

RESPONSES TO SURVEY OF PRIMARY DEALERS

Markets Group, Federal Reserve Bank of New York



SEPTEMBER 2023

Distributed: 9/6/2023 – Received by: 9/11/2023

The **Survey of Primary Dealers** is formulated by the Trading Desk at the Federal Reserve Bank of New York to enhance policymakers' understanding of market expectations on a variety of topics related to the economy, monetary policy and financial markets. The questions involve only topics that are widely discussed in the public domain and never presume any particular policy action. FOMC participants are not involved in the survey's design.

For most questions, median responses across dealers, along with the 25th and 75th percentiles, are reported. For questions that ask respondents to give a probability distribution, the average response across dealers for each potential outcome is reported.¹ Brief summaries of the comments received in free response form are also provided.

Responses were received from 24 primary dealers. Except where noted, all 24 dealers responded to each question. In some cases, dealers may not have provided complete responses (e.g. may not have provided forecasts extending to the same time horizon as requested in the survey). In these instances, the number of respondents who answered all parts of the question is indicated.

¹ Answers may not sum to 100 percent due to rounding.

Table of Contents

| | |
|------|---------------------------|
| Q-1) | FOMC Meeting Expectations |
|------|---------------------------|

| | |
|------|---------------------------------|
| Q-2) | Target Federal Funds Rate/Range |
|------|---------------------------------|

| | |
|------|---|
| Q-3) | Expectations for Target Federal Funds Rate/Range under Various Hypothetical Scenarios |
|------|---|

| | |
|------|---|
| Q-4) | Expectations for Balance Sheet Components |
|------|---|

| | |
|------|--|
| Q-5) | U.S. Real GDP Growth Probability Distributions |
|------|--|

| | |
|------|---------------------------|
| Q-6) | Quarterly PCE Projections |
|------|---------------------------|

| | |
|------|-------------------------------------|
| Q-7) | Inflation Probability Distributions |
|------|-------------------------------------|

| | |
|------|---|
| Q-8) | U.S. and Global Recession Probabilities |
|------|---|

| | |
|------|----------------------------------|
| Q-9) | Estimates of Economic Indicators |
|------|----------------------------------|

- 1a) Provide below your expectations for changes, if any, to the language referencing each of the following topics in the September FOMC statement. Please write N/A if you do not expect any changes.

Current economic conditions:

Some dealers indicated they expected little or no change. Some dealers indicated they expected a softening of the language on the labor market. Several dealers indicated they expected continued reference to elevated inflation. Several expected continued reference to low unemployment. Several dealers indicated they expected an upgrade to the language on economic growth.

Economic outlook and communication on the expected path of the target federal funds rate:

Most dealers indicated they expected little or no change or only an update to reflect holding the target range for the federal funds rate steady at the September meeting. Several dealers explicitly indicated that they expected the statement to retain language on taking into account monetary policy lags and economic and financial developments in determining the extent of additional policy firming.

Communication on tools other than the target federal funds rate:
(22 responses)

Most dealers indicated they expected little or no change.

Other:
(19 responses)

Dealers did not provide significant commentary in this section.

- 1b) What are your expectations for the most likely levels of the medians of FOMC participants' target federal funds rate projections in the SEP? Please provide your responses out to three decimal places.

| | Year-end 2023 | Year-end 2024 | Year-end 2025 | Year-end 2026 | Longer run |
|------------------|------------------|------------------|------------------|------------------|--------------|
| 25th Percentile | 5.63% | 4.63% | 3.38% | 2.63% | 2.50% |
| Median | 5.63% | 4.63% | 3.38% | 2.88% | 2.50% |
| 75th Percentile | 5.63% | 4.88% | 3.38% | 2.88% | 2.50% |
| # of Respondents | 24 | 24 | 24 | 24 | 24 |

- 1c) What are your expectations for the Chair's press conference?

Many dealers indicated they expected the Chair to note some potential for, or lean toward, further tightening without pre-committing to a specific rate path. In this discussion, some dealers indicated they expected the Chair to note that further tightening will depend on incoming data or that further tightening will be needed to ensure that inflation returns to the 2 percent target. Some dealers indicated they expected the Chair's press conference remarks to be similar to

his recent speech at Jackson Hole. Several dealers indicated they expected the Chair to note that inflation remains elevated or to emphasize upside inflation risks, and several dealers expected the Chair to reference a moderation in inflation. Several dealers indicated they expected the Chair to reference a softening in the labor market. Several dealers indicated they expected the Chair to reiterate that the stance of monetary policy would need to be restrictive for an extended period. Several dealers indicated they expected the Chair to reiterate the FOMC’s commitment to returning inflation to target.

2a) Provide your estimate of the most likely outcome (i.e., the mode) for the target federal funds rate or range, as applicable, immediately following the FOMC meetings and at the end of each of the following quarters and years below. For the time periods at which you expect a target range, please indicate the midpoint of that range in providing your response.

| | Sep. 19-20 | Oct. 31-Nov. 1 | Dec. 12-13 | Jan. 30-31 | Mar. 19-20 | Apr. 30-May 1 | Jun. 11-12 |
|------------------|------------|----------------|------------|------------|------------|---------------|------------|
| 25th Percentile | 5.38% | 5.38% | 5.38% | 5.38% | 5.13% | 4.88% | 4.63% |
| Median | 5.38% | 5.38% | 5.38% | 5.38% | 5.38% | 5.38% | 5.13% |
| 75th Percentile | 5.38% | 5.63% | 5.63% | 5.63% | 5.63% | 5.38% | 5.13% |
| # of Respondents | 24 | 24 | 24 | 24 | 24 | 24 | 24 |

| | 2024 Q3 | 2024 Q4 | 2025 Q1 | 2025 Q2 | 2025 Q3 | 2025 Q4 | 2026 | 2027 |
|------------------|---------|---------|---------|---------|---------|---------|-------|-------|
| 25th Percentile | 4.25% | 3.75% | 3.13% | 3.06% | 2.88% | 2.56% | 2.38% | 2.38% |
| Median | 4.63% | 4.13% | 3.63% | 3.38% | 3.13% | 3.13% | 2.88% | 2.63% |
| 75th Percentile | 5.00% | 4.63% | 4.38% | 3.69% | 3.50% | 3.25% | 3.13% | 3.13% |
| # of Respondents | 23 | 23 | 20 | 20 | 20 | 20 | 19 | 19 |

2b) In addition, provide your estimate of the longer run target federal funds rate and your expectation for the average federal funds rate over the next 10 years.

| | 10-yr Average FF Rate | Longer Run |
|------------------|-----------------------|------------|
| 25th Percentile | 2.79% | 2.50% |
| Median | 3.00% | 2.50% |
| 75th Percentile | 3.14% | 2.75% |
| # of Respondents | 24 | 24 |

2c) Please indicate the percent chance that you attach to the target federal funds rate or range falling in each of the following ranges immediately following the September and October/November FOMC meetings and at the end of 2023 and 2024. If you expect a target range, please use the midpoint of that range in providing your response.

| Federal Funds Rate or Range after the September 2023 FOMC Meeting | | | | | | | | | | |
|---|----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------|
| | <= 4.25% | 4.26 - 4.50% | 4.51 - 4.75% | 4.76 - 5.00% | 5.01 - 5.25% | 5.26 - 5.50% | 5.51 - 5.75% | 5.76 - 6.00% | 6.01 - 6.25% | >= 6.26% |
| Average | 0% | 0% | 0% | 0% | 0% | 86% | 14% | 0% | 0% | 0% |

| Federal Funds Rate or Range after the October/November 2023 FOMC Meeting | | | | | | | | | | |
|--|----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------|
| | <= 4.25% | 4.26 - 4.50% | 4.51 - 4.75% | 4.76 - 5.00% | 5.01 - 5.25% | 5.26 - 5.50% | 5.51 - 5.75% | 5.76 - 6.00% | 6.01 - 6.25% | >= 6.26% |
| Average | 0% | 0% | 0% | 0% | 1% | 56% | 39% | 3% | 0% | 0% |

| Federal Funds Rate or Range at the End of 2023 | | | | | | | | | | |
|--|----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------|
| | <= 4.25% | 4.26 - 4.50% | 4.51 - 4.75% | 4.76 - 5.00% | 5.01 - 5.25% | 5.26 - 5.50% | 5.51 - 5.75% | 5.76 - 6.00% | 6.01 - 6.25% | >= 6.26% |
| Average | 1% | 1% | 1% | 3% | 4% | 47% | 36% | 6% | 1% | 0% |

| Federal Funds Rate or Range at the End of 2024 | | | | | | | | | | |
|--|----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------|
| | <= 1.50% | 1.51 - 2.00% | 2.01 - 2.50% | 2.51 - 3.00% | 3.01 - 3.50% | 3.51 - 4.00% | 4.01 - 4.50% | 4.51 - 5.00% | 5.01 - 5.50% | >= 5.51% |
| Average | 5% | 3% | 6% | 12% | 10% | 13% | 15% | 17% | 12% | 6% |

2d) Please indicate the percent chance that you attach to the highest level of the target range for the federal funds rate before the target range is next decreased falling in each of the following ranges.

| | <= 4.25% | 4.26 - 4.50% | 4.51 - 4.75% | 4.76 - 5.00% | 5.01 - 5.25% | 5.26 - 5.50% | 5.51 - 5.75% | 5.76 - 6.00% | 6.01 - 6.25% | >= 6.26% |
|---------|----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------|
| Average | 0% | 0% | 0% | 0% | 0% | 49% | 33% | 12% | 4% | 3% |

2e) Please indicate the percent chance that you attach to the longer run target federal funds rate — the level the target federal funds rate would be expected to converge to under appropriate monetary policy and in the absence of further shocks to the economy — falling in each of the following ranges.

| | <= 1.50% | 1.51 - 2.00% | 2.01 - 2.50% | 2.51 - 3.00% | 3.01 - 3.50% | >= 3.51% |
|---------|----------|--------------|--------------|--------------|--------------|----------|
| Average | 4% | 8% | 30% | 34% | 17% | 6% |

3) The following matrix lays out hypothetical scenarios in which the realized levels of the 2024 unemployment rate (Q4 average level) and 2024 core PCE inflation (Q4/Q4 growth) are either 50 basis points above, below, or equal to the medians of FOMC participants' projections for these indicators in the current (June 2023) Summary of Economic Projections (SEP). For example, the upper left box represents a scenario in which the unemployment rate and core PCE inflation are both 50 basis points below the current SEP medians.

For each of the following scenarios, please indicate the level of the target federal funds rate or range that you expect would prevail at the end of Q4 2024. If you expect a target range, please indicate the midpoint of that range in providing your response.

(22 responses)

| 25th Percentile Responses | | 2024 Unemployment Rate (Q4 average level) | | |
|--|---------|--|-------|---------|
| | | -50 bps | 4.5% | +50 bps |
| 2024 Core PCE Inflation (Q4/Q4 growth) | -50 bps | 4.13% | 3.63% | 2.69% |
| | 2.6% | 4.88% | 4.44% | 3.44% |
| | +50 bps | 5.19% | 4.88% | 4.44% |

| Median Responses | | 2024 Unemployment Rate (Q4 average level) | | |
|--|---------|--|-------|---------|
| | | -50 bps | 4.5% | +50 bps |
| 2024 Core PCE Inflation (Q4/Q4 growth) | -50 bps | 4.38% | 4.13% | 3.50% |
| | 2.6% | 4.88% | 4.63% | 4.13% |
| | +50 bps | 5.38% | 5.13% | 4.63% |

| 75th Percentile Responses | | 2024 Unemployment Rate (Q4 average level) | | |
|--|---------|--|-------|---------|
| | | -50 bps | 4.5% | +50 bps |
| 2024 Core PCE Inflation (Q4/Q4 growth) | -50 bps | 4.63% | 4.13% | 3.88% |
| | 2.6% | 5.06% | 4.63% | 4.31% |
| | +50 bps | 5.63% | 5.13% | 4.88% |

4a) Please provide your modal expectation for the average level of specified assets over each of the periods below. Average level amounts referenced below are in \$ billions.

| Expectations for the Average Level of Treasury Holdings in the SOMA Portfolio (\$ billions) | | | | | | | |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | Sep. 2023 | Oct. 2023 | Nov. 2023 | Dec. 2023 | Jan. 2024 | Feb. 2024 | Mar. 2024 |
| 25th Percentile | 4,973 | 4,913 | 4,853 | 4,793 | 4,733 | 4,673 | 4,613 |
| Median | 4,973 | 4,913 | 4,853 | 4,793 | 4,733 | 4,673 | 4,613 |
| 75th Percentile | 4,974 | 4,914 | 4,854 | 4,794 | 4,752 | 4,707 | 4,662 |
| # of Respondents | 24 | 24 | 24 | 24 | 23 | 23 | 23 |

| Expectations for the Average Level of MBS in the SOMA Portfolio (\$ billions) | | | | | | | |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | Sep. 2023 | Oct. 2023 | Nov. 2023 | Dec. 2023 | Jan. 2024 | Feb. 2024 | Mar. 2024 |
| 25th Percentile | 2,489 | 2,469 | 2,449 | 2,429 | 2,410 | 2,392 | 2,373 |
| Median | 2,494 | 2,474 | 2,454 | 2,435 | 2,415 | 2,397 | 2,375 |
| 75th Percentile | 2,497 | 2,481 | 2,465 | 2,445 | 2,430 | 2,418 | 2,402 |
| # of Respondents | 24 | 24 | 24 | 24 | 23 | 23 | 23 |

| Expectations for the Average Level of Total Assets on the Federal Reserve Balance Sheet (\$ billions) | | | | | | | |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | Sep. 2023 | Oct. 2023 | Nov. 2023 | Dec. 2023 | Jan. 2024 | Feb. 2024 | Mar. 2024 |
| 25th Percentile | 8,096 | 7,996 | 7,902 | 7,816 | 7,708 | 7,613 | 7,528 |
| Median | 8,120 | 8,020 | 7,919 | 7,834 | 7,750 | 7,665 | 7,592 |
| 75th Percentile | 8,145 | 8,053 | 7,960 | 7,870 | 7,787 | 7,693 | 7,622 |
| # of Respondents | 24 | 24 | 24 | 24 | 23 | 23 | 23 |

| Expectations for the Average Level of Treasury Holdings in the SOMA Portfolio (\$ billions) | | | | | | | | |
|---|---------|--|---------|--|---------|--|---------|--|
| | 2024 Q2 | | 2024 Q3 | | 2024 Q4 | | 2025 Q4 | |
| 25th Percentile | 4,494 | | 4,344 | | 4,286 | | 4,347 | |
| Median | 4,542 | | 4,459 | | 4,564 | | 4,626 | |
| 75th Percentile | 4,654 | | 4,669 | | 4,669 | | 4,826 | |
| # of Respondents | 23 | | 23 | | 23 | | 22 | |

| Expectations for the Average Level of MBS in the SOMA Portfolio (\$ billions) | | | | | | | | |
|---|---------|--|---------|--|---------|--|---------|--|
| | 2024 Q2 | | 2024 Q3 | | 2024 Q4 | | 2025 Q4 | |
| 25th Percentile | 2,331 | | 2,269 | | 2,214 | | 1,995 | |
| Median | 2,340 | | 2,289 | | 2,237 | | 2,081 | |
| 75th Percentile | 2,371 | | 2,335 | | 2,320 | | 2,222 | |
| # of Respondents | 23 | | 23 | | 23 | | 22 | |

| Expectations for the Average Level of Total Assets on the Federal Reserve Balance Sheet (\$ billions) | | | | |
|---|---------|---------|---------|---------|
| | 2024 Q2 | 2024 Q3 | 2024 Q4 | 2025 Q4 |
| 25th Percentile | 7,375 | 7,176 | 7,086 | 7,017 |
| Median | 7,431 | 7,330 | 7,192 | 7,245 |
| 75th Percentile | 7,555 | 7,486 | 7,460 | 7,465 |
| # of Respondents | 23 | 23 | 23 | 22 |

4b) Please provide your modal expectation for the average level of specified liabilities over each of the periods below. Average level amounts referenced below are in \$ billions.

| Expectations for the Average Level of Reserves (\$ billions) | | | | | | | |
|--|---------|---------|---------|---------|---------|---------|---------|
| | 2023 Q3 | 2023 Q4 | 2024 Q1 | 2024 Q2 | 2024 Q3 | 2024 Q4 | 2025 Q4 |
| 25th Percentile | 3,038 | 2,805 | 2,652 | 2,498 | 2,413 | 2,465 | 2,410 |
| Median | 3,156 | 2,988 | 2,859 | 2,753 | 2,700 | 2,601 | 2,635 |
| 75th Percentile | 3,201 | 3,092 | 3,006 | 3,003 | 3,014 | 3,054 | 3,155 |
| # of Respondents | 24 | 24 | 23 | 23 | 23 | 23 | 22 |

| Expectations for the Average Level of Currency in Circulation (\$ billions) | | | | | | | |
|---|---------|---------|---------|---------|---------|---------|---------|
| | 2023 Q3 | 2023 Q4 | 2024 Q1 | 2024 Q2 | 2024 Q3 | 2024 Q4 | 2025 Q4 |
| 25th Percentile | 2,336 | 2,347 | 2,370 | 2,385 | 2,406 | 2,425 | 2,474 |
| Median | 2,340 | 2,363 | 2,393 | 2,417 | 2,441 | 2,470 | 2,553 |
| 75th Percentile | 2,350 | 2,372 | 2,410 | 2,450 | 2,485 | 2,524 | 2,642 |
| # of Respondents | 24 | 24 | 23 | 23 | 23 | 23 | 22 |

| Expectations for the Average Level of Overnight Reverse Repo Take-up (\$ billions) | | | | | | | |
|--|---------|---------|---------|---------|---------|---------|---------|
| | 2023 Q3 | 2023 Q4 | 2024 Q1 | 2024 Q2 | 2024 Q3 | 2024 Q4 | 2025 Q4 |
| 25th Percentile | 1,679 | 1,396 | 1,135 | 1,000 | 878 | 713 | 387 |
| Median | 1,800 | 1,500 | 1,258 | 1,084 | 1,000 | 918 | 703 |
| 75th Percentile | 1,941 | 1,646 | 1,529 | 1,471 | 1,358 | 1,194 | 1,026 |
| # of Respondents | 24 | 24 | 23 | 23 | 23 | 23 | 22 |

| Expectations for the Average Level of the Treasury General Account Balance (\$ billions) | | | | | | | |
|--|---------|---------|---------|---------|---------|---------|---------|
| | 2023 Q3 | 2023 Q4 | 2024 Q1 | 2024 Q2 | 2024 Q3 | 2024 Q4 | 2025 Q4 |
| 25th Percentile | 504 | 650 | 635 | 650 | 630 | 650 | 650 |
| Median | 541 | 683 | 700 | 700 | 700 | 737 | 735 |
| 75th Percentile | 581 | 719 | 750 | 750 | 750 | 750 | 750 |
| # of Respondents | 24 | 24 | 23 | 23 | 23 | 23 | 22 |

4c) Please indicate the period in which you expect the SOMA portfolio will cease to decline as well as the size of the SOMA portfolio when it ceases to decline. Please also indicate the size of specified liabilities, reserves and take-up at the overnight reverse repurchase facility, when the SOMA portfolio ceases to decline.

| | Period in which SOMA portfolio ceases to decline* | Size of SOMA portfolio when it ceases to decline** | Size of reserves*** | Take-up at the overnight reverse repurchase facility**** |
|------------------|---|--|---------------------|--|
| 25th Percentile | 2024 Q2 | 6,250 | 2,375 | 875 |
| Median | 2024 Q3 | 6,750 | 2,625 | 1,125 |
| 75th Percentile | 2024 Q4/2025 Q1 | 6,750 | 3,000 | 1,250 |
| # of Respondents | 23 | 23 | 23 | 23 |

*Dropdown selections: Q3 2023, Q4 2023, Q1 2024, Q2 2024, Q3 2024, Q4 2024, Q1 2025, Q2 2025, Q3 2025, Q4 2025, Q1 2026, Q2 2026, Q3 2026, Q4 2026, Q1 2027, Q2 2027, Q3 2027, Q4 2027, Q1 2028, Q2 2028, Q3 2028, Q4 2028, Q1 2029 or later.

**Dropdown selections: \$0-500bn, \$501-1000bn, \$1001-1500bn, \$1501-2000bn, \$2001-2500bn, \$2501-3000bn, \$3001-3500bn, \$3501-4000bn, \$4001-4500bn, \$4501-5000bn, \$5001-5500bn, \$5501-6000bn, \$6001-6500bn, \$6501-7000bn, \$7001-7500bn, \$7501-8000bn.

***Dropdown selections: \$1000bn or smaller, \$1001-1250bn, \$1251-1500bn, \$1501-1750bn, \$1751-2000bn, \$2001-2250bn, \$2251-2500bn, \$2501-2750bn, \$2751-3000bn, \$3001-3250bn, \$3251-3500bn, \$3501-3750bn, \$3751-4000bn, \$4001bn or larger.

****Dropdown selections: \$0-250bn, \$251-500bn, \$501-750bn, \$751-1000bn, \$1001-1250bn, \$1251-1500bn, \$1501-1750bn, \$1751-2000bn, \$2001-2250bn, \$2251-2500bn, \$2501bn or larger.

4d) Please indicate the percent chance that you attach to the size of the SOMA portfolio falling in each of the following ranges when it ceases to decline. For reference, Securities Held Outright in the SOMA portfolio on August 30, 2023 was \$7,508 billion according to the most recent H.4.1 release.
(23 responses)

| | \$4000bn or smaller | \$4001-4500bn | \$4501-5000bn | \$5001-5500bn | \$5501-6000bn | \$6001-6500bn | \$6501-7000bn | \$7001-7500bn | \$7501bn or larger |
|---------|---------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------------|
| Average | 1% | 1% | 3% | 6% | 13% | 20% | 30% | 24% | 2% |

4e) Please provide any additional information or factors behind your baseline expectations for assets on the Federal Reserve balance sheet and when the decline in the balance sheet will be slowed and then stopped.
(22 responses)

Some dealers indicated they expected balance sheet reduction to end at the time of a recession and/or when the Fed starts reducing the level of the target range for the federal funds rate. Several dealers indicated they expected or saw potential for the end of balance sheet reduction to be determined by reserve scarcity, assessments of reserves as a percentage of GDP, and/or potential upward pressures on money market rates. Several dealers indicated they expected that maturing MBS would be reinvested in Treasury securities once the reduction in the size of the balance sheet had been completed.

Please provide any additional information or factors behind the distribution of outcomes around your baseline for assets on the Federal Reserve balance sheet and when the decline in the balance sheet will be slowed and then stopped.

(20 responses)

Several dealers viewed the distribution of outcomes as skewed toward a later end to runoff and a smaller SOMA portfolio versus their baseline expectations, citing potential for stronger economic conditions or a delayed recession. Several dealers cited a possibility that balance sheet reduction could continue even after the Fed starts reducing the level of the target range for the federal funds rate. Several dealers viewed the distribution of outcomes as skewed toward an earlier end of runoff and a larger SOMA portfolio versus their baseline expectations. Several dealers cited the possibility that balance sheet reduction could end at the time of a recession and/or when the Fed starts reducing the level of the target range for the federal funds rate. Several dealers cited the possibility that the end of balance sheet reduction could be determined by reserve scarcity, assessments of reserves as a percentage of GDP, and/or market functioning concerns.

- 4f) Please provide any additional information or factors behind your baseline expectations for liabilities on the Federal Reserve balance sheet and when the decline in the balance sheet will be slowed and then stopped.
(19 responses)

Many dealers indicated they expected a decline in overnight reverse repurchase (ON RRP) facility take-up, and several dealers specified a larger decline in ON RRP take-up than in reserves or other liabilities. Some dealers indicated that ON RRP take-up would depend on money market fund investment decisions or Treasury supply. Several dealers indicated the expected path of the target range for the federal funds rate was an important determinant for their expectations for the path of Federal Reserve liabilities.

Please provide any additional information or factors behind the distribution of outcomes around your baseline for liabilities on the Federal Reserve balance sheet and when the decline in the balance sheet will be slowed and then stopped.

(19 responses)

Several dealers viewed the distribution of outcomes around ON RRP take-up as skewed towards a faster decline or lower take-up versus their baseline expectations. Several dealers viewed the distribution of outcomes around ON RRP take-up as skewed towards a slower decline or higher take-up. Several dealers viewed the distribution of outcomes as skewed toward a later end to runoff and a smaller balance sheet.

- 5) Please provide the percent chance you attach to the following outcomes for U.S. real GDP growth in 2023 and 2024 (Q4/Q4).

| Probability Distribution of U.S. Real GDP Growth in 2023 (Q4/Q4) | | | | | | | | | | |
|--|--------|---------|---------|--------|--------|--------|--------|--------|--------|-------|
| | <= | -1.00 - | -0.50 - | 0.01 - | 0.51 - | 1.01 - | 1.51 - | 2.01 - | 2.51 - | >= |
| | -1.01% | -0.51% | 0.00% | 0.50% | 1.00% | 1.50% | 2.00% | 2.50% | 3.00% | 3.01% |
| Average | 0% | 0% | 1% | 2% | 5% | 13% | 33% | 32% | 11% | 3% |

| Probability Distribution of U.S. Real GDP Growth in 2024 (Q4/Q4) | | | | | | | | | | |
|--|-----------|----------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|----------|
| | <= -1.01% | -1.00 - -0.51% | -0.50 - 0.00% | 0.01 - 0.50% | 0.51 - 1.00% | 1.01 - 1.50% | 1.51 - 2.00% | 2.01 - 2.50% | 2.51 - 3.00% | >= 3.01% |
| Average | 5% | 8% | 14% | 18% | 20% | 16% | 9% | 5% | 2% | 2% |

Please also provide your point estimate for the most likely outcome.

| U.S. Real GDP Modal Point Estimates (Q4/Q4) | | |
|---|-------|-------|
| | 2023 | 2024 |
| 25th Percentile | 1.70% | 0.33% |
| Median | 1.85% | 0.60% |
| 75th Percentile | 2.10% | 1.00% |
| # of Respondents | 24 | 24 |

- 6) Please indicate your modal projections for headline and core PCE inflation for each of the following quarters.*

| Headline PCE Inflation Quarterly Modal Point Estimates | | | | | |
|--|----------------|----------------|----------------|----------------|----------------|
| | Q3 2023 (saar) | Q4 2023 (saar) | Q1 2024 (saar) | Q2 2024 (saar) | Q3 2024 (saar) |
| 25th Percentile | 2.9% | 2.5% | 2.1% | 1.8% | 1.9% |
| Median | 3.2% | 2.9% | 2.4% | 2.2% | 2.2% |
| 75th Percentile | 3.3% | 3.3% | 2.7% | 2.4% | 2.4% |
| # of Respondents | 24 | 24 | 24 | 24 | 24 |

| Core PCE Inflation Quarterly Modal Point Estimates | | | | | |
|--|----------------|----------------|----------------|----------------|----------------|
| | Q3 2023 (saar) | Q4 2023 (saar) | Q1 2024 (saar) | Q2 2024 (saar) | Q3 2024 (saar) |
| 25th Percentile | 2.6% | 2.5% | 2.5% | 2.3% | 2.3% |
| Median | 2.7% | 2.8% | 2.7% | 2.5% | 2.3% |
| 75th Percentile | 2.9% | 3.2% | 3.0% | 2.7% | 2.7% |
| # of Respondents | 23 | 23 | 23 | 23 | 23 |

*Percent change from the previous quarter at an annualized rate, based on the average of monthly levels (seasonally adjusted) in each quarter.

7a) Please provide the percent chance you attach to the following outcomes for headline PCE inflation in 2023 and 2024 (Q4/Q4).

| Probability Distribution of Headline PCE Inflation in 2023 (Q4/Q4) | | | | | | | | | | |
|--|-----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-----------|
| | <= 2.00% | 2.01 - 2.25% | 2.26 - 2.50% | 2.51 - 2.75% | 2.76 - 3.00% | 3.01 - 3.25% | 3.26 - 3.50% | 3.51 - 3.75% | 3.76 - 4.00% | >= 4.01% |
| Average | 1% | 1% | 3% | 8% | 19% | 23% | 23% | 13% | 4% | 3% |

| Probability Distribution of Headline PCE Inflation in 2024 (Q4/Q4) | | | | | | | | | | |
|--|-----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-----------|
| | <= 1.50% | 1.51 - 1.75% | 1.76 - 2.00% | 2.01 - 2.25% | 2.26 - 2.50% | 2.51 - 2.75% | 2.76 - 3.00% | 3.01 - 3.25% | 3.26 - 3.50% | >= 3.51% |
| Average | 6% | 7% | 15% | 18% | 17% | 14% | 11% | 6% | 3% | 3% |

Please also provide your point estimate for the most likely outcome.

| Headline PCE Inflation Modal Point Estimates (Q4/Q4) | | |
|--|--------------|--------------|
| | 2023 | 2024 |
| 25th Percentile | 3.00% | 2.00% |
| Median | 3.15% | 2.21% |
| 75th Percentile | 3.40% | 2.50% |
| # of Respondents | 24 | 24 |

7b) For the outcomes below, provide the percent chance you attach to the annual average CPI inflation rate from September 1, 2023 – August 31, 2028 falling in each of the following ranges. Please also provide your point estimate for the most likely outcome.

(23 responses)

| | <= 0.50% | 0.51 - 1.00% | 1.01 - 1.50% | 1.51 - 2.00% | 2.01 - 2.50% | 2.51 - 3.00% | 3.01 - 3.50% | >= 3.51% |
|---------|-----------|--------------|--------------|--------------|--------------|--------------|--------------|-----------|
| Average | 1% | 2% | 5% | 13% | 29% | 29% | 15% | 6% |

| | Most Likely Outcome |
|------------------|---------------------|
| 25th Percentile | 2.48% |
| Median | 2.50% |
| 75th Percentile | 2.63% |
| # of Respondents | 23 |

7c) For the outcomes below, provide the percent chance you attach to the annual average CPI inflation rate from September 1, 2028 – August 31, 2033 falling in each of the following ranges. Please also provide your point estimate for the most likely outcome.

(23 responses)

| | <= 0.50% | 0.51 - 1.00% | 1.01 - 1.50% | 1.51 - 2.00% | 2.01 - 2.50% | 2.51 - 3.00% | 3.01 - 3.50% | >= 3.51% |
|---------|-----------|--------------|--------------|--------------|--------------|--------------|--------------|-----------|
| Average | 1% | 2% | 6% | 18% | 42% | 21% | 7% | 3% |

| | Most Likely Outcome |
|------------------|---------------------|
| 25th Percentile | 2.25% |
| Median | 2.30% |
| 75th Percentile | 2.40% |
| # of Respondents | 23 |

8a) What percent chance do you attach to:
the U.S. economy currently being in a recession*?
the U.S. economy being in a recession* in 6 months?
the global economy being in a recession** in 6 months?

| | Currently in U.S. Recession | U.S. Recession in 6 Months | Global Recession in 6 Months |
|------------------|-----------------------------|----------------------------|------------------------------|
| 25th Percentile | 3% | 25% | 35% |
| Median | 5% | 35% | 40% |
| 75th Percentile | 10% | 55% | 55% |
| # of Respondents | 24 | 24 | 22 |

*NBER-defined recession

**Previous IMF staff work has suggested that a "global recession" can be characterized as a period during which there is a decline in annual per-capita real global GDP, backed up by a decline or worsening in one or more of the following global macroeconomic indicators: industrial production, trade, capital flows, oil consumption and unemployment.

8b) What percent chance do you attach to the U.S. economy first entering a recession* in each of the following periods?

| | H1 2023** | H2 2023 | H1 2024 | H2 2024 | H1 2025 | No recession by end H1 2025 |
|---------|-----------|------------|------------|------------|------------|-----------------------------|
| Average | 1% | 17% | 29% | 20% | 11% | 22% |

*NBER-defined recession

**Percent chance that the economy first entered an NBER-defined recession in H1 2023.

- 9) Provide your estimate of the most likely outcome for output, inflation, and unemployment.
(16 responses)

| | | 2023 | 2024 | 2025 | 2026 | Longer Run |
|--------------------------------------|-----------------|--------------|--------------|--------------|--------------|--------------|
| Real GDP (Q4/Q4 Growth) | 25th Percentile | 1.70% | 0.33% | 1.80% | 1.80% | 1.80% |
| | Median | 1.85% | 0.60% | 1.95% | 1.90% | 1.80% |
| | 75th Percentile | 2.03% | 1.00% | 2.40% | 2.00% | 2.00% |
| Core PCE Inflation (Q4/Q4) | 25th Percentile | 3.40% | 2.25% | 2.00% | 2.00% | - |
| | Median | 3.60% | 2.40% | 2.10% | 2.00% | - |
| | 75th Percentile | 3.70% | 2.70% | 2.20% | 2.10% | - |
| Headline PCE Inflation (Q4/Q4) | 25th Percentile | 3.00% | 2.00% | 2.00% | 2.00% | 2.00% |
| | Median | 3.15% | 2.21% | 2.05% | 2.00% | 2.00% |
| | 75th Percentile | 3.40% | 2.50% | 2.20% | 2.03% | 2.00% |
| Unemployment Rate (Q4 Average Level) | 25th Percentile | 3.70% | 4.30% | 4.05% | 4.00% | 4.00% |
| | Median | 3.90% | 4.55% | 4.40% | 4.20% | 4.05% |
| | 75th Percentile | 4.00% | 4.88% | 4.58% | 4.50% | 4.21% |