Appendix 1: Materials used by Mr. Dudley
(1) Global Equity Indices Decline After Lehman Brothers Bankruptcy
August 1, 2007 – December 12, 2008

Source: Bloomberg

(2) High Yield Corporate Bond Yield Increases
August 1, 2007 – December 11, 2008

Source: JPMorgan Chase
(3) Asset-Backed Security Spreads Widen
August 1, 2007 – December 12, 2008

Source: JPMorgan Chase

(4) Commercial Mortgage-Backed Security Market Deteriorates
August 1, 2007 – December 11, 2008

Source: Lehman Brothers/Barclays

*Index composed of post-2003 vintage CMBS with credit support of 25 percent or more
(5) Commodity Prices Decline
January 1, 2008 – December 12, 2008

Source: Bloomberg

(6) Gold Prices Stabilize
January 1, 2008 – December 12, 2008

Source: Bloomberg
(7) Hedge Fund Performance Worsens
December 31, 2007 – November 30, 2008*

*Rate of return for November 2008 is an estimate based upon 69 percent of the index data.

(8) Recent TAF Auctions Stop-Out at Minimum Bid Rate
December 2007 – December 2008

(9) Total Outstanding FX Swap Draw-Downs Stabilize
December 1, 2007 – December 12, 2008

Source: Federal Reserve Bank of New York
One-Month Libor–OIS Spreads Decline from Widest Levels

July 1, 2007 – December 12, 2008

Source: Bloomberg

Three-Month Libor–OIS Spreads Decline from Widest Levels

July 1, 2007 – December 12, 2008

Source: Bloomberg

Spread between Jumbo and Conforming Mortgage Rates Remains Wide


Source: Bloomberg
(13) High Yield Corporate Cash and Derivative Bond Yields Diverge

Sept. 14: Lehman Brothers Holding files for bankruptcy

Source: JPMorgan Chase

(14) Amount of Maturing Investment Grade Corporate Debt
2000 - 2009

Source: JPMorgan Chase
(15) CDS Spreads Among Former Investment Banks Stable Recently
August 1, 2008 – December 11, 2008
Source: Markit

(16) Commercial Bank CDS Spreads Stable
August 1, 2008 – December 11, 2008
Source: Markit
### (17) Three-Month AA-Rated Commercial Paper Rates Decline from Elevated Levels
August 1, 2008 – December 11, 2008

- **Source:** Federal Reserve Board

### (18) Number of Companies Issuing Commercial Paper Through CPFF Declines
October 27, 2008 – December 8, 2008

- **Source:** Federal Reserve Board

### (19) CPFF Market Share of 81+ Days Commercial Paper Issuance Declines
October 27, 2008 – December 11, 2008

- **Source:** Federal Reserve Board
Class II FOMC – Restricted FR

(20) Mortgage Option Adjusted Spreads Narrow

Source: Lehman Brothers/Barclays

(21) Treasury Yields Decline
January 1, 2008 – December 12, 2008

Source: Bloomberg
(22) Conforming Mortgage Rates Decline
January 1, 2008 – December 12, 2008

Source: Bloomberg

(23) Mortgage Refinance Applications Increase
January 1, 2008 – December 5, 2008

Source: Bloomberg
(24) Spreads Narrow with Intervention
July 1, 2008 – December 11, 2008

[Graph showing financial data]

Source: Federal Reserve Board, Lehman Brothers/Barclays, Bloomberg

(25) Spreads Tend to Widen Elsewhere

[Graph showing financial data]

Source: Federal Reserve Board, Bloomberg, JPMorgan Chase, Lehman Brothers/Barclays
(26) Federal Reserve Balance Sheet Expands Greatly
August 2007 – December 2008

Source: Federal Reserve Bank of New York

(27) Federal Reserve Balance Sheet
As of December 11, 2008

<table>
<thead>
<tr>
<th>Assets ($ billions)</th>
<th>Liabilities ($ billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Securities 492</td>
<td>Reserve Balances of Banks 825</td>
</tr>
<tr>
<td>Treasuries 476</td>
<td>Excess Balances 806</td>
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<tr>
<td>notes and bonds 451</td>
<td>Required Op Balances 19</td>
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<tr>
<td>bills 18</td>
<td>Reverse RPs 25</td>
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<td>Inflation Compensation 6</td>
<td>Federal Reserve Banknotes 837</td>
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<td>Federal Agency 16</td>
<td>Treasury Balances at FRB 49</td>
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<td>Treasury SFP 364</td>
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<td></td>
<td>Foreign RP Pool 72</td>
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<td></td>
<td>Other Deposits 17</td>
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<tr>
<td></td>
<td>Other Liabilities 22</td>
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<tr>
<td></td>
<td>Capital 43</td>
</tr>
<tr>
<td>securities earmarked for TSLF &amp; TOP 200</td>
<td></td>
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<tr>
<td>Repos 80</td>
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<tr>
<td>Conventional 0</td>
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<tr>
<td>Single-tranch 28-day 80</td>
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<tr>
<td>Swap Agreements 569</td>
<td></td>
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<tr>
<td>Loans 685</td>
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<td>TAF 448</td>
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<tr>
<td>Other Credit (AIG) 61</td>
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<td>PDCF 52</td>
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<tr>
<td>PCF/SCF 92</td>
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<tr>
<td>AMLF (Boston/ABCP) 33</td>
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<tr>
<td>Maiden Lane LLC 27</td>
<td></td>
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<tr>
<td>Maiden Lane LLC III 20</td>
<td></td>
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<td>CPFF 313</td>
<td></td>
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<tr>
<td>MMIFF 0</td>
<td></td>
</tr>
<tr>
<td>Other Assets 68</td>
<td></td>
</tr>
<tr>
<td><strong>Total Assets</strong> 2254</td>
<td><strong>Total Liabilities and Capital</strong> 2254</td>
</tr>
</tbody>
</table>

Note: Components may not sum to totals because of rounding.

Source: Federal Reserve Bank of New York
Class II FOMC – Restricted FR

(28) Fed Funds Rate Trades Below the Target

Source: Federal Reserve Bank of New York

(29) Fails in the Treasury Market Begin to Increase Again as Treasury GC Repo Rates Decline

Source: Fixed Income Clearing Corporation, Federal Reserve Bank of New York

(30) Average Absolute Price Error between the FRB Treasury Spline and Nominal Yields Increase
BPS

Source: Federal Reserve Board
Class II FOMC – Restricted FR

(31) Fed Funds Futures Curve Shifts Lower

Source: Bloomberg

(32) Eurodollar Futures Curves Shifts Lower

Source: Bloomberg
(33) Distribution of Expected Policy Target Rate Among Primary Dealers Prior to December 16 FOMC Meeting

Source: Dealer Policy Survey

(34) Distribution of Expected Policy Target Rate Among Primary Dealers Prior to October 29 FOMC Meeting

Source: Dealer Policy Survey
(35) TIPS Implied Average Rate of Inflation: 5-10 Year Horizon

Source: Federal Reserve Board, Barclays Capital

(36) Expectations for Average Annual CPI Inflation Rate from 2013-2018*

Source: Federal Reserve Bank of New York

*Average expectation among respondents of FRBNY’s survey of primary dealers
**APPENDIX: Reference Exhibits**

(37) GC Repo Rates Decline Sharply to Trade at or Near Zero Percent in All Tranches

September 1, 2008 – December 12, 2008

- Sept.14: Lehman Brothers Holding files for bankruptcy
- Oct.13: Euro Area Announcement
- Oct.14: Treasury, Federal Reserve, and FDIC announcement

Source: Federal Reserve Bank of New York

(38) Treasury Bill Auction Stop-Out Rates At or Near Zero

August 4, 2008 – December 8, 2008

Source: Federal Reserve Bank of New York
Appendix 2: Materials used by Mr. Madigan
Suggested questions for Committee discussion of zero-lower-bound issues

Federal funds target rate

1. As a general matter, when it appears likely that the federal funds rate will be constrained by the zero lower bound on nominal interest rates, should the Committee quickly move the target federal funds rate toward the zero bound, or should it “keep its powder dry” by reducing the target federal funds rate toward zero only gradually?

2. Do you think that reducing the target federal funds rate to zero would impose significant costs on financial markets or institutions? If so, what costs concern you most? In view of the potential costs and benefits of a zero or near-zero federal funds rate, what do you see as an appropriate minimum for the target federal funds rate?

3. Do you see significant benefits from communications strategies designed to indicate:
   a) that the Federal Reserve intends to hold the target federal funds rate at a very low level until specified conditions are judged to obtain?
   b) that the Committee sees a sizable risk that inflation in coming quarters could be appreciably lower than is consistent with the Federal Reserve’s dual mandate, and that the Committee will act to mitigate that risk?
   c) that in order to foster low short-term real interest rates and thus promote a resumption of economic expansion, the Federal Reserve will be willing to accept higher rates of inflation in the next few years than it normally would find desirable?

   Are there other approaches to providing information to the public about the future course of monetary policy that you see as promising?

Nonstandard policy tools

4. Do you see advantages to increasing the Committee’s purchases of federal agency debt and mortgage-backed securities beyond the levels already announced? Do you see advantages to initiating large-scale purchases of longer-term Treasury securities? Should purchases of agencies or Treasuries be explicitly conditional in some way on market or economic conditions? If so, should the relevant conditions be announced in advance?

5. Do you see substantial further expansion of credit backstop facilities under the authority of Section 13(3) of the Federal Reserve Act (e.g., the CPFF or the TALF) as likely to be beneficial in current circumstances?

6. Do you see other nonstandard policy tools as likely to be particularly effective in current circumstances? What tools do you see as potentially most useful?

7. When employing nonstandard policy tools, how would the Committee most appropriately formulate its directive to the Desk? Would you favor specifying objectives for quantities of assets to be purchased, for levels of interest rates other than the federal funds rate, or for interest rate spreads?

8. When employing nonstandard policy tools, what communications approaches would be most effective in explaining the Committee’s use of such tools to markets and the public?
Appendix 3: Materials used by Mr. Covitz, Ms. Aaronson, and Mr. Ahmed
Material for

Staff Presentation on Financial Developments

December 15, 2008
Financial Markets

Interpretation of Falling Treasury Yields

- Investors revised down their economic outlook
  - Lower expected path of policy
  - Continued flight to quality
- Communications regarding alternative monetary policy tools

Note. Securities are on the run.

Covariance of Changes in Stock Prices and Treasury Yield

Note. Data are percent changes in off the run nominal 10-year Treasury yield and S&P 500 stock prices.

Ratio of Trend Earnings to Price for S&P 500 and Long-Run Treasury Yield

* Trend earnings are estimated using analysts’ forecasts of year-ahead earnings from I/B/E/S.
  + Denotes the latest observation using daily interest rates and stock prices and latest monthly earnings data from I/B/E/S.

Corporate Bond Spreads

Note. Corporate yields from smoothed yield curves based on Merrill Lynch bond data and spreads measured relative to comparable-maturity Treasury securities.

Forward Rate Spread Changes since October 28, 2008
Commercial Paper Market

**Commercial Paper Outstanding in the U.S. Market**

- **Billions of dollars**
  - Daily (n.s.a.)
  - Financial (right scale)
  - Asset-backed (right scale)
  - Nonfinancial (left scale)

Source: Federal Reserve Board.

**Net Flows of Taxable Money Market Funds**

- **Billions of dollars**
  - Daily
  - Oct. FOMC
  - Basis points

Note: Begins September 11.
Source: iMoneyNet.

**Spreads on Overnight Commercial Paper**

- **Basis points**
  - ABCP
  - Nonfinancial A2/P2

Note: All spreads relative to AA nonfinancial rate.

**Gap Between 30-day and Overnight Rates on Nonfinancial A2/P2 Paper**

- **Basis points**
  - Daily
  - Nov. 2008
  - Dec.

**Commercial Paper Maturing after Year End**

- **Percent of Outstandings**
  - 2003
  - 2008
  - 2003 -2007*

Rated higher than A2/P2
Rated A2/P2 or lower

**Summary of Conditions**

- Market appears to have been stabilized by interventions.
- A2/P2 sector improved but strained.
- Year-end pressures substantial for lower-rated programs.

---

* Average of annual percentages.
Business Borrowing

Gross Nonfinancial Bond Issuance

- Speculative Grade
- Investment Grade

Source: Securities Data Company.

Nonfinancial Bonds Maturing

Speculative Grade
Investment Grade

Note. Excludes MTNs and other bonds with unknown maturities.

Liquid Asset Ratio for Nonfinancial Corporations*

- Speculative Grade
- Investment Grade

* Current assets over total assets.
Note. Annual through 1999 and quarterly thereafter.
Source. Compustat.

Change in C&I Loans

Monthly

Change in Commercial Mortgage Debt

Quarterly

Change in Nonfinancial Business Debt

Quarterly

Source: Flow of Funds.
Changes in Mortgage Debt and House Prices

Percent change, a.r.

Mortgage Debt

LP Price Index

Source: Flow of Funds and Loan Performance.

Agency and Non-Agency MBS Issuance

Billions of dollars (monthly rate)

GSEs
Ginnie Mae
Non-agency

Source: For agency issuance, Fannie Mae, Freddie Mac, and Ginnie Mae. For non-agency issuance, Inside Mortgage Finance.

Change in Revolving and Nonrevolving Credit*

Billions of dollars (monthly rate)

* Data are seasonally adjusted.

Credit Card and Auto Loan ABS Issuance

Billions of dollars (monthly rate)

Source: Citigroup Global Markets.

Reasons Why It is Not a Good Time to Purchase an Automobile

Percent

Monthly

Historical Average

Tight credit conditions
Weak and uncertain economy

Note. Adjusted for recent acquisition of a large thrift.

Unused Bank Loan Commitments to Businesses and Households

Percent change

Quarterly (n.s.a.a.r.)

Note. Adjusted for recent acquisition of a large thrift.

* Percent of respondents that report the next twelve months will not be a good time to purchase an automobile.

Staff Presentation on Nonfinancial Developments

December 15, 2008
Recent Indicators

Private Payroll Employment

Initial Claims for Unemployment Insurance

Real PCE Goods Ex. Motor Vehicles

Consumer Sentiment Index

Sales of Light Vehicles
Recent Indicators and Near-Term Outlook

Single-Family Housing Starts

Nondefense Capital Goods Excluding Aircraft

Manufacturing Industrial Production

Real GDP

<table>
<thead>
<tr>
<th>(Percent change, annual rate)</th>
<th>2008(^p)</th>
<th>2009(^p)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q3</td>
<td>Q4</td>
</tr>
<tr>
<td>1. Gross domestic product</td>
<td>-.4</td>
<td>-4.7</td>
</tr>
<tr>
<td>2. (October GB)</td>
<td>(-1.0)</td>
<td>(-1.3)</td>
</tr>
<tr>
<td>3. Private domestic final purchases</td>
<td>-3.9</td>
<td>-6.6</td>
</tr>
<tr>
<td>4. (October GB)</td>
<td>(-3.0)</td>
<td>(-3.8)</td>
</tr>
<tr>
<td>Memo:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Nonfarm inventory investment (billions of 2000 dollars)</td>
<td>-33.2</td>
<td>-30.0</td>
</tr>
<tr>
<td>6. (October GB)</td>
<td>(-59.5)</td>
<td>(.3)</td>
</tr>
</tbody>
</table>

p. Staff forecast.
Key Background Factors

Financial Stress Index

Index Value as of:
Dec. GB 136
Oct. GB 129

1994 = 100

Note. Index constructed using risk spreads, volatility measures, and liquidity measures.

Wilshire 5000

Index, ratio scale

Real Broad Dollar Index

Contribution of Fiscal Impetus to Real GDP

Percent change, annual-average

Mortgage Rates

Note. 30-year conforming fixed rate mortgages.
### Medium-Term Outlook

#### Summary of the Medium-term Projection

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>H2</td>
<td>H1</td>
<td>H2</td>
</tr>
<tr>
<td>1. Real GDP</td>
<td>-2.6</td>
<td>-3.1</td>
<td>1.3</td>
</tr>
<tr>
<td>(October GB)</td>
<td>(-1.2)</td>
<td>(-.9)</td>
<td>(.7)</td>
</tr>
<tr>
<td>2. Selected contributions to real GDP growth (percentage points):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. PCE</td>
<td>-2.8</td>
<td>-1.0</td>
<td>1.2</td>
</tr>
<tr>
<td>4. Residential investment</td>
<td>-.8</td>
<td>-.7</td>
<td>.1</td>
</tr>
<tr>
<td>5. Equipment and software</td>
<td>-.9</td>
<td>-1.1</td>
<td>-.5</td>
</tr>
<tr>
<td>6. Nonresidential investment</td>
<td>.1</td>
<td>-1.1</td>
<td>-.9</td>
</tr>
</tbody>
</table>

Note: Annual data are Q4/Q4 percent changes; semiannual data are Q2/Q4 or Q4/Q2 percent changes at an annual rate.

#### Cyclical Comparison on GDP

![Cyclical Comparison on GDP](image)

#### Reasons for Sluggish Recovery

- Continued financial headwinds
- Not a policy-generated recession
- Policy constrained by zero lower bound

#### Optimal Control:

- **Federal Funds Rate**
- **Unemployment Rate**
- **Core PCE Prices**

![Optimal Control](image)
**Inflation Outlook**

**Medium-Term Price Projection**
(Percent change, Q4/Q4)

<table>
<thead>
<tr>
<th></th>
<th>2008(^p)</th>
<th>2009(^p)</th>
<th>2010(^p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>PCE price index</td>
<td>1.9</td>
<td>7</td>
</tr>
<tr>
<td>2.</td>
<td>(Oct. GB)</td>
<td>(2.8)</td>
<td>(1.4)</td>
</tr>
<tr>
<td>3.</td>
<td>Energy</td>
<td>-9.8</td>
<td>-8.1</td>
</tr>
<tr>
<td>4.</td>
<td>(Oct. GB)</td>
<td>(-1.0)</td>
<td>(-2.3)</td>
</tr>
<tr>
<td>5.</td>
<td>Food</td>
<td>6.3</td>
<td>2</td>
</tr>
<tr>
<td>6.</td>
<td>(Oct. GB)</td>
<td>(6.2)</td>
<td>(2.2)</td>
</tr>
<tr>
<td>7.</td>
<td>Core PCE</td>
<td>2.0</td>
<td>1.1</td>
</tr>
<tr>
<td>8.</td>
<td>(Oct. GB)</td>
<td>(2.4)</td>
<td>(1.5)</td>
</tr>
</tbody>
</table>

\(^p\) Staff forecast.

**Unemployment Rate**

- Current
- October GB

- **NAIRU**\(^*\)

\(^*\) Staff estimate

**Structural Unemployment**

- Large changes in industry employment could raise structural unemployment and the NAIRU.
- To examine this look at:
  - Measure of Sectoral Reallocation
  - Beveridge Curve

**Sectoral Reallocation**

\(^*\) Q4 is an average of October and November.

Note. Dispersion measures the deviation of industry employment growth from total employment growth with cyclical components removed.

**Beveridge Curve (2001 to 2008)**

**Using JOLTS**

**Using Help Wanted Index\(^2\)**

1. Staff estimation excluding EUC.
2. Constructed by Board staff from the Conference Board’s print and on-line help wanted indexes.
Class II FOMC – Restricted (FR)

Material for

Staff Presentation on

The International Outlook

December 15, 2008
Financial Market Stresses

2-Year Government Bond Yields

10-Year Government Bond Yields

Equity Prices*

EME Credit Spreads

EME Private Capital Inflows*

Exchange Value of the Dollar (FC/USD)

Exchange Value of the Dollar (FC/USD)

* MSCI indexes.

* Gross debt issuance and syndicated loans. 3-month moving average.

* Trade-weighted index.

Note: Shading indicates period since last FOMC meeting.

* Other Important Trading Partners, trade-weighted index.
The Foreign Growth Outlook

Real GDP* Percent Change, a.r.**

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010p</th>
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<tbody>
<tr>
<td></td>
<td>H1</td>
<td>Q3e</td>
<td>Q4p</td>
<td>Q1p</td>
</tr>
<tr>
<td>1. Total</td>
<td>4.2</td>
<td>1.8</td>
<td>0.7</td>
<td>-1.6</td>
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<tr>
<td>2. October Greenbook</td>
<td>4.2</td>
<td>1.7</td>
<td>0.5</td>
<td>0.5</td>
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<tr>
<td>3. Advanced Foreign Economies</td>
<td>2.6</td>
<td>0.4</td>
<td>-0.0</td>
<td>-2.2</td>
</tr>
<tr>
<td>4. United Kingdom</td>
<td>2.9</td>
<td>0.6</td>
<td>-2.0</td>
<td>-2.6</td>
</tr>
<tr>
<td>5. Euro Area</td>
<td>2.1</td>
<td>1.0</td>
<td>-0.8</td>
<td>-1.8</td>
</tr>
<tr>
<td>6. Japan</td>
<td>2.0</td>
<td>-0.7</td>
<td>-1.8</td>
<td>-4.1</td>
</tr>
<tr>
<td>7. Canada</td>
<td>2.8</td>
<td>0.0</td>
<td>1.3</td>
<td>-2.0</td>
</tr>
<tr>
<td>8. Emerging Market Economies</td>
<td>6.4</td>
<td>3.7</td>
<td>1.7</td>
<td>-0.8</td>
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<tr>
<td>9. Emerging Asia</td>
<td>7.8</td>
<td>5.9</td>
<td>0.3</td>
<td>0.5</td>
</tr>
<tr>
<td>10. China</td>
<td>11.4</td>
<td>11.0</td>
<td>5.4</td>
<td>4.7</td>
</tr>
<tr>
<td>11. Latin America</td>
<td>4.9</td>
<td>1.2</td>
<td>3.0</td>
<td>-2.7</td>
</tr>
<tr>
<td>12. Mexico</td>
<td>4.2</td>
<td>0.0</td>
<td>2.6</td>
<td>-3.9</td>
</tr>
</tbody>
</table>

*GDP aggregates weighted by shares of U.S. merchandise exports.
**Annualized percent change from final quarter of preceding period to final quarter of period indicated.

Real GDP in 2008:Q3

Growth Contributions in AFEs

<table>
<thead>
<tr>
<th></th>
<th>Domestic Demand</th>
<th>Net Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.K.</td>
<td>-2.0</td>
<td>-2.0</td>
</tr>
<tr>
<td>Euro Area</td>
<td>3.0</td>
<td>-1.0</td>
</tr>
<tr>
<td>Japan</td>
<td>1.0</td>
<td>-1.0</td>
</tr>
<tr>
<td>Canada</td>
<td>2.0</td>
<td>-2.0</td>
</tr>
</tbody>
</table>

The Trade Channel

U.S. Growth and Real Exports in the Foreign Economies

* Foreign G-7 plus major emerging market economies.
Note: Shaded area shows staff forecast.
Many countries have announced packages (e.g. Germany, France, U.K.).

- Stimulative content of these packages likely small.
- Assume additional fiscal stimulus will be introduced next year.
- Total stimulus should boost AFE growth 1/4 to 1/2 percentage point (a.r.) starting next year.

Note: Shaded area shows staff forecast.
Emerging Market Economies

Monetary Policy

- Interest rate cuts: Many countries in emerging Asia, including China, Korea, Hong Kong, Taiwan, and India.
- Lower reserve requirements: China, Malaysia, and Brazil.

Fiscal Policy

- China: Spending of 16% of GDP over next 2 years.
  -- Includes some previous projects.
  -- Implementation may take longer.
  -- Federal govt to pay for only 30%.
- Chinese package could boost growth 1 to 1.5 percentage points per year.
- Korea and Mexico, among others, have announced smaller, but sizable, packages.
**U.S. Trade Outlook**

### Commodity Prices

- **Index, Jan. 2008 = 100 $/Barrel**
- Monthly
- WTI Oil
- Non-Fuel Commodity Index

### U.S. Trade Prices

- **Percent Change**
- Core Exports
- Core Imports
- Nov.

### Shipping Rates*

- **Index, Jan. 2007 = 100**
- Daily
- 1990-2006 Average
- Baltic dry bulk cargo index.

### Trade in Real Goods

- **Billions of 2000 Dollars**
- Monthly
- Imports
- Exports

### Trade in Real Goods and Services*

<table>
<thead>
<tr>
<th>Year</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>H1</td>
<td>Q3e</td>
<td>Q4p</td>
<td>Q1p</td>
</tr>
<tr>
<td>1. Exports</td>
<td>8.9</td>
<td>8.7</td>
<td>3.1</td>
<td>-7.0</td>
</tr>
<tr>
<td>2. October Greenbook</td>
<td>8.9</td>
<td>8.7</td>
<td>8.0</td>
<td>2.6</td>
</tr>
<tr>
<td>3. Imports</td>
<td>1.1</td>
<td>-4.1</td>
<td>-3.4</td>
<td>-4.3</td>
</tr>
<tr>
<td>4. October Greenbook</td>
<td>1.1</td>
<td>-4.1</td>
<td>-1.0</td>
<td>-0.3</td>
</tr>
</tbody>
</table>

### Growth Rates (Percent, a.r.)

1. Exports
2. October Greenbook
3. Imports
4. October Greenbook

### Contribution to Real GDP Growth (Percentage points, a.r.)

5. Net Exports
6. October Greenbook

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*Annualized percent change or percentage point contribution from final quarter of preceding period to final quarter of period indicated.

Note: December Greenbook projections updated for October trade and November trade price data.
Appendix 4: Materials used by Mr. Madigan
Class I FOMC – Restricted Controlled (FR)

Material for
FOMC Briefing on Monetary Policy Alternatives

Brian Madigan
December 16, 2008
October FOMC

1. The Federal Open Market Committee decided today to lower its target for the federal funds rate 50 basis points to 1 percent.

2. The pace of economic activity appears to have slowed markedly, owing importantly to a decline in consumer expenditures. Business equipment spending and industrial production have weakened in recent months, and slowing economic activity in many foreign economies is damping the prospects for U.S. exports. Moreover, the intensification of financial market turmoil is likely to exert additional restraint on spending, partly by further reducing the ability of households and businesses to obtain credit.

3. In light of the declines in the prices of energy and other commodities and the weaker prospects for economic activity, the Committee expects inflation to moderate in coming quarters to levels consistent with price stability.

4. Recent policy actions, including today’s rate reduction, coordinated interest rate cuts by central banks, extraordinary liquidity measures, and official steps to strengthen financial systems, should help over time to improve credit conditions and promote a return to moderate economic growth. Nevertheless, downside risks to growth remain. The Committee will monitor economic and financial developments carefully and will act as needed to promote sustainable economic growth and price stability.
Draft Statement
Alternative A

1. Since the Committee’s last meeting, labor market conditions have deteriorated, and the available data indicate that consumer spending, business investment, and industrial production have declined. **Financial markets remain quite strained and credit conditions tight.** Overall, the outlook for economic activity has weakened further.

2. Meanwhile, inflationary pressures have diminished quickly. In light of the declines in the prices of energy and other commodities and the weaker prospects for economic activity, the Committee expects inflation to moderate in coming quarters [and sees some risk that inflation could decline for a time below rates that best foster economic growth and price stability in the longer term.] [In support of its dual mandate, the Committee will seek to achieve a rate of inflation, as measured by the price index for personal consumption expenditures, of about 2 percent in the medium term.]

3. In current circumstances, the Committee judged that it was not useful to set a specific target for the federal funds rate. As a result of the large volume of reserves provided by the Federal Reserve’s various liquidity facilities, the federal funds rate has declined to very low levels, and the Committee anticipates that weak economic conditions are likely to warrant **exceptionally low levels of the federal funds rates near zero** for some time.

4. The focus of policy going forward will be to continue to support the functioning of financial markets and stimulate the economy through open market operations and other measures that entail the use of the Federal Reserve’s balance sheet. In particular, as previously announced, over the next few quarters the Federal Reserve will purchase large quantities of agency debt and mortgage-backed securities to provide support to the mortgage and housing markets, and it stands ready to expand its purchases of agency debt and mortgage-backed securities as conditions warrant. The Committee is also evaluating the potential benefits of purchasing longer-term Treasury securities. Early next year, the Federal Reserve will also implement the Term Asset-Backed Securities Loan Facility to facilitate the extension of credit to households and small businesses. The Federal Reserve will continue to actively consider ways of using its balance sheet to further support credit markets and economic activity.

5. In related actions, the Board of Governors today approved a 75 basis point decrease in the primary credit rate to 1/2 percent and established interest rates on required and excess reserve balances of 1/4 percent. In approving the reduction in the discount rate, the Board acted on requests submitted by the Federal Reserve Banks of . . .
Draft Statement
Alternative B

1. The Federal Open Market Committee decided today to establish a target range for the federal funds rate of 0 to 1/4 percent.

2. Since the Committee’s last meeting, labor market conditions have deteriorated, and the available data indicate that consumer spending, business investment, and industrial production have declined. Financial markets remain quite strained and credit conditions tight. Overall, the outlook for economic activity has weakened further.

3. Meanwhile, inflationary pressures have diminished quickly. In light of the declines in the prices of energy and other commodities and the weaker prospects for economic activity, the Committee expects inflation to moderate in coming quarters [and sees some risk that inflation could decline for a time below rates that best foster economic growth and price stability in the longer term.]

4. The Federal Reserve will employ all available tools to promote the resumption of sustainable economic growth and to preserve price stability. In particular, the Committee anticipates that weak economic conditions are likely to warrant near zero exceptionally low levels of the federal funds rate for some time.

5. The focus of policy going forward will be to continue to support the functioning of financial markets and stimulate the economy through open market operations and other measures that entail the use of the Federal Reserve’s balance sheet. As previously announced, over the next few quarters the Federal Reserve will purchase large quantities of agency debt and mortgage-backed securities to provide support to the mortgage and housing markets, and it stands ready to expand its purchases of agency debt and mortgage-backed securities and as conditions warrant. The Committee is also evaluating the potential benefits of purchasing longer-term Treasury securities. Early next year, the Federal Reserve will also implement the Term Asset-Backed Securities Loan Facility to facilitate the extension of credit to households and small businesses. The Federal Reserve continues to consider possible additions to and expansions of its liquidity facilities, as well as other means of using its balance sheet to further support credit markets and economic activity. The Federal Reserve will continue to actively consider ways of using its balance sheet to further support credit markets and economic activity.

6. In a related action, the Board of Governors unanimously approved a 75-basis-point decrease in the discount rate to 1/2 percent. In taking this action, the Board approved the requests submitted by the Boards of Directors of the Federal Reserve Banks of . . . The Board also established interest rates on required and excess reserve balances of 1/4 percent.
Draft Statement
Alternative C

1. The Federal Open Market Committee decided today to lower its target for the federal funds rate 50 basis points to ½ percent.

2. Reflecting in part the intensification of the financial strains earlier in the fall, the pace of economic activity has slowed further and the near-term outlook has worsened. Labor market conditions have continued to deteriorate, and consumer spending, business investment, and industrial production have declined.

3. In light of the declines in the prices of energy and other commodities and the weaker prospects for economic activity, the Committee expects inflation to moderate in coming quarters [and sees some risk that inflation could decline for a time below rates that best foster economic growth and price stability in the longer term].

4. In these circumstances, the Committee’s primary concern is the downside risks to the economy. The Committee will monitor economic and financial developments carefully and will use all available tools to promote the resumption of sustainable economic growth and to preserve price stability.

5. In particular, as previously announced, over the next few quarters the Federal Reserve will purchase large quantities of agency debt and mortgage-backed securities to provide support to the mortgage and housing markets, and it stands ready to expand its purchases of agency debt and mortgage-backed securities as conditions warrant. The Committee is also evaluating the potential benefits of purchasing longer-term Treasury securities. Early next year, the Federal Reserve will implement the Term Asset-Backed Securities Loan Facility to facilitate the extension of credit to households and small businesses. The Federal Reserve continues to consider possible additions to and expansions of its liquidity facilities, as well as other means of using its balance sheet to further support credit markets and economic activity.

6. In a related action, the Board of Governors unanimously approved a 50-basis-point decrease in the discount rate to 3/4 percent. In taking this action, the Board approved the requests submitted by the Boards of Directors of the Federal Reserve Banks of . . .

7. In view of the large volume of reserves provided by the Federal Reserve’s various liquidity facilities, the Committee recognizes that the federal funds rate is likely to average somewhat below the ½ percent target.
Draft Statement
Alternative D

1. The Federal Open Market Committee decided today to keep its target for the federal funds rate at 1 percent.

2. Reflecting in part the intensification of the financial strains earlier in the fall, the pace of economic activity appears to have slowed further, and the near-term outlook for growth has deteriorated. Moreover, the downside risks are significant. However, policy actions taken in recent months, including reductions in short-term interest rates to very low levels, extraordinary liquidity measures, and official steps to strengthen the financial system, should help over time to improve credit conditions and promote a return to moderate economic growth. As announced previously, the Federal Reserve will purchase a large volume of agency debt and mortgage-backed securities to provide support to the mortgage and housing markets and thus to broader economic activity. Early next year, the Federal Reserve will also implement the Term Asset-Backed Securities Loan Facility to help facilitate the extension of credit to households and small businesses.

3. In light of the declines in the prices of energy and other commodities and the weaker prospects for economic activity, the Committee expects inflation to moderate in coming quarters to levels consistent with price stability.

4. In view of the large volume of reserves provided by the Federal Reserve’s various liquidity facilities, the Committee recognizes that the federal funds rate is likely to average significantly below the target rate for some time. The Committee will monitor economic and financial developments carefully in light of recent policy actions and will act as needed to promote sustainable economic growth and price stability.
**Draft Directive**  
**Alternative A**

The Federal Open Market Committee seeks monetary and financial conditions that will foster price stability and promote sustainable growth in output. Over the intermeeting period, the Committee directs the Desk to purchase GSE debt and agency-guaranteed MBS, with the aim of providing support to the mortgage and housing markets. The timing and pace of these purchases should depend on conditions in the markets for such securities and on a broader assessment of conditions in primary mortgage markets and the housing sector. By the end of the second quarter of next year, the Desk is expected to purchase up to $100 billion in housing-related GSE debt and up to $500 billion in agency-guaranteed MBS. The Committee has suspended setting a target for the federal funds rate, and it anticipates that the reserve conditions associated with its open market operations and the liquidity programs put in place by the Federal Reserve will result in exceptionally low levels of the federal funds rates near zero. The System Open Market Account Manager and the Secretary will keep the Committee informed of ongoing developments regarding the System’s balance sheet that could affect the attainment over time of the Committee’s objectives of maximum employment and price stability.

**Draft Directive**  
**Alternative B**

The Federal Open Market Committee seeks monetary and financial conditions that will foster price stability and promote sustainable growth in output. To further its long-run objectives, the Committee seeks conditions in reserve markets consistent with federal funds trading in a range of 0 to 1/4 percent. The Committee directs the Desk to purchase GSE debt and agency-guaranteed MBS during the intermeeting period with the aim of providing support to the mortgage and housing markets. The timing and pace of these purchases should depend on conditions in the markets for such securities and on a broader assessment of conditions in primary mortgage markets and the housing sector. By the end of the second quarter of next year, the Desk is expected to purchase up to $100 billion in housing-related GSE debt and up to $500 billion in agency-guaranteed MBS. The System Open Market Account Manager and the Secretary will keep the Committee informed of ongoing developments regarding the System’s balance sheet that could affect the attainment over time of the Committee’s objectives of maximum employment and price stability.
Draft Directive
Alternative C

The Federal Open Market Committee seeks monetary and financial conditions that will foster price stability and promote sustainable growth in output. To further its long-run objectives, the Committee has established a target for the federal funds rate of 1/2 percent. In view of the large volume of reserves provided by the Federal Reserve's various liquidity programs, the Committee recognizes that the federal funds rate is likely to average somewhat below the 1/2 percent target rate. The Committee directs the Desk to purchase GSE debt and agency-guaranteed MBS during the intermeeting period with the aim of providing support to the mortgage and housing markets. The timing and pace of these purchases should depend on conditions in the markets for such securities and on a broader assessment of conditions in primary mortgage markets and the housing sector. By the end of the second quarter of next year, the Desk is expected to purchase up to $100 billion in housing-related GSE debt and up to $500 billion in agency-guaranteed MBS. The System Open Market Account Manager and the Secretary will keep the Committee informed of ongoing developments regarding the System’s balance sheet that could affect the attainment over time of the Committee’s objectives of maximum employment and price stability.

Draft Directive
Alternative D

The Federal Open Market Committee seeks monetary and financial conditions that will foster price stability and promote sustainable growth in output. The Committee has maintained its target for the federal funds rate at 1 percent, but in view of the large volume of reserves provided by the Federal Reserve's various liquidity programs, the Committee recognizes that the federal funds rate is likely to average somewhat below the 1/2 percent target rate.