The Federal Reserve Board

Meeting of the Federal Open Market Committee
March 19, 2002 Presentation Materials -- Text Version

Presentation Materials (667 KB PDF)

Pages 107 to 117 of Transcript

Appendix 1: Materials used by Mr. Kos

Page 1

Top panel

Title: Current Deposit Rates and Rates Implied by Traded Forward Rate Agreements
Series: LIBOR Fixings, 3 Month Forward and 9 Month Forward for the United States and Euro-area
Horizon: January 2, 2002 to March 15, 2002
Description: In the U.S., 3 Month and 9M Forward rates increased, while LIBOR fixings were generally constant. In the Euro-area, 9M Forward rates increased significantly, while 3M Forward rates slightly increased and LIBOR fixings were little changed.

Source: Bloomberg

Bottom panel

Title: Current Deposit Rates and Rates Implied by Traded Forward Rate Agreements
Series: LIBOR Fixings, 3 Month Forward and 9 Month Forward for Japan
Horizon: January 2, 2002 to March 15, 2002
Description: In Japan, LIBOR fixings were little changed, while 3M and 9M Forward rates slightly declined.

Source: Bloomberg

Page 2

Top panel

Title: Fed Funds and Treasury Coupon Yields
Series: Fed funds target rate and yields for the, 2- year, 10- year, and 30- year bonds.
Horizon: January 2, 2002 to March 15, 2002
Description: The Fed funds target was left unchanged, and 2-, 10-, and 30- year yields were generally consistent.

Source: Bloomberg

Middle panel

Title: 10-Year Industrial Corporate Debt Spreads to AAA
Series: BBB to AAA, and A to AAA spreads

Horizon: January 2, 2002 - March 15, 2002
Description: Spreads on BBB to AAA corporate ended the time period little changed, despite sharp price action in mid-to-late February, and again in mid-March. Spreads on A to AAA corporate debt tightened, with most price action occurring in late February.

Bottom panel

Title: Emerging Market and U.S. High Yield Spreads
Series: Merrill Lynch High-Yield Spread and JP Morgan EMBI+ Sovereign Spread
Horizon: January 2, 2002 to March 15, 2002
Description: Spreads of both indices narrowed, with most price action occurring late February.

Source: Bloomberg, JP Morgan Chase

Page 3

Top panel

Title: S&P 100 Volatility Index (VIX)
Series: VIX index
Horizon: January 2, 2002 to March 15, 2002
Description: Volatility increased into early February, and then decreased in late February into early March.

Source: Bloomberg

Middle panel

Title: Eurodollar Deposit Futures Implied Volatility (rolling 2nd contract)
Series: Implied Volatility on Eurodollar Deposit Futures (rolling 2nd contract)
Horizon: January 2, 2002 to March 15, 2002
Description: Volatility decreased over the time period.

Source: Bloomberg

Bottom panel

Title: 1-Month and 1-Year Euro-Dollar Exchange Rate Option Implied Volatility
Series: 1-Month and 1-Year Euro-Dollar Exchange Rate Option Implied Volatility
Horizon: January 2, 2002 to March 15, 2002
Description: Implied volatility on both 1-year and 1-month euro-dollar options decreased over the time period.

Source: Bloomberg

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Top panel

Title: Nikkei Stock Index
Series: Nikkei Stock Index
Horizon: January 2, 2002 to March 15, 2002
Description: The Nikkei stock index declined in January, only to pick up in February and March. Sharp increases were observed after the short selling rule change and the BOJ policy board meeting, when rates were left unchanged.

Source: Bloomberg

Middle panel

Title: 10-Year JGB Yields
Series: Yields on 10-Year JGBs
Horizon: January 2, 2002 to March 15, 2002
Description: Yields on the 10-Year JGB increased in January and February, but began to fall in late February after the short selling rule change and the BOJ policy board meeting, when rates were left unchanged.

Source: Bloomberg

Bottom panel

Title: Dollar Yen Exchange Rate
Series: Yen per dollar
Horizon: January 2, 2002 to March 15, 2002
Description: In January and February, the dollar steadily appreciated against the yen, but price action sharply reversed following short selling rule change and the BOJ policy board meeting, when rates were left unchanged.

Source: Bloomberg

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Top panel

Title: Currency (M1 component) Monthly Growth Rates, saar
Series: M1 growth rates
Horizon: March 2001 to May 2002
Description: M1 growth rates spiked to very high levels in August 2001, but came back to historical average levels. M1 growth is forecasted to decrease in early 2002.

Bottom panel

Title: Domestic Financial Assets Held by the Federal Reserve
Series: Maintenance period averages of SOMA holdings, and SOMA plus all RP holdings.
Horizon: March 2001 to May 2002
Description: Assets in both the SOMA portfolio, and SOMA portfolio plus all RPs steadily increased.

Appendix 2: Materials used by Mr. Reinhart

Monetary Policy Alternatives
Material for FOMC Briefing
March 19, 2002

Exhibit 1
Policy Expectations

Exhibit 1 includes five charts and tables that provide information on policy expectations and interest rate developments over the intermeeting period as well as data on past easing and tightening episodes going back to the 1980s.

Top-left panel
Changes in Expected Federal Funds Rate* over this Intermeeting Period

A bar chart displays changes in the expected federal funds rate after various horizons from the current month to the second quarter of 2004. This chart conveys that a string of surprisingly strong data on spending and production released over the intermeeting period prompted the 10 to 55 basis point upward revision to market expectations.

* Estimates from federal funds and eurodollar futures rates with an allowance for term premia and other adjustments. Return to text

Top-right panel
Expected Federal Funds Rate*

A line chart shows the level of the expected federal funds rate on January 29, 2002 and March 18, 2002 and indicates that market prices now embed an anticipation that the funds rate will rise to 5¼ percent in mid-2004.

Middle-left panel
Features of Market Expectations

- Policy tightens soon after easing.
- Tightening is extended.
- Hard to square with economists' forecasts.

The panel covers three points related to policy expectations. First, federal funds futures rates move significantly above 1¾ percent in a couple of months, apparently signaling the belief that policy will begin tightening on the heels of the end of the easing episode. Second, money market futures rates climb almost continually over the next couple of years, implying that policy tightening will be extended. Third, these expectations of imminent firming are difficult to square with the published forecasts of most market economists, who fail to foresee the sort of pressures on resources that would require action soon.

Middle-right panel
Policy Episodes, 1989 - 2001

	Average Duration (Months)
Easings	15
Pauses after easings	13
Tightenings	11
Pauses after tightenings	10

Bottom panel
Easing and Tightening Episodes

A line chart shows the level of the target federal funds rate from 1984 thorough the current date. The range of the vertical axis spans 2 to 12 percent. Vertical bars in the chart denote easing and tightening

episodes over the period. The average duration of these episodes are, again, summarized in the middle right panel.

Exhibit 2

Exhibit 2 includes five charts that summarize analysis of a regime-switching model that formalizes the notion that market participants expect the nominal funds rate to return to a more sustainable level rapidly once the tightening process starts but also hedge their bets as to when that tightening will begin.

Top-left panel
Regime-Switching Model

- The Committee either
  - holds the funds rate at 1-3/4 percent.
  - tightens policy.
- Once tightening begins, the funds rate moves steadily, but fairly rapidly, up to a sustainable level.
- Probability of beginning to tighten is constant.

The panel outlines the model and notes the assumptions that market participants expect the Committee either to keep the funds rate at its current level or to begin tightening; that once a tightening phase is begun, everyone expects that the funds rate will be steadily, but fairly rapidly, moved up to some sustainable level with no reversals or pauses; and that if the funds rate has continued to be held constant in any given month, market participants assign a constant probability of switching over to a tightening phase in the next month.

Top-right panel
Probability of Onset of Tightening Episode

A line chart shows the evolution of estimates from this model of the market's assessment of the probability that the Committee will begin to tighten next month. The horizontal axis ranges from January 2, 2002 through March 18, 2002, and the range of probabilities spans 7 to 12 percent. The current reading is an 11 percent chance of tightening beginning next month.

Middle-left panel
Cumulative Probability of Tightening Episode

A line chart describes the cumulative probability of a tightening episode, with the probabilities spanning 0 to 100 percent on the vertical axis and the horizon covering 1 to 15 months ahead on the horizontal axis. The chart conveys that according to current market prices, there is a one-in-two chance that the funds rate will be rising six months from now.

Middle-right panel
Implied Tightening Regime

A line chart illustrates the implied tightening regime, from one to 15 months ahead on the horizontal axis, and from 2 to 6 percent on the vertical axis. The chart suggests how aggressive that rise in interest rates may be expected to be: Estimates derived from yesterday's closing futures rates suggest that market participants believe that once tightening starts, the funds rate will move up about as fast as it moved down. That is, within one year--or about at the norm of the prior decade.

Bottom panel
Simulation Using FRB/US Model

- Judgmental extension of the Greenbook to 2007.
- Expectations are formed based on past observations.
- Policy moves the real funds rate to its equilibrium in four quarters starting
    - next quarter (immediate scenario).
    - one-year later (intermediate scenario).
    - two-years later (delayed scenario).

To address the question of the Committee's preferred inflation rates. The bottom panel describes the highlights of a simulation using the FRB/US model. The text notes that the simulations extend the Greenbook forecast until 2007, used the version of the model in which workers and investors form their expectations based on past observations of important macroeconomic variables, and covered the consequences of moving the real funds rate to its long-run equilibrium level of 3½ percent relatively smoothly in one year but alternatively beginning next quarter, one year, or two years later.

Exhibit 3
Alternative Strategies

Exhibit 3 contains four line charts that address the consequences of alternative monetary policy strategies over the period from 2001 through the end of 2006.

Top-left panel
Nominal Federal Funds Rate

Top-right panel
Real Federal Funds Rate[1]

Middle panel
Civilian Unemployment Rate

Bottom panel
PCE Inflation (ex. food and energy)

Top-left panel: A chart of three lines that show alternative paths of the nominal federal funds rate over time--from 2001 to the end of 2006, as noted on the horizontal axis--under the "immediate," "intermediate," and "delayed" alternatives reference earlier which start now, in one year, and in two years, respectively. The remaining charts follow the same pattern and cover real funds rate (the top-right panel), which ranges from zero to 5 percent on the vertical axis; the civilian unemployment rate (the middle panel), which ranges from 4 to 6.5 percent on the vertical axis; and PCE inflation (the bottom panel), which ranges from zero to 2.5 percent on the vertical axis.

All told, these charts convey the notion that the longer the Committee waits to tighten, the more unemployment will be worked down at the expense of an ultimate step-up of inflation. The range of consequences is notable. For example, were policy to begin moving the nominal funds rate up next quarter, the drifting higher of the unemployment rate to 6¼ percent by year-end 2003 in the middle panel would open enough slack to induce core PCE inflation to settle at around ¾ percent. Also, delaying that process by one year or by two years would forestall that rise in unemployment at the cost of about 0.7 and 1.3 percentage points of higher inflation, respectively, down the road.

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. Return to text

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