistics via Haver Analytics
Household spending

Real personal consumption expenditures
(indexed, Feb-2020 = 100)

Source: U.S. Bureau of Economic Analysis via Haver Analytics

Light vehicle sales
(million units, SAAR)

Source: Autodata via Haver Analytics

Single family housing starts and permits
(millions, SAAR)

Source: Census Bureau via Haver Analytics
Household balance sheets

**Personal saving rate**
(percent of disposable income)

- 2006: 0%
- 2010: 10%
- 2014: 20%
- 2018: 30%
- 2022: 40%

**Households & nonprofit organizations net worth**
(percent of disposable personal income, EOP)

- 2006: 500
- 2010: 600
- 2014: 700
- 2018: 800
- 2022: 900

Feb-2023: 2022:Q4

Source: Bureau of Economic Analysis via Haver Analytics

Source: Federal Reserve Board 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 Mangers Index
(above 50 is expansion)

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

<table>
<thead>
<tr>
<th>IMF GDP Forecasts¹</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Economies</td>
<td>2.7</td>
<td>1.3</td>
<td>1.4</td>
</tr>
<tr>
<td>October</td>
<td>2.4</td>
<td>1.1</td>
<td></td>
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<tr>
<td>Emerging Economies</td>
<td>4.0</td>
<td>3.9</td>
<td>4.2</td>
</tr>
<tr>
<td>October</td>
<td>3.7</td>
<td>3.7</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>4.0</td>
<td>-0.3</td>
<td>1.0</td>
</tr>
<tr>
<td>October</td>
<td>3.6</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td>Euro Area</td>
<td>3.5</td>
<td>0.8</td>
<td>1.4</td>
</tr>
<tr>
<td>October</td>
<td>3.1</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>3.0</td>
<td>5.2</td>
<td>4.5</td>
</tr>
<tr>
<td>October</td>
<td>3.2</td>
<td>4.4</td>
<td></td>
</tr>
</tbody>
</table>

¹ Percent change in average annual level of real GDP

Source: International Monetary Fund World Economic Outlook, (current) and October 2022
Inflation still high (PCE prices)

Source: Bureau of Economic Analysis via Haver Analytics
Inflation still high (CPI)

<table>
<thead>
<tr>
<th>monthly % change</th>
<th>Q4 avg</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>0.3</td>
<td>0.5</td>
<td>0.4</td>
<td>0.1</td>
</tr>
<tr>
<td>Core</td>
<td>0.3</td>
<td>0.4</td>
<td>0.5</td>
<td>0.4</td>
</tr>
</tbody>
</table>

Source: Bureau of Labor Statistics via Haver Analytics
Supply side repair and lower rents

Global Supply Chain Pressure Index
(standard deviations from average)

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


Source: BLS and Zillow via Haver Analytics
Components of core CPI inflation

(12-month percent change)

<table>
<thead>
<tr>
<th>monthly % change</th>
<th>Q4 avg</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core goods</td>
<td>-0.2</td>
<td>0.1</td>
<td>0.0</td>
<td>0.2</td>
</tr>
<tr>
<td>Housing</td>
<td>0.7</td>
<td>0.7</td>
<td>0.8</td>
<td>0.6</td>
</tr>
<tr>
<td>Core services ex housing</td>
<td>0.3</td>
<td>0.3</td>
<td>0.4</td>
<td>0.3</td>
</tr>
</tbody>
</table>

Source: Bureau of Labor Statistics via Haver Analytics
Inflation expectations

**Michigan Survey of Inflation Expectations**

TIPS inflation compensation

Source: Board of Governors of the Federal Reserve System

Source: University of Michigan from Haver Analytics
SVB and Signature Bank had unique circumstances

Impact of Unrealized Securities Losses on Capital Ratio (est.)

Common equity tier 1 ratio
Adj. for unrealized losses on securities

Uninsured Share of Domestic Deposits

Balance Sheet Growth, Q1 2019 to Q4 2022

*See appendix for methodological and source notes
Federal Reserve credit extensions

<table>
<thead>
<tr>
<th>Credit Extended Through the Fed's Discount Window and BTFTP</th>
<th>2-Mar</th>
<th>15-Mar</th>
<th>29-Mar</th>
<th>12-Apr</th>
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<tbody>
<tr>
<td>$ Billions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary Credit</td>
<td>4.4</td>
<td>152.9</td>
<td>88.2</td>
<td>67.6</td>
</tr>
<tr>
<td>Bank Term Funding Program</td>
<td>-</td>
<td>11.9</td>
<td>64.4</td>
<td>71.8</td>
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<tr>
<td>Other Credit Extensions*</td>
<td>-</td>
<td>142.8</td>
<td>180.1</td>
<td>172.6</td>
</tr>
</tbody>
</table>

*Includes loans that were extended to depository institutions established by the Federal Deposit Insurance Corporation (FDIC). The Federal Reserve Banks' loans to these depository institutions are secured by collateral and the FDIC provides repayment guarantees.

Source: H.4.1 Factors Affecting Reserve Balances
Banking concerns: Selected stock prices

Bank stock prices (indexed, March 2022 = 100)

Source: Yahoo! Finance

First Republic
JPMorgan
SPDR Regional Banks

Apr 12, 2023
Overall banking system well capitalized

Core capital (leverage) ratio

(percent)

Note: Leverage is the ratio of Tier 1 capital to total assets. Tier 1 capital includes: common equity; noncumulative perpetual preferred stock; and minority interests in consolidated subsidiaries less goodwill and other ineligible intangible assets. “Small” banks is the simple average of the leverage ratio for banks with <$100M, $100M-$1B, and $1B-$10B in total assets, as reported in the FDIC’s Quarterly Banking profile tables.

Source: FDIC via Haver Analytics
Other financial market developments

### S&P 500 Index
(index)

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<tr>
<th></th>
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<tbody>
<tr>
<td>Value</td>
<td></td>
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Source: Standard & Poor's via Haver Analytics

### Treasury yields
(percent)

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</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Source: Board of Governors of the Federal Reserve System via Haver Analytics
Other financial market developments, cont.

30-year fixed mortgage rate (percent)

Source: Wall Street Journal via Haver Analytics

Chicago Fed National Financial Conditions Index (>0 indicates tighter than average)

Source: Federal Reserve Bank of Chicago from Haver Analytics
Fed funds rate paths

Median SEP federal funds rate projection (percent)

Note: Median SEP projections are plotted at the end of their respective year
Sources: FOMC Summary of Economic Projections via Haver Analytics
Balance sheet reduction

Key Federal Reserve assets
(tril. $)

Historical

March 2023

Note: Key assets include U.S. Treasury securities and agency mortgage-backed securities
Source: Federal Reserve Board via Haver Analytics; FRBNY Survey of Market Participants
### Median SEP outlook

<table>
<thead>
<tr>
<th>Projection</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>Long run</th>
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</thead>
<tbody>
<tr>
<td>GDP</td>
<td>0.4</td>
<td>1.2</td>
<td>1.9</td>
<td>1.8</td>
</tr>
<tr>
<td><strong>December</strong></td>
<td>0.5</td>
<td>1.6</td>
<td>1.8</td>
<td>1.8</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>4.5</td>
<td>4.6</td>
<td>4.6</td>
<td>4.0</td>
</tr>
<tr>
<td><strong>December</strong></td>
<td>4.6</td>
<td>4.6</td>
<td>4.5</td>
<td>4.0</td>
</tr>
<tr>
<td>Total PCE</td>
<td>3.3</td>
<td>2.5</td>
<td>2.1</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>December</strong></td>
<td>3.1</td>
<td>2.5</td>
<td>2.1</td>
<td>2.0</td>
</tr>
<tr>
<td>Core PCE</td>
<td>3.6</td>
<td>2.6</td>
<td>2.1</td>
<td></td>
</tr>
<tr>
<td><strong>December</strong></td>
<td>3.5</td>
<td>2.5</td>
<td>2.1</td>
<td></td>
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</tbody>
</table>

Source: FOMC Summary of Economic Projections, March 2023
## Blue Chip consensus forecasts

<table>
<thead>
<tr>
<th>Variable</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GDP</strong>&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
<td>0.3</td>
<td>1.6</td>
</tr>
<tr>
<td>November</td>
<td>0.2</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td><strong>Unemployment rate</strong>&lt;sup&gt;2&lt;/sup&gt;</td>
<td></td>
<td>4.3</td>
<td>4.6</td>
</tr>
<tr>
<td>November</td>
<td>3.7</td>
<td>4.7</td>
<td></td>
</tr>
<tr>
<td><strong>PCE inflation</strong>&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
<td>3.0</td>
<td>2.2</td>
</tr>
<tr>
<td>November</td>
<td>5.8</td>
<td>2.9</td>
<td></td>
</tr>
<tr>
<td><strong>Core PCE inflation</strong>&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
<td>3.4</td>
<td>2.3</td>
</tr>
<tr>
<td>November</td>
<td>4.9</td>
<td>3.0</td>
<td></td>
</tr>
</tbody>
</table>

<sup>1</sup>Q4/Q4 percent changes  
<sup>2</sup>Q4 level

Source: Blue Chip Consensus Forecast via Haver Analytics, April 2023 (current) and November 2022
Appendix
Slide 16 methodological notes

**Top:** All capital ratio data are from Federal Financial Institution Examination Council (FFIEC) call reports. Common equity tier 1 (CET1) ratio is the ratio of common equity tier 1 to risk-weighted assets (RWA). Adjustments for unrealized losses were made on a case-by-case basis. For globally systemic important banks (GSIBs) – Bank of America, Citi, JPMorgan, and Wells Fargo – unrealized losses were calculated as the difference between the value of these banks’ “held-to-maturity” (HTM) securities portfolios on an amortized cost basis and a fair value basis. This amount was then subtracted from CET1 and divided by RWA to produce an adjusted CET1 ratio.

Each of the non-GSIBs had the same adjustment plus a similar adjustment for “available-for-sale” (AFS) securities. The latter adjustment was necessary because each of these non-GSIBs had opted into the accumulated other comprehensive income (AOCI) election on their call report form. The AOCI election effectively allowed these banks to net out the impact of mark-to-market valuation changes to AFS securities on their capital ratios, which GSIBs are unable to do.

**Bottom left:** Bars show the percent change in total assets from Q1 2019 to Q4 2022 as reported on each institution’s financial report on the FDIC’s website.

**Bottom right:** Bars show the estimated share of uninsured deposits based on the estimated share of insured deposits reported on each institution’s financial report on the FDIC’s website. Notably, this estimate represents the share of *domestic* insured deposits. Deposits held at foreign branches were excluded from this analysis.