Page 11: **Implied One-Year Forward Rates** are calculated by this Bank from Treasury constant maturity yields. Yields to maturity, $R(m)$, for securities with $m = 1,..., 10$ years to maturity are obtained by linear interpolation between reported yields. These yields are smoothed by fitting the regression suggested by Nelson and Siegel (1987),

$$R(m) = a_0 + (a_1 + a_2)(1 - e^{-m/50})/(m/50) - a_2 \times e^{-m/50},$$

and forward rates are calculated from these smoothed yields using equation (a) in table 13.1 of Shiller (1990),

$$f(m) = [D(m)R(m) - D(m-1)] / [D(m) - D(m-1)],$$

where duration is approximated as $D(m) = (1 - e^{-R(m) \times m})/R(m)$. These rates are linear approximations to the true instantaneous forward rates; see Shiller (1990). For a discussion of the use of forward rates as indicators of inflation expectations, see Sharpe (1997). **Rates on 3-Month Eurodollar Futures** and **Rates on Selected Federal Funds Futures Contracts** trace through time the yield on three specific contracts. **Rates on Federal Funds Futures on Selected Dates** displays a single day's snapshot of yields for contracts expiring in the months shown on the horizontal axis. **Inflation-Indexed Treasury Securities and Yield Spreads** are those plotted on page 3. **Inflation-Indexed 10-Year Government Notes** shows the yield of an inflation-indexed note that is scheduled to mature in approximately (but not greater than) 10 years. The current French note has a maturity date of 7/25/2015, the current U.K. note has a maturity date of 8/16/2013, and the current U.S. note has a maturity date of 1/15/2016. **Inflation-Indexed Treasury Yield Spreads** and **Inflation-Indexed 10-Year Government Yield Spreads** equal the difference between the yields on the most recently issued inflation-indexed securities and the unadjusted security yields of similar maturity.

Page 12: **Velocity** (for MZM and M2) equals the ratio of GDP, measured in current dollars, to the level of the monetary aggregate. **MZM** and **M2 Own Rates** are weighted averages of the rates received by households and firms on the assets included in the aggregates. Prior to 1982, the 3-month T-bill rates are secondary market yields. From 1982 forward, rates are 3-month constant maturity yields.

Page 13: **Real Gross Domestic Product** is GDP as measured in chained 2000 dollars. The **Gross Domestic Product Price Index** is the implicit price deflator for GDP, which is defined by the Bureau of Economic Analysis, U.S. Department of Commerce, as the ratio of GDP measured in current dollars to GDP measured in chained 2000 dollars.

Page 14: **Investment Securities** are all securities held by commercial banks in both investment and trading accounts.

Page 15: **Inflation Rate Differentials** are the differences between the foreign consumer price inflation rates and year-over-year changes in the U.S. all-items Consumer Price Index.

Page 17: **Treasury Yields** are Treasury constant maturities as reported in the Board of Governors of the Federal Reserve System's H.15 release.

Sources

Agence France Trésor: French note yields.

Bank of Canada: Canadian note yields.

Bank of England: U.K. note yields.

Board of Governors of the Federal Reserve System: Monetary aggregates and components: H.6 release. Bank credit and components: H.8 release. Consumer credit: G.19 release. Required reserves, excess reserves, clearing balance contracts, and discount window borrowing: H.4.1 and H.3 releases. Interest rates: H.15 release. Nonfinancial commercial paper: Board of Governors website. Nonfinancial debt: Z.1 release. M2 own rate.

Bureau of Economic Analysis: GDP.

Bureau of Labor Statistics: CPI.

Chicago Board of Trade: Federal funds futures contract.

Chicago Mercantile Exchange: Eurodollar futures.

Congressional Budget Office: Potential real GDP.

Federal Reserve Bank of Philadelphia: Survey of Professional Forecasters inflation expectations.

Federal Reserve Bank of St. Louis: Adjusted monetary base and adjusted reserves, monetary services index, MZM own rate, one-year forward rates.

Organization for Economic Cooperation and Development: International interest and inflation rates.

Standard & Poor's: Stock price-earnings ratio, stock price composite index.

University of Michigan Survey Research Center: Median expected price change.

U.S. Department of the Treasury: U.S. security yields.

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Taylor, John B. (1993). "Discretion versus Policy Rules in Practice," *Carnegie-Rochester Conference Series on Public Policy*, vol. 39, pp. 195-214.

Note: *Available on the Internet at research.stlouisfed.org/publications/review/.

Monetary Trends

April 2006

Federal Reserve Bank of St. Louis

Goodbye to M3

In March 2006, the Board of Governors ceased reporting the monetary aggregate M3, which consisted of M2 plus items such as large time deposits, overnight and term repurchase agreements, and overnight and term Eurodollar deposits.[1]

One reason was the costs of collecting data on the deposit series special to M3. But the deeper reason is that M3 has not proved essential for policymaking and monetary analysis. M3 never caught on as a popular measure of broad money. Economists prefer to study M2 (only two-thirds the size of M3).[2] This preference may seem puzzling. With such a wide variety of financial instruments, wouldn't it be desirable to focus on as broad a measure of money as possible? And if policymakers don't keep track of growth in those instruments, do they run the risk of overlooking a source of aggregate demand pressure that might undo monetary policy actions?

When the Board began reporting the M3 aggregate in 1980, a widespread answer to these questions may have been "yes." Now, however, it is predominantly "no." This reversal reflects a reconsideration of the two issues involved: (i) the appropriate definition of money and (ii) the implications of diverse financial instruments for the effectiveness of monetary policy.

A broader definition of money is not necessarily always preferable. Most theories of money-holding involve alternative assets that are not money but have some of its characteristics. Monetary analysis needs to draw the line between money and nonmoney assets, and some financial instruments lack sufficient similarities with traditional money to merit inclusion in a monetary aggregate. In some cases, including new assets in the definition of money has merit, especially if backed up by market information on how they're used. But simply pointing to the existence of many financial assets doesn't justify using a very broad monetary aggregate.

How new financial instruments might affect monetary policy concerned economists during the 1960s and 1970s. Some argued that the financial intermediaries competing with traditional banks would erode monetary policy effectiveness. For example, when a monetary policy tightening reduced growth in banks' balance sheets, the new financial intermediaries might take up the business (loans and deposits) lost in the contraction of banking activity and thus frustrate the attempt to influence aggregate demand.[3] In November 1979, at a time when this concern reached its high point, the *New York Times* reported that the Federal Reserve and other central banks had a plan for "controlling the explosive growth of the Eurocurrency markets, which they believe is fueling world inflation"—and Eurocurrency deposits became a key component of the M3 aggregate.

This argument has subsequently lost its influence. Nonbanks are competitors with banks, but it does not follow that they will take up all the business forgone by banks when monetary policy tightens. Modern monetary policy is implemented by open market operations, which trigger interest-rate movements, and the business of banks and nonbanks alike is sensitive to these changes. Therefore, in the wake of the Fed's open market sales, these institutions all have incentives to reduce their expansion. This reduction is an equilibrium reaction to the signals given by prices and yields of financial assets, not a reduction imposed by regulatory fiat.

The "judge and jury" on whether monetary authorities have lost their effectiveness in the face of financial innovation must be whether the Federal Reserve can still use the federal funds rate as an instrument. If the private sector could truly defy a monetary policy tightening, the Fed's attempts to use the federal funds rate would be continually frustrated: the financial system could create money substitutes by just the amount sufficient to offset the Fed's influence on the federal funds market. But the Fed has, in fact, continued to be able to control the funds rate.

The fear of expanded financial intermediation voiced during the 1960s and 1970s has therefore been refuted; likewise, the need to keep track of aggregates as broad as M3 has subsided. Indeed, even in the 1960s the view that financial innovations would wipe out the effectiveness of monetary policy was not universal. As early as 1966, one analyst voiced "substantial doubt on the hypothesis that the growth of financial intermediaries may reduce the effectiveness of monetary policy," instead concluding that "the existence of these institutions should contribute to a broader distribution of the effects of monetary policy."[4] And if that judgment was accurate in 1966, it must hold even more true when applied to the vastly more diversified and liberalized financial environment of forty years later.

—Edward Nelson

[1] For background on M3, see Anderson and Kavajecz, "A Historical Perspective on the Federal Reserve's Monetary Aggregates: Definition, Construction and Targeting," Federal Reserve Bank of St. Louis *Review*, March/April 1994, pp. 1-31.

[2] "M3 does not appear to convey any additional information about economic activity that is not already embodied in M2 and has not played a role in the monetary policy process for many years" (Board of Governors, 11/10/2005 announcement).

[3] Thomas Mayer defends this view ("Financial Innovation: The Conflict Between Micro and Macro Optimality," *American Economic Review* (*Papers and Proceedings*), May 1982, pp. 29-34), whereas Milton Friedman ("Our New Hidden Taxes," *Newsweek*, 4/14/1980) and Michael Woodford ("Monetary Policy in the Information Economy," in *Economic Policy for the Information Economy*, Federal Reserve Bank of Kansas City, 2001, pp. 297-370) dissent.

[4] See Hamburger, "The Demand for Money by Households, Money Substitutes, and Monetary Policy," *Journal of Political Economy*, December 1966, pp. 600-623; quotation from p. 622.

Views expressed do not necessarily reflect official positions of the Federal Reserve System.

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Conventions used in this publication:

1. Unless otherwise indicated, data are monthly.
2. Shaded areas indicate recessions, as determined by the National Bureau of Economic Research.
3. *Percent change at an annual rate* is the simple, not compounded, monthly percent change multiplied by 12. For example, using consecutive months, the percent change at an annual rate in x between month $t-1$ and the current month t is: $[(x_t/x_{t-1})-1]\times 1200$. Note that this differs from *National Economic Trends.* In that publication, monthly percent changes are compounded and expressed as annual growth rates.
4. The *percent change from year ago* refers to the percent change from the same period in the previous year. For example, the percent change from year ago in x between month $t-12$ and the current month t is: $[(x_t/x_{t-12})-1]\times 100$.

We welcome your comments addressed to:

Editor, *Monetary Trends*
Research Division
Federal Reserve Bank of St. Louis
P.O. Box 442
St. Louis, MO 63166-0442

or to:

stlsFRED@stls.frb.org

On March 23, 2006, the Board of Governors of the Federal Reserve System will cease the publication of the M3 monetary aggregate. It will also cease publishing the following components: large-denomination time deposits, RPs, and eurodollars.

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Definitions

M1: The sum of currency held outside the vaults of depository institutions, Federal Reserve Banks, and the U.S. Treasury; travelers checks; and demand and other checkable deposits issued by financial institutions (except demand deposits due to the Treasury and depository institutions), minus cash items in process of collection and Federal Reserve float.

MZM (money, zero maturity): M2 minus small-denomination time deposits, plus institutional money market mutual funds (that is, those included in M3 but excluded from M2). The label MZM was coined by William Poole (1991); the aggregate itself was proposed earlier by Motley (1988).

M2: M1 plus savings deposits (including money market deposit accounts) and small-denomination (under $100,000) time deposits issued by financial institutions; and shares in retail money market mutual funds (funds with initial investments under $50,000), net of retirement accounts.

M3: M2 plus large-denomination ($100,000 or more) time deposits; repurchase agreements issued by depository institutions; Eurodollar deposits, specifically, dollar-denominated deposits due to nonbank U.S. addresses held at foreign offices of U.S. banks worldwide and all banking offices in Canada and the United Kingdom; and institutional money market mutual funds (funds with initial investments of $50,000 or more).

Bank Credit: All loans, leases, and securities held by commercial banks.

Domestic Nonfinancial Debt: Total credit market liabilities of the U.S. Treasury, federally sponsored agencies, state and local governments, households, and nonfinancial firms. End-of-period basis.

Adjusted Monetary Base: The sum of currency in circulation outside Federal Reserve Banks and the U.S. Treasury, deposits of depository financial institutions at Federal Reserve Banks, and an adjustment for the effects of changes in statutory reserve requirements on the quantity of base money held by depositories. This series is a spliced chain index; see Anderson and Rasche (1996a,b, 2001, 2003).

Adjusted Reserves: The sum of vault cash and Federal Reserve Bank deposits held by depository institutions and an adjustment for the effects of changes in statutory reserve requirements on the quantity of base money held by depositories. This spliced chain index is numerically larger than the Board of Governors' measure, which excludes vault cash not used to satisfy statutory reserve requirements and Federal Reserve Bank deposits used to satisfy required clearing balance contracts; see Anderson and Rasche (1996a, 2001, 2003).

Monetary Services Index: An index that measures the flow of monetary services received by households and firms from their holdings of liquid assets; see Anderson, Jones, and Nesmith (1997). Indexes are shown for the assets included in M2, with additional data at research.stlouisfed.org/msi/index.html.

Note: M1, M2, M3, Bank Credit, and Domestic Nonfinancial Debt are constructed and published by the Board of Governors of the Federal Reserve System. For details, see *Statistical Supplement to the Federal Reserve Bulletin*, tables 1.21 and 1.26. MZM, Adjusted Monetary Base, Adjusted Reserves, and Monetary Services Index are constructed and published by the Research Division of the Federal Reserve Bank of St. Louis.

Notes

Page 3: Readers are cautioned that, since early 1994, the level and growth of M1 have been depressed by retail sweep programs that reclassify transactions deposits (demand deposits and other checkable deposits) as savings deposits overnight, thereby reducing banks' required reserves; see Anderson and Rasche (2001) and research.stlouisfed.org/aggreg/swdata.html. **Primary Credit Rate**, **Discount Rate,** and **Intended Federal Funds Rate** shown in the chart **Reserve Market Rates** are plotted as of the date of the change, while the **Effective Federal Funds Rate** is plotted as of the end of the month. Interest rates in the table are monthly averages from the Board of Governors H.15 Statistical Release. The **Treasury Yield Curve** and **Real Treasury Yield Curve** show constant maturity yields calculated by the U.S. Treasury for securities 5, 7, 10, and 20 years to maturity. **Inflation-Indexed Treasury Yield Spreads** are a measure of inflation compensation at those horizons, and it is simply the nominal constant maturity yield less the real constant maturity yield. Daily data and descriptions are available at research.stlouisfed.org/fred2/. See also *Statistical Supplement to the Federal Reserve Bulletin*, table 1.35. The 30-year constant maturity series was discontinued by the Treasury as of February 18, 2002.

Page 5: **Checkable Deposits** is the sum of demand and other checkable deposits. **Savings Deposits** is the sum of money market deposit accounts and passbook and statement savings. **Time Deposits** have a minimum initial maturity of 7 days. **Large Time Deposits** are deposits of $100,000 or more. **Retail** and **Institutional Money Market Mutual Funds** are as included in M2 and the non-M2 component of M3, respectively.

Page 7: **Excess Reserves plus RCB (Required Clearing Balance) Contracts** equals the amount of deposits at Federal Reserve Banks held by depository institutions but not applied to satisfy statutory reserve requirements. (This measure excludes the vault cash held by depository institutions that is not applied to satisfy statutory reserve requirements.) **Consumer Credit** includes most short- and intermediate-term credit extended to individuals. See *Statistical Supplement to the Federal Reserve Bulletin*, table 1.55.

Page 8: **Inflation Expectations** measures include the quarterly Federal Reserve Bank of Philadelphia *Survey of Professional Forecasters*, the monthly University of Michigan Survey Research Center's *Surveys of Consumers*, and the annual Federal Open Market Committee (FOMC) range as reported to the Congress in the February testimony that accompanies the Monetary Policy Report to the Congress. Beginning February 2000, the FOMC began using the personal consumption expenditures (PCE) price index to report its inflation range; the FOMC then switched to the PCE chain-type price index excluding food and energy prices ("core") beginning July 2004. Accordingly, neither are shown on this graph. **CPI Inflation** is the percentage change from a year ago in the consumer price index for all urban consumers. **Real Interest Rates** are ex post measures, equal to nominal rates minus CPI inflation.

Page 9: **FOMC Intended Federal Funds Rate** is the level (or midpoint of the range, if applicable) of the federal funds rate that the staff of the FOMC expected to be consistent with the desired degree of pressure on bank reserve positions. In recent years, the FOMC has set an explicit target for the federal funds rate.

Page 10: **Federal Funds Rate and Inflation Targets** shows the observed federal funds rate, quarterly, and the level of the funds rate implied by applying Taylor's (1993) equation

$$f_t^* = 2.5 + \pi_{t-1} + (\pi_{t-1} - \pi^*)/2 + 100 \times (y_{t-1} - y_{t-1}{}^P)/2$$

to five alternative target inflation rates, $\pi^* = 0, 1, 2, 3, 4$ percent, where f_t^* is the implied federal funds rate, π_{t-1} is the previous period's inflation rate (PCE) measured on a year-over-year basis, y_{t-1} is the log of the previous period's level of real gross domestic product (GDP), and $y_{t-1}{}^P$ is the log of an estimate of the previous period's level of potential output. **Potential Real GDP** is as estimated by the Congressional Budget Office.

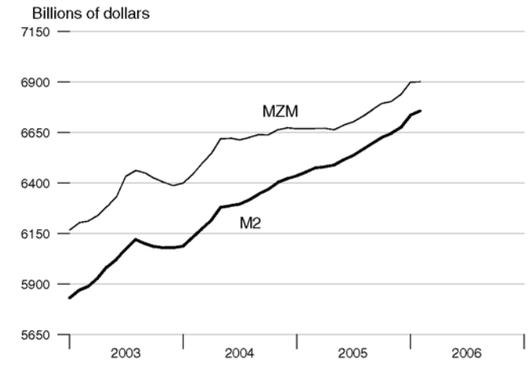
Monetary Base Growth and Inflation Targets shows the quarterly growth of the adjusted monetary base (modified to include an estimate of the effect of sweep programs) implied by applying McCallum's (1988, 1993) equation

$$\Delta MB_t^* = \pi^* + (\text{10-year moving average growth of real GDP}) - (\text{4-year moving average of base velocity growth})$$

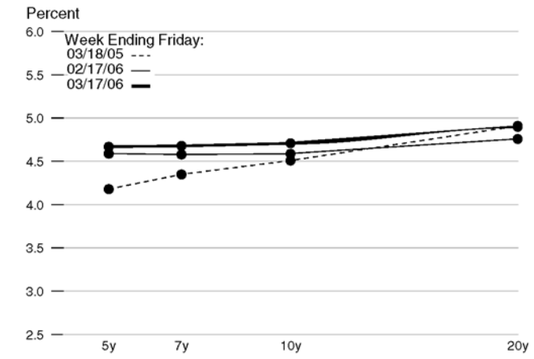
to five alternative target inflation rates, $\pi^* = 0, 1, 2, 3, 4$ percent, where ΔMB_t^* is the implied growth rate of the adjusted monetary base. The 10-year moving average growth of real GDP for a quarter t is calculated as the average quarterly growth during the previous 40 quarters, at an annual rate, by the formula $((y_t - y_{t-40})/40) \times 400$, where y_t is the log of real GDP. The 4-year moving average of base velocity growth is calculated similarly. To adjust the monetary base for the effect of retail-deposit sweep programs, we add to the monetary base an amount equal to 10 percent of the total amount swept, as estimated by the Federal Reserve Board staff. These estimates are imprecise, at best. Sweep program data are found at research.stlouisfed.org/aggreg/swdata.html.

		M1	MZM	M2	M3
Percent change at an annual rate					
2001		3.33	15.88	8.81	11.49
2002		4.91	12.86	7.52	7.98
2003		6.49	7.42	6.97	6.40
2004		5.58	3.93	4.54	5.09
2005		1.78	2.12	4.20	5.97
2003	1	7.88	7.90	6.66	6.76
	2	11.06	5.87	7.94	5.47
	3	8.12	10.42	7.98	7.54
	4	1.71	-2.73	-1.07	-0.96
2004	1	5.89	2.61	3.26	5.43
	2	6.24	9.28	8.53	9.74
	3	4.09	1.88	3.69	4.04
	4	4.83	1.93	4.98	3.42
2005	1	0.24	0.65	3.58	5.63
	2	-0.32	0.26	2.48	5.98
	3	-0.55	3.48	4.36	7.81
	4	0.72	4.72	5.01	9.18
2004	Feb	12.82	8.15	8.64	9.42
	Mar	8.84	9.59	8.01	10.72
	Apr	8.81	9.40	8.49	9.11
	May	-2.60	13.37	12.29	12.35
	Jun	4.28	0.66	1.56	4.15
	Jul	2.00	-1.54	1.26	0.90
	Aug	9.55	2.17	4.17	4.10
	Sep	5.64	2.60	5.64	4.83
	Oct	0.28	-0.30	4.23	0.96
	Nov	11.74	4.57	6.54	4.58
	Dec	-1.73	1.76	3.38	4.84
2005	Jan	-4.46	-0.69	2.67	6.90
	Feb	2.14	-0.22	3.59	5.61
	Mar	3.09	0.30	3.62	4.25
	Apr	-6.27	0.06	1.13	6.97
	May	4.36	-1.21	1.58	5.50
	Jun	-1.06	4.16	4.89	7.48
	Jul	-6.16	2.75	3.70	4.58
	Aug	6.98	4.98	5.55	12.56
	Sep	-2.53	5.91	5.53	10.48
	Oct	1.59	5.36	5.23	9.66
	Nov	0.58	1.86	3.84	5.39
	Dec	-1.34	5.76	4.97	8.83
2006	Jan	12.15	10.97	11.01	10.46
	Feb	-6.57	0.46	3.83	6.53

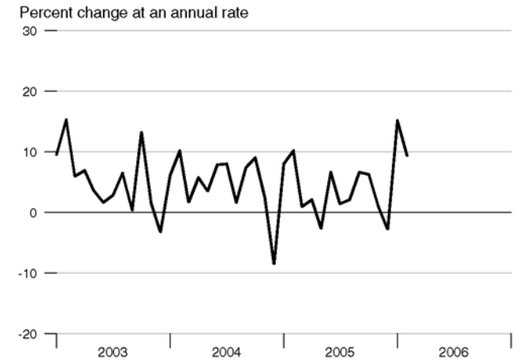
M2 and MZM



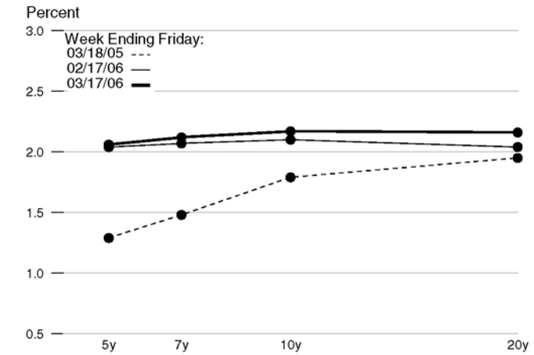
Treasury Yield Curve



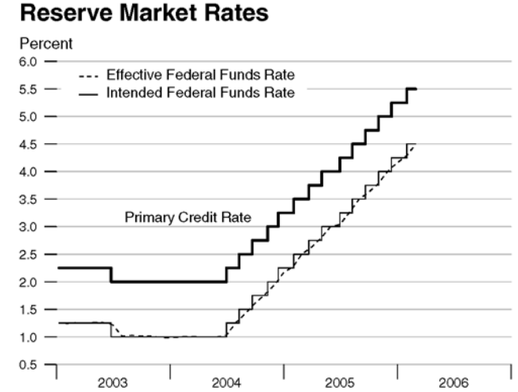
Adjusted Monetary Base



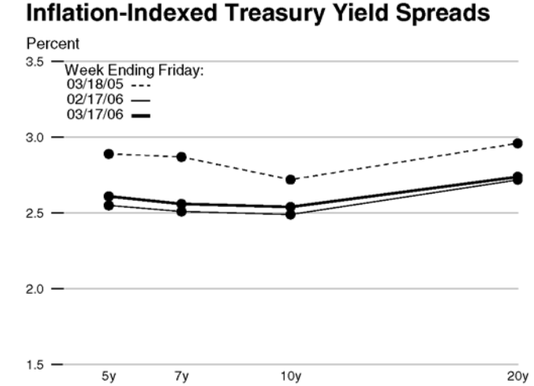
Real Treasury Yield Curve



Reserve Market Rates

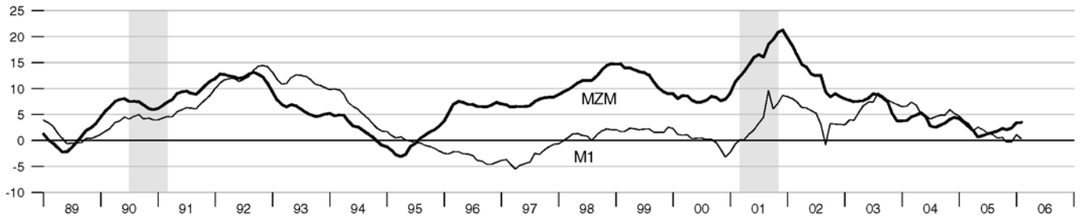


Inflation-Indexed Treasury Yield Spreads



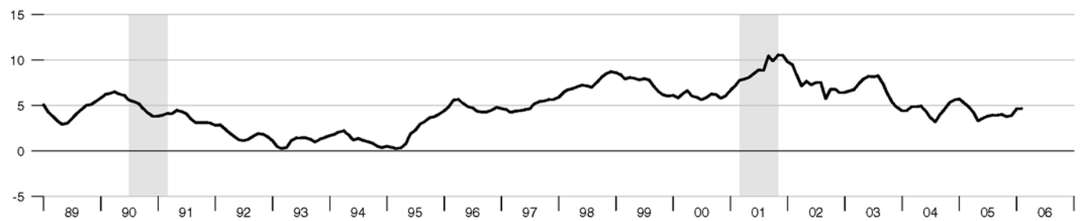
MZM and M1

Percent change from year ago



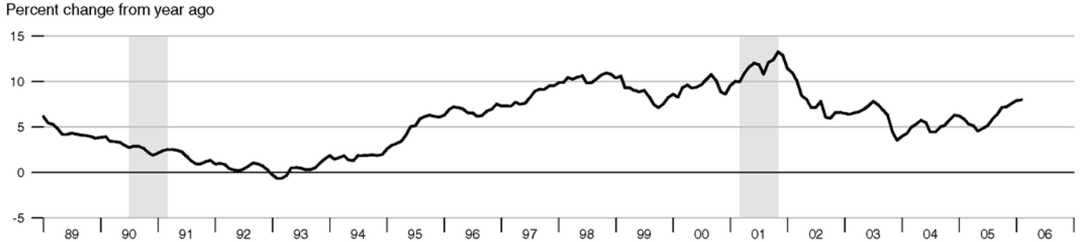
M2

Percent change from year ago



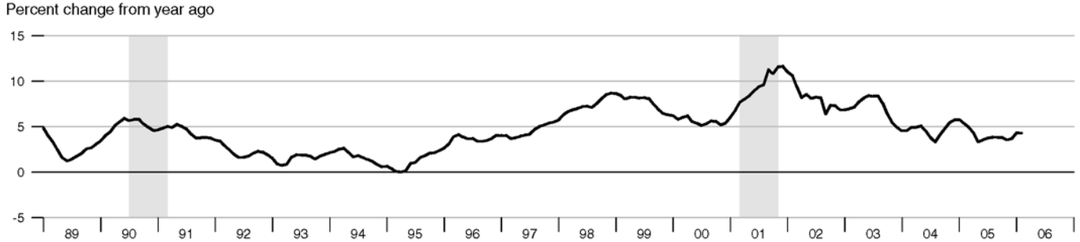
M3

Percent change from year ago



Monetary Services Index - M2

Percent change from year ago



		Federal Funds	Primary Credit Rate	Prime Rate	3-mo CDs	Treasury Yields 3-mo	3-yr	10-yr	Corporate Aaa Bonds	S & L Aaa Bonds	Conventional Mortgage
	2001	3.89		6.92	3.69	3.47	4.08	5.02	7.08	5.01	6.97
	2002	1.67		4.68	1.73	1.63	3.10	4.61	6.49	4.87	6.54
	2003	1.13	2.11	4.12	1.15	1.03	2.11	4.02	5.67	4.52	5.82
	2004	1.35	2.34	4.34	1.56	1.40	2.78	4.27	5.63	4.50	5.84
	2005	3.21	4.19	6.19	3.51	3.21	3.93	4.29	5.23	4.28	5.86
2003	1	1.25	2.25	4.25	1.26	1.18	2.07	3.92	6.00	4.60	5.83
	2	1.25	2.23	4.24	1.17	1.06	1.77	3.62	5.31	4.28	5.51
	3	1.02	2.00	4.00	1.07	0.95	2.20	4.23	5.70	4.68	6.01
	4	1.00	2.00	4.00	1.10	0.93	2.38	4.29	5.66	4.52	5.92
2004	1	1.00	2.00	4.00	1.05	0.93	2.17	4.02	5.45	4.26	5.61
	2	1.01	2.00	4.00	1.25	1.10	2.98	4.60	5.93	4.82	6.13
	3	1.43	2.42	4.42	1.70	1.51	2.92	4.30	5.64	4.54	5.89
	4	1.95	2.94	4.94	2.25	2.04	3.05	4.17	5.48	4.39	5.73
2005	1	2.47	3.44	5.44	2.78	2.58	3.61	4.30	5.32	4.23	5.76
	2	2.94	3.91	5.91	3.23	2.93	3.73	4.16	5.15	4.15	5.72
	3	3.46	4.43	6.43	3.74	3.43	3.98	4.21	5.09	4.28	5.76
	4	3.98	4.97	6.97	4.30	3.91	4.37	4.49	5.38	4.45	6.22
2004	Feb	1.01	2.00	4.00	1.05	0.94	2.25	4.08	5.50	4.26	5.64
	Mar	1.00	2.00	4.00	1.05	0.95	2.00	3.83	5.33	4.11	5.45
	Apr	1.00	2.00	4.00	1.08	0.96	2.57	4.35	5.73	4.69	5.83
	May	1.00	2.00	4.00	1.20	1.04	3.10	4.72	6.04	4.93	6.27
	Jun	1.03	2.01	4.01	1.46	1.29	3.26	4.73	6.01	4.85	6.29
	Jul	1.26	2.25	4.25	1.57	1.36	3.05	4.50	5.82	4.71	6.06
	Aug	1.43	2.43	4.43	1.68	1.50	2.88	4.28	5.65	4.52	5.87
	Sep	1.61	2.58	4.58	1.86	1.68	2.83	4.13	5.46	4.40	5.75
	Oct	1.76	2.75	4.75	2.04	1.79	2.85	4.10	5.47	4.38	5.72
	Nov	1.93	2.93	4.93	2.26	2.11	3.09	4.19	5.52	4.45	5.73
	Dec	2.16	3.15	5.15	2.45	2.22	3.21	4.23	5.47	4.35	5.75
2005	Jan	2.28	3.25	5.25	2.61	2.37	3.39	4.22	5.36	4.24	5.71
	Feb	2.50	3.49	5.49	2.77	2.58	3.54	4.17	5.20	4.16	5.63
	Mar	2.63	3.58	5.58	2.97	2.80	3.91	4.50	5.40	4.29	5.93
	Apr	2.79	3.75	5.75	3.09	2.84	3.79	4.34	5.33	4.18	5.86
	May	3.00	3.98	5.98	3.22	2.90	3.72	4.14	5.15	4.20	5.72
	Jun	3.04	4.01	6.01	3.38	3.04	3.69	4.00	4.96	4.08	5.58
	Jul	3.26	4.25	6.25	3.57	3.29	3.91	4.18	5.06	4.18	5.70
	Aug	3.50	4.44	6.44	3.77	3.52	4.08	4.26	5.09	4.33	5.82
	Sep	3.62	4.59	6.59	3.87	3.49	3.96	4.20	5.13	4.34	5.77
	Oct	3.78	4.75	6.75	4.13	3.79	4.29	4.46	5.35	4.49	6.07
	Nov	4.00	5.00	7.00	4.31	3.97	4.43	4.54	5.42	4.42	6.33
	Dec	4.16	5.15	7.15	4.45	3.97	4.39	4.47	5.37	4.46	6.27
2006	Jan	4.29	5.26	7.26	4.56	4.34	4.35	4.42	5.29	4.27	6.15
	Feb	4.49	5.50	7.50	4.72	4.54	4.64	4.57	5.35	4.33	6.25

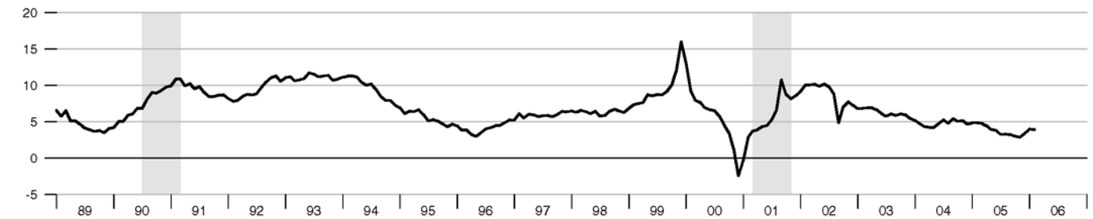
*All values are given as a percent at an annual rate.

		Money Stock				Bank	Adjusted		
		M1	MZM	M2	M3	Credit	Monetary Base	Reserves	MSI M2
	2001	1140.196	5223.809	5221.416	7648.507	5344.000	641.167	86.172	271.477
	2002	1196.168	5895.588	5614.102	8259.055	5596.949	697.092	88.158	294.080
	2003	1273.742	6333.008	6005.194	8787.321	6120.441	740.929	93.313	315.192
	2004	1344.776	6582.026	6277.757	9234.718	6597.516	776.706	96.065	329.873
	2005	1368.678	6721.857	6541.491	9785.855	7238.657	806.305	96.187	343.539
2003	1	1233.903	6193.929	5862.439	8621.879	5954.724	726.942	91.199	307.636
	2	1268.017	6284.892	5978.747	8739.810	6135.072	738.455	92.122	313.730
	3	1293.764	6448.607	6097.973	8904.471	6187.760	744.335	95.167	320.064
	4	1299.283	6404.605	6081.616	8883.124	6204.206	753.986	94.762	319.336
2004	1	1318.425	6446.396	6131.165	9003.705	6428.350	761.428	95.033	322.050
	2	1338.979	6595.935	6261.926	9223.054	6560.282	771.146	96.603	328.960
	3	1352.681	6626.890	6319.667	9316.285	6645.833	782.782	96.800	332.111
	4	1369.017	6658.883	6398.270	9395.830	6755.599	791.469	95.825	336.371
2005	1	1369.833	6669.722	6455.484	9528.052	6992.301	798.244	96.654	339.356
	2	1368.722	6674.011	6495.513	9670.405	7166.572	802.634	96.059	341.280
	3	1366.851	6732.093	6566.330	9859.301	7350.190	808.398	96.292	344.766
	4	1369.308	6811.602	6648.636	10085.66	7445.563	815.945	95.742	348.753
2004	Feb	1319.834	6443.734	6132.130	9000.278	6442.660	763.197	95.940	322.099
	Mar	1329.560	6495.208	6173.085	9080.656	6520.639	764.293	95.949	324.214
	Apr	1339.324	6546.112	6216.758	9149.627	6540.996	767.950	97.098	326.486
	May	1336.422	6619.025	6280.425	9243.802	6549.960	770.211	95.781	329.954
	Jun	1341.192	6622.667	6288.595	9275.732	6589.889	775.276	96.930	330.439
	Jul	1343.431	6614.151	6295.192	9282.651	6602.295	780.465	95.693	330.885
	Aug	1354.126	6626.092	6317.062	9314.355	6632.674	781.530	96.029	331.953
	Sep	1360.486	6640.428	6346.747	9351.849	6702.531	786.352	98.679	333.496
	Oct	1360.799	6638.774	6369.117	9359.369	6713.830	792.251	97.564	334.816
	Nov	1374.114	6664.062	6403.825	9395.128	6759.505	793.883	96.836	336.675
	Dec	1372.137	6673.812	6421.869	9432.994	6793.463	788.274	93.074	337.622
2005	Jan	1367.032	6669.990	6436.137	9487.218	6892.722	793.547	95.103	338.366
	Feb	1369.472	6668.749	6455.410	9531.592	6999.411	800.277	97.814	339.355
	Mar	1372.994	6670.428	6474.904	9565.346	7084.771	800.907	97.045	340.347
	Apr	1365.820	6670.782	6481.017	9620.909	7112.382	802.314	97.419	340.663
	May	1370.779	6664.078	6489.530	9665.013	7166.460	800.583	94.568	340.941
	Jun	1369.567	6687.172	6515.992	9725.294	7220.875	805.005	96.190	342.235
	Jul	1362.533	6702.495	6536.107	9762.449	7281.157	805.967	95.519	343.275
	Aug	1370.455	6730.327	6566.310	9864.650	7360.489	807.387	95.639	344.739
	Sep	1367.566	6763.457	6596.574	9950.803	7408.924	811.840	97.718	346.285
	Oct	1369.376	6793.677	6625.320	10030.91	7420.064	816.105	97.285	347.590
	Nov	1370.041	6804.227	6646.526	10075.95	7437.073	816.789	96.692	348.603
	Dec	1368.506	6836.902	6674.061	10150.12	7479.552	814.941	93.248	350.067
2006	Jan	1382.361	6899.391	6735.299	10238.57	7538.216	825.232	96.514	353.032
	Feb	1374.791	6902.021	6756.811	10294.32	7627.627	831.705	96.615	353.943

*All values are given in billions of dollars.

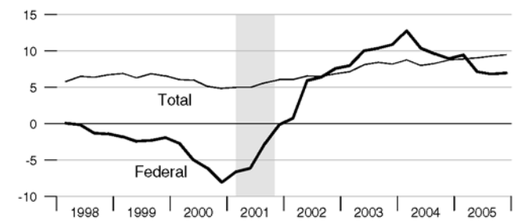
Adjusted Monetary Base

Percent change from year ago



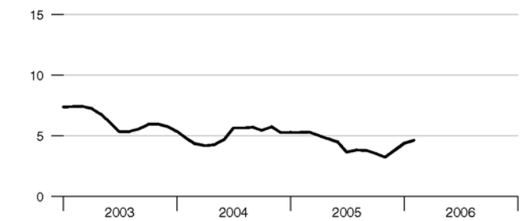
Domestic Nonfinancial Debt

Percent change from year ago



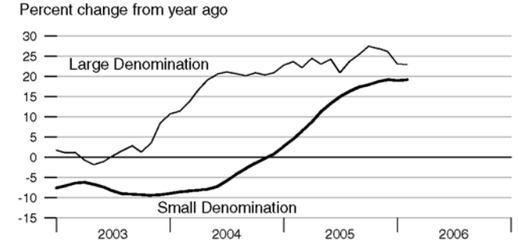
Currency Held by the Nonbank Public

Percent change from year ago



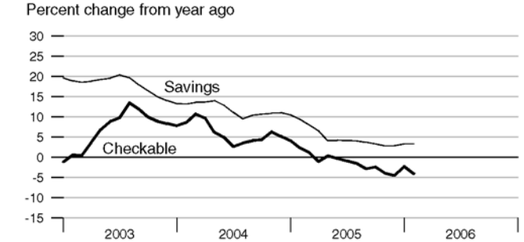
Time Deposits

Percent change from year ago



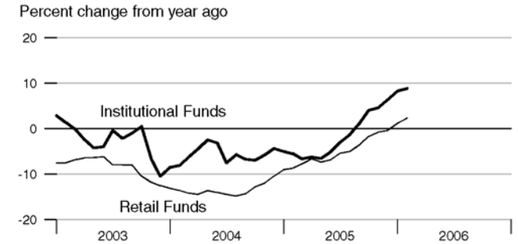
Checkable and Savings Deposits

Percent change from year ago



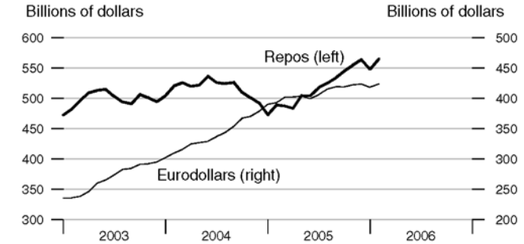
Money Market Mutual Fund Shares

Percent change from year ago



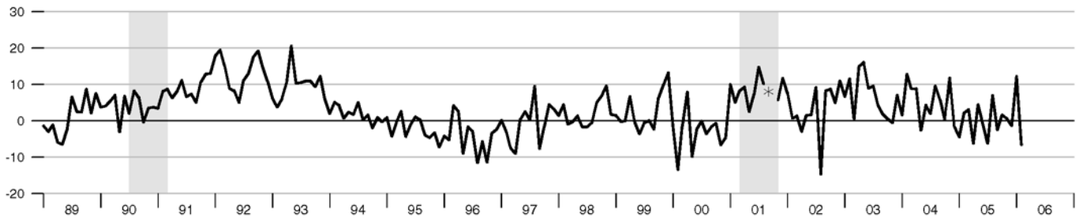
Repurchase Agreements and Eurodollars

Billions of dollars Billions of dollars



M1

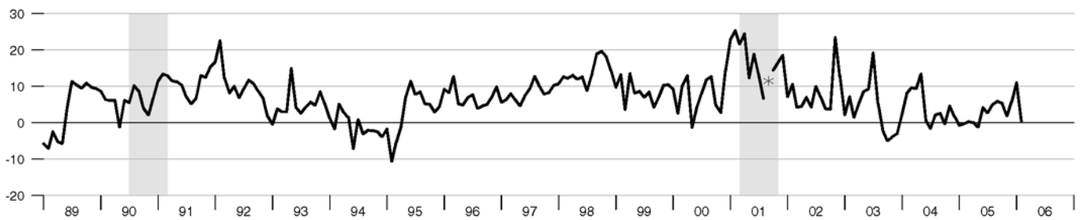
Percent change at an annual rate



*Actual values for September and October 2001 are 55.87 and -38.35 percent rate, respectively.

MZM

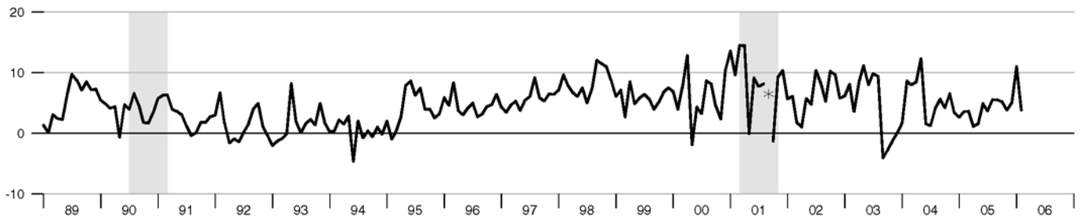
Percent change at an annual rate



*Actual value for September 2001 is 39.41 percent rate.

M2

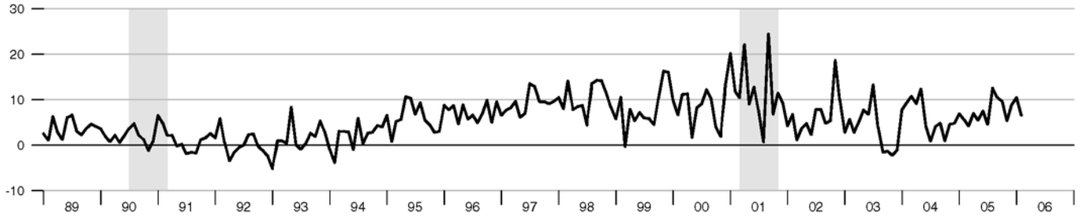
Percent change at an annual rate



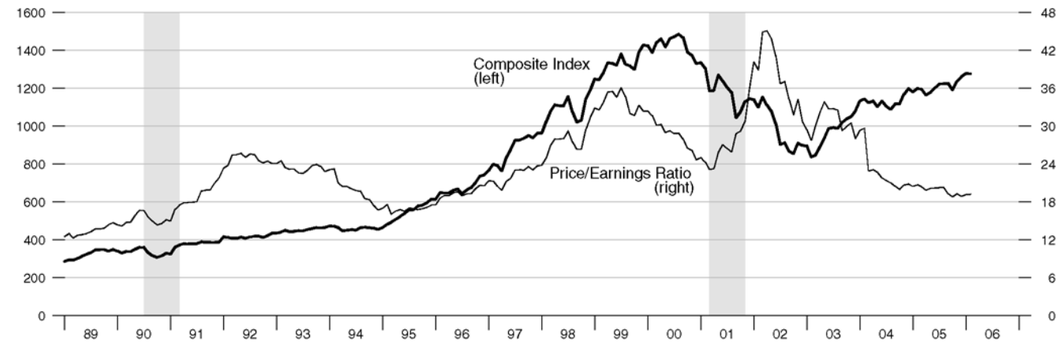
*Actual value for September 2001 is 24.90 percent rate.

M3

Percent change at an annual rate



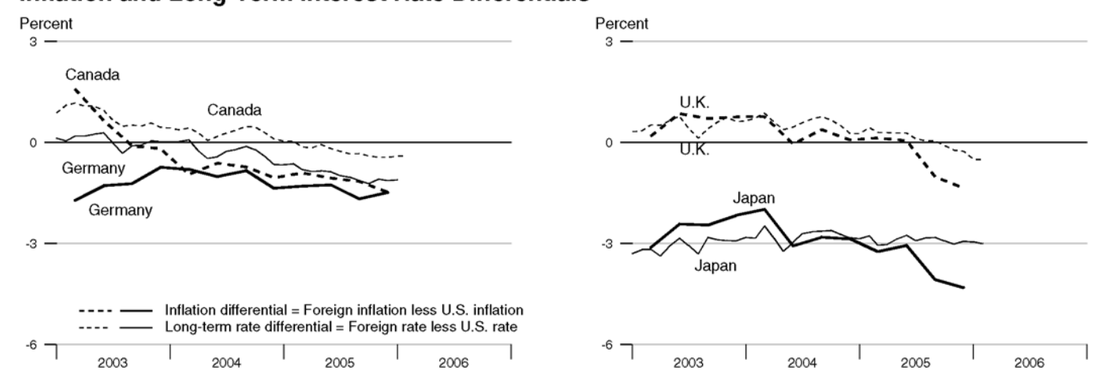
Standard & Poor's 500



Recent Inflation and Long-Term Interest Rates

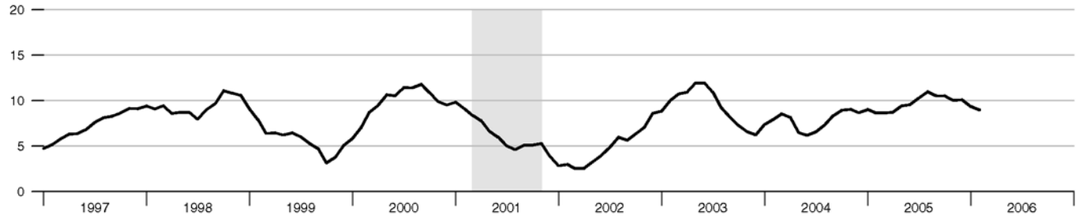
	Consumer Price Inflation Rates (Percent change from year ago)				Long-Term Government Bond Rates (Percent)			
	2005Q1	2005Q2	2005Q3	2005Q4	Nov05	Dec05	Jan06	Feb06
United States	3.04	2.95	3.80	3.73	4.54	4.47	4.42	4.57
Canada	2.13	1.90	2.64	2.26	4.10	4.03	4.01	4.18
France	1.70	1.69	1.90	1.65	3.50	3.38	3.34	.
Germany	1.74	1.70	2.13	2.25	3.45	3.34	3.32	.
Italy	1.92	1.84	2.03	2.15	3.66	3.55	3.54	3.70
Japan	-0.20	-0.10	-0.27	-0.58	1.52	1.54	1.47	1.57
United Kingdom	3.17	3.01	2.78	2.38	4.31	4.21	3.93	4.05

Inflation and Long-Term Interest Rate Differentials



Bank Credit

Percent change from year ago



Investment Securities in Bank Credit at Commercial Banks

Percent change from year ago

Total Loans and Leases in Bank Credit at Commercial Banks

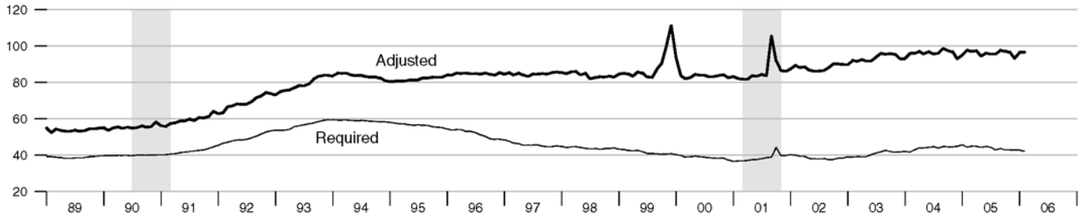
Percent change from year ago

Commercial and Industrial Loans at Commercial Banks

Percent change from year ago

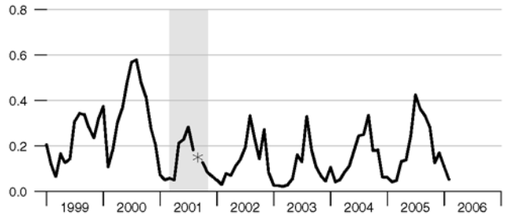
Adjusted and Required Reserves

Billions of dollars



Total Borrowings, nsa

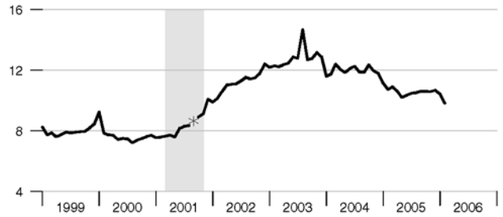
Billions of dollars



*Actual value for September 2001 is $3.4 billion.

Excess Reserves plus RCB Contracts

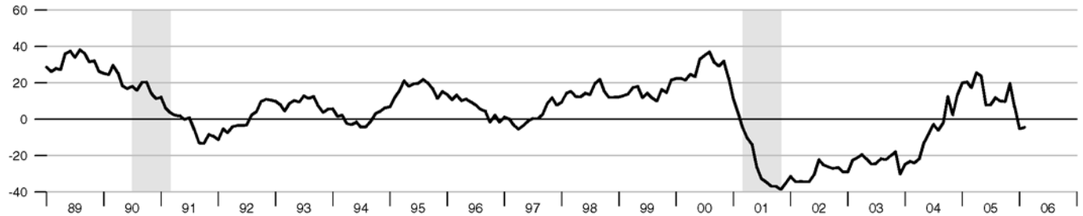
Billions of dollars



*Actual value for September 2001 is $26.43 billion.

Nonfinancial Commercial Paper

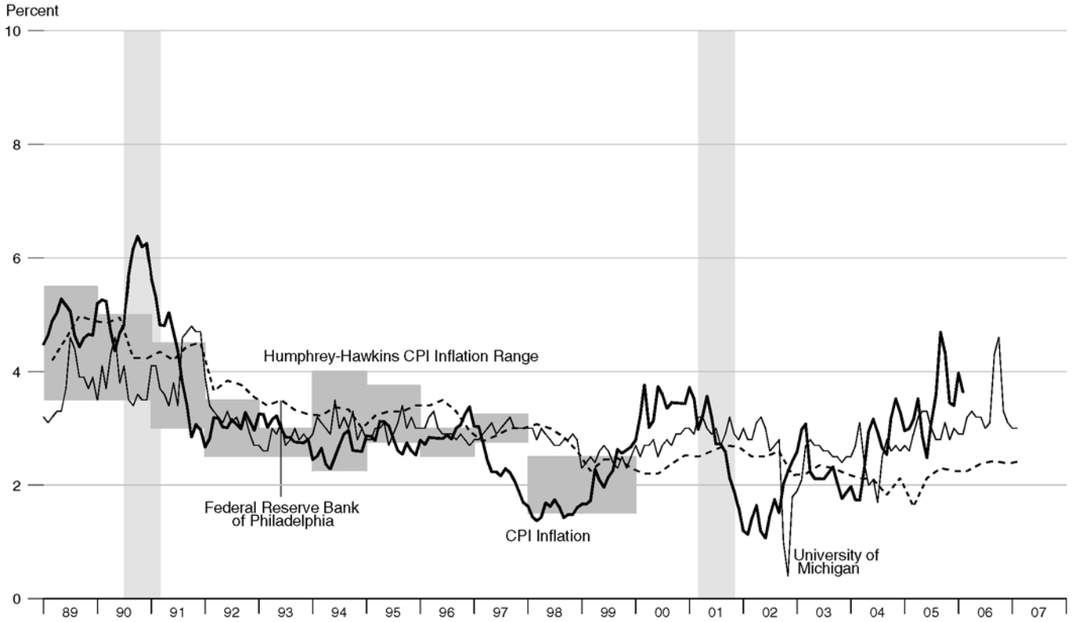
Percent change from year ago



Consumer Credit

Percent change from year ago

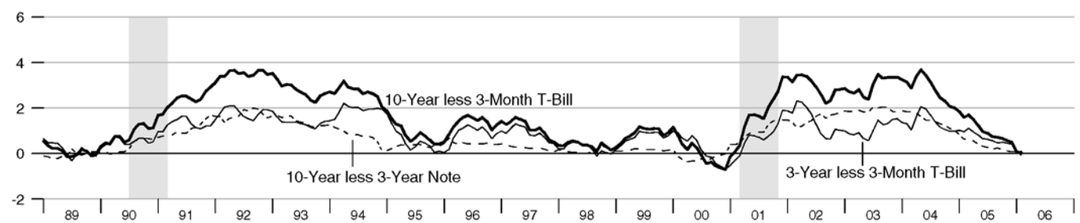
Inflation and Inflation Expectations



The shaded region shows the Humphrey-Hawkins CPI inflation range. Beginning in January 2000, the Humphrey-Hawkins inflation range was reported using the PCE price index and therefore is not shown on this graph. See notes on page 19.

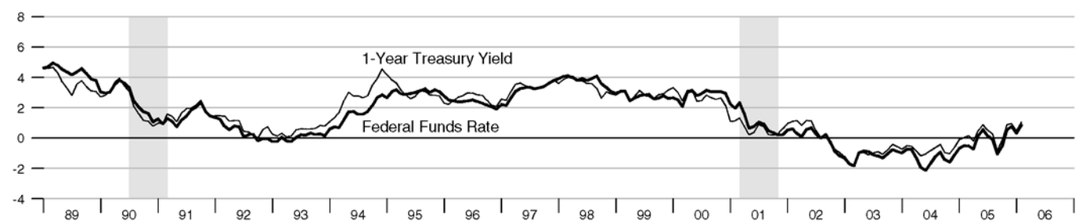
Treasury Security Yield Spreads

Yield to maturity



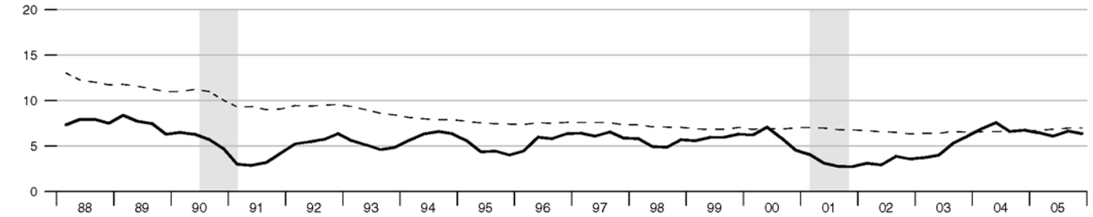
Real Interest Rates

Percent, Real rate = Nominal rate less CPI inflation



Gross Domestic Product

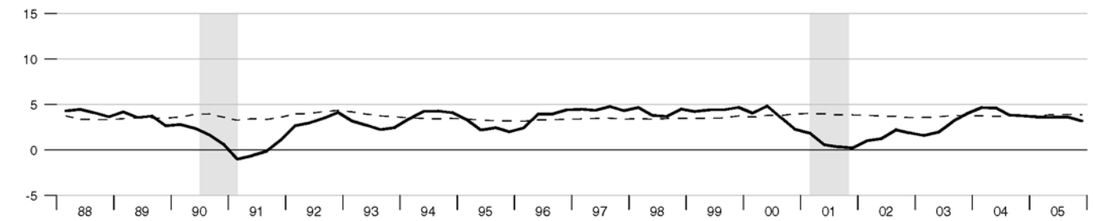
Percent change from year ago



Dashed lines indicate 10-year moving averages.

Real Gross Domestic Product

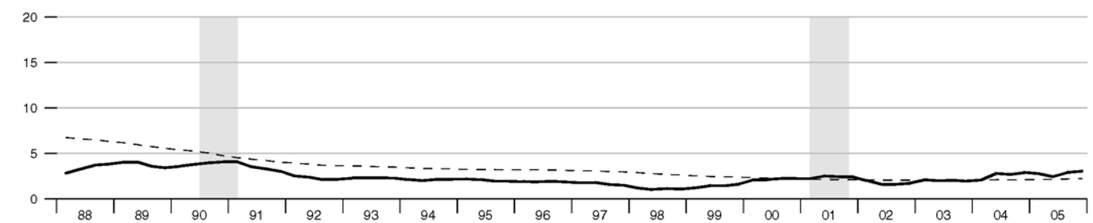
Percent change from year ago



Dashed lines indicate 10-year moving averages.

Gross Domestic Product Price Index

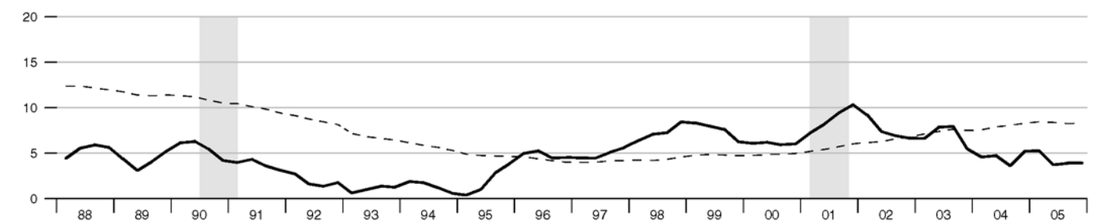
Percent change from year ago



Dashed lines indicate 10-year moving averages.

M2

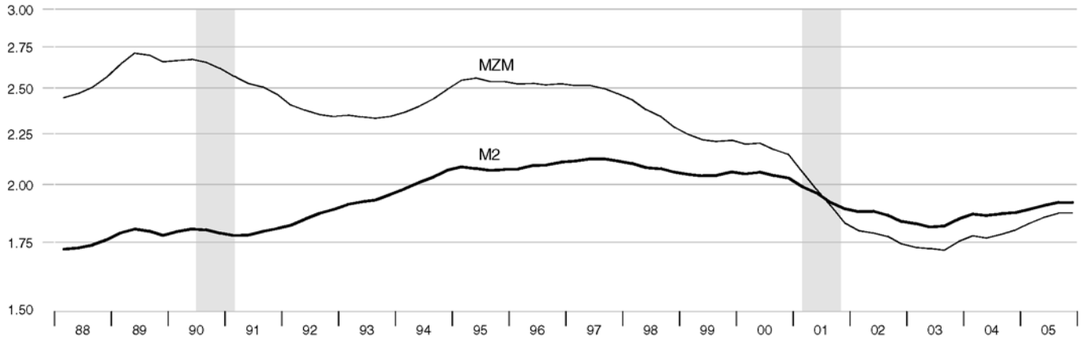
Percent change from year ago



Dashed lines indicate 10-year moving averages.

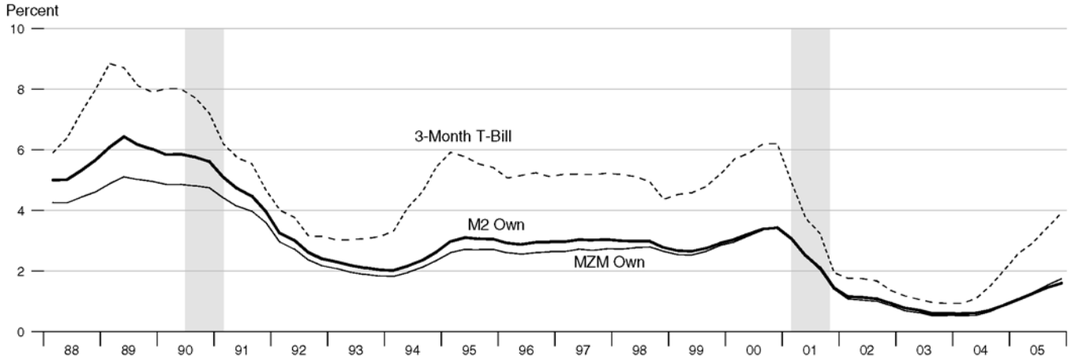
Velocity

Nominal GDP/MZM, Nominal GDP/M2 (Ratio Scale)



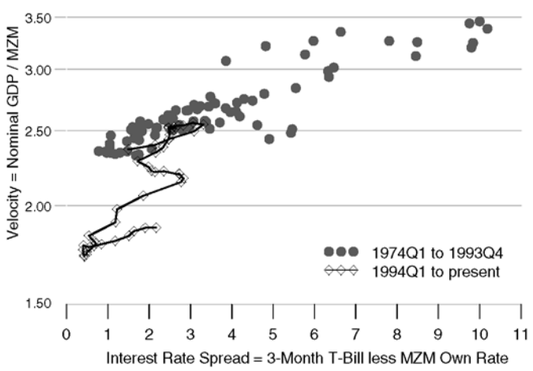
Interest Rates

Percent



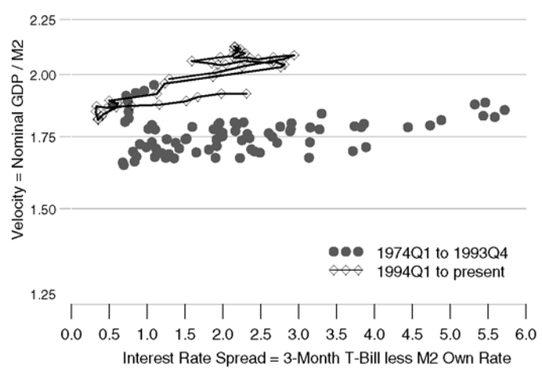
MZM Velocity and Interest Rate Spread

Ratio Scale



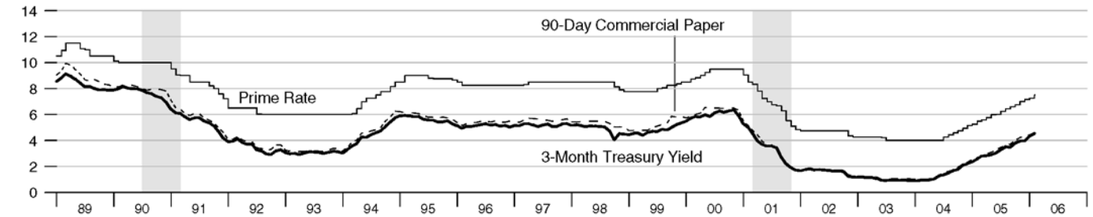
M2 Velocity and Interest Rate Spread

Ratio Scale



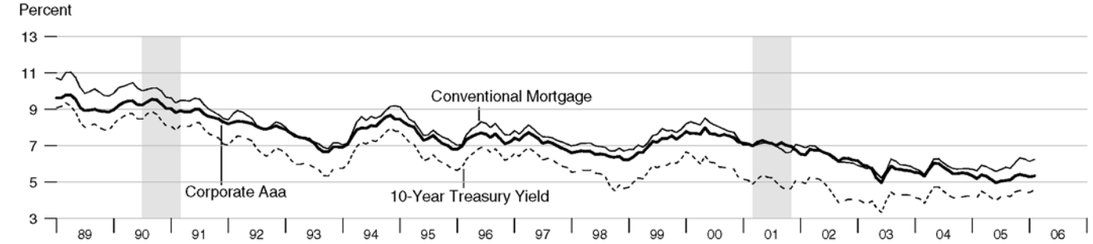
Short-Term Interest Rates

Percent



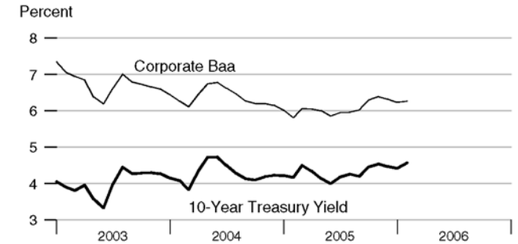
Long-Term Interest Rates

Percent



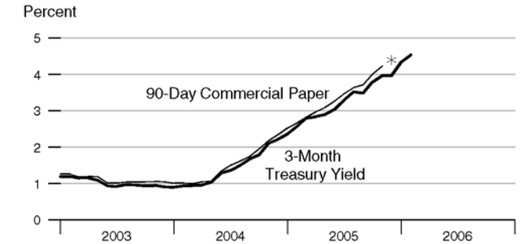
Long-Term Interest Rates

Percent



Short-Term Interest Rates

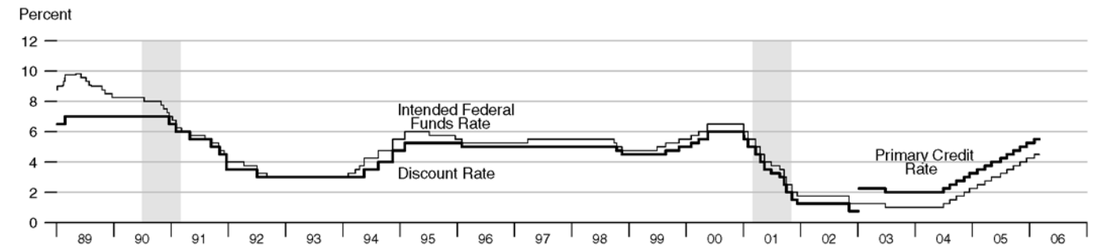
Percent



*90-Day Commercial Paper data are not available for December 2005 and January 2006. February 2006 value is 4.55.

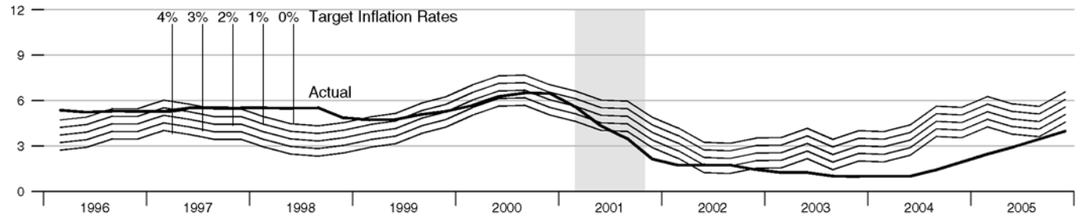
FOMC Intended Federal Funds Rate, Discount Rate, and Primary Credit Rate

Percent



Federal Funds Rate and Inflation Targets

Percent

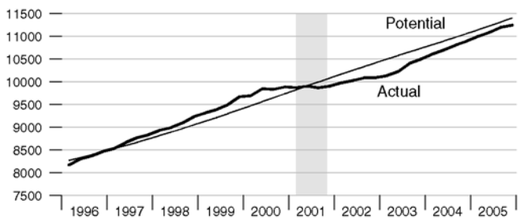


Calculated federal funds rate is based on Taylor's rule. See notes on page 19.

Components of Taylor's Rule

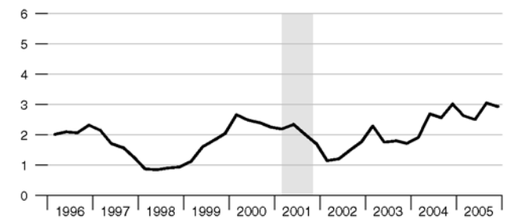
Actual and Potential Real GDP

Billions of chain-weighted 2000 dollars



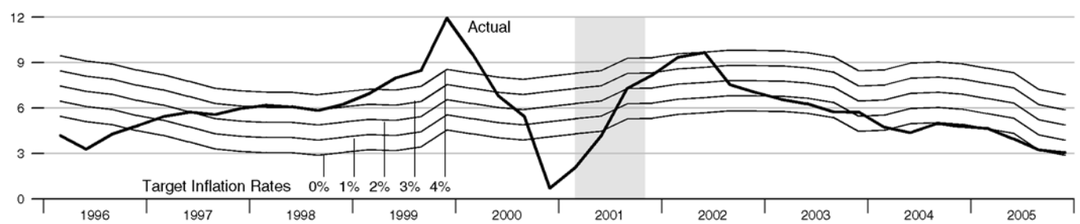
PCE Inflation

Percent change from year ago



Monetary Base Growth* and Inflation Targets

Percent

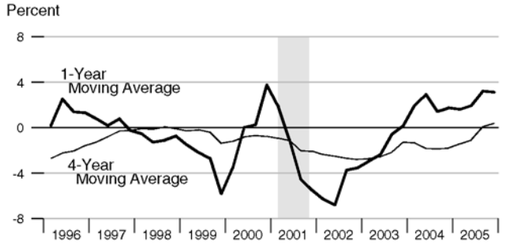


*Modified for the effects of sweeps programs on reserve demand.
Calculated base growth is based on McCallum's rule. Actual base growth is percent change from year ago. See notes on page 19.

Components of McCallum's Rule

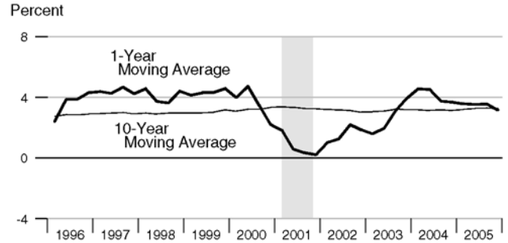
Monetary Base Velocity Growth

Percent



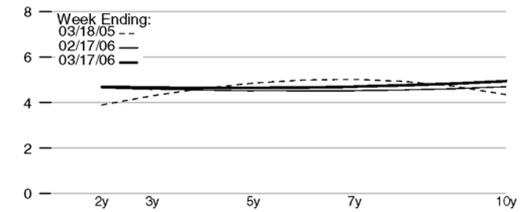
Real Output Growth

Percent



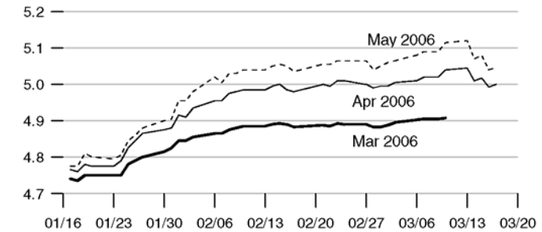
Implied One-Year Forward Rates

Percent



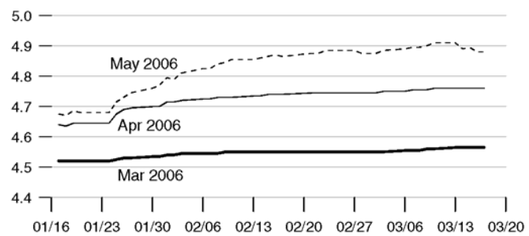
Rates on 3-Month Eurodollar Futures

Percent, daily data



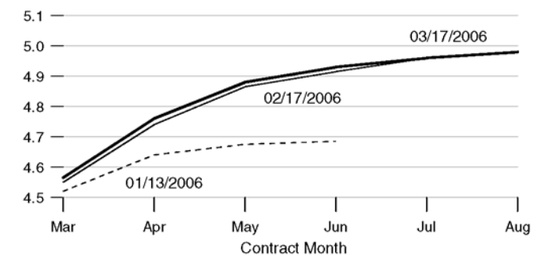
Rates on Selected Federal Funds Futures Contracts

Percent, daily data



Rates on Federal Funds Futures on Selected Dates

Percent



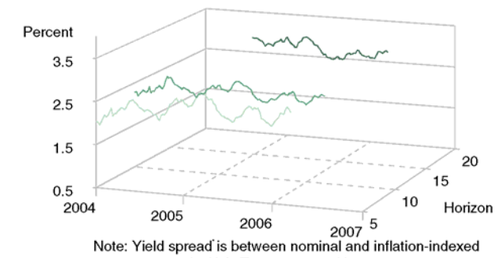
Inflation-Indexed Treasury Securities

Weekly data

Note: Yields are inflation-indexed constant maturity U.S. Treasury securities

Inflation-Indexed Treasury Yield Spreads

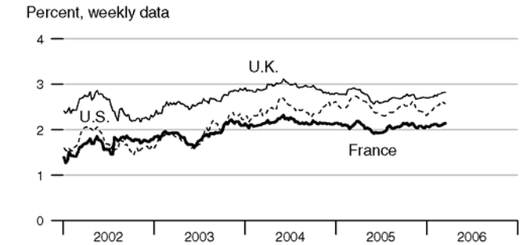
Weekly data



Note: Yield spread is between nominal and inflation-indexed constant maturity U.S. Treasury securities.

Inflation-Indexed 10-Year Government Notes

Percent, weekly data

Inflation-Indexed 10-Year Government Yield Spreads

Percent, weekly data