Prefatory Note

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STRICTLY CONFIDENTIAL (FR) CLASS I FOMC

DECEMBER 9, 2004

MONETARY POLICY ALTERNATIVES

PREPARED FOR THE FEDERAL OPEN MARKET COMMITTEE
BY THE STAFF OF THE BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

Strictly Confidential (F.R.) **December 9, 2004**
Class I – FOMC

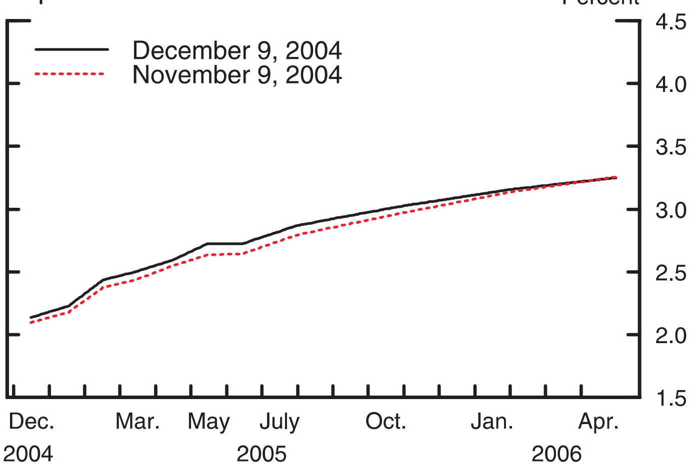
MONETARY POLICY ALTERNATIVES

Recent Developments

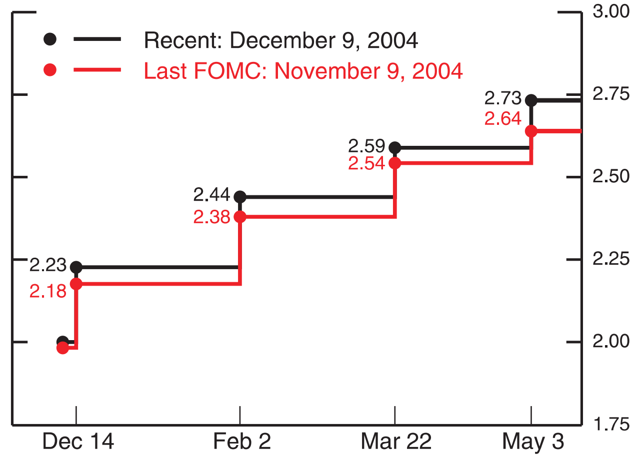
(1) The Committee's decision at the November meeting—to increase the target federal funds rate 25 basis points to 2 percent, to assess the risks to sustainable economic growth and price stability as balanced, and to retain the "measured pace" language—had been widely anticipated and prompted little reaction in financial markets.[1] Over the intermeeting period, expectations for the path of policy over the next year firmed slightly on net (Chart 1), apparently owing to inflation releases that were a bit higher than anticipated, the Chairman's remarks at the European Banking Congress on November 19, dollar depreciation, and the effect of falling oil prices on the growth outlook. This modest firming of near-term policy expectations occurred even though data on real activity came in a little softer on balance than the market had anticipated. Beyond next year, the expected trajectory of policy appears to have been revised down a bit. Judging from federal funds futures, investors have almost completely priced in a quarter-point tightening at this meeting. The Desk's survey of primary dealers indicates that they unanimously anticipate a quarter-point tightening as well as retention of an assessment of balanced risks and the "measured pace" language. Futures quotes imply that investors expect about 50 basis points of cumulative tightening over the first three meetings in 2005 and another 25 basis points later in the year.

[1] The effective federal funds rate averaged 2.00 percent over the intermeeting period. The Desk expanded the System's outright holdings of securities by $8.6 billion, with purchases of $0.5 billion of Treasury bills from foreign official customers and $2.5 billion of Treasury bills and $5.5 billion of Treasury coupon securities from the market. The volume of outstanding long-term RPs increased $3.0 billion, to $20 billion.

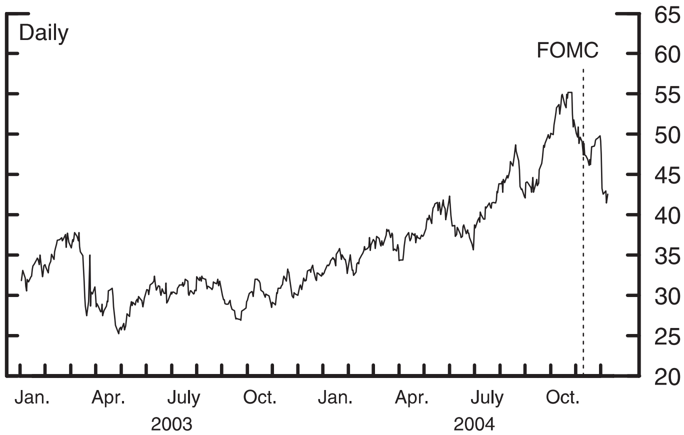
Chart 1
Interest Rate Developments



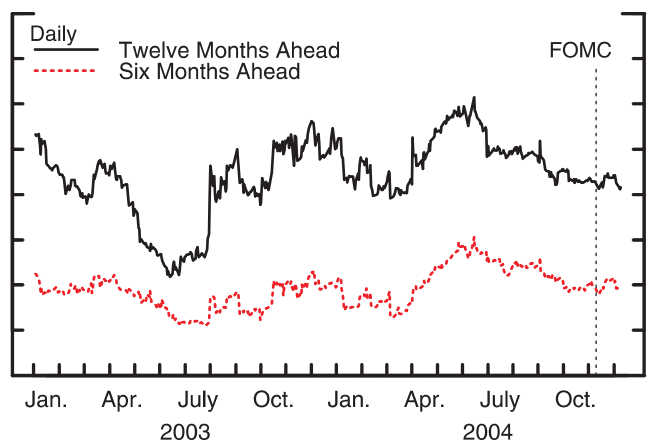
*Estimates from federal funds and eurodollar futures, with an allowance for term premia and other adjustments.



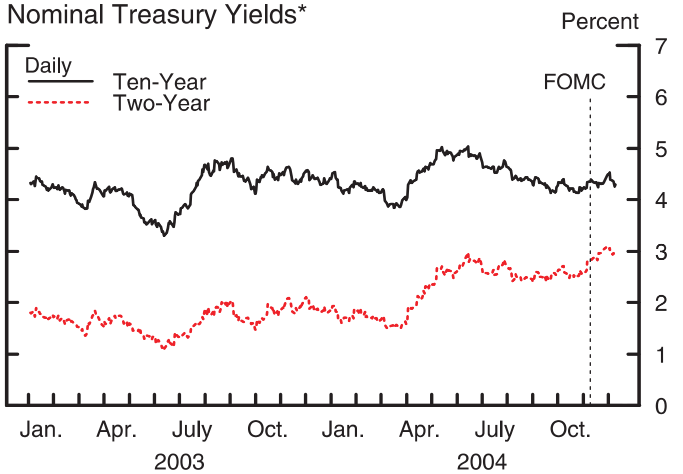
*Estimates from federal funds futures with an allowance for term premia and other adjustments.



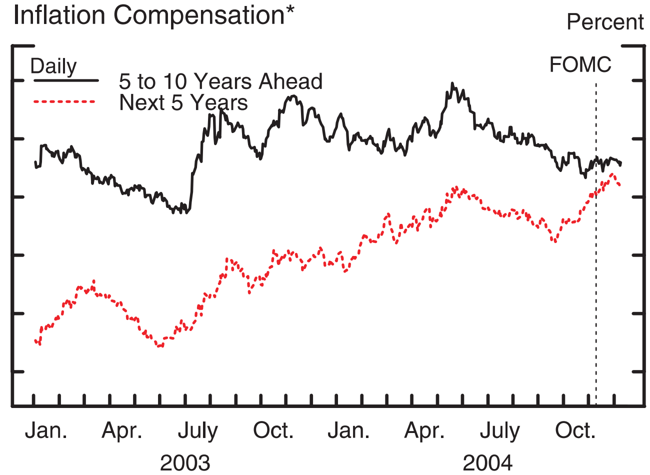
*Spot WTI price.



*Width of a 90 percent confidence interval for the federal funds rate computed from the term structures for both the expected federal funds rate and implied volatility.



*Par yields from an estimated off-the-run Treasury yield curve.



*Based on a comparison of an estimated TIPS yield curve to an estimated nominal off-the-run Treasury yield curve.

Note: Vertical lines indicate November 9, 2004. Last daily observations are for December 9, 2004

(2) The small upward revision in policy expectations for the next year contributed to a modest rise in yields on shorter-term Treasury coupon securities.[2] However, longer-term Treasury yields, which were buffeted during the period by speculation about prospects for foreign official holdings of Treasury securities, finished the period 5 to 10 basis points lower, perhaps reflecting in part the weaker-than-expected data on economic activity.[3] Much of the decline in longer-term yields was concentrated in forward rates at distant horizons. The volatility of long-term interest rates implied by options prices edged lower over the period. TIPS yields fell 5 to 10 basis points. Inflation compensation for the next five years rose slightly, extending its advance of the past several months. Inflation compensation over the subsequent five years, however, remained well anchored, and survey measures of long-term inflation expectations were little changed.

(3) Investment-grade corporate bond yields fell somewhat more than those on comparable Treasury securities over the intermeeting period, implying a further decline in risk spreads of 5 to 10 basis points (Chart 2). Speculative-grade spreads also edged down. Market commentary noted sizable inflows to junk bond mutual funds and brisk issuance of speculative-grade bonds as evidence of strong investor appetite for riskier securities. Spreads on agency debt narrowed slightly despite persisting issues regarding GSE accounting and oversight, apparently in response to slowing growth of agency balance sheets and speculation that monetary authorities in some foreign countries have begun shifting the composition of their official portfolios away from Treasuries and toward agency securities. Investors noted the steep increase over recent weeks in agency securities held in custody at the Federal Reserve Bank of New York as evidence in support of this hypothesis. Year-end pressures in

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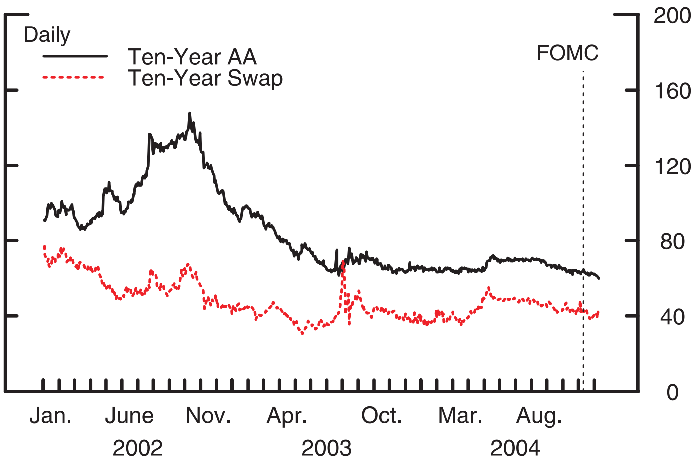
[2] The expectations hypothesis of the term structure implies that about half of the rise in the two-year yield over this intermeeting period had been expected at the time of the November meeting and so does not reflect revisions to policy expectations.

[3] The Treasury debt ceiling was binding early in the intermeeting period, but this had limited market repercussions, and the ceiling was subsequently raised on November 18.

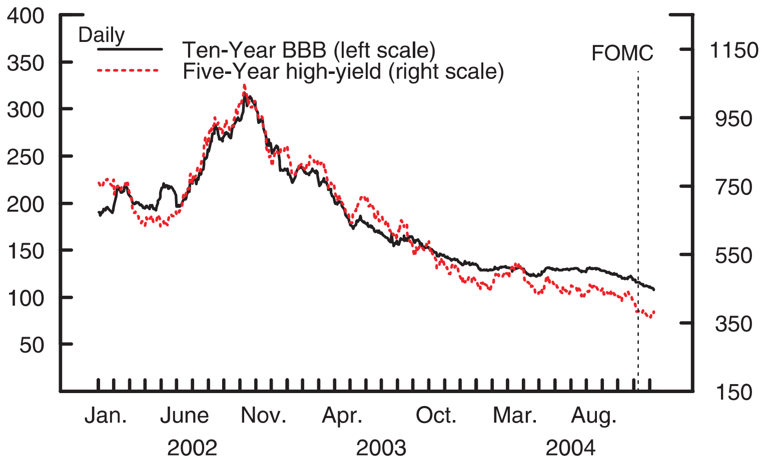
Chart 2
Capital Market Developments

Higher-Tier Corporate Bond Spreads*



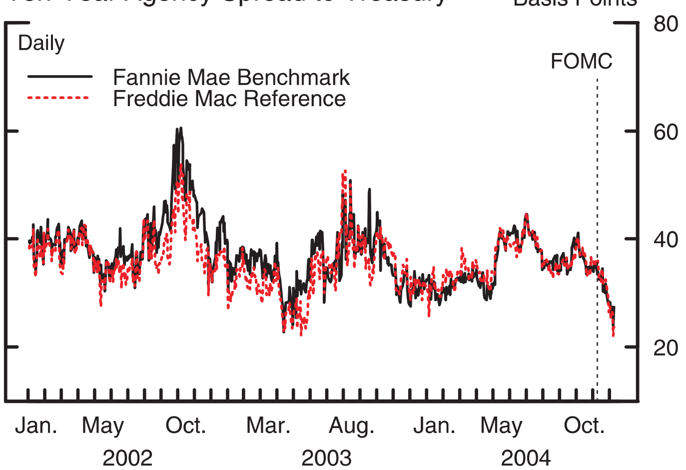
*AA spread measured relative to an estimated off-the-run Treasury yield curve. Swap spread measured relative to the on-the-run Treasury security.

Lower-Tier Corporate Bond Spreads*

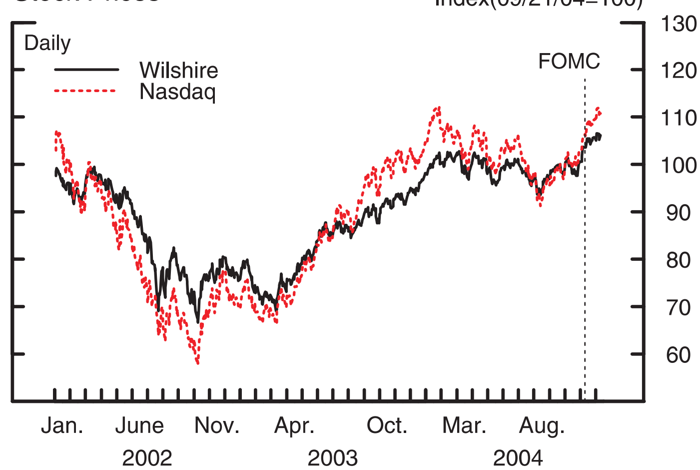


*Measured relative to an estimated off-the-run Treasury yield curve.

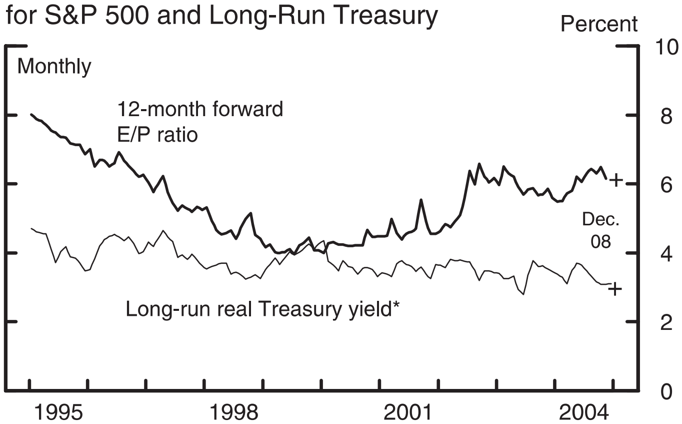
Ten-Year Agency Spread to Treasury



Stock Prices

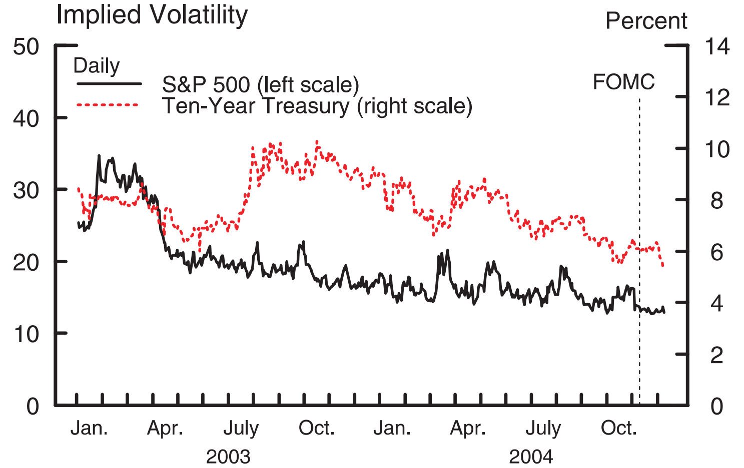


12-Month Forward Earnings-Price Ratio
for S&P 500 and Long-Run Treasury



* Yield on synthetic Treasury perpetuity minus Philadelphia Fed 10-year expected inflation.
\+ Denotes the latest observation using daily interest rates and stock prices and latest earnings data from I/B/E/S.

Implied Volatility



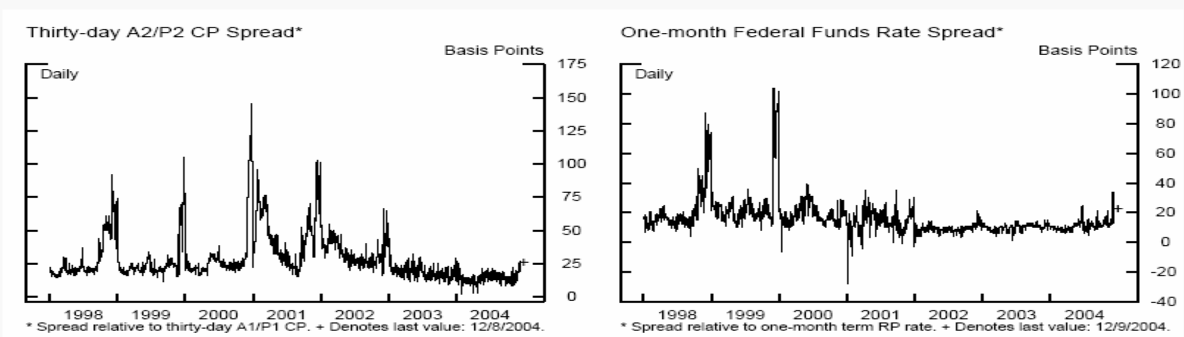
Note: Vertical lines indicate November 9, 2004. Last daily observations are for December 9, 2004.

money markets have been subdued so far this year (see box). Major equity indexes ended the period up 1½ to 4 percent, buoyed in part by falling oil prices, while implied volatility on equities declined a little further.

Year-end Pressures

Year-end funding pressures have been subdued so far this year. These pressures were negligible in 2003 but had been substantial in previous years. As shown in the bottom left panel, the spread of yields on thirty-day A2/P2 commercial paper over A1/P1 paper was little changed as the maturity of the paper crossed over year-end. The spread of one-month term federal funds over Treasury RP rates (the bottom right panel) rose about 20 basis points as the maturity crossed into the new year, but this spread has since come back down. Quotes on federal funds futures imply that the effective federal funds rate over year-end is not anticipated to depart much from the market's expectation of a 2¼ percent target.

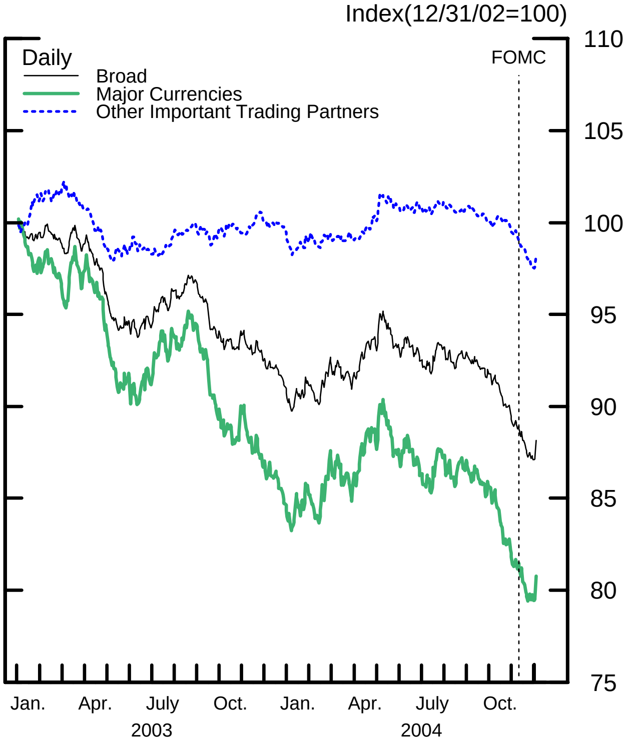
The strengthening of business sector credit quality and the sharp decline in the amount of outstanding commercial paper over the last few years have likely reduced the premium investors require to hold lower-rated paper over the turn of the year. Year-end pressures in uncollateralized overnight funding markets may have been tempered by the slightly below-target effective federal funds rates at the end of 2002 and 2003, coupled with the very low level of volatility of the funds rate in recent years.



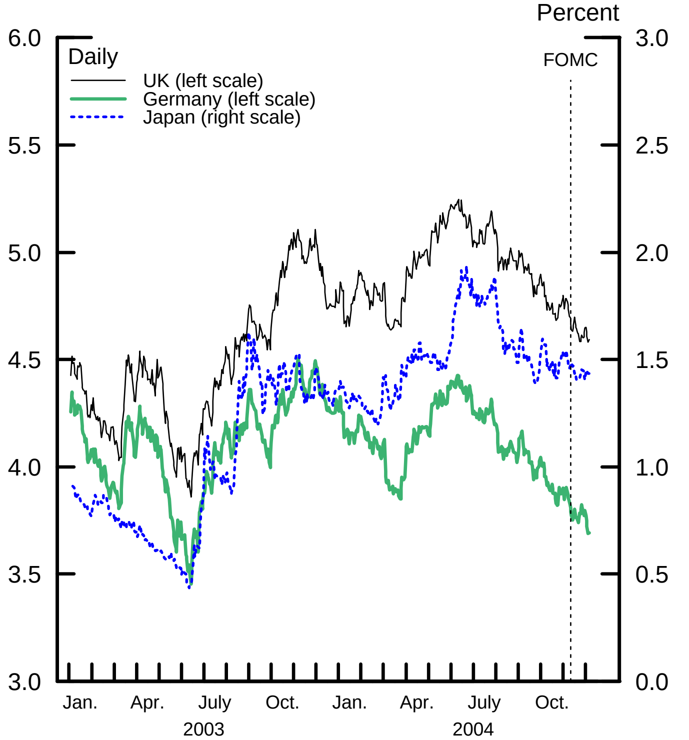
(4) For most of the intermeeting period, the dollar continued its recent downward trend even though new data from major foreign industrial countries generally suggested somewhat more tepid economic growth than had been expected (Chart 3). Toward the end of the period, the dollar registered a sharp uptick, but for the period as a whole it lost about 1 percent versus a basket of other major currencies.

Chart 3
International Financial Indicators

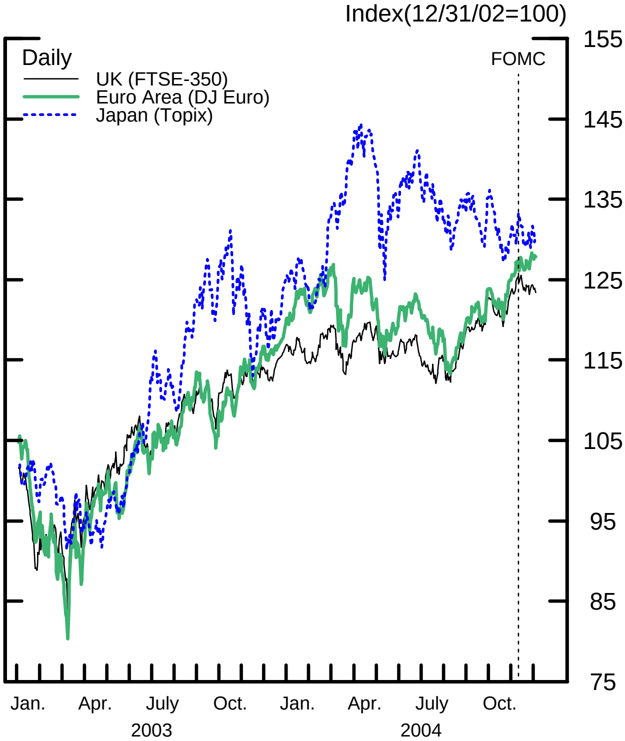
Nominal Trade-Weighted Dollar Indexes



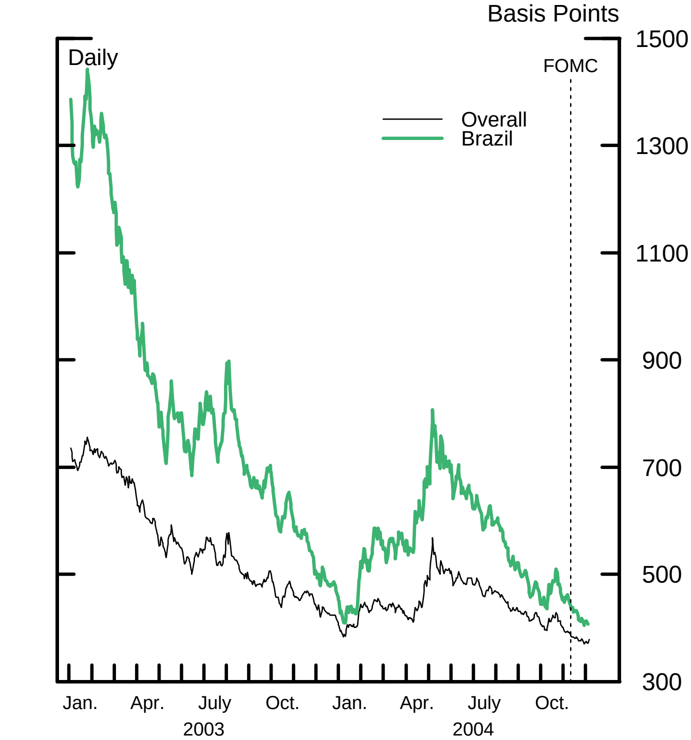
Ten-Year Government Bond Yields



Stock Price Indexes



EMBI+ Index



Negative views on the dollar appeared to owe mainly to market participants' increasing focus on the financial implications of the U.S. current account deficit. Adding downward pressure were news reports that the monetary authorities in China and Russia may be replacing some of their dollar holdings with euros. The dollar's descent against the euro and yen provoked several statements by European and Japanese officials of their readiness to intervene. . On balance, the dollar depreciated about 1¾ percent against the yen and 2¾ percent against the euro. In contrast, the dollar moved up 2¼ percent versus the Canadian dollar, reflecting lower oil prices and recent data showing weaker Canadian exports and employment. The signs of slower growth in major foreign industrial countries were reflected in declines of about 5 to 30 basis points in yields on most long-term government bonds, while stock prices moved in narrow ranges.

(5) The dollar also depreciated 1¼ percent against currencies of our other important trading partners during the intermeeting period. The dollar fell 5 percent versus the Korean won, and the Bank of Korea cut its policy rate 25 basis points. Korea reported a large increase in its foreign exchange reserves that was attributed to intervention operations aimed at blunting the impact of the won's rise on domestic economic growth. The dollar also depreciated versus several other Asian currencies, notably including the Taiwan dollar and Thai baht. The Bank of Mexico once again tightened monetary policy to restrain inflation, and the dollar fell 1¼ percent against the peso. Although the pace of growth in Brazil appears to have slowed somewhat, financial markets continued to reward that country's improved economic performance this year. Brazilian stock prices climbed 4½ percent more during the intermeeting period, and Brazil's EMBI+ spread narrowed 40 basis points. Concerns about inflationary pressures prompted the Brazilian central bank to tighten monetary policy

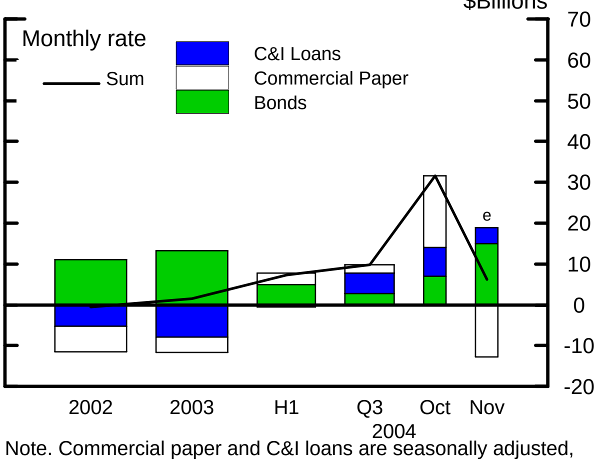
in mid-November for the third time in the past four months. Over the intermeeting period, the dollar fell about 1¼ percent against the *real*.

(6) Domestic nonfinancial business-sector debt grew at about a 5 percent annual rate in the third quarter and appears to have accelerated in the current quarter. Net issuance of corporate bonds, especially those with speculative grades, rose smartly in November, spurred in part by a pickup in merger and acquisition activity (Chart 4). Short-term business borrowing, however, turned negative, with a sizable runoff in commercial paper offsetting a modest increase in C&I loans at banks. Household mortgage debt grew at a rapid pace in the third quarter and, given the sustained strength in home sales, likely has continued to expand briskly in the current quarter. Federal debt is estimated to be surging at a 10 percent pace in the fourth quarter. Total domestic nonfinancial sector debt appears to be advancing at about an 8 percent annual rate in the fourth quarter, the same pace as in 2004 as a whole.

(7) M2 rose at about a 6¼ percent annual rate in November, up from 2½ percent in October. This aggregate appears to be expanding a bit more slowly than nominal income in the fourth quarter, in line with the slight increase in the opportunity cost of holding M2 assets. Retail money funds, in particular, have been weak as investors evidently have found alternative investments, such as Treasury bills and bond and stock funds, more attractive. Inflows to equity funds are estimated to have picked up in November, following the upward trend in stock prices over the past few months. For 2004 as a whole, M2 is estimated to have expanded 5¼ percent, and its velocity appears to have risen about 1 percent as opportunity costs increased. Appendix B analyzes the growth of money and the debt of domestic nonfinancial sectors this year.

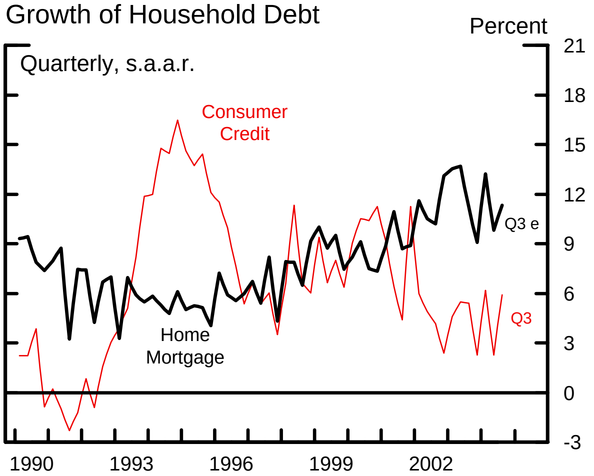
Chart 4
Debt and Money

Changes in Selected Components of Nonfinancial Business Debt



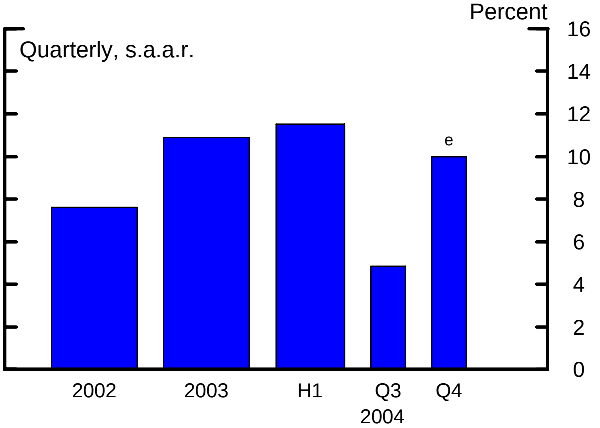
Note. Commercial paper and C&I loans are seasonally adjusted, bonds are not.
e Estimated.

Growth of Household Debt



e Estimated.

Growth of Federal Debt



Note. Treasury debt held by the public at period-end.
e Estimated.

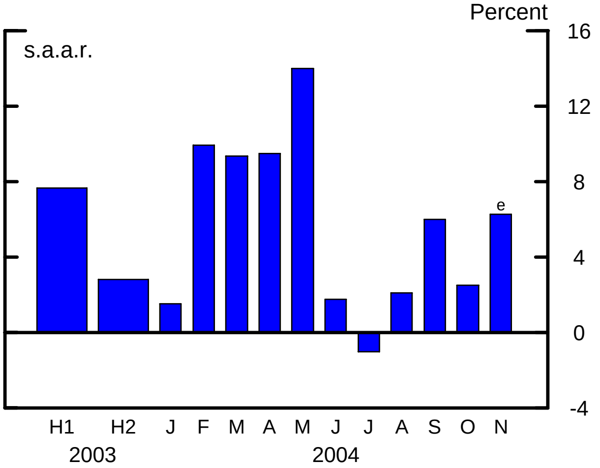
Growth of Nonfinancial Debt

Percent, s.a.a.r.

		Total	Nonfederal
2003		8.1	7.5
2004	Q1	9.1	8.5
	Q2	7.0	6.2
	Q3	7.4	8.0
	Q4[e]	7.9	7.4

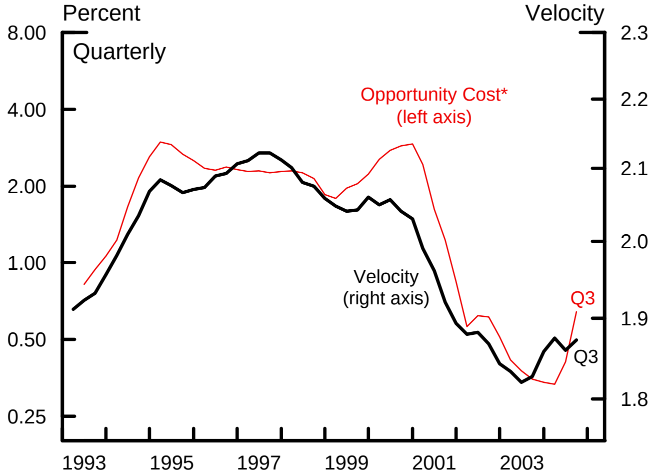
e Estimated.

Growth of M2



e Estimated.

M2 Velocity and Opportunity Cost



*Two-quarter moving average.

Policy Alternatives

(8) Since the publication of the November Greenbook, incoming data on spending and employment have been a bit stronger on balance than the staff had anticipated, and the outlook for near-term economic activity has been marked up as a result.[4] Moreover, the recent rise in equity prices, declines in oil prices and the foreign exchange value of the dollar, and unexpectedly large gains in home prices are carried forward in level terms in the projection, providing a noticeable boost to aggregate demand. Equity prices are assumed to rise at a rate yielding risk-adjusted returns similar to those on fixed-income investments; oil prices are projected to decline somewhat further, in line with futures quotes; the dollar is expected to depreciate gradually from its current lower level; and the pace of house price appreciation is forecast to slow to more modest rates in coming quarters. The stimulus to spending from these factors is offset, in part, by a higher projected path for the federal funds rate, with the Committee now assumed to raise the funds rate to 2¾ percent by the end of 2005 and 3¼ percent by the end of 2006, in both cases 50 basis points higher than in the November Greenbook. The projected path for the ten-year Treasury yield has been marked up a bit as well. Long-term yields are expected to be roughly steady over the projection period, with the effects of rising short-term rates largely offset by reductions in expected future short rates as inflation pressures prove to be more subdued than currently anticipated by investors. Against this financial backdrop, GDP growth averages a bit less than 4 percent over 2005 and 2006, about the same as for this year. With potential output expanding at nearly a 3¼ percent pace, the unemployment rate edges down to about 5 percent, the staff's estimate of the NAIRU, by the end of 2006, and the output gap is essentially closed. The effects on

[4] The discussion in this paragraph is based on developments since the publication of the November Greenbook. Of particular note, the employment report for October, which was released between Greenbook publication and the November FOMC meeting, was appreciably more robust than had been anticipated in the November staff forecast.

prices of the modest slack in resource markets in the interim are offset by the pass-through of this year's rise in energy prices, and core PCE inflation is forecast to remain near 1½ percent in 2005 and 2006. However, with energy prices on a downward track, overall PCE inflation falls back from 2½ percent this year to about 1¼ percent in 2005 and 2006.

(9) This Bluebook presents three alternatives for the Committee's consideration (see Table 1). Under Alternative B, the federal funds rate would rise 25 basis points, but the statement would imply that the Committee saw a distinct possibility of a pause in tightening at an upcoming meeting. Alternative C also envisions a 25-basis-point tightening, but the accompanying statement would give no indication that a pause was likely. In all three cases, the description of labor market conditions in the rationale paragraph has been adjusted in light of the incoming data. In Alternative A, the federal funds rate would remain at 2 percent. Similarly, under all three alternatives, the Committee is assumed to retain both an assessment that the risks to its goals of stable prices and maximum sustainable growth are balanced and the "measured pace" language contained in the last several statements.

(10) If the Committee views developments over the intermeeting period as having provided further evidence that the expansion is solidly on track, then it might be inclined to continue removing policy accommodation at a measured pace by tightening policy another 25 basis points at this meeting. Should the Committee also expect that substantial further tightening will be desirable fairly soon, then it might want to issue a statement such as that in **Alternative C**, which does not hint at a possible pause in tightening at coming meetings. Despite the four policy moves over the past several months, the real federal funds rate remains below the lower end of the 70 percent confidence band around the estimates of the short-run equilibrium real interest rate derived using the staff's new methods. The current rate is also below the estimate of the equilibrium rate that is implicit in the Greenbook forecast. (See the

Table 1: Alternative Language for the December FOMC Announcement				
	November FOMC	**Alternative A**	**Alternative B**	**Alternative C**
Policy Decision	1. The Federal Open Market Committee decided today to raise its target for the federal funds rate by 25 basis points to 2 percent.	The Federal Open Market Committee decided today to keep its target for the federal funds rate at 2 percent.	The Federal Open Market Committee decided today to raise its target for the federal funds rate by 25 basis points to 2¼ percent. The Committee's policy actions since mid-2004 have resulted in a significant reduction in the degree of monetary policy accommodation.	The Federal Open Market Committee decided today to raise its target for the federal funds rate by 25 basis points to 2¼ percent.
Rationale	2. The Committee believes that, even after this action, the stance of monetary policy remains accommodative and, coupled with robust underlying growth in productivity, is providing ongoing support to economic activity.	The Committee believes that the stance of monetary policy remains somewhat accommodative and, coupled with robust underlying growth in productivity, is providing ongoing support to economic activity.	Nonetheless, the Committee believes that, even after this action, the stance of monetary policy remains somewhat accommodative and, coupled with robust underlying growth in productivity, is providing ongoing support to economic activity.	[Unchanged from November statement]
	3. Output appears to be growing at a moderate pace despite the rise in energy prices, and labor market conditions have improved.	Output appears to be growing at a moderate pace, but labor market conditions have been improving only gradually, apparently evidencing continued business caution.	Output appears to be growing at a moderate pace despite the earlier rise in energy prices, and labor market conditions continue to improve gradually.	Output appears to be growing at a moderate pace despite the earlier rise in energy prices, and labor market conditions continue to improve gradually.
	4. Inflation and longer-term inflation expectations remain well contained.	[Unchanged from November statement]	[Unchanged from November statement]	[Unchanged from November statement]
Assessment of Risk	5. The Committee perceives the upside and downside risks to the attainment of both sustainable growth and price stability for the next few quarters to be roughly equal.	[Unchanged from November statement]	[Unchanged from November statement]	[Unchanged from November statement]
	6. With underlying inflation expected to be relatively low, the Committee believes that policy accommodation can be removed at a pace that is likely to be measured. Nonetheless, the Committee will respond to changes in economic prospects as needed to fulfill its obligation to maintain price stability.	With underlying inflation expected to be relatively low, the Committee believes that policy accommodation can be removed at a pace that is likely to be measured. Nonetheless, the Committee will respond to changes in economic prospects as needed to fulfill its obligation to promote price stability and sustainable growth.	[Unchanged from November statement]	[Unchanged from November statement]

box entitled "New Estimates of the Equilibrium Real Rate" and Chart 5.) These revised estimates may suggest that a somewhat more rapid and substantial tightening than previously perceived may be required to remove policy accommodation and head off a buildup of inflationary pressures. In addition, members may anticipate more slowing in the underlying pace of productivity growth than does the staff. Such a development would add to upward pressure on unit labor costs, and hence on overall inflation rates. Also, the Committee may believe that effective labor market slack going forward could turn out to be quite limited—for example, if labor market participation, which has yet to turn distinctly higher, fails to increase as much as in the staff forecast. In either case, the Committee might anticipate that aggregate demand will continue to expand at a pace above that of its potential for some time and consequently deem considerable further progress toward a more neutral policy stance desirable over coming months. Alternative C would also seem appropriate if members were concerned that longer-term inflation expectations could move higher were the Committee not seen as responding sufficiently to inflationary impulses emanating from the decline in the dollar and the previous rise in oil prices.

(11) The statement in Alternative C could be quite similar to that released following the November meeting. In light of the relatively soft employment report for November, however, the announcement could indicate that labor market conditions "*continue to improve gradually.*" Also, in view of the significant decline in oil prices in recent weeks, the clause on output could be revised to refer to the *"earlier"* rise in energy prices. The general similarity of the language to that employed in November and the continued characterization of the policy stance as *"accommodative"* would avoid the suggestion that the Committee believes a pause in policy tightening is likely in the near term. As drafted, the statement retains a balanced assessment of risks to sustainable growth and price stability—an assessment that some members might see as conditioned on an appropriate path for policy going forward—as well as

New Estimates of the Equilibrium Real Federal Funds Rate

This Bluebook introduces new estimates of the equilibrium real federal funds rate. The new estimates were developed to address shortcomings of the earlier measures that, as reported in the Bluebook Readership Survey, made them difficult to interpret.[1] One problem with the earlier measures was that the concept underlying the measures was not defined clearly. For example, the time horizon—the period over which the output gap would be projected to close if the real funds rate were kept at its equilibrium level—differed across measures and was not clearly specified. Second, the chart summarizing the various measures may have given a misleading picture of the uncertainty surrounding the point estimates. Finally, the two-sided estimates that were included would seem to be inappropriate for real-time policymaking.

The new chart reports two kinds of equilibrium rate measures, differing in terms of their time horizon. The short-run equilibrium rate is defined to be the rate that, if sustained, would be projected to close the output gap in twelve quarters. The medium-run measure is defined to be the rate projected to prevail in seven years under the assumption that monetary policy will act to eliminate economic slack in three years and to hold output at potential thereafter. The new estimates are calculated based on three different models: a single-equation model of the output gap, a small structural model consisting of equations for five key macroeconomic variables, and the staff's large-scale model (FRB/US). In addition to the range encompassing the point estimates of the three models, the chart also displays confidence bands that illustrate the uncertainties surrounding the range of model estimates. Also shown are the Greenbook-consistent measure of the short-run equilibrium rate—which is based on a version of the FRB/US model that has been adjusted to match the Greenbook forecast—and the medium-run equilibrium rate consistent with TIPS yields.

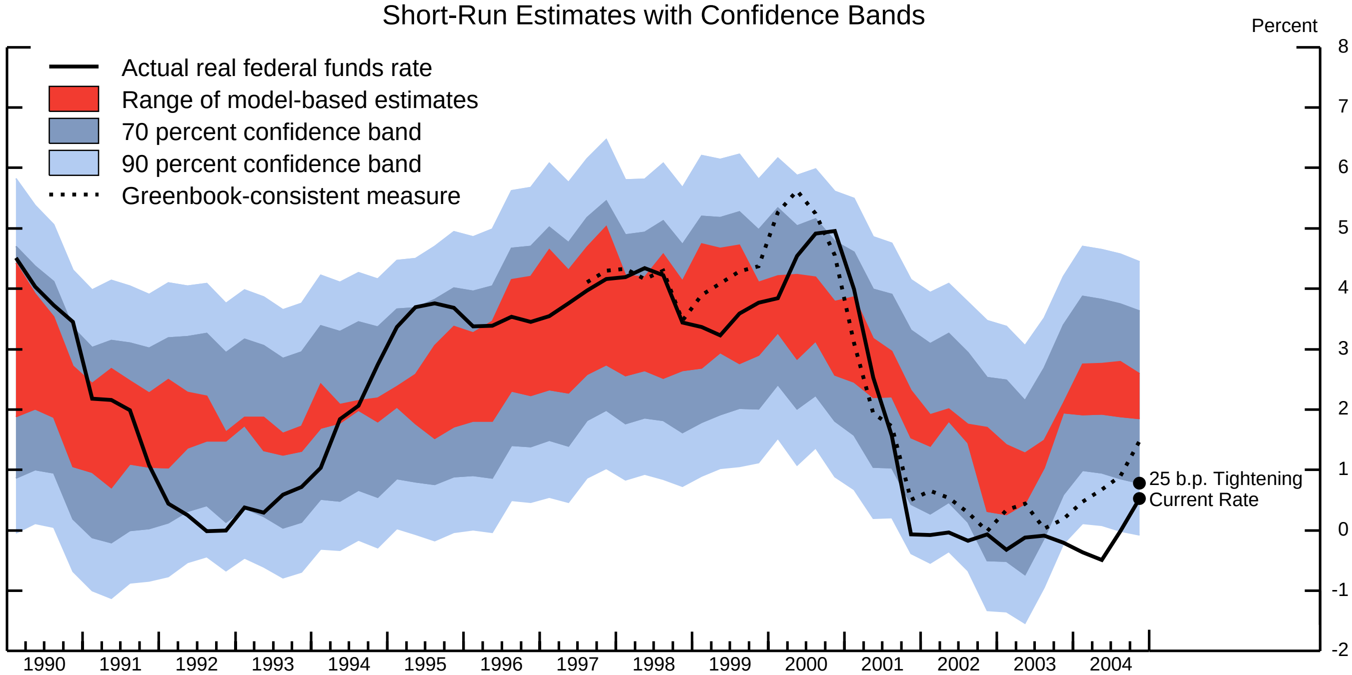
The new model-based estimates shown in this Bluebook suggest a higher current level for the equilibrium real federal funds rate than did the range based on the old methods that was included in the November Bluebook. This difference occurs mainly because we have dropped the measures based on the statistical-filter model, which exhibited implausibly large responses to surprises in output. The Greenbook-consistent measure currently yields an equilibrium rate lower than model-based estimates because the Greenbook projects that the recent weakness in aggregate demand will diminish more gradually than the models predict.

It should be noted that the appropriate stance of policy relative to the equilibrium estimates in a given instance will depend on policymakers' objectives and the projected paths for output and inflation. Thus, these estimates of the equilibrium rate should not be interpreted as policy prescriptions, but rather as potential inputs to the policy process.

1. The new estimates are shown in Chart 5. The chart is accompanied by a brief set of explanatory notes; further details are provided in Flint Brayton and David Reifschneider, "Revised Bluebook Estimates of the Equilibrium Real Rate – Overview," and "Revised Bluebook Estimates of the Equilibrium Real Rate – Technical Documentation," memorandums to the FOMC, December 7, 2004.

Chart 5
Equilibrium Real Federal Funds Rate

Short-Run Estimates with Confidence Bands



Notes: The real federal funds rate is constructed as the difference between the quarterly average of the actual nominal funds rate and the log difference of the core PCE price index over the previous four quarters. For the current quarter, the nominal funds rate used is the target federal funds rate as of the close of the Bluebook.

Short-Run and Medium-Run Measures for 2004:Q4

	Current Estimate	*Previous Bluebook*
Short-Run Measures		
Greenbook-consistent measure	1.5	*1.1*
Single-equation model	1.9	*1.9*
Small structural model	2.6	*2.6*
Large model (FRB/US)	2.2	*1.8*
Confidence intervals for three model-based estimates		
70 percent confidence interval	0.8 - 3.6	
90 percent confidence interval	-0.1 - 4.4	
Medium-Run Measures		
TIPS-consistent measure	1.8	*1.8*
Single-equation model	2.2	*2.2*
Small structural model	2.8	*2.8*
Confidence intervals for two model-based estimates		
70 percent confidence interval	1.7 - 3.3	
90 percent confidence interval	0.9 - 3.7	

Notes: The figures in the "Previous Bluebook" column indicate the estimates for the current quarter as of the previous Bluebook that would have been reported using the new procedures. Confidence intervals and bands reflect uncertainties about model specification, coefficients, and the level of potential output.

Equilibrium Real Rate Chart: Explanatory Notes

The equilibrium real rate is the real federal funds rate that, if maintained, would be projected to return output to its potential level over time. The short-run equilibrium rate is defined as the rate that would be anticipated to close the output gap in twelve quarters, and the medium-run concept is the value of the real funds rate projected to keep output at potential in seven years under the assumption that monetary policy acts to bring actual and potential output into line in the short run and then keep them equal thereafter. With the exception of the TIPS-consistent measure, the real federal funds rates employ the log difference of the core PCE price index over the previous four quarters as a proxy for expected inflation, with the staff projection used for the current quarter. TIPS indexation is based on the total CPI.

Measure	Description
Single-Equation Model	The measure of the equilibrium real rate in the single-equation model is based on an estimated aggregate-demand relationship between the current value of the output gap and its lagged values as well as the lagged values of the real federal funds rate. In light of this model's simple structure, the short-run measure of the equilibrium real rate depends only on the recent position of output relative to potential, and the medium-run measure is virtually constant.
Small Structural Model	The small-scale model of the economy consists of equations for five variables: the output gap, the equity premium, the federal budget surplus, the trend growth rate of output, and the real bond yield. Unlike the estimates from the single-equation model, values of the equilibrium real rate also depend directly on conditions associated with output growth, fiscal policy, and capital markets.
Large Model (FRB/US)	Estimates of the equilibrium real rate using FRB/US—the staff's large-scale econometric model of the U.S. economy—depend on a very broad array of economic factors, some of which take the form of projected values of the model's exogenous variables. These projections make use of several simple forecasting rules which are appropriate for the three-year horizon relevant for the short-run concept but are less sensible over longer horizons. Thus, we report only the short-run measure for the FRB/US model.
Greenbook-consistent	Measures of the equilibrium real rate cannot be directly obtained from the Greenbook forecast, because the Greenbook is not based on a formal model. Rather, we use the FRB/US model in conjunction with an extended version of the Greenbook forecast to derive a Greenbook-consistent measure. FRB/US is first add-factored so that its simulation matches the extended Greenbook forecast, and then a second simulation is run off this baseline to determine the value of the real federal funds rate that closes the output gap. The medium-run concept of the equilibrium real rate is not computed because it requires a relatively long extension of the Greenbook forecast.
TIPS-consistent	Yields on TIPS (Treasury Inflation-Protected Securities) incorporate investors' expectations of the future path of real interest rates. The seven-year instantaneous real forward rate derived from TIPS yields reflects the short-term real interest rate expected to prevail in seven years as well as any applicable term premium. The term premium is assumed to be 70 basis points.

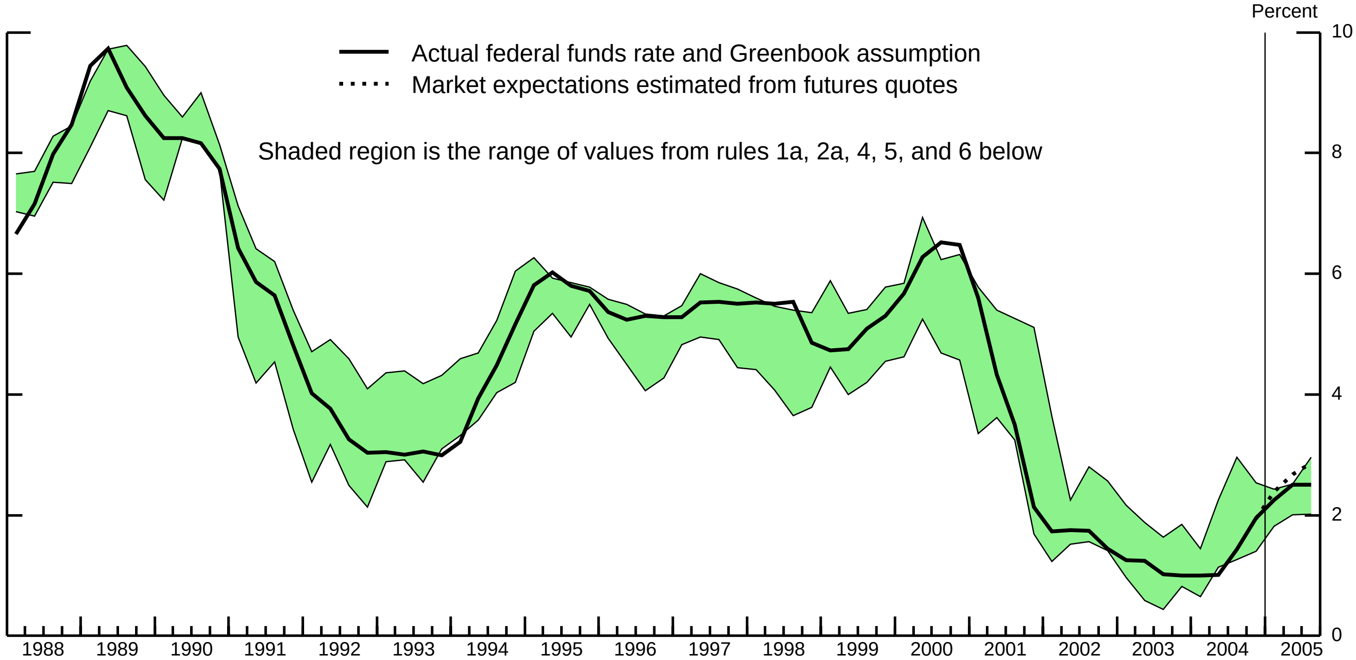
the "measured pace" language. If the Committee nonetheless thought the margins of unused capacity could be relatively narrow and wanted to convey somewhat greater concern about the inflation outlook, it might do so by noting in the rationale paragraph that labor market conditions "continue to improve," without indicating that the improvement was gradual, and that "the earlier rise in energy prices and an escalation of business costs have the potential to contribute to upward pressure on prices."

(12) Market participants have essentially priced in a 25-basis-point rise in the federal funds target at this meeting and anticipate only relatively small changes in the statement. As a result, an announcement like that in Alternative C would likely have little effect on financial markets. However, a statement that included a reference to possible inflation pressures would presumably lead investors to boost their expected path for the federal funds rate, increasing real and nominal interest rates and weighing on stock prices. Such a statement would also likely raise the sensitivity of market participants to inflation news over the intermeeting period.

(13) The Committee may believe that, as in the Greenbook forecast, fostering sustainable economic growth and price stability will likely involve continued policy tightening but at a less rapid pace going forward than has been the case over the past six months. For example, members may expect only gradual diminution of the business caution that has damped the economic expansion over the last few years despite unusually accommodative monetary policy. If the Committee held such a view, it might want to couple a 25-basis-point move at this meeting with a statement like that in **Alternative B**, which is intended to signal the possibility of a pause in the adjustment of policy before long. While an additional hike in rates at this meeting would be consistent with a number of standard policy rules (Chart 6), some of those rules also suggest a pause fairly soon if output and inflation evolve as projected in the Greenbook. Indeed, another 25 basis points of tightening at this meeting would bring

Chart 6

Actual and Assumed Federal Funds Rate and
Range of Values from Policy Rules and Futures Markets



Values of the Federal Funds Rate from Policy Rules and Futures Markets

	2004		2005		
	Q3	Q4	Q1	Q2	Q3
Rules with Imposed Coefficients					
1. Baseline Taylor Rule: a) π*=2	2.96	2.54	2.43	2.51	2.96
b) π*=1.5	3.21	2.79	2.68	2.76	3.21
2. Aggressive Taylor Rule: a) π*=2	2.30	1.83	1.81	2.00	2.57
b) π*=1.5	2.55	2.08	2.06	2.25	2.82
3. First-difference Rule: a) π*=2	1.11	1.35	2.11	2.27	2.36
b) π*=1.5	1.36	1.60	2.36	2.77	3.11
Rules with Estimated Coefficients					
4. Outcome-based Rule	1.45	1.69	2.05	2.14	2.42
5. Greenbook Forecast-based Rule	1.28	1.56	2.23	2.36	2.42
6. FOMC Forecast-based Rule	1.27	1.40	1.82	2.07	2.02
7. TIPS-based Rule	1.29	1.83**			
Memo					
Expected federal funds rate derived from futures		1.94	2.38	2.67	2.86
Actual federal funds rate and Greenbook assumption	1.43	1.95	2.25	2.50	2.50

** Computed using average TIPS and nominal Treasury yields to date.

Note: Rule prescriptions for 2004Q4 through 2005Q3 are calculated using Greenbook projections for inflation and the output gap (or unemployment gap). For rules that contain the lagged funds rate, the rule's previous prescription for the funds rate is used to compute prescriptions for 2005Q2 and 2005Q3. It is assumed that there is no feedback from the rule prescriptions to the Greenbook projections through 2005Q3.

Policy Rules Chart: Explanatory Notes

In all of the rules below, i_t denotes the federal funds rate, π_t the staff estimate at date t of trailing four-quarter core PCE inflation, $(y_t\text{-}y_t^*)$ the staff estimate (at date t) of the output gap, π^* policymakers' long-run objective for inflation, i_{t-1} the lagged federal funds rate, ε_{t-1} the residual from the rule's prescription the previous quarter, $(y_{t+3|t}\text{-}y_{t+3|t}^*)$ the staff's three-quarter-ahead forecast of the output gap, $(\Delta y_{t+3|t}\text{-}\Delta y_{t+3|t}^*)$ the staff's forecast of output growth less potential output growth three quarters ahead, $\pi_{t+3|t}$ a three-quarter-ahead forecast of inflation, and $(u_{t+3|t}\text{-}u_{t+3|t}^*)$ a three-quarter-ahead forecast of the unemployment gap. Data are quarterly averages taken from the Greenbook and staff memoranda closest to the middle of each quarter, unless otherwise noted.

Rule	Specification	Root-mean-square error	
		1988:1-2004:3	2001:1-2004:3
Rules with Imposed Coefficients			
1. Baseline Taylor Rule	$i_t = 2 + \pi_t + 0.5(y_t\text{-}y_t^*) + 0.5(\pi_t\text{-}\pi^*)$	.95[a]	1.00[a]
2. Aggressive Taylor Rule	$i_t = 2 + \pi_t + (y_t\text{-}y_t^*) + 0.5(\pi_t\text{-}\pi^*)$	.72[a]	.74[a]
3. First-difference Rule	$i_t = i_{t-1} + 0.5(\Delta y_{t+3\|t}\text{-}\Delta y_{t+3\|t}^*) + 0.5(\pi_{t+3\|t}\text{-}\pi^*)$	.83[a]	.32[a]
Rules with Estimated Coefficients			
4. Estimated Outcome-based Rule Rule includes both lagged interest rate and serial correlation in residual.	$i_t = .53i_{t-1} + 0.47\,[1.07 + 0.97(y_t\text{-}y_t^*) + 1.51\pi_t] + 0.48\varepsilon_{t-1}$	.23	.25
5. Estimated Greenbook Forecast-based Rule Rule includes both lagged interest rate and serial correlation in residual.	$i_t = .72i_{t-1} + 0.28\,[0.46 + 1.07(y_{t+3\|t}\text{-}y_{t+3\|t}^*) + 1.66\pi_{t+3\|t}] + 0.32\varepsilon_{t-1}$	.25	.26
6. Estimated FOMC Forecast-based Rule Unemployment and inflation forecasts are from semiannual "central tendency" of FOMC forecasts, interpolated if necessary to yield 3-qtr-ahead values; u_t^* forecast is from staff memoranda. Inflation forecasts are adjusted to core PCE deflator basis. Rule is estimated at semiannual frequency, and projected forward using Greenbook forecasts.	$i_t = 0.49i_{t-2} + 0.51\,[0.27 - 2.10(u_{t+3\|t}\text{-}u_{t+3\|t}^*) + 1.60\pi_{t+3\|t}]$	.45	.61
7. Estimated TIPS-based Rule $\pi_{comp5\|t}$ denotes the time-t difference between 5-yr nominal Treasury yields and TIPS. Sample begins in 1999 due to TIPS volatility in 1997-8.	$i_t = 0.97i_{t-1} + [-1.21 + 0.66\pi_{comp5\|t}]$	.43[b]	.46

[a] RMSE for rules with imposed coefficients is calculated setting $\pi^*=2$.

[b] RMSE for TIPS-based rule is calculated for 1999:1-2004:3.

the real federal funds rate to the lower edge of the 70 percent confidence band for the model-based estimates of the short-run equilibrium rate and only about ½ percentage point below the equilibrium measure consistent with the Greenbook. Money market futures rates suggest that market participants already place some probability on a slowing in the rate of policy tightening, but if the Committee saw a pause before long as fairly likely it might want to convey that expectation at this meeting.

(14) The possibility of a pause in the tightening process could be signaled by noting in the statement that *"the Committee's policy actions since mid-2004 have resulted in a significant reduction in the degree of monetary policy accommodation."*[5] The statement could go on to say that *"Nonetheless, . . . the stance of policy remains somewhat accommodative"* rather than characterizing the current stance of policy simply as "accommodative" as in the November statement. The reference to the reduction in policy accommodation would suggest to investors that Committee members were considering the effects of the cumulative policy adjustment to date, and that, with policy now viewed as only "somewhat" accommodative, policymakers might be ready to slow the pace of firming. However, a statement along these lines would leave open the option of tightening again at the February meeting if incoming information suggested that another move was appropriate. For example, the Committee pointed to the cumulative easing of policy in its June 2001 statement, but it nonetheless eased policy further at its August meeting.

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[5] Another option under Alternative B would be for the Committee to indicate that "The Federal Open Market Committee decided today to raise its target for the federal funds rate by 25 basis points to 2¼ percent, bringing the cumulative increase in the target rate over the past several months to 1¼ percentage point." (Analogous language was presented in the November Bluebook.) Such a quantification of the cumulative increase in the funds rate would be another means of suggesting that the FOMC was considering an adjustment to the policy trajectory going forward, and indeed the Committee adopted such an approach in its June 2001 statement. A disadvantage of this wording is that on its face it would appear to be nothing more than a simple arithmetic statement. Also, if the Committee elected not to pause in February, it would be necessary either to update the arithmetic by changing the reference from 1¼ percentage points to 1½ percentage points or to rewrite the statement more substantially.

(15) The release of the announcement for Alternative B would likely lead to some easing of financial conditions. Although investors have priced in a 25-basis-point increase in the target federal funds rate at this meeting, they do not anticipate that the statement will signal the possibility of a pause. As a result, the statement could well induce investors to mark down their expected path for the federal funds rate over coming quarters. Short- and intermediate-term interest rates would decline some, and the foreign exchange value of the dollar would probably also fall. Stock prices would likely rise a bit.

(16) If the Committee were concerned that maintenance of current financial conditions could risk a return to subpar economic performance, it might want to consider a pause in the tightening cycle at this meeting, as in **Alternative A**. Recent data and anecdotal reports suggest that businesses remain unusually cautious in expanding payrolls. In addition, the expiration of the partial expensing provision at year-end could slow investment spending more than in the Greenbook. Moreover, household saving rates remain very low by historical standards, and a larger-than-expected rebound in saving propensities could damp household spending considerably. Given these uncertainties, and with 100 basis points of tightening already in place, the Committee might consider it prudent to stand pat at this meeting to foster easier financial market conditions and weigh incoming data before considering the appropriate course for policy in February.

(17) The announcement of Alternative A could look much like the one released following the November meeting. However, in view of the concerns about renewed economic weakness that presumably would motivate policymakers to adopt this alternative, the Committee might wish to characterize the current stance of policy as only *"somewhat accommodative"* and indicate that *"labor market conditions have been improving only gradually, apparently evidencing continued business caution."* The statement could also note policymakers' obligation to promote *"sustainable growth"* as well as price stability.

The announcement of this policy choice would surprise investors, and real and nominal interest rates would likely decline, especially at shorter maturities, putting downward pressure on the dollar. Stock prices might rise, although the sense that aggregate demand might be weaker than investors had perceived could lead them to revise down their outlook for profits, tending to offset the positive effect of lower interest rates on equity prices.

Money and Debt Forecasts

(18) Under the staff forecast, M2 decelerates from 5¼ percent growth this year to 2 percent in 2005, reflecting slower expansion in nominal income as well as the effects of past and projected policy tightening on the opportunity cost of holding M2 assets. With the pace of policy tightening assumed to slow through 2005 and 2006, and nominal income growth steady at 5½ percent, M2 advances at a 3½ percent pace in 2006. Domestic nonfinancial sector debt is expected to decelerate over the forecast period, primarily reflecting some slowing in household debt growth as diminishing gains in home prices damp the increase in residential mortgage debt. By contrast, business debt growth is projected to rise to a moderate pace next year as capital spending expands and to remain near that rate in 2006. Federal debt growth slows next year but rebounds in 2006, reflecting in part the introduction of Medicare prescription drug coverage.

Alternative Growth Rates for M2

(percent, annual rate)

		Short Run		
		No Change	Raise 25 bp*	Greenbook**
Monthly Growth Rates				
	Sep-04	6.0	6.0	6.0
	Oct-04	2.5	2.5	2.5
	Nov-04	6.3	6.3	6.3
	Dec-04	5.7	5.5	5.5
	Jan-05	4.1	3.5	3.5
	Feb-05	3.8	3.0	3.0
	Mar-05	3.0	2.2	2.2
Quarterly Growth Rates				
	2004 Q1	3.5	3.5	3.5
	2004 Q2	9.7	9.7	9.7
	2004 Q3	2.7	2.7	2.7
	2004 Q4	4.4	4.4	4.4
	2005 Q1	4.5	4.0	4.0
Annual Growth Rates				
	2003	5.3	5.3	5.3
	2004	5.2	5.2	5.2
	2005			2.0
	2006			3.5
Growth From	To			
Oct 2004	Dec 2004	6.0	5.9	5.9
Oct 2004	Mar 2005	4.6	4.1	4.1
Nov 2004	Mar 2005	4.2	3.6	3.6

* Increase of 25 basis points in the target federal funds rate at this meeting and no change thereafter.
** This forecast is consistent with nominal GDP and interest rates in the Greenbook forecast.

Directive and Balance-of-Risks Statement

(19) Draft language for the directive and draft risk assessments identical to those presented in Table 1 are provided below.

(1) Directive Wording

The Federal Open Market Committee seeks monetary and financial conditions that will foster price stability and promote sustainable growth in output. To further its long-run objectives, the Committee in the immediate future seeks conditions in reserve markets consistent with MAINTAINING/increasing/REDUCING the federal funds rate AT/to an average of around _______ ~~2~~ percent.

(2) Risk Assessments

A. The Committee perceives the upside and downside risks to the attainment of both sustainable growth and price stability for the next few quarters to be roughly equal. With underlying inflation expected to be relatively low, the Committee believes that policy accommodation can be removed at a pace this is likely to be measured. Nonetheless, the Committee will respond to changes in economic prospects as needed to fulfill its obligation to promote price stability and sustainable growth.

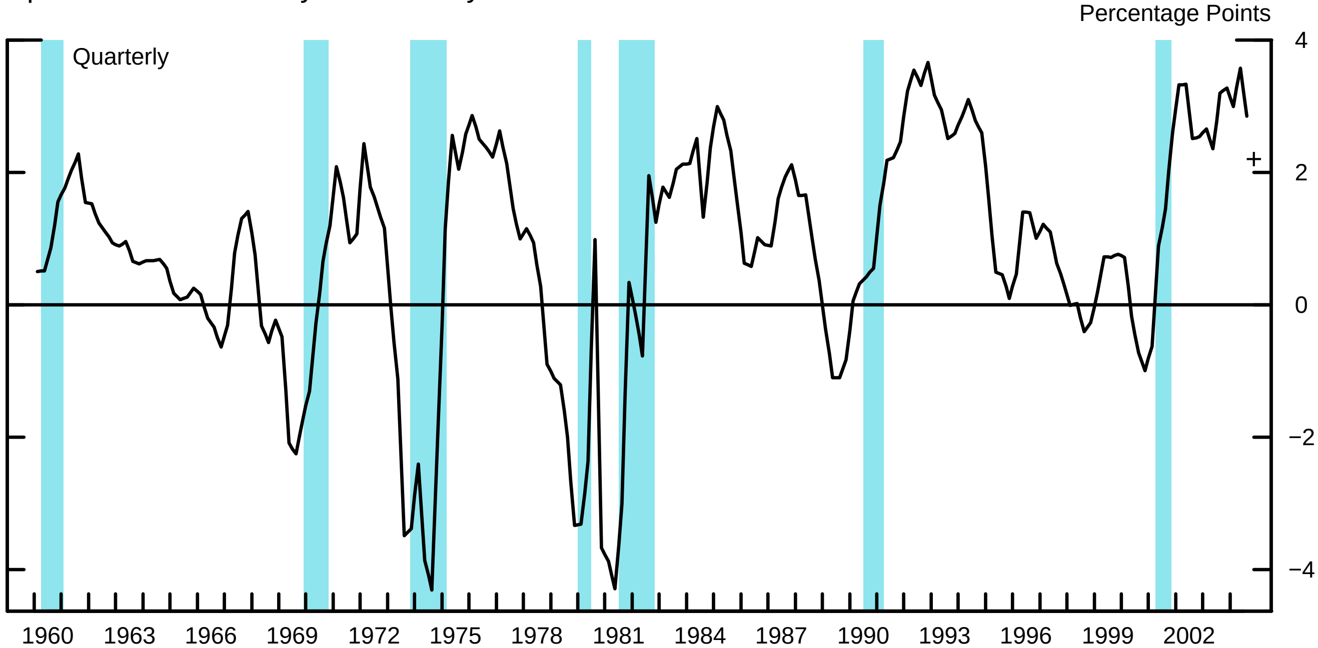
B. The Committee perceives the upside and downside risks to the attainment of both sustainable growth and price stability for the next few quarters to be roughly equal. With underlying inflation expected to be relatively low, the Committee believes that policy accommodation can be removed at a pace that is likely to be measured. Nonetheless, the Committee will respond to changes in economic prospects as needed to fulfill its obligation to maintain price stability.

C. The Committee perceives the upside and downside risks to the attainment of both sustainable growth and price stability for the next few quarters to be roughly equal. With underlying inflation expected to be relatively low, the Committee believes that policy accommodation can be removed at a pace that is likely to be measured. Nonetheless, the Committee will respond to changes in economic prospects as needed to fulfill its obligation to maintain price stability.

Appendix A Chart 1

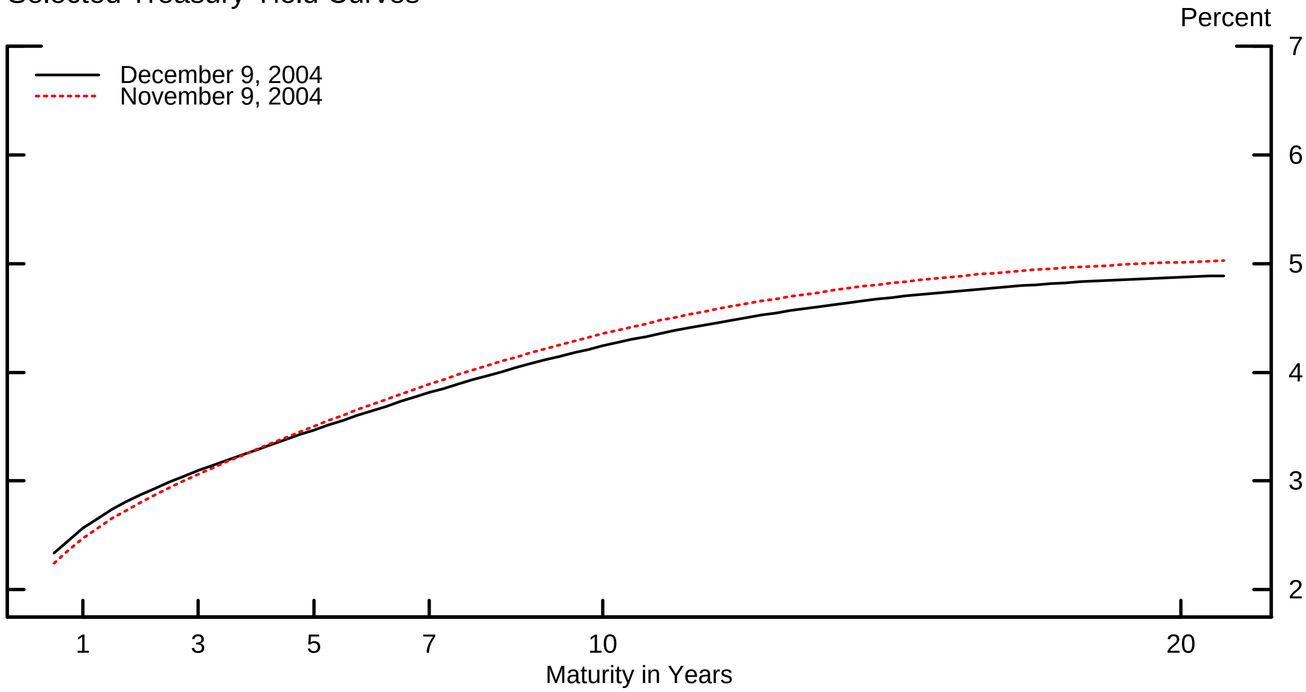
The Yield Curve

Spread Between Ten−year Treasury Yield and Federal Funds Rate



+ Denotes most recent weekly value.

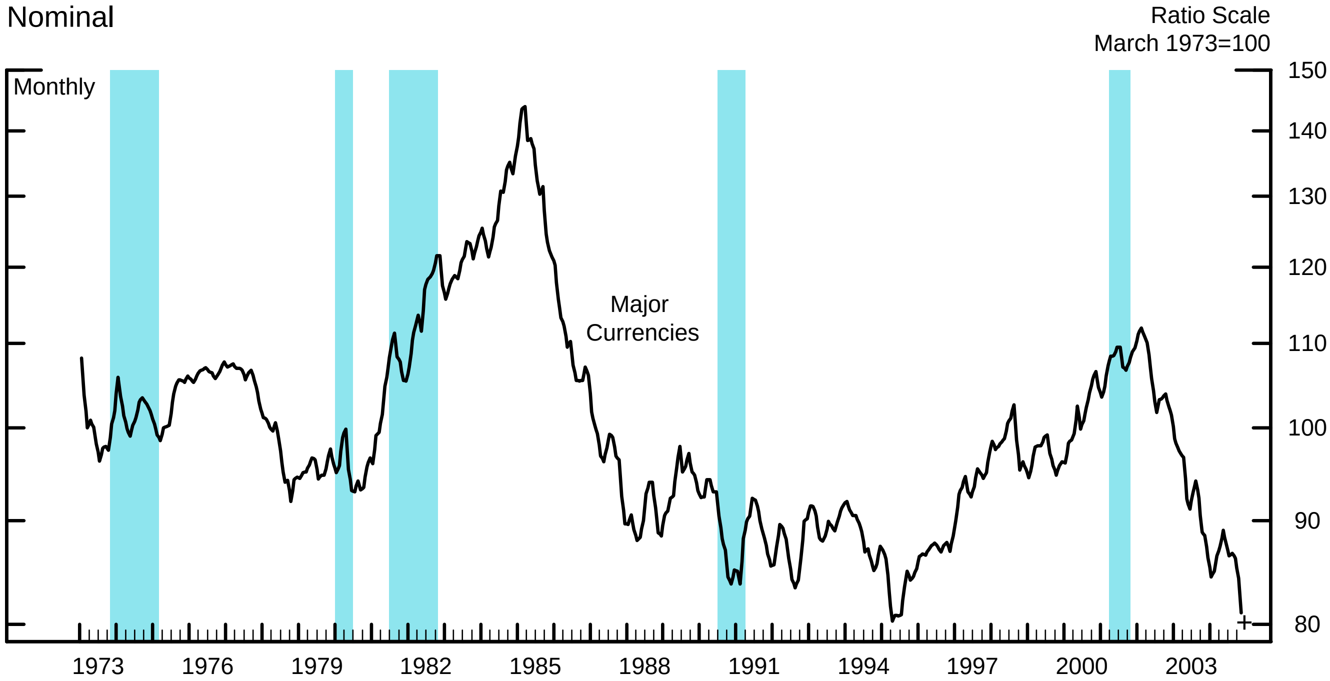
Selected Treasury Yield Curves*



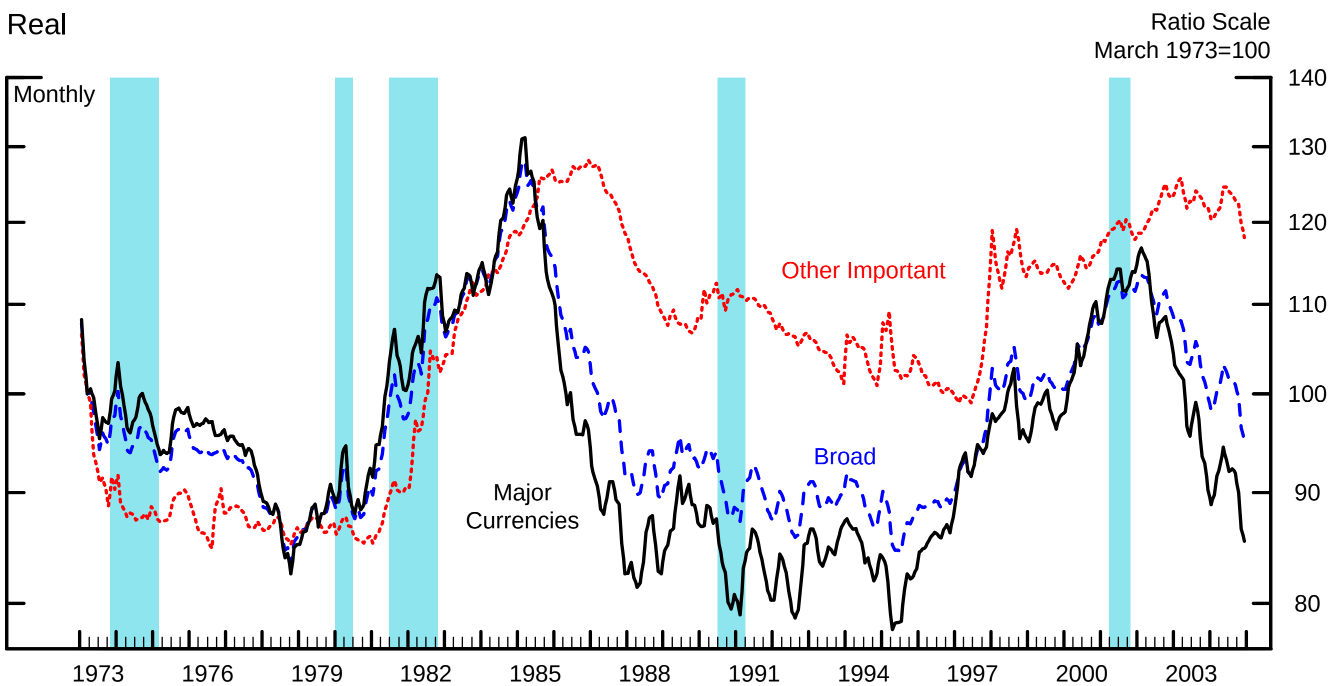
*Smoothed yield curve estimated from off−the−run Treasury coupon securities. Yields shown are those on notional par Treasury securities with semi−annual coupons.

Appendix A Chart 2

Dollar Exchange Rate Indexes



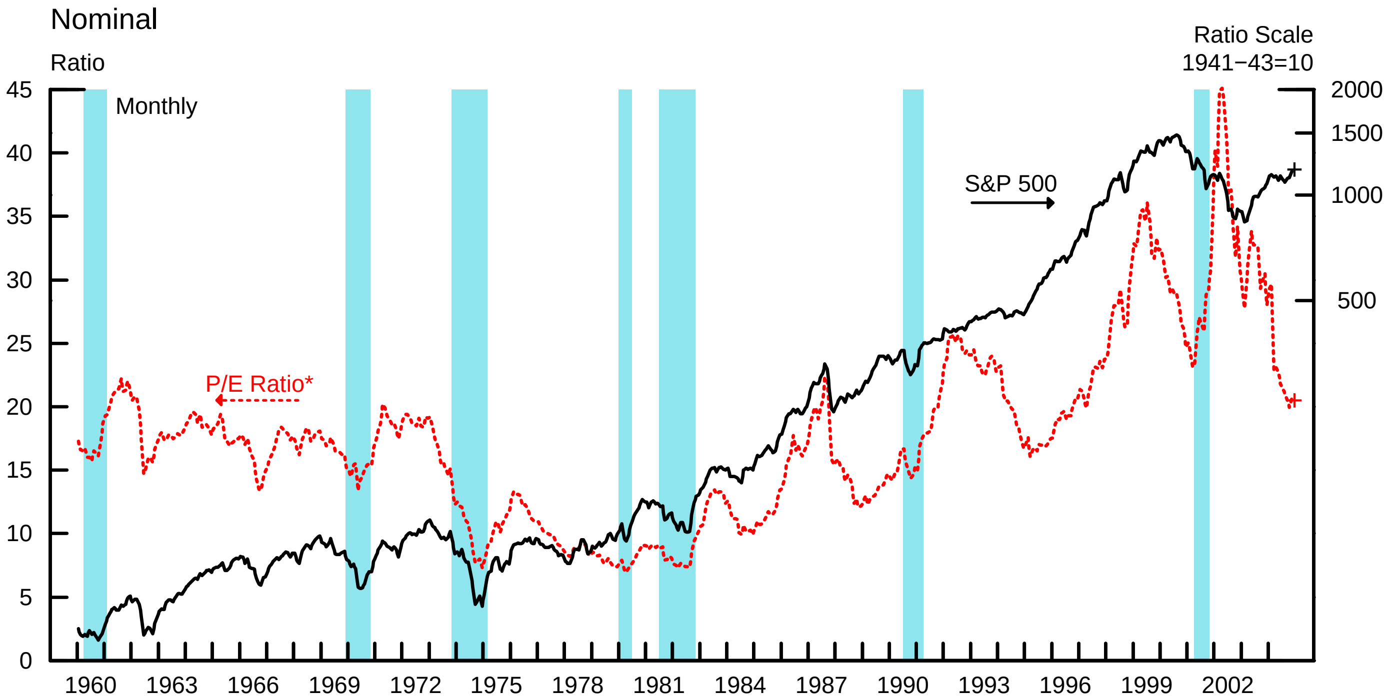
+ Denotes most recent weekly value.



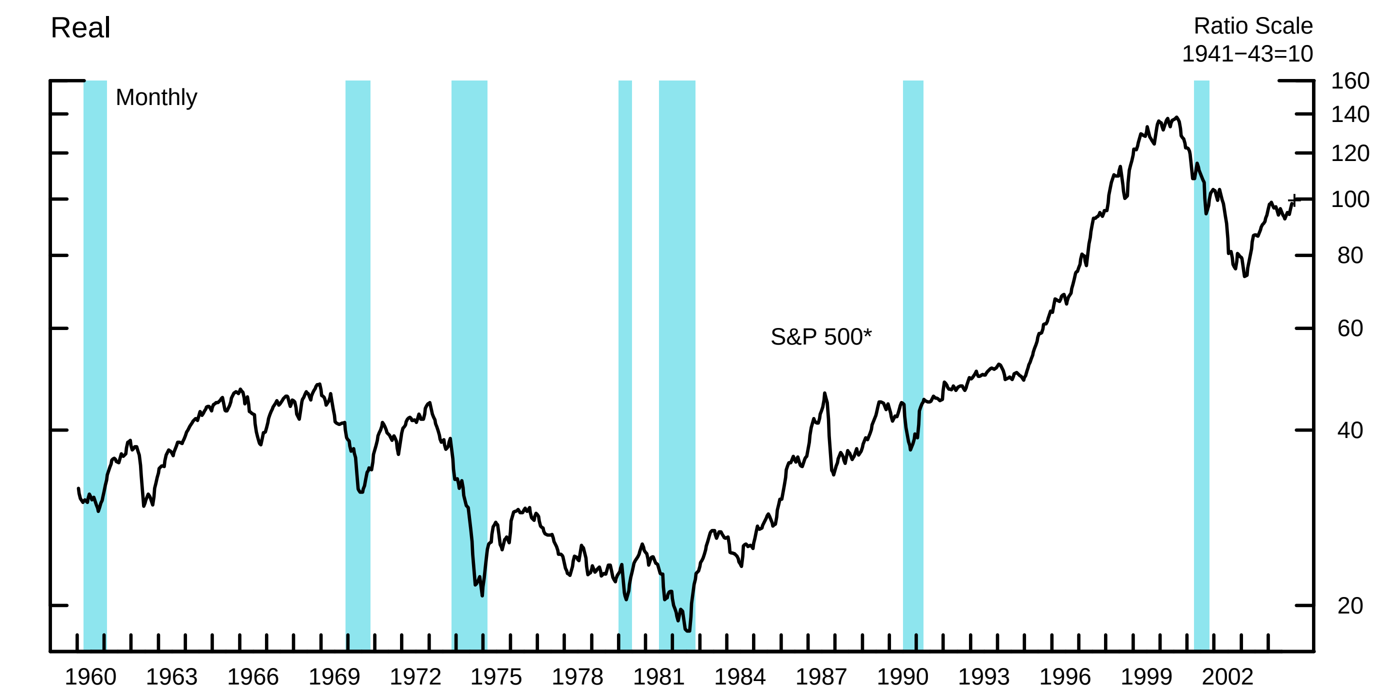
Note. The major currencies index is the trade−weighted average of currencies of the Euro area, Canada, Japan, the U.K., Switzerland, Australia, and Sweden. The other important trading partners index is the trade−weighted average of currencies of 19 other important trading partners. The Broad index is the trade−weighted average of currencies of all important trading partners. Real indexes have been adjusted for relative changes in U.S. and foreign consumer prices.

Appendix A Chart 3

Stock Indexes



* Based on trailing four−quarter earnings.
+ Denotes most recent weekly value.

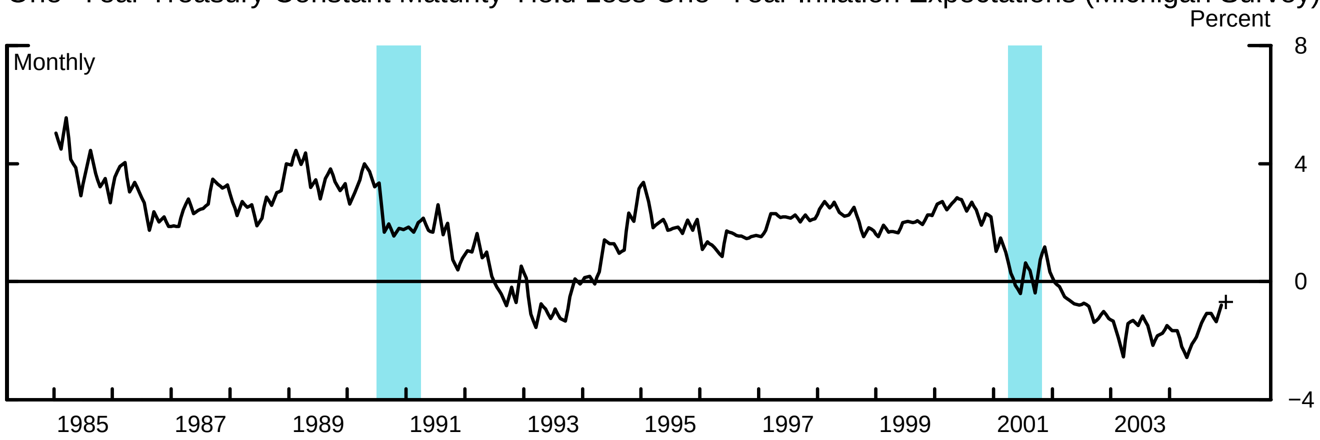


* Deflated by the CPI.
+ Denotes most recent weekly value.

Appendix A Chart 4

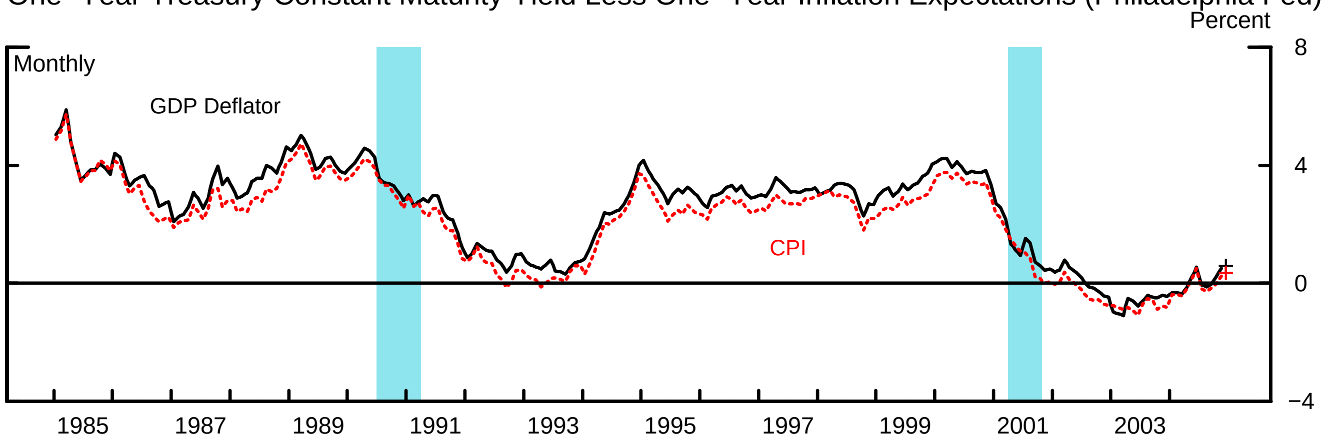
One−Year Real Interest Rates

One−Year Treasury Constant Maturity Yield Less One−Year Inflation Expectations (Michigan Survey)*



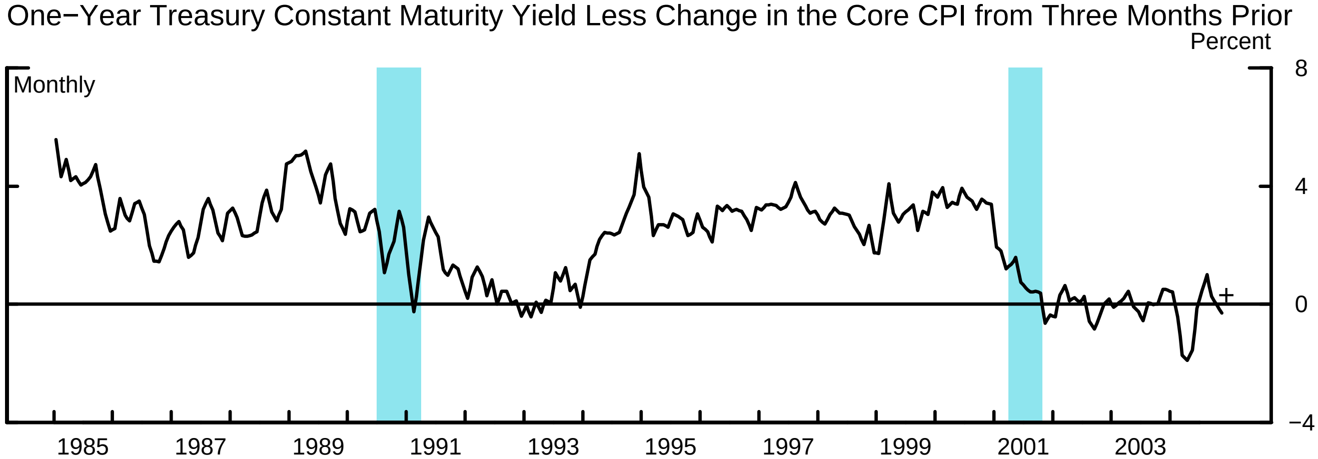
* Mean value of respondents.

One−Year Treasury Constant Maturity Yield Less One−Year Inflation Expectations (Philadelphia Fed)*



* ASA/NBER quarterly survey until 1990:Q1; Philadelphia Federal Reserve Bank Survey of Professional Forecasters thereafter. Median value of respondents.

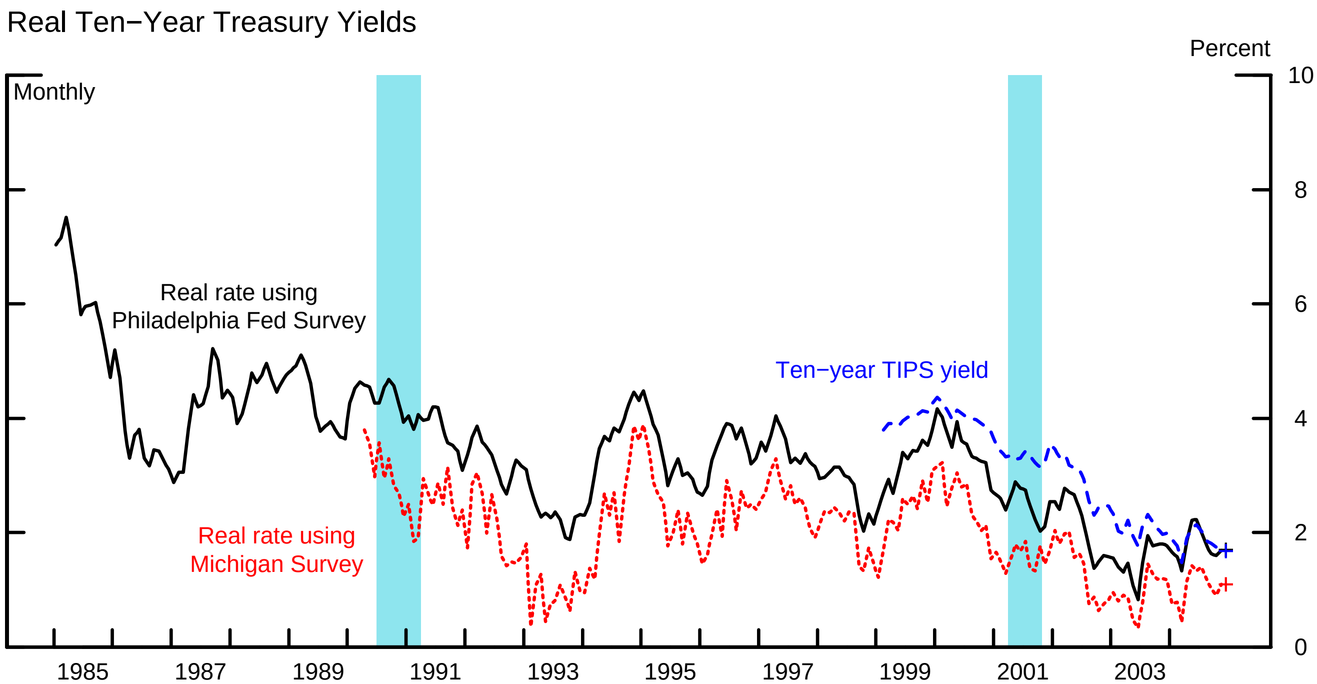
One−Year Treasury Constant Maturity Yield Less Change in the Core CPI from Three Months Prior

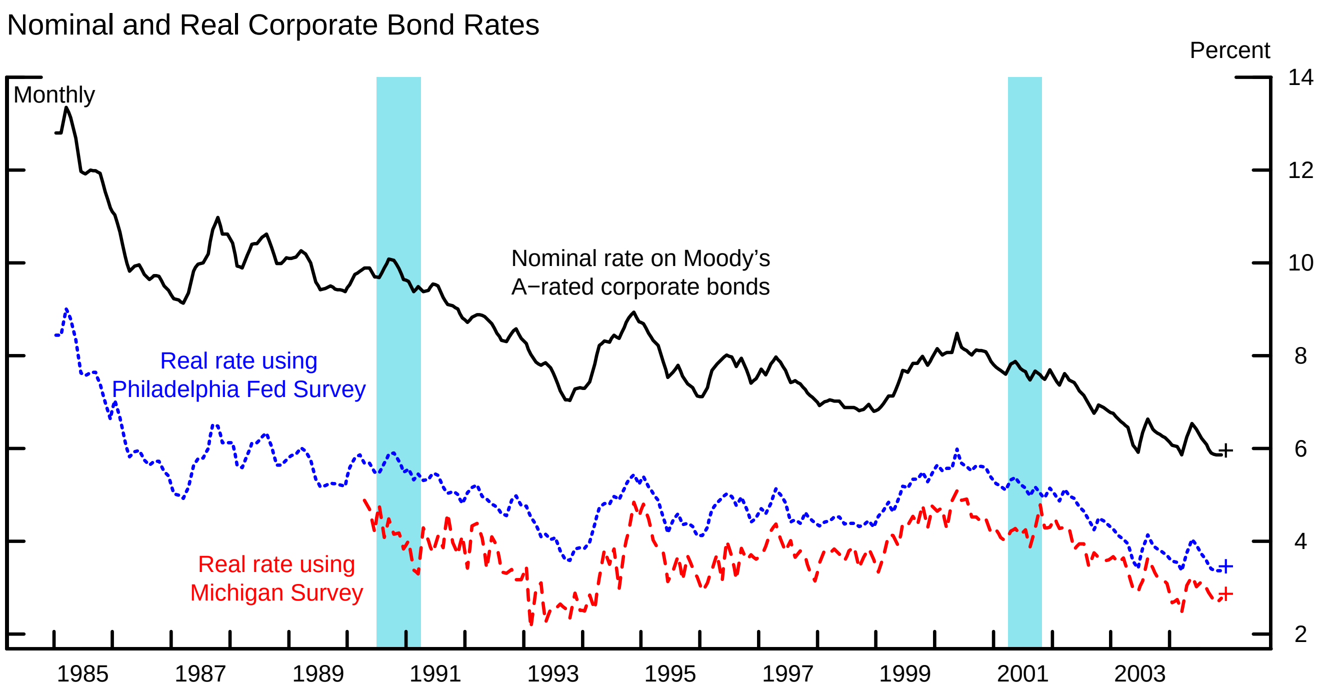


+ Denotes most recent weekly Treasury constant maturity yield less most recent inflation expectation.

Appendix A Chart 5

Long−Term Real Interest Rates*





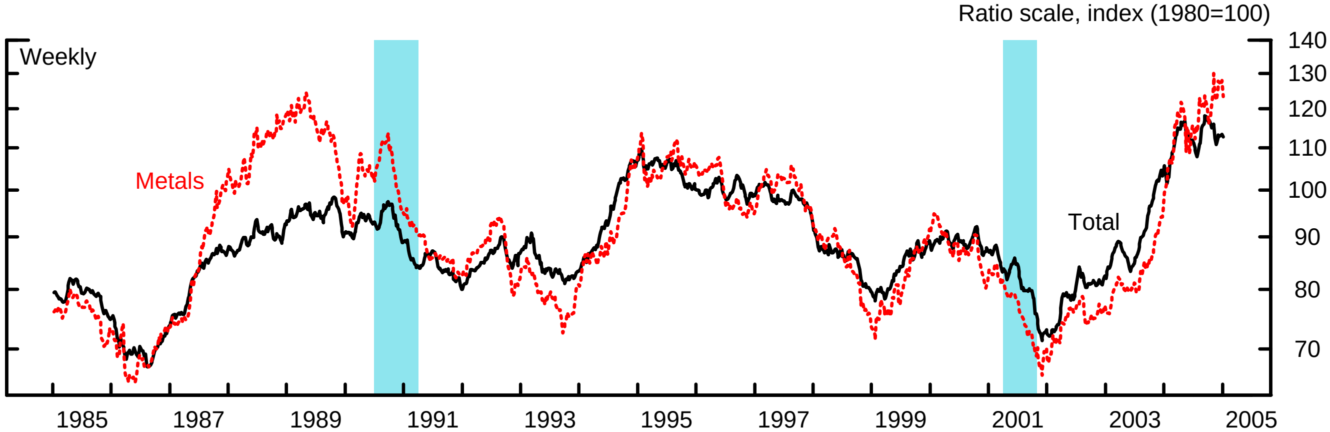
* For real rates, measures using the Philadelphia Fed Survey employ the ten−year inflation expectations from the Blue Chip Survey until April 1991 and the Philadelphia Federal Reserve Bank Survey of Professional Forecasters thereafter (median value of respondents). Measures using the Michigan Survey employ the five− to ten−year inflation expectations from that survey (mean value of respondents).

+ For TIPS and nominal corporate rate, denotes the most recent weekly value. For other real rate series, denotes the most recent weekly nominal yield less the most recent inflation expectation.

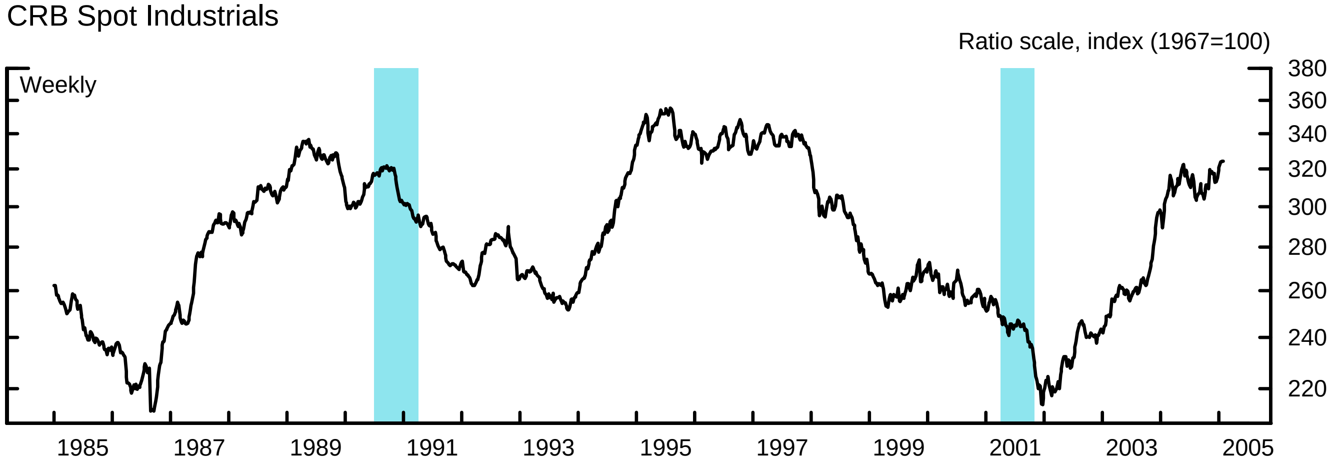
Appendix A Chart 6

Commodity Price Measures

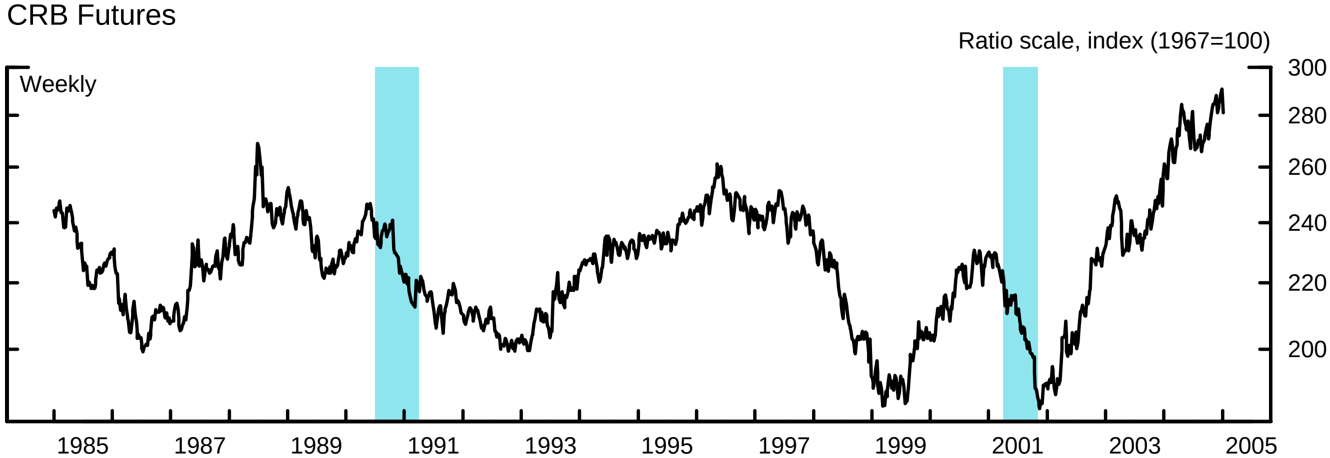
Journal of Commerce Index



CRB Spot Industrials

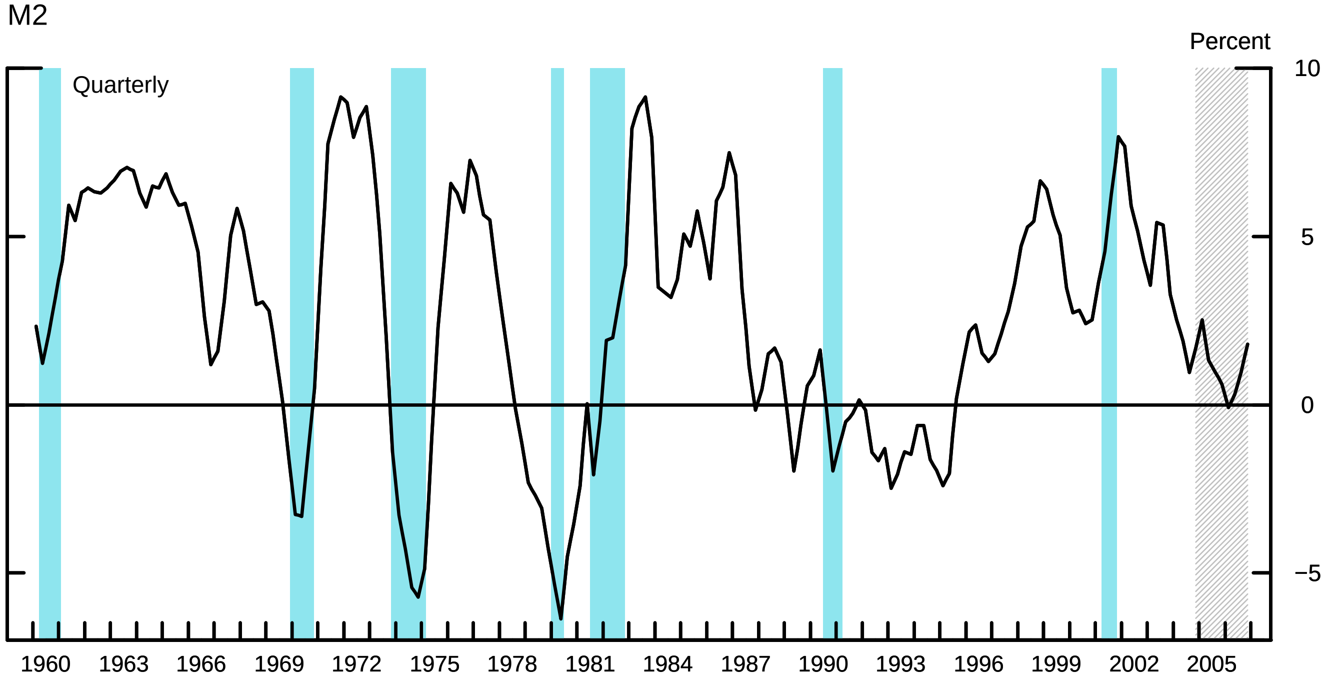


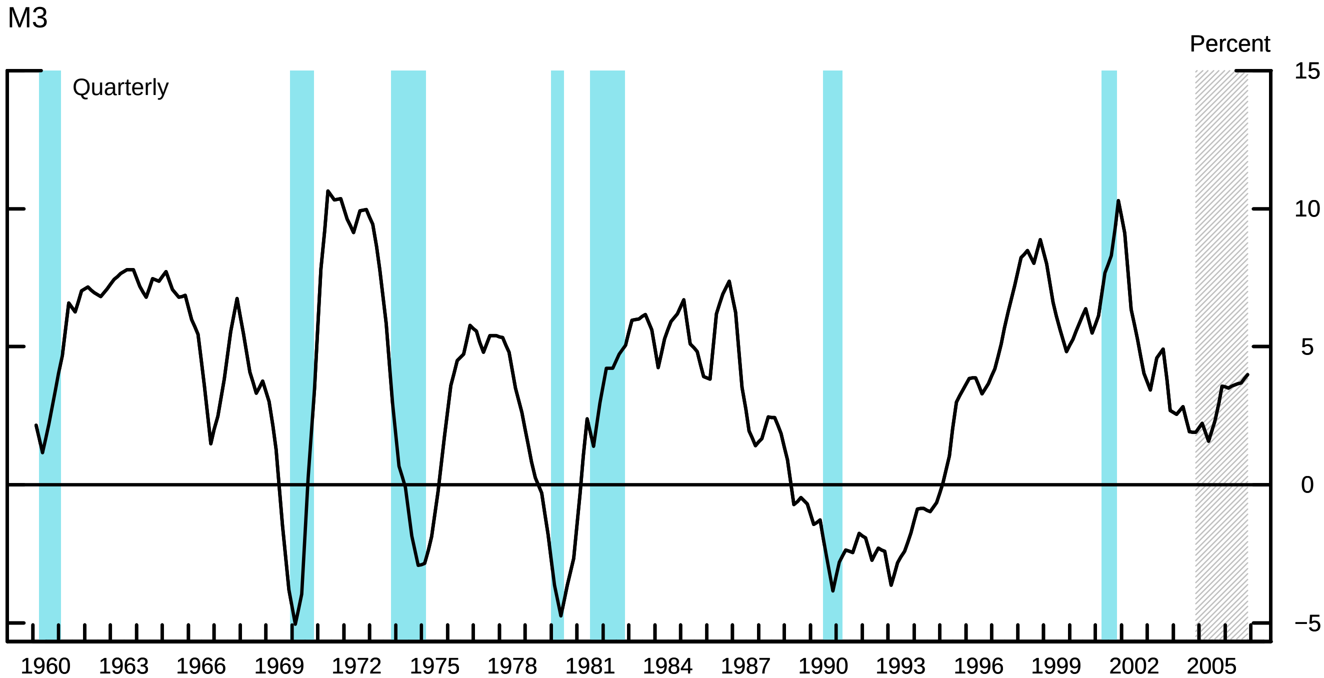
CRB Futures



Appendix A Chart 7

Growth of Real M2 and M3

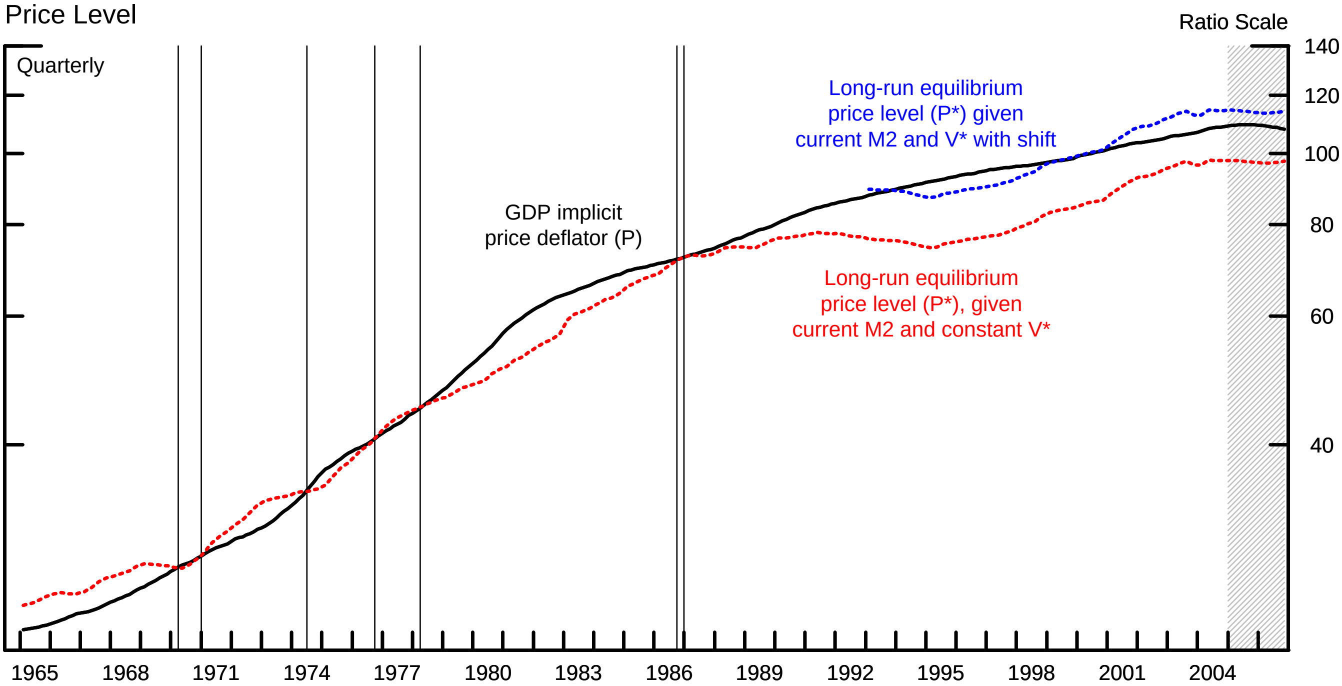


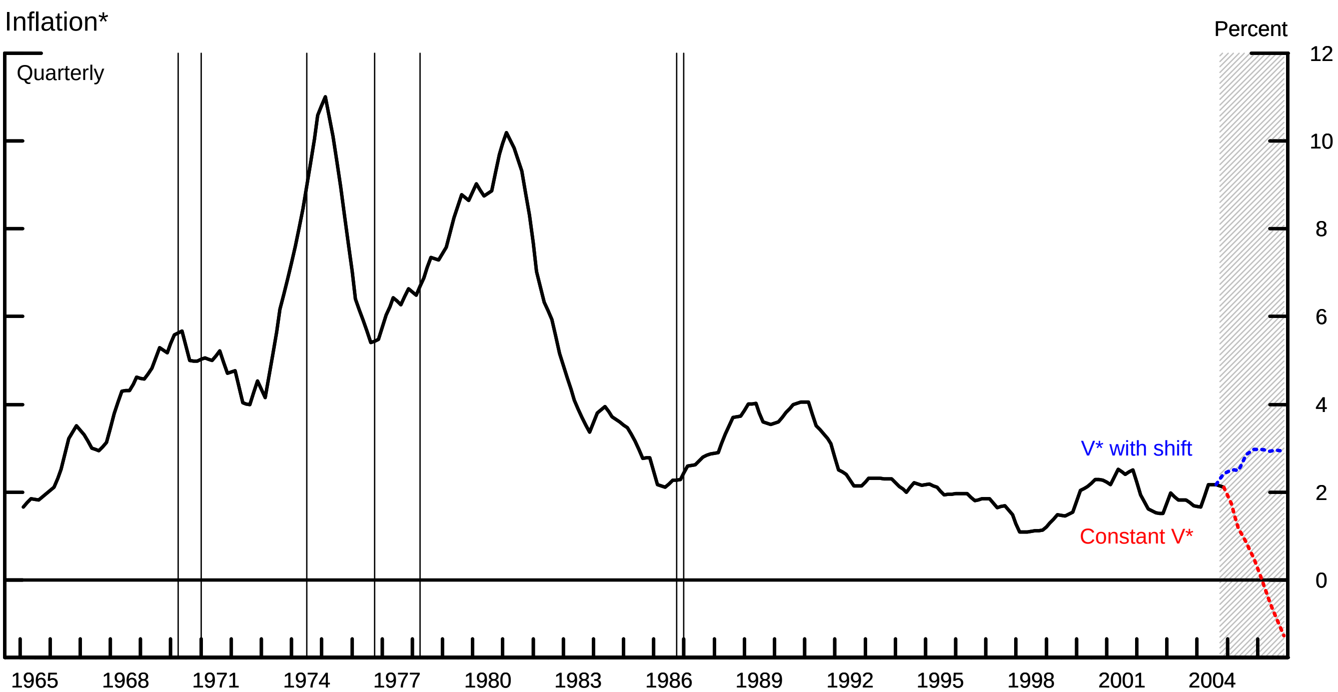


Note. Four−quarter moving average deflated by the CPI. Shaded areas denote projection period.

Appendix A Chart 8

Inflation Indicator Based on M2 and Two Estimates of V*





* Change in GDP implicit price deflator over the previous four quarters.

Note. P* is defined to equal M2 times V* divided by potential GDP. Long-run velocity (V*) is estimated from 1959:Q1 to 1989:Q4. V* after 1992 is estimated from 1993:Q1 to present. For the forecast period, P* is based on staff M2 forecast and P is simulated using a short-run dynamic model relating P to P*. Vertical lines mark crossing of P and P*. Shaded areas denote projection period.

Appendix A Table 1

Selected Interest Rates
(Percent)

	Short-term						Long-term									
	Federal funds	Treasury bills secondary market			CDs secondary market	Comm. paper	Off-the-run Treasury yields				Indexed yields		Moody's Baa	Municipal Bond Buyer	Conventional home mortgages primary market	
		4-week	3-month	6-month	3-month	1-month	2-year	5-year	10-year	20-year	5-year	10-year			Fixed-rate	ARM
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
03 -- High	1.45	1.26	1.22	1.28	1.32	1.28	2.11	3.60	4.80	5.58	1.84	2.48	7.48	5.50	6.44	4.06
-- Low	0.86	0.75	0.81	0.82	0.93	0.91	1.09	2.06	3.29	4.21	0.77	1.56	6.01	4.78	5.21	3.45
04 -- High	2.06	2.08	2.26	2.46	2.43	2.19	3.09	4.10	5.03	5.64	1.57	2.25	6.90	5.45	6.34	4.27
-- Low	0.92	0.73	0.87	0.96	1.04	0.97	1.49	2.65	3.84	4.68	0.42	1.35	6.03	4.73	5.38	3.36
Monthly																
Dec 03	0.98	0.89	0.92	1.01	1.10	1.03	1.90	3.25	4.41	5.16	1.26	1.99	6.60	5.11	5.88	3.76
Jan 04	1.00	0.84	0.90	0.99	1.06	0.99	1.75	3.10	4.28	5.06	1.11	1.88	6.44	4.99	5.71	3.63
Feb 04	1.01	0.92	0.95	1.01	1.05	0.99	1.73	3.05	4.22	4.99	0.88	1.77	6.27	4.86	5.64	3.55
Mar 04	1.00	0.96	0.95	1.01	1.05	0.99	1.57	2.78	3.96	4.78	0.55	1.48	6.11	4.78	5.45	3.41
Apr 04	1.00	0.90	0.96	1.11	1.08	1.00	2.09	3.38	4.50	5.22	1.05	1.90	6.46	5.13	5.83	3.65
May 04	1.00	0.90	1.04	1.33	1.20	1.00	2.56	3.86	4.88	5.51	1.37	2.09	6.75	5.39	6.27	3.88
Jun 04	1.03	1.04	1.29	1.64	1.46	1.13	2.78	3.93	4.88	5.49	1.43	2.14	6.78	5.40	6.29	4.10
Jul 04	1.26	1.18	1.35	1.69	1.57	1.29	2.64	3.70	4.64	5.29	1.32	2.02	6.62	5.29	6.06	4.11
Aug 04	1.43	1.37	1.51	1.76	1.68	1.48	2.50	3.49	4.43	5.12	1.15	1.86	6.46	5.18	5.87	4.06
Sep 04	1.61	1.54	1.68	1.91	1.86	1.67	2.51	3.35	4.26	4.96	1.12	1.81	6.27	5.04	5.75	3.99
Oct 04	1.76	1.62	1.79	2.05	2.04	1.79	2.57	3.35	4.24	4.92	1.00	1.74	6.21	4.99	5.72	4.02
Nov 04	1.93	1.91	2.11	2.33	2.26	2.01	2.86	3.52	4.32	4.95	0.93	1.69	6.20	5.06	5.73	4.15
Weekly																
Oct 8 04	1.78	1.55	1.71	2.03	2.01	1.74	2.65	3.46	4.34	5.01	1.16	1.86	6.30	5.08	5.82	4.08
Oct 15 04	1.74	1.58	1.73	2.00	2.02	1.76	2.51	3.32	4.22	4.92	1.01	1.73	6.20	4.99	5.74	4.01
Oct 22 04	1.75	1.61	1.83	2.05	2.04	1.80	2.53	3.30	4.18	4.86	0.95	1.69	6.15	4.93	5.69	4.02
Oct 29 04	1.75	1.75	1.90	2.12	2.08	1.85	2.56	3.31	4.18	4.86	0.87	1.67	6.15	4.97	5.64	3.96
Nov 5 04	1.77	1.83	1.99	2.21	2.16	1.92	2.64	3.38	4.25	4.91	0.86	1.67	6.19	4.99	5.70	4.00
Nov 12 04	1.85	1.88	2.08	2.31	2.24	2.00	2.82	3.51	4.36	5.01	0.97	1.74	6.25	5.10	5.76	4.16
Nov 19 04	2.01	1.90	2.13	2.35	2.28	2.02	2.89	3.53	4.30	4.93	0.93	1.67	6.18	5.07	5.74	4.17
Nov 26 04	2.01	1.98	2.19	2.41	2.34	2.07	3.01	3.59	4.32	4.92	0.94	1.65	6.16	5.07	5.72	4.27
Dec 3 04	2.01	2.04	2.23	2.42	2.38	2.11	3.04	3.70	4.47	5.07	1.01	1.77	6.30	5.15	5.81	4.19
Dec 10 04	--	2.07	2.25	2.43	2.41	2.15	2.94	3.55	4.31	4.93	0.95	1.68	--	--	5.71	4.15
Daily																
Nov 23 04	2.00	1.99	2.17	2.41	2.34	2.06	2.99	3.58	4.31	4.90	0.95	1.66	6.15	--	--	--
Nov 24 04	2.02	1.98	2.18	2.40	2.34	2.07	3.02	3.60	4.32	4.91	0.95	1.65	6.15	--	--	--
Nov 25 04	2.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nov 26 04	2.01	2.00	2.20	2.40	2.35	2.07	3.05	3.64	4.37	4.95	0.95	1.65	6.20	--	--	--
Nov 29 04	2.03	2.00	2.24	2.46	2.36	2.10	3.09	3.72	4.46	5.05	1.01	1.74	6.27	--	--	--
Nov 30 04	2.02	2.07	2.24	2.44	2.38	2.09	3.05	3.71	4.49	5.09	0.99	1.77	6.31	--	--	--
Dec 1 04	2.04	2.05	2.22	2.40	2.38	2.16	3.03	3.72	4.50	5.10	1.02	1.80	6.33	--	--	--
Dec 2 04	2.00	2.05	2.22	2.41	2.39	2.09	3.06	3.74	4.52	5.12	1.06	1.83	6.34	--	--	--
Dec 3 04	1.98	2.05	2.21	2.39	2.39	2.13	2.95	3.60	4.39	5.01	0.97	1.73	6.23	--	--	--
Dec 6 04	2.04	2.07	2.26	2.44	2.39	2.10	2.94	3.59	4.36	4.98	0.96	1.71	6.20	--	--	--
Dec 7 04	1.99	2.08	2.25	2.43	2.40	2.19	2.96	3.59	4.35	4.97	0.97	1.70	6.19	--	--	--
Dec 8 04	2.01	2.07	2.24	2.42	2.41	2.16	2.91	3.51	4.25	4.86	0.91	1.62	6.08	--	--	--
Dec 9 04	2.06 p	2.06	2.24	2.42	2.43	--	2.94	3.53	4.29	4.90	0.94	1.65	--	--	--	--

NOTE: Weekly data for columns 1 through 13 are week-ending averages. Columns 2 through 4 are on a coupon equivalent basis. Data in column 6 are interpolated from data on certain commercial paper trades settled by the Depository Trust Company. Column 14 is the Bond Buyer revenue index, which is a 1-day quote for Thursday. Column 15 is the average contract rate on new commitments for fixed-rate mortgages (FRMs) with 80 percent loan-to-value ratios at major institutional lenders. Column 16 is the average initial contract rate on new commitments for 1-year, adjustable-rate mortgages (ARMs) at major institutional lenders offering both FRMs and ARMs with the same number of discount points.

p - preliminary data

MFMA

Appendix A Table 2

Money Aggregates

Seasonally Adjusted

Period	M1	M2	nontransactions components		M3
			in M2	in M3 only	
	1	2	3	4	5
Annual growth rates (%):					
Annually (Q4 to Q4)					
2001	7.0	10.2	11.1	18.5	12.7
2002	3.3	6.7	7.6	5.8	6.4
2003	6.6	5.3	5.0	3.3	4.6
Quarterly (average)					
2003-Q4	2.6	-1.3	-2.3	-0.8	-1.1
2004-Q1	6.1	3.5	2.9	11.1	5.9
Q2	6.2	9.7	10.6	13.2	10.8
Q3	3.4	2.7	2.5	3.4	2.9
Monthly					
2003-Nov.	-0.7	-0.6	-0.6	-4.4	-1.8
Dec.	9.4	-0.6	-3.3	1.5	0.0
2004-Jan.	-5.3	1.5	3.4	21.8	7.9
Feb.	17.5	9.9	7.9	8.8	9.6
Mar.	17.7	9.3	7.1	18.0	12.1
Apr.	-2.4	9.5	12.7	12.8	10.5
May	-0.7	14.0	17.9	12.5	13.5
June	12.3	1.8	-1.0	9.3	4.2
July	-9.8	-1.0	1.3	-5.0	-2.3
Aug.	16.2	2.1	-1.7	7.0	3.7
Sep.	3.6	6.0	6.6	1.0	4.4
Oct.	-0.9	2.5	3.4	-14.8	-3.1
Nov. e	15.4	6.3	3.8	-4.4	2.9
Levels ($billions):					
Monthly					
2004-June	1335.9	6298.6	4962.7	2999.4	9298.0
July	1325.0	6293.1	4968.1	2986.8	9279.9
Aug.	1342.9	6304.1	4961.2	3004.3	9308.4
Sep.	1346.9	6335.5	4988.6	3006.8	9342.3
Oct.	1345.9	6348.8	5002.9	2969.7	9318.5
Weekly					
2004-Oct. 4	1363.7	6339.1	4975.4	2988.8	9327.9
11	1332.2	6333.4	5001.2	2959.3	9292.6
18	1336.6	6356.3	5019.7	2958.0	9314.3
25	1361.9	6360.4	4998.4	2971.2	9331.6
Nov. 1	1350.8	6371.6	5020.7	2964.8	9336.3
8	1340.2	6372.9	5032.6	2961.4	9334.2
15	1348.4	6375.6	5027.2	2949.6	9325.2
22p	1373.3	6386.9	5013.6	2950.4	9337.3
29p	1393.1	6387.2	4994.1	2965.9	9353.1

p preliminary
e estimated

Appendix A Table 3

Changes in System Holdings of Securities [1]

(Millions of dollars, not seasonally adjusted)

December 9, 2004

	Treasury Bills			Treasury Coupons						Federal Agency Redemptions (-)	Net change total outright holdings [4]	Net RPs [5]		
	Net Purchases [2]	Redemptions (-)	Net Change	Net Purchases [3] < 1	Net Purchases [3] 1-5	Net Purchases [3] 5-10	Net Purchases [3] Over 10	Redemptions (-)	Net Change			Short-Term [6]	Long-Term [7]	Net Change
2001	15,503	10,095	5,408	15,663	22,814	6,003	8,531	16,802	36,208	120	41,496	3,492	636	4,128
2002	21,421	---	21,421	12,720	12,748	5,074	2,280	---	32,822	---	54,242	-5,366	517	-4,850
2003	18,150	---	18,150	6,565	7,814	4,107	220	---	18,706	10	36,846	2,223	1,036	3,259
2003 QIII	2,568	---	2,568	---	---	1,232	150	---	1,382	---	3,950	1,712	-554	1,158
QIV	3,299	---	3,299	2,561	3,188	1,350	20	---	7,118	10	10,407	-561	2,750	2,189
2004 QI	1,707	---	1,707	1,311	2,848	1,251	275	---	5,685	---	7,391	-772	-3,515	-4,286
QII	7,756	---	7,756	1,693	2,543	988	84	---	5,307	---	13,063	1,133	418	1,550
QIII	4,508	---	4,508	1,898	4,406	1,507	434	---	8,244	---	12,753	-1,787	782	-1,005
2004 Apr	3,516	---	3,516	---	---	---	---	---	---	---	3,516	1,041	1,355	2,396
May	409	---	409	1,693	783	713	84	---	3,272	---	3,681	-637	710	73
Jun	3,831	---	3,831	---	1,760	275	---	---	2,035	---	5,866	-1,738	1,824	86
Jul	952	---	952	1,898	3,078	244	29	---	5,249	---	6,202	1,120	-2,372	-1,252
Aug	83	---	83	---	428	568	---	---	996	---	1,078	-750	-1,323	-2,072
Sep	3,473	---	3,473	---	899	695	405	---	1,999	---	5,473	-3,176	7,895	4,718
Oct	500	---	500	1,593	2,765	1,225	400	---	5,984	---	6,484	-2,121	-4,443	-6,564
Nov	3,155	---	3,155	---	2,284	453	86	---	2,822	---	5,977	-1,416	1,543	127
2004 Sep 15	41	---	41	---	799	---	---	---	799	---	840	385	1,000	1,385
Sep 22	1,664	---	1,664	---	---	400	400	---	800	---	2,464	-321	-2,000	-2,321
Sep 29	26	---	26	---	100	295	5	---	400	---	426	-4,192	1,000	-3,192
Oct 6	1,770	---	1,770	---	1,198	---	---	---	1,198	---	2,968	296	-4,000	-3,704
Oct 13	29	---	29	---	---	---	---	---	---	---	29	3,612	-1,000	2,612
Oct 20	200	---	200	---	171	823	---	---	994	---	1,195	-656	---	-656
Oct 27	123	---	123	1,593	1,396	402	400	---	3,791	---	3,914	-4,830	1,000	-3,830
Nov 3	192	---	192	---	1,086	118	---	---	1,204	---	1,396	1,739	-2,000	-261
Nov 10	327	---	327	---	---	335	86	---	421	---	748	805	-1,714	-909
Nov 17	20	---	20	---	1,198	---	---	---	1,198	---	1,217	-203	3,429	3,226
Nov 24	1,451	---	1,451	---	---	---	---	---	---	---	1,451	-3,235	4,429	1,194
Dec 1	1,286	---	1,286	---	---	---	---	---	---	---	1,286	3,748	857	4,605
Dec 8	257	---	257	1,499	2,404	---	---	---	3,903	---	4,160	-3,878	-2,000	-5,878
2004 Dec 9	22	---	22	---	---	340	85	---	425	---	447	-186	-2,000	-2,186
Intermeeting Period														
Nov 10-Dec 9	3,043	---	3,043	1,499	3,602	340	85	---	5,526	---	8,569	-81	5,000	4,919
Memo: LEVEL (bil. $)														
Dec 9			262.8	116.4	208.3	54.4	75.7		454.8	---	717.6	-19.9	20.0	0.1

1. Change from end-of-period to end-of-period. Excludes changes in compensation for the effects of inflation on the principal of inflation-indexed securities.
2. Outright purchases less outright sales (in market and with foreign accounts).
3. Outright purchases less outright sales (in market and with foreign accounts). Includes short-term notes acquired in exchange for maturing bills. Excludes maturity shifts and rollovers of maturing issues, except the rollover of inflation compensation.
4. Includes redemptions (-) of Treasury and agency securities.
5. RPs outstanding less reverse RPs.
6. Original maturity of 13 days or less.
7. Original maturity of 14 to 90 days.

MRA:BEW

Appendix B: Review of Debt and Money Growth in 2004

Total debt of domestic nonfinancial sectors expanded about 8 percent in 2004, somewhat faster than nominal income. Growth was strongest in the household and federal sectors, both of which posted almost 10 percent gains. The rapid pace of household borrowing in 2004 reflected a sharp rise in mortgages that was supported by substantial increases in home prices and continued low levels of long-term interest rates. The sizable increase in Treasury debt was needed to finance the federal deficit, while state and local governments again issued a considerable volume of securities.

Nonfinancial business borrowing, while not quite as weak as in 2003, continued to be restrained this year, as corporations again relied heavily on elevated profits and substantial cash holdings to finance increased fixed and inventory investment. Over the year as a whole, nonfinancial corporations are estimated to have raised only enough funds in credit markets to offset the cash drain from equity retirements. M2 expanded roughly in line with nominal GDP in the first half of the year, but growth slowed over the second half, owing in part to a decline in mortgage refinancing activity and increased opportunity costs of holding M2.

Domestic Nonfinancial Sector Debt

Credit supply conditions in the business sector seemed quite accommodative amid signs of improving credit quality of nonfinancial firms. With strong corporate earnings, the delinquency rate on C&I loans declined further, and the six-month trailing default rate on outstanding bonds fell to historically low levels. Also, the pace of net upgrades of bond ratings by Moody's for both investment- and speculative-grade debt showed some improvement compared to 2003 on balance. Expected year-ahead default rates calculated by KMV remained steady this year after falling from their 2002 peak last year. Against this backdrop, spreads of investment-grade corporate yields over comparable Treasury yields remained at low levels, while spreads on speculative-grade debt declined further on net.

According to results from the Senior Loan Officer Opinion Survey over the course of the year, commercial banks eased terms and standards on business loans, reflecting an improved economic outlook as well as increased competition among banks and nonbank lenders. Survey responses also indicated that increased demand for C&I loans was driven by the need to fund rising accounts receivable, inventories, capital expenditures, and merger activity. In the syndicated loan market, spreads on leveraged deals edged down and remained low, apparently reflecting moderating concerns over loan quality.

The timing of gross bond issuance during 2004 was influenced by interest rate movements during the year, as firms took advantage of dips in longer-term yields to issue bonds. Firms used a large portion of the proceeds to pay down existing debt, and some of the funds raised were also reportedly used to repurchase shares or finance mergers. Net corporate bond issuance was sluggish for the year, as firms evidently relied heavily on profits and liquid assets to fund investment in fixed capital and inventories.

Short-term business borrowing revived in 2004 after three years of sharp contraction. Commercial paper outstanding expanded in the first half and continued to grow later in the year, reflecting increased merger activity. Business loans at banks also rebounded in 2004. Loans outstanding fell early in the year, albeit at a noticeably slower pace than in 2003, edged up in the second quarter for the first time in more than three years, increased solidly in the third quarter, and appear likely to post another gain in the current quarter.

Even though vacancy rates for nonresidential commercial properties remained high and rents continued to fall, commercial mortgages grew at a rapid pace in 2004. Some firms reportedly continued to find mortgages an attractive source of long-term funding. Considerable gains in commercial real estate prices increased owners' equity and largely kept pace with the sizable increase in mortgage debt obligations. Delinquency rates on commercial mortgages held by banks and insurance companies remained very low throughout the year. Delinquencies on commercial-mortgage-backed securities (CMBS) fell during 2004, and yield spreads of CMBS over comparable Treasury securities remained low, suggesting that investors have limited concerns about loan quality. Reflecting in part the favorable pricing, issuance of CMBS reached near-record levels.

Household debt rose at a robust pace this year. Mortgage debt grew quite rapidly again, as activity remained strong in housing markets and home prices continued to rise briskly. The share of new mortgages with adjustable interest rates, including hybrids, rose on balance. Consumer credit growth remained moderate and was probably restrained by paydowns using proceeds from cash-out mortgage refinancing this year, even though the pace of such transactions has fallen off from the near-record pace set early in 2003. Interest rates on consumer loans began to rise in the middle of the year, a development that may have damped consumer debt growth over the past few months.

Nonetheless, historically low interest rates and strong growth in disposable personal income have apparently helped to keep financial obligations manageable for most households, as credit quality measures remained solid. The aggregate household financial obligations ratio was steady, on balance, over the first three quarters of 2004. Meanwhile, delinquency rates on various types of household loans at commercial banks declined over the same period, while those on auto loans at captive finance companies changed little. Household bankruptcy filings have been running about 5 percent below the elevated levels in 2003, although they remain above the rates posted in previous years.

Strong increases in home prices continued to boost household net worth, while stock prices rose on balance for the year. Gains in assets about matched the increase in household debt, and the ratio of household net worth to disposable income rose a bit further above its long-run average. After surging in the first quarter, inflows to equity mutual funds moderated before ticking up in November. The assets of retail and institutional money market mutual funds continued to decline in the second half of the year, as their yields lagged increases in market interest rates. On balance, inflows into mutual funds were roughly consistent with staff models that link flows to asset returns.

With budget positions improving, net debt issuance by state and local governments edged down from the rapid pace set in 2003. Following widespread financial distress and downgrades over the previous two years, the credit quality of municipal borrowers stabilized in early 2004 and began to improve later in the year, as upgrades of municipal bonds outpaced downgrades beginning in February.

After borrowing heavily in 2003, owing to higher spending and large tax cuts, the pace of Treasury borrowing moderated this year. As was the case in debt-ceiling episodes in the previous two years, the Treasury was forced to resort to accounting devices and suspended issuance of state and local government series (SLGS) securities when the statutory debt ceiling became a constraint in the fall. Apart from a postponed four-week bill auction, there was little disruption in financial markets, and Congress raised the ceiling from $7.4 trillion to $8.1 trillion shortly after the November 2 elections.

The average maturity of outstanding Treasury debt continued to increase, as the Treasury tilted its issuance toward longer-term securities. The Treasury also boosted issuance of inflation-indexed securities by introducing a new twenty-year inflation-protected bond in July and a five-year inflation-protected note in October. Indirect bidding at Treasury auctions, which includes bidding by the Federal Reserve Bank of New York on behalf of foreign official institutions, remained robust over the year. Indeed, Treasury securities held in custody at the Federal Reserve Bank of New York on behalf of foreign official institutions increased about $200 billion through

November. Also, Treasury International Capital data through the end of the third quarter showed a steady increase in holdings of Treasury securities by foreign official and private investors, particularly those in Japan.

Bank Credit

Commercial bank credit is estimated to have grown about 9 percent in 2004, a brisker pace than last year. Bank credit growth outpaced that of total domestic nonfinancial debt. Growth in mortgage and home equity loans on banks' books remained brisk. Following several years of runoffs, business loans began to expand in the second half of the year. Underlying growth of consumer loans was sluggish, but was boosted by a reclassification of securities in the third quarter. Correspondingly, the expansion of banks' securities portfolios slowed during the second half of the year.

Monetary Aggregates

M2 advanced at a pace roughly in line with nominal GDP during the first half of the year. A resurgence of mortgage refinancing following the first-quarter decline in mortgage rates likely boosted liquid deposit growth, as proceeds from refinancing were temporarily placed in deposit accounts pending disbursement to the holders of mortgage-backed securities.

M2 growth slowed in the second half of the year in response to a decline in mortgage refinancing activity and the increased opportunity cost of holding M2 assets that resulted from higher short-term market interest rates. On balance, M2 growth from the fourth quarter of 2003 to the fourth quarter of this year is estimated at about 5¼ percent. The velocity of M2 edged up, on net, over the year, roughly in line with the historical relationships among money, income, and opportunity cost.