Appendix 1: Materials used by Mr. Dudley
(1) 2007 Fed Fund Futures Curves

Jan-07 Feb-07 Mar-07 Apr-07 May-07 Jun-07 Jul-07

Fed Fund Futures Contracts

(2) Eurodollar Futures March 2008 - March 2007 Calendar Spread

October 1, 2006 – January 26, 2007

(3) Treasury Yield Curves

2-Year 5-Year 10-Year 30-Year

Years to Maturity
(4) U.S. Breakeven Inflation Rates

(5) Corporate Cash Index Spreads, Investment Grade and High Yield

(6) Implied Volatility on the S&P 100 and Treasury Yield Implied Volatility
(7) Foreign Exchange Implied Volatility

One-month option implied volatility USD/Yen


(8) Composition of First-Lien Mortgage Originations 2001-2006*
2001 – Q3 2006

Source: Inside Mortgage Finance

*Conforming mortgages include FHA/VA.
Yearly volume for 2006 estimated as of Q3 2006.
(9) Delinquency and Charge-off Rates for Subprime MBS

(10) 60+ Days Delinquencies by Vintage (Subprime ARMs)
Source: JPMorgan

(11) Subprime MBS Tranche Spreads, Weekly
Source: Moody’s
(12) Copper 3-Month Forward Price and LME Warehouse Stock
June 2004 – January 2007

Source: London Metal Exchange

(13) Annual Global Corn Inventory vs. Weekly Front-Month Futures Price
2000 – 2006

Source: USDA, Bloomberg

(14) Crude Oil Inventory vs. Front-Month Futures Price

Source: Department of Energy, Bloomberg
(15) WTI Crude Oil Futures Curves

- **6/30/2006**
- **12/12/2006**
- **1/26/2007**

Source: NYMEX, Bloomberg

(16) OPEC Spare Production Capacity

2000 – 2007 (Forecast)

Source: International Energy Agency

Excludes potential production capacity increases
Material for

Staff Presentation on the Economic Outlook

January 30, 2007

*Downgraded to Class II upon release of the February 2007 Monetary Policy Report.
Recent Indicators

Real GDP
(Percent change, annual rate)

<table>
<thead>
<tr>
<th>Year</th>
<th>2002:Q4 to 2006:Q1</th>
<th>2006</th>
<th>Q4&lt;sup&gt;p&lt;/sup&gt;</th>
<th>2007 Q1&lt;sup&gt;p&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Real GDP (Dec. GB)</td>
<td>3.5 (3.5)</td>
<td>2.6 (2.6)</td>
<td>2.0 (2.0)</td>
<td>2.6 (1.3)</td>
</tr>
<tr>
<td>2. PDP&lt;sup&gt;*&lt;/sup&gt; (Dec. GB)</td>
<td>4.1 (4.1)</td>
<td>1.8 (1.8)</td>
<td>2.1 (2.0)</td>
<td>2.1 (1.2)</td>
</tr>
</tbody>
</table>

* Private domestic final purchases is the sum of PCE, business fixed investment, and residential investment.
<sup>p</sup> - staff projection.

Private Payroll Employment

Average monthly change

<table>
<thead>
<tr>
<th>Year</th>
<th>Thousands</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td></td>
</tr>
</tbody>
</table>

Real Personal Consumption Expenditures

Trillions of 2000 dollars, annual rate

- Quarterly average
- Staff estimate

Orders and Shipments of Nondefense Capital Goods<sup>*</sup>

Three-month moving average

<table>
<thead>
<tr>
<th>Year</th>
<th>Billions of dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>70</td>
</tr>
<tr>
<td>2005</td>
<td>65</td>
</tr>
<tr>
<td>2006</td>
<td>60</td>
</tr>
</tbody>
</table>

<sup>*</sup> Excluding aircraft.

Single-Family Housing Starts

<table>
<thead>
<tr>
<th>Year</th>
<th>Millions of units, annual rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td></td>
</tr>
</tbody>
</table>

* Adjusted for non-permit-issuing localities.
A Closer Look at Recent Developments

Production of Light Motor Vehicles

Percent change, annual rate

2004 2005 2006

-25 -20 -15 -10 -5 0 5 10

Note: Based on data from the Industrial Production system.
* Annual bars are Q4/Q4; Half-year bar is Q2/Q4.

Upstream Effects

- The drop in motor vehicle output affects IP directly through its impact on light motor vehicle manufacturing and indirectly through its influence on production in upstream industries.

- In the case of construction, all of the IP effect comes through the influence of construction declines on upstream industries.

Residential Investment

Percent change, annual rate

2004 2005 2006

-25 -20 -15 -10 -5 0 5 10

* Annual bars are Q4/Q4; Half-year bar is Q2/Q4.

Industrial Production

(Percent change, annual rate)

<table>
<thead>
<tr>
<th>2006:Q3</th>
<th>2006:Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total IP</td>
<td>4.0</td>
</tr>
</tbody>
</table>

Direct and upstream contribution of:

2. Light motor veh. | -1.1 | -0.2 |
3. Res. invest.     | -1.3 | -1.3 |
4. Other            | 6.4  | 0.9 |

Changes in Payroll Employment - Highly and Moderately Cyclical Industries

Thousands, three-month moving average

Note: Shading indicates NBER periods of cyclical contraction.

Changes in Payroll Employment - Highly and Moderately Cyclical Industries

Thousands

Three-month moving avg.

High

Moderate

2003 2004 2005 2006

-200 -150 -100 -50 0 50 100 150 200
Forecast Summary

GDP Projection
(Percent change, annual rate*)

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>H2</td>
<td>H1</td>
<td>H2</td>
</tr>
<tr>
<td>1. Real GDP</td>
<td>2.3</td>
<td>2.2</td>
<td>2.4</td>
</tr>
<tr>
<td>(Dec. GB)</td>
<td>(1.7)</td>
<td>(2.0)</td>
<td>(2.4)</td>
</tr>
<tr>
<td>3. PDFF**</td>
<td>2.1</td>
<td>2.1</td>
<td>2.5</td>
</tr>
<tr>
<td>(Dec. GB)</td>
<td>(1.6)</td>
<td>(1.7)</td>
<td>(2.4)</td>
</tr>
</tbody>
</table>

* 2008 is Q4/Q4; half years are either Q4/Q2 or Q2/Q4.
** Private domestic final purchases is the sum of PCE, business fixed investment, and residential investment.

Major Forces Shaping the Outlook

- Restraint from housing diminishes this year, and the contribution from housing turns slightly positive next year.
- Recent declines in oil prices boost real income; the lagged effects support consumption growth this year and into next year.
- Fiscal policy remains somewhat stimulative, although the impetus ebbs over the projection period.
- Monetary policy: Given our conditioning assumptions, the assumed path of the nominal federal funds rate is consistent with a real funds rate that closes the output gap over time.

Crude Oil Prices

[Bar chart showing crude oil prices from 2004 to 2008]

Fiscal Impetus

[Bar chart showing fiscal impetus from 2003 to 2008 as a percent of GDP]
Exhibit 4

Private Domestic Final Demand

Single-Family Starts and New Home Sales

Note: Shading indicates periods of cyclical contraction in single-family starts.

Real PCE and DPI

Percent change, Q4/Q4

Note: 2006:Q4 is a projection.
* Excluding December 2004 Microsoft dividend.

E&S Spending excluding Transportation

Percent change, Q4/Q4

Note: 2006:Q4 is a projection.

Saving Rate and Wealth-to-Income Ratio

Note: Excluding December 2004 Microsoft dividend.

Nonresidential Structures*

Percent change, Q4/Q4

Note: 2006:Q4 is a projection.
* Excluding mining exploration, shafts, and wells.
Exhibit 5

Potential Output

Staff Assumptions
(Percent change, Q4/Q4)

<table>
<thead>
<tr>
<th></th>
<th>2000 - 2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Potential output</td>
<td>3.0</td>
<td>2.7</td>
<td>2.6</td>
<td>2.5</td>
</tr>
<tr>
<td>2. Total hours</td>
<td>0.9</td>
<td>0.8</td>
<td>0.7</td>
<td>0.5</td>
</tr>
<tr>
<td>3. Working-age population</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td>1.1</td>
</tr>
<tr>
<td>4. Labor-force participation</td>
<td>-0.1</td>
<td>-0.3</td>
<td>-0.3</td>
<td>-0.4</td>
</tr>
<tr>
<td>5. Average workweek</td>
<td>-0.3</td>
<td>-0.2</td>
<td>-0.2</td>
<td>-0.2</td>
</tr>
<tr>
<td>6. Structural productivity</td>
<td>2.9</td>
<td>2.6</td>
<td>2.5</td>
<td>2.5</td>
</tr>
<tr>
<td>7. Technical factors</td>
<td>-0.8</td>
<td>-0.7</td>
<td>-0.6</td>
<td>-0.5</td>
</tr>
</tbody>
</table>

Note: Components may not add to totals due to rounding.

Outside Estimates of Potential Output Growth

<table>
<thead>
<tr>
<th></th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Blue Chip</td>
<td>3.0</td>
</tr>
<tr>
<td>2. Macro Advisers</td>
<td>3.3</td>
</tr>
<tr>
<td>3. Global Insight</td>
<td>3.0</td>
</tr>
<tr>
<td>4. CBO</td>
<td>2.8</td>
</tr>
</tbody>
</table>

Flows from Nonparticipation to Employment*

Note: Shading indicates periods when the unemployment rate was below the NAIRU. The series has a statistical break in January 1994.

Labor Force Participation Rate

Labor Force Participation Rates

* As a percent of persons not in labor force last month.
Exhibit 6

Okun’s Law and Productivity

Okun’s Law*


Simulated rate of unemployment
Actual rate of unemployment
Using GDI growth in 2006

Labor Productivity: Nonfarm Business Sector

Percent change, annual rate

Actual
Simulation

GDP and GDI

Percent change, Q4/Q4

Evolution of Structural Productivity Estimates
(Percent change)

<table>
<thead>
<tr>
<th></th>
<th>GB</th>
<th>Staff</th>
<th>Kalman Filter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mar.</td>
<td>3.1</td>
<td>3.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Aug.</td>
<td>2.7</td>
<td>2.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Oct.</td>
<td>2.5</td>
<td>2.2</td>
<td>2.2</td>
</tr>
<tr>
<td>Jan.</td>
<td>2.5</td>
<td>2.0</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Productivity: Nonfinancial Corporate Sector

Percent change, annual rate

Q3

Productivity: Nonfarm Business Excluding Residential Construction

Percent change, annual rate

2003 2004 2005 2006
Exhibit 7

Labor Market and Measures of Slack

**Payroll Employment**

Average monthly change

**Unemployment Rate**

NAIRU

**Job Openings Rate***

* Number of job openings as a percent of the sum of private employment and job openings.

**Persons Working Part-Time for Economic Reasons**

**Manufacturing Capacity Utilization**

Note: The data cover 2001:Q1 to 2006:Q4. The openings rate for 2006:Q4 is the average of October and November.

Authorized for Public Release
Exhibit 8

Inflation Outlook

Recent Price Data
(Percent change)

<table>
<thead>
<tr>
<th></th>
<th>Q3</th>
<th>Q4</th>
<th>Nov.</th>
<th>Dec.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core CPI</td>
<td>3.0</td>
<td>1.8</td>
<td>0.0</td>
<td>0.2</td>
</tr>
<tr>
<td><em>Dec. GB</em></td>
<td></td>
<td>(2.3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Core PCE</td>
<td>2.2</td>
<td>2.1*</td>
<td>0.0</td>
<td>0.2*</td>
</tr>
<tr>
<td><em>Dec. GB</em></td>
<td></td>
<td>(2.6)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Quarterly figures are at annual rates.
* - staff estimate.

Core Nonfuel Import Prices

Four-quarter percent change

PCE Energy Prices

Four-quarter percent change

PCE Price Projection
(Percent Change, Q4/Q4)

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. PCE price index</td>
<td>1.9</td>
<td>2.2</td>
<td>2.1</td>
</tr>
<tr>
<td>2. <em>Dec. GB</em></td>
<td>(2.0)</td>
<td>(2.8)</td>
<td>(2.1)</td>
</tr>
<tr>
<td>3. Core</td>
<td>2.3</td>
<td>2.2</td>
<td>2.0</td>
</tr>
<tr>
<td>4. <em>Dec. GB</em></td>
<td>(2.4)</td>
<td>(2.3)</td>
<td>(2.1)</td>
</tr>
</tbody>
</table>

Alternative Simulation

Unemployment Rate

Core PCE Prices

Four-quarter percent change

Federal Funds Rate

Percent

Authorized for Public Release
Recent Market Developments

**Primary Commodity Prices**

- **Oil***
- IMF nonfuel index

*West Texas Intermediate spot price.

**Real Trade-Weighted Dollar**

- Major currencies
- Broad dollar
- Other important trading partners

**Equity Prices: Industrial Countries**

- Japan (TOPIX)
- United States (Wilshire 5000)
- United Kingdom (FTSE 350)
- Euro area (DJ Euro Stoxx)

**Equity Prices: Emerging Markets**

- Brazil
- Mexico
- Korea
- Thailand

Source: MSCI Barra.

Index, January 2005 = 100
**Emerging-Market Debt and Capital Flows**

### Gross External Debt

**Gross External Debt**

<table>
<thead>
<tr>
<th>Year</th>
<th>Asia</th>
<th>Latin America</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>20%</td>
<td>40%</td>
</tr>
<tr>
<td>1995</td>
<td>15%</td>
<td>35%</td>
</tr>
<tr>
<td>2000</td>
<td>10%</td>
<td>30%</td>
</tr>
<tr>
<td>2005</td>
<td>5%</td>
<td>25%</td>
</tr>
</tbody>
</table>

Source: IMF World Economic Outlook database.

### Yield Spreads over U.S. Treasuries

**Yield Spreads over U.S. Treasuries**

<table>
<thead>
<tr>
<th>Year</th>
<th>Asia</th>
<th>Latin America</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>100</td>
<td>150</td>
</tr>
<tr>
<td>1995</td>
<td>200</td>
<td>250</td>
</tr>
<tr>
<td>2000</td>
<td>300</td>
<td>350</td>
</tr>
<tr>
<td>2005</td>
<td>400</td>
<td>450</td>
</tr>
</tbody>
</table>

Source: Merrill Lynch.

### Official Capital Outflows and Current Account Balances

**Official Capital Outflows and Current Account Balances**

* Changes in foreign exchange reserves, external public debt, and assets of government-run investment funds.

Source: IMF World Economic Outlook database.

**Emerging-Market Official Flows and Industrial Country Interest Rates**

* Net official capital flows of emerging markets as share of aggregate industrial-country GDP.

** Real GDP growth rate and 3-month interest rate minus CPI inflation rate for G-10 countries (including U.S.) plus Australia and Spain, weighted by GDP.

Source: IMF World Economic Outlook database and IFS database. 2006 data are estimates.
Bond Markets, Inflation Compensation, and Monetary Policy

Indexed Bond Yields, 10-Year

- United States
- France
- United Kingdom
- Japan*
- Canada**

*Japan first issued an inflation-linked bond in March 2004.
**Bond maturing in 2021.

Inflation Compensation, 10-Year

- United States
- Euro Area
- United Kingdom
- Japan*
- Canada**

*Japan first issued an inflation-linked bond in March 2004.
**Bond maturing in 2021.

Policy Interest Rates

- Fed funds rate
- Euro area refinancing rate
- UK bank rate
- Japanese call rate target
- Canadian overnight rate target

January 30-31, 2007
Authorized for Public Release
Exhibit 12

Housing Sectors

Real House Prices*

Quarterly

Netherlands
Canada
Japan

* House price index deflated by CPI. House price index for France begins in 1996. Japan series is semi-annual.

Real GDP*

(Percent change, annual rate**)

<table>
<thead>
<tr>
<th></th>
<th>2006 H1</th>
<th>2007p H2e</th>
<th>2008p</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Total Foreign</td>
<td>4.4</td>
<td>3.4</td>
<td>3.5</td>
</tr>
<tr>
<td>2. Industrial Countries of which:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Europe</td>
<td>3.4</td>
<td>2.8</td>
<td>2.3</td>
</tr>
<tr>
<td>4. Japan</td>
<td>1.9</td>
<td>2.2</td>
<td>1.9</td>
</tr>
<tr>
<td>5. Canada</td>
<td>2.9</td>
<td>2.0</td>
<td>2.6</td>
</tr>
<tr>
<td>6. Emerging Markets of which:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Emerging Asia</td>
<td>6.7</td>
<td>6.5</td>
<td>6.0</td>
</tr>
<tr>
<td>8. Latin America</td>
<td>6.0</td>
<td>3.7</td>
<td>3.5</td>
</tr>
<tr>
<td>memo: United States</td>
<td>4.1</td>
<td>2.3</td>
<td>2.3</td>
</tr>
</tbody>
</table>

*GDP aggregates weighted by shares of U.S. exports.
**Years are Q4/Q4; half years are Q2/Q4 or Q4/Q2.
U.S. External Sector

Import Prices

Quarterly
Core Goods
Goods and Services

Percent change, annual rate
2005 2006 2007 2008

U.S. Real Goods Exports*
(Percent change)

<table>
<thead>
<tr>
<th></th>
<th>2006**</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Total</td>
<td>10.5</td>
</tr>
<tr>
<td>selected contributions:</td>
<td></td>
</tr>
<tr>
<td>2. Aircraft</td>
<td>1.1</td>
</tr>
<tr>
<td>3. Machinery</td>
<td>2.3</td>
</tr>
<tr>
<td>4. Semiconductors</td>
<td>1.3</td>
</tr>
</tbody>
</table>

Census data.
** January-November at annual rate.

Contributions to U.S. GDP Growth

Net exports
Exports
Imports

*Half years are Q2/Q4 or Q4/Q2.
ECONOMIC PROJECTIONS FOR 2007

<table>
<thead>
<tr>
<th></th>
<th>Range</th>
<th>Central Tendency</th>
<th>Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal GDP</td>
<td>4½ to 5½</td>
<td>5 to 5½</td>
<td>5.0</td>
</tr>
<tr>
<td></td>
<td>(4½ to 6)</td>
<td>(5 to 5½)</td>
<td>(5.0)</td>
</tr>
<tr>
<td>Real GDP</td>
<td>2½ to 3¼</td>
<td>2½ to 3</td>
<td>2.3</td>
</tr>
<tr>
<td></td>
<td>(2½ to 3½)</td>
<td>(3 to 3¼)</td>
<td>(2.7)</td>
</tr>
<tr>
<td>Core PCE Prices</td>
<td>2 to 2¼</td>
<td>2 to 2¼</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>(2 to 2¼)</td>
<td>(2 to 2¼)</td>
<td>(2.2)</td>
</tr>
</tbody>
</table>

Unemployment rate

<table>
<thead>
<tr>
<th></th>
<th>Range</th>
<th>Central Tendency</th>
<th>Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4½ to 4¾</td>
<td>4½ to 4¾</td>
<td>4.8</td>
</tr>
<tr>
<td></td>
<td>(4½ to 5¾)</td>
<td>(4½ to 5)</td>
<td>(5.2)</td>
</tr>
</tbody>
</table>

Central tendencies calculated by dropping high and low three from ranges.

ECONOMIC PROJECTIONS FOR 2008

<table>
<thead>
<tr>
<th></th>
<th>Range</th>
<th>Central Tendency</th>
<th>Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal GDP</td>
<td>4½ to 5½</td>
<td>4½ to 5¼</td>
<td>4.8</td>
</tr>
<tr>
<td>Real GDP</td>
<td>2½ to 3¼</td>
<td>2½ to 3</td>
<td>2.5</td>
</tr>
<tr>
<td>Core PCE Prices</td>
<td>1½ to 2¼</td>
<td>1¼ to 2</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Unemployment rate

<table>
<thead>
<tr>
<th></th>
<th>Range</th>
<th>Central Tendency</th>
<th>Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4½ to 5</td>
<td>4½ to 4¾</td>
<td>4.9</td>
</tr>
</tbody>
</table>
Appendix 3: Materials used by Mr. Reinhart
Class I FOMC – Restricted Controlled FR

Material for
FOMC Briefing on Monetary Policy Alternatives

Vincent Reinhart
January 31, 2007
**FRBNY Survey of Primary Dealers**

- Dealers are unanimous in anticipating no change in policy rate at this meeting
- Nearly all dealers anticipate the funds rate at 5-1/4 percent through the May meeting
- Some anticipate a more upbeat assessment of the economic outlook
- Nearly unanimous in expecting no change in the assessment of risks

**Decomposition of Change in Ten-Year Yield**

**Primary Dealer Expectations, 2007**

<table>
<thead>
<tr>
<th>FOMC Meeting</th>
<th>December</th>
<th>January</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP Growth</td>
<td>2.5</td>
<td>2.6</td>
</tr>
<tr>
<td>Core PCE Inflation</td>
<td>2.3</td>
<td>2.1</td>
</tr>
</tbody>
</table>
Exhibit 2
Optimal Policy Under Alternative Inflation Goals

1½ Percent Inflation Goal

**Federal funds rate**

- Current Bluebook
- December Bluebook
- October Bluebook

**Civilian unemployment rate**

- Four-quarter average

2 Percent Inflation Goal

**Federal funds rate**

- Current Bluebook
- December Bluebook
- October Bluebook

**Civilian unemployment rate**

- Four-quarter average

**Core PCE inflation**

- Four-quarter average
Exhibit 3
Policy Alternatives

Alternative C
- 1.5 percent inflation goal.
- Concerned about cost pressures.
- Inflation expectations unchanged despite incoming data on prices.

Alternative B
- 2 percent inflation goal.
- Still concerned about housing and possible spillovers.
- Lower NAIRU.

Federal Funds Rate
- Baseline
- Lower NAIRU
- Buoyant PCE

Unemployment Rate

Core PCE Prices

Inflation Compensation*
- Daily
- Next Five Years**
- Five-Year Forward, Five Years Ahead

*Estimates based on smoothed nominal and inflation-indexed Treasury yield curves.
**Adjusted for the indexation-lag (carry) effect.
<table>
<thead>
<tr>
<th>Policy Decision</th>
<th>December FOMC</th>
<th>Alternative A</th>
<th>Alternative B</th>
<th>Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Policy Decision</td>
<td>The Federal Open Market Committee decided today to keep its target for the federal funds rate at 5¼ percent.</td>
<td>The Federal Open Market Committee decided today to keep its target for the federal funds rate at 5¼ percent.</td>
<td>The Federal Open Market Committee decided today to keep its target for the federal funds rate at 5¼ percent.</td>
<td>The Federal Open Market Committee decided today to raise its target for the federal funds rate by 25 basis points to 5½ percent.</td>
</tr>
<tr>
<td>2. Economic growth has slowed over the course of the year, partly reflecting a substantial cooling of the housing market. Although recent indicators have been mixed, the economy seems likely to expand at a moderate pace on balance over coming quarters.</td>
<td>The economy seems likely to continue to expand at a moderate pace on balance over coming quarters. However, the substantial cooling of the housing market remains a drag on economic growth.</td>
<td>Recent indicators have suggested somewhat firmer economic growth, and some tentative signs of stabilization have appeared in the housing market. Overall, the economy seems likely to expand at a moderate pace over coming quarters.</td>
<td>Economic growth seems to be rebounding and some tentative signs of stabilization have appeared in the housing market. Going forward, the economy seems likely to expand at a moderate pace over coming quarters.</td>
<td></td>
</tr>
<tr>
<td>3. Readings on core inflation have been elevated, and the high level of resource utilization has the potential to sustain inflation pressures. However, inflation pressures seem likely to moderate over time, reflecting reduced impetus from energy prices, contained inflation expectations, and the cumulative effects of monetary policy actions and other factors restraining aggregate demand.</td>
<td>Readings on core inflation have improved modestly in recent months, and inflation pressures seem likely to moderate over time, partly reflecting the recent decline in energy prices.</td>
<td>Readings on core inflation have improved modestly in recent months, and inflation pressures seem likely to moderate over time. However, the high level of resource utilization has the potential to sustain inflation pressures.</td>
<td>Readings on core inflation have improved modestly in recent months but remain elevated. Inflation pressures seem likely to moderate over time, but the extent and speed of that moderation remain uncertain.</td>
<td></td>
</tr>
<tr>
<td>4. Nonetheless, the Committee judges that some inflation risks remain. The extent and timing of any additional firming that may be needed to address these risks will depend on the evolution of the outlook for both inflation and economic growth, as implied by incoming information.</td>
<td>In these circumstances, future policy adjustments will depend on the evolution of the outlook for both inflation and economic growth, as implied by incoming information.</td>
<td>The Committee judges that some inflation risks remain. The extent and timing of any additional firming that may be needed to address these risks will depend on the evolution of the outlook for both inflation and economic growth, as implied by incoming information.</td>
<td>The Committee judges that inflation remains the predominant concern, and consequently that in the near term policy firming is more likely than policy easing. Future policy adjustments will depend on the evolution of the outlook for both inflation and economic growth, as implied by incoming information.</td>
<td></td>
</tr>
</tbody>
</table>
Appendix 4: Materials used by Mr. Reifschneider, Mr. Doyle, and Mr. Reinhart
Material for the

*Staff Presentation on Producing and Publishing Economic Forecasts*

January 31, 2007
Should the Committee Change Its Current Practices for the Production and Publication of Forecast-Related Material?

Key Issue

- The Federal Reserve regularly provides information on the outlook to the public.
- Effort undertaken with an eye towards advancing the goals of economic performance, public discourse, internal discourse, and efficient operations.
- But would changing your practices advance these goals further, or achieve a better trade-off?

Three Questions

1. What production and publication options are open to the Committee?
2. What can we learn from the international experience?
3. What governance issues would alternative approaches raise?
Production Options and Their Implications

Three Basic Options

- Independent (each participant responsible for his or her own forecast)
- Centralized (FOMC or a subcommittee produces a single forecast)
- Coordinated (each participant produces own forecast but conditions on a common set of assumptions for factors such as oil prices and fiscal policy)

<table>
<thead>
<tr>
<th></th>
<th>Independent Option</th>
<th>Coordinated Option</th>
<th>Centralized Option</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Communications</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telling the central story</td>
<td>difficult to distill message from multiple forecasts</td>
<td>might be simplified a bit</td>
<td>relatively easy</td>
</tr>
<tr>
<td>Conveying diversity</td>
<td>naturally reveals diversity</td>
<td>obscures some sources of diversity</td>
<td>no diversity without additional comments</td>
</tr>
<tr>
<td><strong>Operational costs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forecast production</td>
<td>relatively low cost</td>
<td>more costly</td>
<td>very costly if task not delegated</td>
</tr>
<tr>
<td>Forecast publication</td>
<td>may be burdensome</td>
<td>also may be burdensome</td>
<td>could be less costly, especially under delegation</td>
</tr>
</tbody>
</table>
Publication Options

- Release more information about individual forecasts?
- Provide more forecast details?
- Lengthen the forecast period?
- Publish information about the outlook more frequently?
- Publish fan charts and confidence intervals?

Two Options for Setting the Federal Funds Rate

1. Condition the outlook on “appropriate” monetary policy
   - Publishing details about the “appropriate” funds rate path could facilitate telling a more informative story
   - Forecast might be mistaken as a promise
   - Release might generate public criticism and create political pressures

2. Condition the outlook on a flat funds rate or market expectations
   - Might mitigate some of the problems of the “appropriate” option
   - Would alter nature of the outlook and create communication challenges
   - Would require statement about desirability of the projection
   - Might require providing guidance about a more “appropriate” path
# The Experience of Foreign Central Banks with Published Forecasts

<table>
<thead>
<tr>
<th>Central Bank</th>
<th>Type of Forecast</th>
<th>Dissent</th>
<th>Int. Rate Forecast</th>
<th>Size of Comm.</th>
<th>Same Location</th>
<th>Head Resp.</th>
<th>External Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Reserve Bank of New Zealand</td>
<td>Centralized</td>
<td>No</td>
<td>Appropriate</td>
<td>1</td>
<td>Yes</td>
<td>Yes</td>
<td>0</td>
</tr>
<tr>
<td>2. Swiss National Bank</td>
<td>Centralized</td>
<td>No</td>
<td>Specified</td>
<td>3</td>
<td>Yes</td>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td>3. Bank of Canada</td>
<td>Centralized</td>
<td>No</td>
<td>Not Stated</td>
<td>6</td>
<td>Yes</td>
<td>Yes</td>
<td>0</td>
</tr>
<tr>
<td>4. Reserve Bank of Australia</td>
<td>Centralized</td>
<td>No*</td>
<td>Appropriate</td>
<td>7</td>
<td>Yes**</td>
<td>No</td>
<td>6</td>
</tr>
<tr>
<td>5. Norges Bank</td>
<td>Centralized</td>
<td>Yes</td>
<td>Appropriate</td>
<td>6</td>
<td>Yes</td>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td>6. Sveriges Riksbank</td>
<td>Centralized</td>
<td>Yes</td>
<td>Specified</td>
<td>9</td>
<td>Yes</td>
<td>No</td>
<td>4</td>
</tr>
<tr>
<td>7. Bank of England</td>
<td>Coordinated</td>
<td>Yes</td>
<td>Specified</td>
<td>9</td>
<td>Yes</td>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td>8. Bank of Japan</td>
<td>Coordinated</td>
<td>No</td>
<td>Specified</td>
<td>18</td>
<td>No</td>
<td>No</td>
<td>0</td>
</tr>
</tbody>
</table>

*Dissents at the Norges Bank are not released until 12 years after publication.

**External members at the RBA and the Norges Bank are not full-time employees of the central bank and do not necessarily live in the same city.

## Consequences of Publishing a Forecast

- **Publication is regarded as useful by central banks and observers:**
  - Central banks have increased the amount of detail.
  - Observers agree that forecasts have improved communications and accountability.

- **We have found very little econometric work on whether publishing forecasts has improved monetary policy communications or economic outcomes:**
  - Publication has nearly always been part of a package.
  - Econometric evidence does not provide a basis for deciding to publish a forecast.
Does the Committee want to produce a joint forecast or conduct a survey of individual forecasts?

If the forecasts are done individually, should they be based on common assumptions about some key conditioning factors?

Should the Committee jointly agree on the minutes-style description or delegate the release of it to the Chairman or the staff?

How frequently should forecasts be made?

How many years should the forecast cover?

How many variables should be forecasted?

Should there be some attempt to convey formally the uncertainty surrounding the forecasts?
<table>
<thead>
<tr>
<th>New Zealand</th>
<th>Canada</th>
<th>United Kingdom</th>
<th>Sweden</th>
<th>Australia</th>
<th>Norway</th>
<th>ECB</th>
<th>Switzerland</th>
<th>Japan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whose Forecast?</td>
<td>Governor</td>
<td>Governing Council</td>
<td>Monetary Policy Committee</td>
<td>Executive Board</td>
<td>Entire Bank</td>
<td>Executive Board</td>
<td>Staff</td>
<td>Entire Bank</td>
</tr>
<tr>
<td># of members</td>
<td>1</td>
<td>6</td>
<td>9</td>
<td>6</td>
<td>7</td>
<td>7</td>
<td>18</td>
<td>3</td>
</tr>
<tr>
<td>Timing of release relative to policy meeting</td>
<td>Day of policy announcement</td>
<td>Within 1 week after policy announcement</td>
<td>6 days after policy announcement</td>
<td>Day of policy announcement</td>
<td>Monday following Tuesday of policy announcement</td>
<td>Day of policy announcement</td>
<td>Day of policy announcement</td>
<td>Day of policy announcement</td>
</tr>
<tr>
<td>When is forecast finalized</td>
<td>In practice about 2 week prior to publication</td>
<td>At policy meeting (Friday before announcement)</td>
<td>About 1 week before publication</td>
<td>About 2 days before publication</td>
<td>Staff forecast presented to Executive Board for approval</td>
<td>Staff presents initial forecast to Governor; Revises after receiving comments</td>
<td>Staff forecast; 2 members of Gov. Council have joint responsibility to oversee</td>
<td>Staff forecast with only limited input from Board</td>
</tr>
<tr>
<td>Forecasting process (for policy makers)</td>
<td>Staff presents initial forecast to Governor and advisers; Revises after receiving comments</td>
<td>Council writes down after receiving staff forecast</td>
<td>Iterative process between staff and MPC</td>
<td>Staff forecast presented to Executive Board for approval</td>
<td>Governor comments on Staff forecast; Governor presents to Policy Board</td>
<td>Staff presents initial forecast to Governor; Revises after receiving comments</td>
<td>Staff forecast; 2 members of Gov. Council have joint responsibility to oversee</td>
<td>Staff forecast with only limited input from Board</td>
</tr>
<tr>
<td>Frequency of forecast</td>
<td>Quarterly</td>
<td>Full report semi-annually, updates in remaining quarters</td>
<td>Quarterly</td>
<td>3 times a year</td>
<td>Quarterly</td>
<td>3 times a year</td>
<td>Quarterly</td>
<td>Quarterly (Both Semi-annually)</td>
</tr>
<tr>
<td>Frequency of variables forecast</td>
<td>Annual in tables, higher frequency in charts</td>
<td>Quarterly in near-term, annual for later years</td>
<td>Quarterly</td>
<td>Annual in tables, higher frequency in charts</td>
<td>No precise numbers</td>
<td>Annual in tables, higher frequency in charts</td>
<td>Annual in chart, no precise data for GDP</td>
<td>Annual (fiscal years)</td>
</tr>
<tr>
<td>Variables forecasted in tables or charts</td>
<td>New Zealand</td>
<td>Canada</td>
<td>United Kingdom</td>
<td>Sweden</td>
<td>Australia</td>
<td>Norway</td>
<td>ECB</td>
<td>Switzerland</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>-------------</td>
<td>--------</td>
<td>----------------</td>
<td>--------</td>
<td>-----------</td>
<td>--------</td>
<td>-----</td>
<td>-------------</td>
</tr>
<tr>
<td>Inflation measures</td>
<td>CPI, underlying inflation, import and export prices, terms of trade, foreign inflation</td>
<td>CPI; CPI excl. 8 volatile components and indirect taxes; CPI excl. ind. taxes</td>
<td>CPI (HICP)</td>
<td>CPI; CPI excl. interest and indirect taxes, import and domestic prices, foreign</td>
<td>No (A qualitative forecast is provided)</td>
<td>CPI excluding energy and real taxes, CPI, import prices, domestic prices, foreign CPI</td>
<td>Euro-area CPI (HICP)</td>
<td>CPI excluding fresh food, Domestic Corporate Goods inflation</td>
</tr>
<tr>
<td>GDP growth</td>
<td>Yes and its components</td>
<td>Yes and its components</td>
<td>Yes</td>
<td>Yes, and its components</td>
<td>No</td>
<td>Yes and some components</td>
<td>Yes</td>
<td>Components</td>
</tr>
<tr>
<td>Output gap</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Other</td>
<td>Many including: exchange rate, productivity, foreign GDP, current account balance, fiscal balance, labor market variables.</td>
<td>Foreign GDP, oil prices conditioned on futures markets</td>
<td>None</td>
<td>Productivity, labor market variables, fiscal balance, Foreign GDP, oil prices, exchange rate.</td>
<td>None</td>
<td>Exchange rate, employment growth, unemployment rate, wage growth, foreign GDP</td>
<td>None</td>
<td>Foreign GDP, oil prices</td>
</tr>
<tr>
<td>Conditioning assumption for interest rate</td>
<td>Published forecast</td>
<td>Not specified</td>
<td>Market expectations and constant path</td>
<td>Published forecast (as of Jan. 17)</td>
<td>Constant path</td>
<td>Published forecast</td>
<td>Market expectations</td>
<td>Constant path</td>
</tr>
<tr>
<td>How forecasts are presented</td>
<td>Tables; charts for inflation and GDP</td>
<td>GDP and inflation in tables and charts; rest only described in text</td>
<td>“Fan” charts, data provided 2 weeks after publication</td>
<td>“Fan” charts for inflation, tables and charts</td>
<td>Qualitative description with a few numbers for reference</td>
<td>“Fan” charts for key variables, table of means</td>
<td>Range of values in table</td>
<td>Chart for inflation; description of GDP; rest tables</td>
</tr>
<tr>
<td>Forecast horizon</td>
<td>3 years</td>
<td>2 to 3 years</td>
<td>3 years; 2 years conditioned on unchanged policy</td>
<td>3 to 4 years</td>
<td>2 years</td>
<td>3 to 4 years</td>
<td>Current year and next</td>
<td>3 years</td>
</tr>
<tr>
<td>How risks to forecast are expressed</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Distribution measures</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Alternative scenarios</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Discussion of risks</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Table 1 (continued): Details on Publicly Available Central Bank Forecasts
Appendix 5: Materials used by Ms. Yellen
FOMC Economic Projections for 2007 and 2008

Note: The central tendencies of the FOMC participants' mean forecasts are denoted by the vertical thick intervals. Approximate 70 percent confidence intervals, which are based on historical forecast accuracy, are denoted by the thin intervals.