Appendix 1: Materials used by Mr. Kos
Realized Volatility of MSCI Equity Indices
January 2, 2006 – August 4, 2006

Implied Volatility on the S&P 100
January 2, 2006 – August 4, 2006

Treasury Yield Implied Volatility
January 2, 2006 – August 4, 2006

1-Month Euro-Dollar Implied Volatility
January 2, 2006 – August 4, 2006

1-Month Dollar-Yen Implied Volatility
January 2, 2006 – August 4, 2006

Note: rolling 21-day volatility of daily returns

Average since January 1990: 19.23
Average since January 2000: 10.40
Average since January 2000: 9.40
Average since January 1990: 100.77
## Changes in Select Central Bank Policy Rates
### Activity Since January 2, 2006

<table>
<thead>
<tr>
<th>Region</th>
<th>Country</th>
<th>Official Interest Rate</th>
<th>Current Rate</th>
<th>Δ in Bps since 1/2/06</th>
<th>Last Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Americas</td>
<td>United States</td>
<td>Federal funds rate</td>
<td>5.25</td>
<td>100</td>
<td>Jun-29</td>
</tr>
<tr>
<td></td>
<td>Canada</td>
<td>Overnight funding rate</td>
<td>4.25</td>
<td>100</td>
<td>May-24</td>
</tr>
<tr>
<td></td>
<td>Brazil</td>
<td>SELIC overnight rate</td>
<td>14.75</td>
<td>(325)</td>
<td>Jul-19</td>
</tr>
<tr>
<td></td>
<td>Mexico</td>
<td>Repo rate</td>
<td>7.00</td>
<td>(125)</td>
<td>Apr-21</td>
</tr>
<tr>
<td></td>
<td>Chile</td>
<td>Discount rate</td>
<td>5.25</td>
<td>75</td>
<td>Jul-14</td>
</tr>
<tr>
<td>Europe/Africa</td>
<td>Euro area</td>
<td>Refi rate</td>
<td>3.00</td>
<td>75</td>
<td>Aug-03</td>
</tr>
<tr>
<td></td>
<td>United Kingdom</td>
<td>Repo rate</td>
<td>4.75</td>
<td>25</td>
<td>Aug-03</td>
</tr>
<tr>
<td></td>
<td>Sweden</td>
<td>Repo rate</td>
<td>2.25</td>
<td>75</td>
<td>Jun-20</td>
</tr>
<tr>
<td></td>
<td>Norway</td>
<td>Deposit rate</td>
<td>2.75</td>
<td>50</td>
<td>May-31</td>
</tr>
<tr>
<td></td>
<td>Czech Republic</td>
<td>2-week repo rate</td>
<td>2.25</td>
<td>25</td>
<td>Jul-27</td>
</tr>
<tr>
<td></td>
<td>Hungary</td>
<td>2-week deposit rate</td>
<td>6.75</td>
<td>75</td>
<td>Jul-24</td>
</tr>
<tr>
<td></td>
<td>Slovak Republic</td>
<td>2-week repo rate</td>
<td>4.50</td>
<td>150</td>
<td>Jul-25</td>
</tr>
<tr>
<td></td>
<td>South Africa</td>
<td>Repo rate</td>
<td>8.00</td>
<td>100</td>
<td>Aug-03</td>
</tr>
<tr>
<td>Asia/Pacific</td>
<td>Switzerland</td>
<td>3-month Swiss Libor</td>
<td>1.50</td>
<td>50</td>
<td>Jun-15</td>
</tr>
<tr>
<td></td>
<td>Turkey</td>
<td>Overnight borrowing rate</td>
<td>17.50</td>
<td>400</td>
<td>Jul-20</td>
</tr>
<tr>
<td></td>
<td>Australia</td>
<td>Cash rate</td>
<td>6.00</td>
<td>50</td>
<td>Aug-02</td>
</tr>
<tr>
<td></td>
<td>Japan</td>
<td>Overnight call rate</td>
<td>0.25</td>
<td>25</td>
<td>Jul-14</td>
</tr>
<tr>
<td></td>
<td>Korea</td>
<td>Overnight call rate</td>
<td>4.25</td>
<td>50</td>
<td>Jun-08</td>
</tr>
<tr>
<td></td>
<td>India</td>
<td>Reverse repo rate</td>
<td>6.00</td>
<td>75</td>
<td>Jul-25</td>
</tr>
<tr>
<td></td>
<td>Thailand</td>
<td>14-day repo rate</td>
<td>5.00</td>
<td>100</td>
<td>Jun-07</td>
</tr>
<tr>
<td></td>
<td>Taiwan</td>
<td>Official discount rate</td>
<td>2.50</td>
<td>25</td>
<td>Jun-29</td>
</tr>
</tbody>
</table>

Source: JP Morgan

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### Bank of Japan Current Account Balances and Overnight Call Rate
#### January 2, 2006 – August 4, 2006

![Chart of BoJ Current Account Balances and Overnight Call Rate](chart.png)
Current U.S. 3-Month Deposit Rates and Rates Implied by Traded Forward Rate Agreements
October 1, 2005 to August 4, 2006

Libor Fixing  3M Forward  6M Forward  9M Forward

November 1, 1999 to September 30, 2000

Libor Fixing  3M Forward  6M Forward  9M Forward

December 2000 - 2001 Rate Spread
November 1, 1999 – September 30, 2000

3-Month Eurodollar Futures Contracts

December 2006 - 2007 Rate Spread
October 1, 2005 – August 4, 2006

December 2000 - 2001 Rate Spread
November 1, 1999 – September 30, 2000
Appendix 2: Materials used by Mr. Madigan
Class I FOMC – Restricted Controlled FR

Material for
FOMC Briefing on Monetary Policy Alternatives

Brian Madigan
August 8, 2006
Exhibit 1 of 4
Monetary Policy Expectations

Probability of a 25 b.p. Firming at August FOMC Meeting*

- Estimated from federal funds futures, with an allowance for term premia.

Dealer Survey: Average Disagreement and Uncertainty Regarding Policy Choice
Two Weeks Before Meeting

- Average disagreement
- Average individual uncertainty

Dealer Survey:
Expectations regarding August Statement

- Express more conviction regarding moderation of growth
- Acknowledge elevated inflation ratings
- Express concern about inflation risks
- Indicate data dependence

Expected Federal Funds Rates based on Federal Funds Futures

Note. Estimates from federal funds and Eurodollar futures, with an allowance for term premia and other adjustments.

Eurodollar Implied Volatility at Selected Maturities*

*Width of 90 percent confidence interval computed from the term structures for the expected federal funds rate and implied volatility.
Exhibit 2 of 4
Leaving the Funds Rate Unchanged at this Meeting

Case For Alternative B
(0 b.p., Upside Inflation Risks)

- Staff forecasts growth slightly below potential and gradually declining inflation with unchanged funds rate
- Real rates in range of estimated equilibrium values
- Consistent with some policy rules
- But significant inflation risks remain

Staff Forecast

<table>
<thead>
<tr>
<th>Year</th>
<th>Q1</th>
<th>Q2</th>
<th>H2</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real GDP growth</td>
<td>5.6</td>
<td>3.0</td>
<td>2.1</td>
<td>2.3</td>
</tr>
<tr>
<td>Unemployment rate*</td>
<td>4.7</td>
<td>4.7</td>
<td>4.8</td>
<td>5.2</td>
</tr>
<tr>
<td>Core PCE inflation</td>
<td>2.1</td>
<td>2.9</td>
<td>2.5</td>
<td>2.3</td>
</tr>
</tbody>
</table>

*Average level for last quarter of indicated period.

Range of Estimated Equilibrium Real Rates

- Actual real federal funds rate
- Range of model-based estimates
- 70 percent confidence interval
- 90 percent confidence interval
- Greenbook-consistent measure

First-Difference Rule ($\pi^* = 2$ percent)

Upside Inflation Risks

- High levels of resource utilization
- Elevated energy and commodity prices
- Potential for further increases

Case for Alternative A
(0 b.p., No Policy Tilt)

- Emerging downside risks
  - output and employment have decelerated
  - housing may be slowing more than expected
- Consistent with staff outlook
  - optimal control simulation ($\pi^* = 2$ percent)
  - estimated forecast-based policy rule
Exhibit 3 of 4
Raising the Federal Funds Rate 25 b.p. at this Meeting

Case For Alternative C
(+25 b.p., No Policy Tilt)

- Another firming may be seen as necessary to balance the risks
- Costs of a further increase in inflation may be high
- Signal anti-inflationary resolve

Case For Alternative D
(+25 b.p., Upside Inflation Risks)

- Find staff forecast likely but prefer steeper downward trend to inflation
- Expect stronger aggregate demand than in Greenbook
- See greater inflation pressures than in Greenbook
  - or substantial inflation risks at a funds rate of 5-1/4 percent

Optimal Control Policy ($\pi^*=1{1/2}$ Percent)

Federal Funds Rate

- Equal Weights
- Less Weight on Unemployment Objective

Persistent Inflation Scenario

Federal Funds Rate

- Optimal Policy With Perfect Foresight
- Optimal Policy With Gradual Learning
- Empirical Outcome-Based Rule
## Table 1: Alternative Language for the August FOMC Announcement

<table>
<thead>
<tr>
<th>Policy Decision</th>
<th>Alternative A</th>
<th>Alternative B</th>
<th>Alternative C</th>
<th>Alternative D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The Federal Open Market Committee decided today to keep its target for the federal funds rate at 5 1/4 percent.</td>
<td>The Federal Open Market Committee decided today to keep its target for the federal funds rate at 5 1/4 percent.</td>
<td>The Federal Open Market Committee decided today to raise its target for the federal funds rate by 25 basis points to 5 1/2 percent.</td>
<td>The Federal Open Market Committee decided today to raise its target for the federal funds rate by 25 basis points to 5 1/2 percent.</td>
<td></td>
</tr>
<tr>
<td>2. Economic growth has moderated from its quite strong pace earlier this year, partly reflecting a gradual cooling of the housing market and the lagged effects of increases in interest rates and energy prices.</td>
<td>[Same as A]</td>
<td>[Same as A]</td>
<td>[Same as A]</td>
<td></td>
</tr>
<tr>
<td>3. Readings on core inflation have been elevated in recent months, owing in part to the pass-through of increased energy and other commodity prices. However, inflation pressures seem likely to moderate over time, reflecting the cumulative effects of monetary policy actions and other factors restraining aggregate demand, ongoing productivity gains, and contained inflation expectations.</td>
<td>Readings on core inflation have been elevated in recent months, and the high levels of resource utilization and of the prices of energy and other commodities have the potential to sustain inflation pressures. However, inflation pressures seem likely to moderate over time, reflecting contained inflation expectations and the cumulative effects of monetary policy actions and other factors restraining aggregate demand.</td>
<td>Readings on core inflation have been elevated in recent months. The moderation in the growth of aggregate demand and anchored inflation expectations should help to contain inflation in coming quarters. However, the high levels of resource utilization and of the prices of energy and other commodities have the potential to sustain inflation pressures.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. 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>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>[Same as A]</td>
<td>The extent and timing of any additional firming that may be needed to foster a moderation in inflation pressures will depend on the evolution of the outlook for both inflation and economic growth, as implied by incoming information.</td>
<td></td>
</tr>
<tr>
<td>5. [None]</td>
<td>[None]</td>
<td>[None]</td>
<td>[None]</td>
<td></td>
</tr>
</tbody>
</table>