APPENDIX 1

Charts used by Mr. Fisher.
3-Month Deposit Rates
November 1, 2000 - January 26, 2001
Current Deposit Rate and Rates Implied by Traded Forward Rate Agreements

<table>
<thead>
<tr>
<th>LIBOR Fixing</th>
<th>3-Mo. Forward</th>
<th>9-Mo. Forward</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Euro-area</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Reuters, Bloomberg
Sources: Bloomberg

Policy Rates:
US: Federal Funds Rate (O/N), Euro area: Main refinancing rate (2-week), Japan: Overnight Call Rate, U.K.: Base Rate (O/N repo), Canada: Overnight Target (midpoint of bank rate and discount rate)
Sources: A2 Industrial Corporates: Bloomberg Industrial Corporate A2 Index
BB1 Industrial Corporates: Bloomberg Industrial Corporate 2B1 Index
Swap Rates: Bloomberg
Treasury: FRBNY Price Data
Commercial Paper (A2/P2 - A1/P1)
Spreads and Yields
September through February,
1996 - 2001

30-Day Yields

90-Day Yields

Source: Bloomberg compiled index Year
2001 Data as of January 26
Cumulative changes in net autonomous factors and redemptions from Oct. 3

Key: Lines with circles show actual; lines without circles show projected; dotted line shows projected change in autonomous factors, projections as of Dec. 13

Actual and projected open market operations from Oct. 3

Key: Lines with circles show actual; lines without circles show projected
Extended Reserve Outlook
Impact of Changes in Factors, Redemptions, and RPs on Reserves
from maintenance period ended January 24 to period ended June 27

net impact of forecast Factors movements            -$6 billion
impact of anticipated Redemptions                  -$10 billion
Total impact of factors and redemptions              -$16 billion

Level of RPs in January 24 period
long-term RPs          $19 billion
short-term RPs          $4 billion

Case A:
impact of reducing long-term RPs to zero            -$19 billion
total decline in reserves from RPs, factors, redemptions -$35 billion

Case B:
impact of reducing long-term RPs to $10 billion     -$9 billion
total decline in reserves from RPs, factors, redemptions -$25 billion

Notes: movements in factors also include impact of changes in requirements on reserve needs in addition to changes in operating factors such as currency and Treasury balance.
APPENDIX 2

“Staff Presentation on the Economic Outlook.”
Material for

Staff Presentation on the Economic Outlook

January 30, 2001
### Growth in Real GDP and Selected Components

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Real GDP</td>
<td>3.7</td>
<td>.4</td>
<td>3.1</td>
</tr>
<tr>
<td>2. Private domestic final purchases</td>
<td>5.1</td>
<td>1.4</td>
<td>2.6</td>
</tr>
<tr>
<td>3. PCE</td>
<td>4.5</td>
<td>1.2</td>
<td>2.0</td>
</tr>
<tr>
<td>4. Equipment and software</td>
<td>10.3</td>
<td>1.2</td>
<td>6.3</td>
</tr>
<tr>
<td>Memo: Contribution of inventory investment</td>
<td>0</td>
<td>–1.3</td>
<td>.3</td>
</tr>
<tr>
<td>5. (percentage points)</td>
<td>.0</td>
<td>–1.3</td>
<td>.3</td>
</tr>
</tbody>
</table>

*Years are Q4/Q4; half years are Q2/Q4 or Q4/Q2.*

**Unemployment Rate**

**PCE Prices**
Other factors:

- **Stock market** falls in the near term, and then is flat through the end of the projection period. This implies a falling wealth-income ratio.

- **Long-term corporate interest rates** remain near current levels throughout the projection period. Consequently, risk spreads on corporate bonds will remain elevated.

- **The foreign exchange value of the dollar** declines moderately in real terms over the projection period.

- **Fiscal policy** will be stimulative next year. We assume a package of tax cuts worth $50 billion in the next fiscal year as well as further increases in discretionary spending.

- **Prices of oil and natural gas** are expected to recede over the next two years, consistent with quotes in futures markets.
Selected High Frequency Activity Indicators

Chart 3

New Orders
Billion of dollars

- Consumer durable goods
  - Three-month moving average

- Nondefense capital goods, excl. aircraft
  - Three-month moving average

IP Diffusion Index
Index

- Three-month

Michigan Index of Consumer Sentiment
Index

- Expected conditions index
  (Feb. 1966=100)

Initial claims for Unemployment Insurance
Thousands

- Four-week moving average

Building Permits*
Thousands of units

- Single-family homes
  *Adjusted for non-permit issuing places.
### Real GDP

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
</tr>
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<tbody>
<tr>
<td>Q4</td>
<td>2.0</td>
<td>.5</td>
</tr>
<tr>
<td>Q1</td>
<td>1.3</td>
<td>1.3</td>
</tr>
<tr>
<td>Q2</td>
<td>1.3</td>
<td>1.3</td>
</tr>
<tr>
<td>H2</td>
<td>3.1</td>
<td>3.1</td>
</tr>
</tbody>
</table>

#### Contribution of:

1. Real GDP
   - 2.0: Q4
   - .5: Q1
   - 1.3: Q2
   - 3.1: H2

2. Manuf. sector
   - .5: Q4
   - 1.7: Q1
   - .2: Q2
   - .8: H2

3. Other
   - 2.5: Q4
   - 1.2: Q1
   - 1.1: Q2
   - 2.3: H2

### Chart 4

**Inventories and Production**

#### Days' Supply of Light Motor Vehicles

- 1990: 80 days
- 1992: 60 days
- 1994: 40 days
- 1996: 20 days
- 1998: 10 days
- 2000: 5 days

#### Motor Vehicles

- 1990: 120 IP index
- 1992: 100 IP index
- 1994: 80 IP index
- 1996: 60 IP index
- 1998: 40 IP index
- 2000: 20 IP index

#### Manufacturing Excl. MV and High Tech

- 1990: 1.3 Inventory-shipments ratio
- 1992: 1.4 Inventory-shipments ratio
- 1994: 1.5 Inventory-shipments ratio
- 1996: 1.6 Inventory-shipments ratio
- 1998: 1.7 Inventory-shipments ratio
- 2000: 1.8 Inventory-shipments ratio

#### Manufacturing Excl. MV and High Tech

- 1990: 80 IP index
- 1992: 90 IP index
- 1994: 100 IP index
- 1996: 110 IP index
- 1998: 120 IP index
- 2000: 130 IP index

#### Final Sales and Inventories

- 2000: 8
d- 2001: 6
d- 2002: 4
The Longer-Run Fundamentals

Effects of Changes in the Real Funds Rate on GDP Growth*

Fiscal Impetus*

User Cost of Capital

Share of Banking Industry Assets at Well-Capitalized Banks

Direct Effects of Oil and Natural Gas Price Changes on PCE Growth*

Real Personal Income Growth

*Relative to unchanged energy prices after 1999:Q4.

*(1989:Q1 = 100)

(Fiscal Impetus is an indicator of the change in discretionary fiscal policy.)
Labor Productivity

Chart 6

Supply-Side Components of Potential GDP

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Potential GDP</td>
<td>2.9</td>
<td>3.9</td>
<td>4.4</td>
<td>4.2</td>
<td>4.1</td>
</tr>
<tr>
<td>Labor input</td>
<td>1.6</td>
<td>1.2</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
</tr>
<tr>
<td>Labor productivity</td>
<td>1.4</td>
<td>2.7</td>
<td>3.3</td>
<td>3.1</td>
<td>3.0</td>
</tr>
<tr>
<td>Capital deepening</td>
<td>.7</td>
<td>1.2</td>
<td>1.5</td>
<td>1.3</td>
<td>1.2</td>
</tr>
<tr>
<td>Labor quality</td>
<td>.3</td>
<td>.3</td>
<td>.3</td>
<td>.3</td>
<td>.3</td>
</tr>
<tr>
<td>Multifactor productivity</td>
<td>.4</td>
<td>1.2</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Capital Services

Structural Multifactor Productivity

Nonfarm Business Output

NFB Productivity

*Years are Q4/Q4; half years are Q2/Q4 or Q4/Q2.
Chart 7

Inflation Indicators

GDP Gap

Billions of chained (1996) dollars, ratio scale

- Actual
- Potential

Unemployment Rate

Percent

Q4
1999  4.1
2000  4.0
2001  5.2
2002  5.5

Unemployment Rate

% Current episode

Inflation Expectations

 Percent

Michigan SRC
One-year ahead, median

FRB Philadelphia
One-year ahead

Labor Compensation

Four-quarter percent change

NFB compensation per hour

Employment cost index

Unit Labor Costs*

Percent change, Q4/Q4

<table>
<thead>
<tr>
<th></th>
<th>Actual</th>
<th>Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>.8</td>
<td>1.5</td>
</tr>
<tr>
<td>2000</td>
<td>2.0</td>
<td>2.3</td>
</tr>
<tr>
<td>2001</td>
<td>3.4</td>
<td>2.2</td>
</tr>
<tr>
<td>2002</td>
<td>1.9</td>
<td>2.0</td>
</tr>
</tbody>
</table>

*Nonfarm business sector.
### Inflation Projection

#### Percent change, Q4/Q4

<table>
<thead>
<tr>
<th>Year</th>
<th>Total PCE</th>
<th>Total CPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>2.0</td>
<td>2.6</td>
</tr>
<tr>
<td>2000</td>
<td>2.3</td>
<td>3.4</td>
</tr>
<tr>
<td>2001</td>
<td>1.8</td>
<td>2.3</td>
</tr>
<tr>
<td>2002</td>
<td>1.7</td>
<td>2.0</td>
</tr>
</tbody>
</table>

#### PPI Intermediate exl. Food and Energy

- PPI intermediate excl. food and energy (right scale)
- Manufacturing CU (left scale)

#### PCE Petroleum Products

- Heating Fuel
- Gasoline

#### PCE Service Fuels

- Natural gas
- Electricity

#### Energy Effects

- Q4/Q4 contribution to PCE inflation
  - Direct
  - Indirect

#### PCE Prices

- Core PCE
- Core PCE market prices
Chart 9

Productivity Risks

E&S Computer Prices
Four-quarter percent change

Long-term Earnings Expectations
Percent change, AR

Average Return to Capital

Percent

Structural Labor Productivity

The "S-curve"
A Productivity Disappointment

Chart 10

Stock Market
Wilshire 5000 Level

- Greenbook baseline
- Constant real funds rate
- Taylor Rule policy

Real GDP
Four-quarter percent change

- Greenbook baseline
- Constant real funds rate
- Taylor Rule policy

Unemployment Rate
Percent

- Greenbook baseline
- Constant real funds rate
- Taylor Rule policy

Core PCE
Four-quarter percent change

- Greenbook baseline
- Constant real funds rate
- Taylor Rule policy

Profit share
Percent of GDP

- Greenbook baseline
- Constant real funds rate
- Taylor Rule policy

Nominal Federal Funds Rate
Percent

- Greenbook baseline
- Constant real funds rate
- Taylor Rule policy
**Exchange Rates and Interest Rates**

**Nominal Exchange Rates**
Foreign currency per U.S. dollar
Jan. 1999 = 100

*Trade weighted-average dollar against major international currencies.

**Interest Rate Futures**

**Euro Area**

**Japan**

**United States**

**Stock Prices**
Jan. 1999 = 100

*Change from January 29, 2001 to June 27, 2000*
Financial Indicators: Emerging Market Countries

(Weekly data)

**Asia**

Nominal Exchange Rates
Foreign currency per U.S. dollar  
Jan. 1999 = 100

- Korean won
- Thai baht
- Indonesian rupiah

**Latin America**

Nominal Exchange Rates
Foreign currency per U.S. dollar  
Jan. 1999 = 100

- Argentine peso
- Mexican peso
- Brazilian real

**Interest Rates and Spreads**

<table>
<thead>
<tr>
<th>Country</th>
<th>One-Month Domestic</th>
<th>Change 1/29/01 to 1/29/01</th>
<th>Offshore-Dollar Bond Spreads</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Korea*</td>
<td>5.50</td>
<td>-0.50</td>
<td>2.23</td>
</tr>
<tr>
<td>2. Thailand</td>
<td>3.00</td>
<td>-0.50</td>
<td>3.08</td>
</tr>
<tr>
<td>3. Indonesia</td>
<td>14.91</td>
<td>3.08</td>
<td>7.41</td>
</tr>
<tr>
<td>4. Korea</td>
<td>2.23</td>
<td>0.23</td>
<td>1.31</td>
</tr>
<tr>
<td>5. Indonesia</td>
<td>7.41</td>
<td>1.08</td>
<td></td>
</tr>
<tr>
<td>6. China</td>
<td>1.31</td>
<td>-0.05</td>
<td></td>
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</table>

* One-week maturity.

**Brady Bond Yield Spreads**

<table>
<thead>
<tr>
<th>Country</th>
<th>Mexico</th>
<th>Brazil</th>
<th>Argentina</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Mexico</td>
<td>3.98</td>
<td>-1.01</td>
<td>8.73</td>
</tr>
<tr>
<td>5. Brazil</td>
<td>8.15</td>
<td>-0.70</td>
<td></td>
</tr>
<tr>
<td>6. Argentina</td>
<td>8.73</td>
<td>-0.21</td>
<td></td>
</tr>
</tbody>
</table>

**Stock Indexes**

*Shanghai B-share (foreigners only) stock price index.

*One-week maturity.

1. Mexico 17.75 0.75
2. Brazil 14.85 -3.40
3. Argentina 7.75 0.00

1. Korea 5.50 -0.50
2. Thailand 3.00 -0.50
3. Indonesia 14.91 3.08
Chart 13

Summary of Foreign Outlook

Real GDP Growth

Percent change, SAAR*

Years are Q4/Q4; half years are Q2/Q4 or Q4/Q2.

Foreign Real GDP*

Percent change, Q4/Q4

*U.S. nonagricultural export weights.

Exports

Jan. 1999 = 100

Years are Q4/Q4; half years are Q2/Q4 or Q4/Q2.

Real GDP Growth

Percent, SAAR*

Argentina: Financing Requirements

$ billions

Source: Argentine Ministry of Economy; Deutsche Bank.

*2000 quarterly average.

Real GDP Growth

Percent, SAAR*

Years are Q4/Q4; half years are Q2/Q4 or Q4/Q2.

*U.S. nonagricultural export weights.
Chart 14

Industrial Country Outlook

GDP Leading Indicators
Jan. 1999 = 100

Business Confidence
Percent balance
1977Q1 = 100

Employment
Jan. 1999 = 100

Fiscal Impulse*
Percent of GDP

CPI Inflation
4-quarter percent change

Real GDP Growth
Percent change, SAAR*

<table>
<thead>
<tr>
<th></th>
<th>2000 H1</th>
<th>2001 H2</th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Indust. countries**</td>
<td>4.5</td>
<td>2.6</td>
<td>2.4</td>
<td>3.0</td>
</tr>
<tr>
<td>2. Euro Area</td>
<td>3.4</td>
<td>2.2</td>
<td>2.8</td>
<td>3.0</td>
</tr>
<tr>
<td>3. Japan</td>
<td>5.4</td>
<td>-1.2</td>
<td>0.9</td>
<td>1.2</td>
</tr>
<tr>
<td>4. Canada</td>
<td>5.0</td>
<td>3.9</td>
<td>2.3</td>
<td>3.4</td>
</tr>
<tr>
<td>5. United Kingdom</td>
<td>2.9</td>
<td>3.0</td>
<td>2.5</td>
<td>2.5</td>
</tr>
</tbody>
</table>

*Years are Q4/Q4; half years are either Q2/Q4 or Q4/Q2.
**U.S. nonagricultural export weights.
Chart 15

External Outlook

Oil Prices

- Current WTI
- June Greenbook WTI

Real Exchange Rate

- Broad dollar

U.S. Import Prices

- Core goods*

Real Export Growth

- Growth of real exports
  1. G & S  4.3  7.2  6.0  9.9
  2. Services 0.1  0.4  1.2  1.9
  3. Goods 4.2  6.8  4.8  8.0
  4. Core* 2.3  4.0  2.7  3.9

Real Import Growth

- Growth of real imports
  1. G & S 12.0  11.4  4.1  8.2

Contribution to U.S. Real GDP Growth

- Exports
- Imports

*Excludes computers, semiconductors, and oil.
## ECONOMIC PROJECTIONS FOR 2001

<table>
<thead>
<tr>
<th></th>
<th>Range</th>
<th>Central Tendency</th>
<th>Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percentage change, Q4 to Q4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nominal GDP</td>
<td>3½ to 5¼</td>
<td>4 to 5</td>
<td>3.8</td>
</tr>
<tr>
<td>July 2000</td>
<td>(5 to 6¼)</td>
<td>(5½ to 6)</td>
<td></td>
</tr>
<tr>
<td>Real GDP</td>
<td>2 to 3¼</td>
<td>2 to 2½</td>
<td>1.8</td>
</tr>
<tr>
<td>July 2000</td>
<td>(2½ to 4)</td>
<td>(3¼ to 3½)</td>
<td></td>
</tr>
<tr>
<td>PCE Prices</td>
<td>1¼ to 2½</td>
<td>1¼ to 2½</td>
<td>1.8</td>
</tr>
<tr>
<td>July 2000</td>
<td>(1¼ to 3)</td>
<td>(2 to 2½)</td>
<td></td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>4¼ to 5</td>
<td>About 4½</td>
<td>5.2</td>
</tr>
<tr>
<td>July 2000</td>
<td>(4 to 4½)</td>
<td>(4 to 4½)</td>
<td></td>
</tr>
</tbody>
</table>

Central tendencies calculated by dropping high and low three from ranges.
APPENDIX 3

“Material for Staff Presentation on Monetary Policy Alternatives.”
Material for

Staff Presentation on Monetary Policy Alternatives

January 31, 2001
1. The real federal funds rate is calculated as the quarterly nominal funds rate minus the four-quarter percent change in the PCE chain-weight price index excluding food and energy.
1. The real federal funds rate is calculated as the quarterly nominal funds rate minus the four-quarter percent change in the PCE chain-weight price index excluding food and energy.