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How Should Central Banks Respond to Asset Bubbles?

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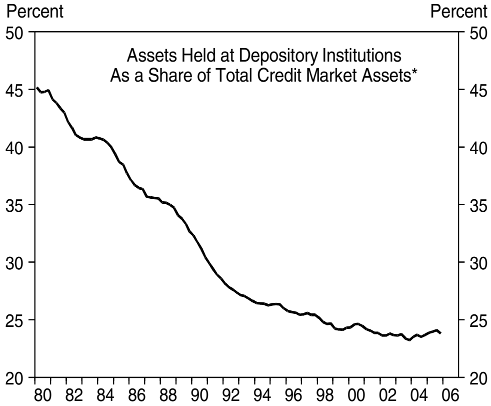
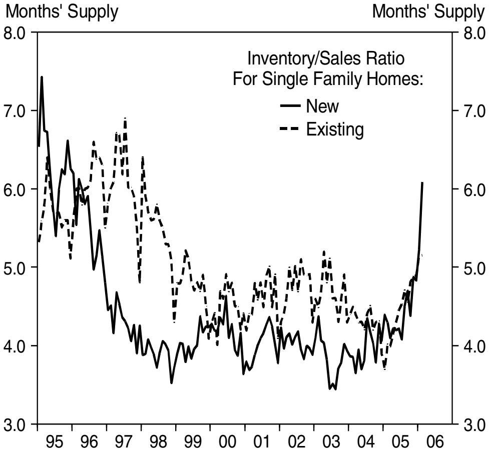
- Central bankers continue to debate the appropriate monetary policy response to asset bubbles. The US authorities argue that bubbles should be taken into consideration only to the extent that they affect growth and inflation. In contrast, ECB officials favor a “lean against the wind” strategy—tolerating somewhat lower near-term growth and inflation to lessen systemic risks and the possibility of deflation when the bubble bursts.
- These differences may derive, in part, from differences in financial structure. In the United States, where the capital markets dominate the financial system, the systemic risks posed by bursting bubbles may be lower than in Europe, where banks play a more central role.
- The level of short-term interest rates is a blunt instrument to use to address asset bubbles. This suggests that central banks need to develop new and better instruments for use against asset bubbles.
- In a light data week, ratios of inventories to sales tell it all. In housing, they point to further declines, in manufacturing to further strength despite a setback in orders outside the volatile defense and aircraft sectors.
- Chairman Bernanke argued that the policy implications of recent yield curve flattening are ambiguous. But that will not prevent the 15th consecutive quarter-point rate hike as the Federal Open Market Committee meets for the first time under his leadership. We expect minimal changes in the statement.

A Diminished Role for Banks in the United States



* Excludes assets held at the Federal Reserve.
Source: Federal Reserve Board.

Housing Slowdown Continues



Source: Dep't of Commerce. Nat'l Association of Realtors.

Trading Recommendations:
None for now.

Important disclosures appear at the back of this document.

I. Weekly Wrap-Up

For Underlying Trends, Consult the I/S Ratios

We have frequently cited changes in inventory/sales (I/S) ratios as useful leading indicators in cyclical sectors of the economy. This week brought large moves in I/S ratios in both the factory and housing sectors, presaging continued acceleration in the former and further slowing in the latter.

New home sales plummeted 10.5% in February, primarily due to a suspiciously large drop in sales in the western region of the country (nearly 30% month-on-month). Although some of this decline is apt to be reversed, inventories of unsold homes continue to rise, pushing the I/S ratio up to 6.3 months' worth from 5.3 previously. Existing home sales ended a string of five consecutive monthly declines with a 5.2% gain in February, but here too a comparable increase in inventories left the I/S ratio unchanged at an elevated 5.3 months' supply. The message is clear: continued deceleration is ahead for the housing sector.

On a more positive note, the industrial cycle appears to have legs, despite some softness in February for durable goods orders (bookings for defense equipment and civilian aircraft accounted for more than all of the 2.6% bounce in the total). In February, durable goods shipments were up 0.2% while inventories fell 0.5%, leading to continued improvement in the I/S ratio for this key indicator of near-term trends in factory output. We are inclined to put more weight on these positive signs than on the modestly disappointing results for orders outside transportation (-1.3% in February) or for core capital goods (-2.3%). In both cases, unfilled orders continue to rise.

Lower energy and food prices in February, perhaps due to warmer than usual weather early in the year, led to a 1.4% drop in the producer price index. However, core producer prices rose at every stage of production: 0.3% for finished goods, 0.5% for intermediates, and 3.3% for crude goods. This pickup in pipeline inflation suggests some upside risk to the core CPI in coming months—but probably only on the margin, as the apparent pass-through from (core) producer to consumer prices has been weak to nonexistent in recent years.

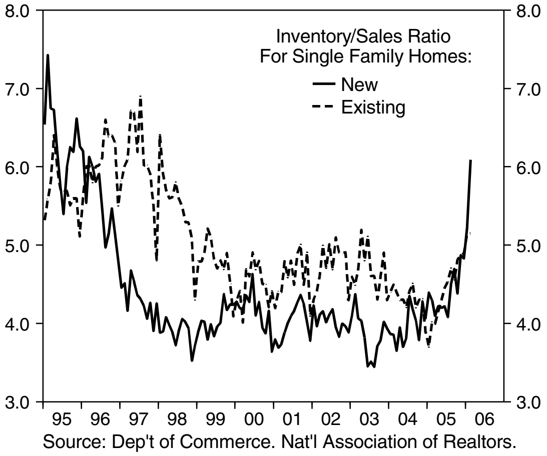
On balance, employment growth is likely to be more moderate in March. Although the run rate of new claims for jobless insurance remains low—averaging just over 300,000 per week—it is somewhat higher than in January and February. Meanwhile, the total number of people receiving benefits is essentially unchanged since the February employment survey week, in contrast to drops of 70,000-132,000 recorded over each of the prior four survey periods. A sharply lower figure in next week's claims report would be cause for more optimism.

FOMC to Tighten Further Despite Flat Yield Curve

Federal Reserve Chairman Ben Bernanke's main point in his speech this week to the Economic Club of New York was this: the monetary policy implications of the recent flattening in the yield curve are "not at all clear-cut." On the side of prescribing tighter policy is the possibility that the term premium has dropped significantly. On the other side is the possibility that a "global saving glut"—put another way, a shortfall in demand relative to output—has reduced the "normal policy rate."

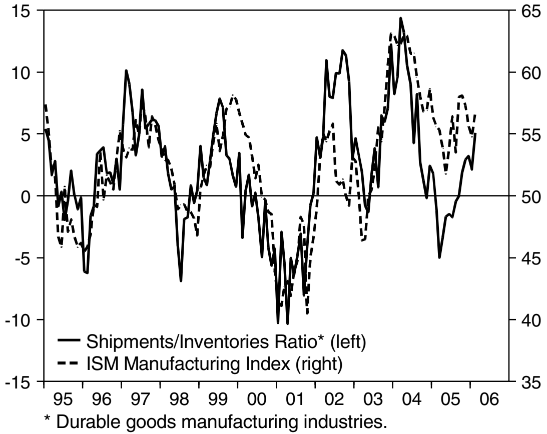
Notwithstanding this ambiguity, Bernanke's optimism about the near-term state of the economy, and seeming endorsement that a lower term premium accounts for a significant part of the yield curve flattening, suggests

Exhibit 1: Housing Slowdown Continues



Source: Dep't of Commerce. Nat'l Association of Realtors.

Exhibit 2: Factory Cycle Looking Good



* Durable goods manufacturing industries.
Source: Department of Commerce. Institute for Supply Mgmt.

that further tightening is in store in the near term. We therefore expect little change to the statement other than the recognition of recent strong economic data; in particular, the phrase "some further policy firming may be needed" or analogous language is likely to remain. If Chairman Bernanke wishes to change the overall structure or content of the statement, we think he would be more likely to wait until the May 10 meeting—a delay that would allow him time to build consensus among the Federal Open Market Committee. The minutes of this next meeting could (may, or might) foreshadow such changes.

Does Slowing in Refunds Portend Strong Tax Season? Not Yet

Disbursements of individual income tax refunds have weakened in recent days. Compared to the same week last year, refunds paid last week rose only 1.4%. This reduced the year-to-year growth for the tax season to date (since January 1) to 4.0% from a peak of 4.5%.

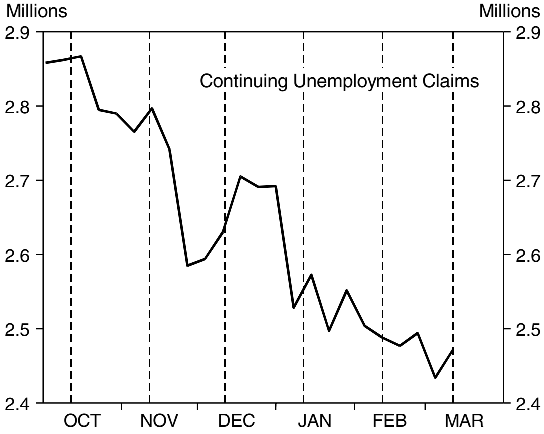
This slowing is reminiscent of an abrupt downshift that occurred in March 2005, which provided the first significant signal of last year's surge in personal income tax payments. If year-to-year refund growth continues to slow, this would imply another revenue boost to the Treasury and help to hold down the level of the federal deficit (our current projection is $375 billion for fiscal year 2006). However, so far the refund data provide only a weak hint that a revenue surge comparable to the one in 2005 is in store this year.

Still on the Sidelines

Note: The following comments reflect trading views and may differ from our longer-term interest rate forecast.

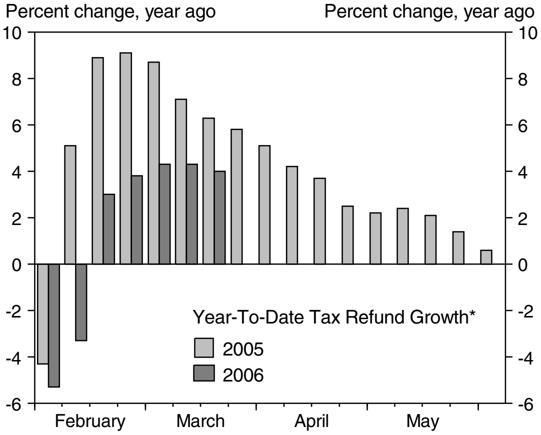
The market continues to focus on where the Fed will stop tightening—above 5% or not. On that issue, the pricing has not moved far enough away from our baseline to prompt any trading recommendations. Our focus remains on the longer-term question of when the Fed will start easing in response to the slowing in real GDP growth that we anticipate. Hence, we continue to explore opportunities to express those views in recommendations—either calendar spreads in the Eurodollar futures or outright long positions in intermediate (2-year) Treasuries. However, we have yet to see the catalyst in our sights that would prompt the market to move in this direction, so we stay frustratingly on the sidelines.

Exhibit 3: Pace of Hiring May Have Slowed



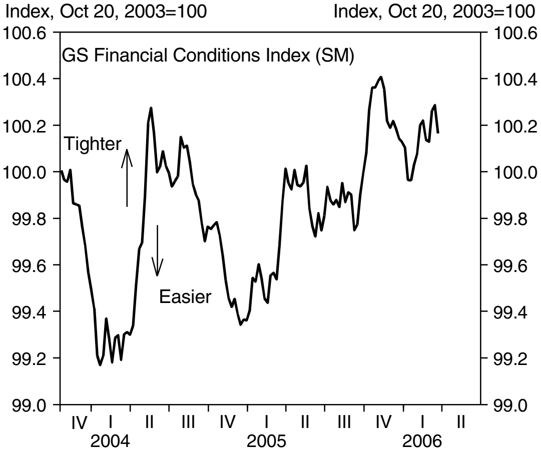
Note: Vertical lines indicate week of payroll survey.
Source: Department of Labor.

Exhibit 4: Trend in Refunds Softens



*Figures are cumulative through the end of the week shown.
Source: Department of Treasury.

Exhibit 5: Financial Conditions Tighten



Source: Goldman Sachs.

II. How Should Central Banks Respond to Asset Bubbles?

How central banks should respond to asset bubbles remains a topic of debate. In one camp, most senior Federal Reserve officials (including Chairman Ben Bernanke and Governor Donald Kohn) argue that asset prices should be considered in setting monetary policy only to the extent that movements in asset prices are anticipated to influence output and inflation. In the other camp, the European Central Bank (ECB), including Jean-Claude Trichet and Otmar Issing, argue that the central bank should "lean against the wind" when financial asset bubbles are detected, tolerating somewhat lower inflation and growth in exchange for smaller bubbles and less risk of systemic collapse and deflation at a longer time horizon.

In our assessment, the differences between the Federal Reserve view and the ECB view are not as big as the rhetoric suggests. Moreover, the discussion has been a bit off-point. Of course, central banks should worry about asset bubbles. The problem is that monetary policy—as defined by the level of overnight interest rates selected by the central bank—is ill-suited for this task. With one instrument, it is impossible to both achieve the central bank's mandate in managing the trade-off between growth and inflation over the near term and also limit asset bubbles that might lead to undesirable distortions in resource allocation and threaten systemic consequences should asset prices subsequently decline sharply.

A Modest Difference of Opinion

The disagreement between the Fed and the ECB is actually quite small. Consider that Fed officials do not say that asset bubbles do not matter, just that monetary policy is a blunt instrument to use to deal with them. In fact, in a recent speech, Governor Donald Kohn outlined the three conditions for when asset bubbles justified "extra action."[1]

1. Identification of bubbles "in a timely fashion with reasonable confidence."

2. "Fairly high probability that a modestly tighter policy will help to check the further expansion of speculative activity."

3. "The expected improvement in future economic performance that would result from a less expansive bubble must be sizable."

Governor Kohn argues that asset bubbles should be considered to the extent they influence growth and inflation. The problem lies in identifying bubbles and in the notion that a tighter monetary policy in response to the bubble will lead to a better inflation outcome, both over the near and longer term.

Similarly, a close reading of the ECB's position is not that asset prices should be targeted independent of the implications of asset prices for inflation, but instead that asset prices should be considered to the extent that a bursting of an asset price bubble might increase the risk of deflation in the medium to longer term.

Cost/Benefit May Turn on Financial Structure

The two sides differ mainly in their respective cost/benefit assessments associated with modifying monetary policy to "lean against the wind." The Federal Reserve's position is that the cost-benefit analysis is almost always likely to be unfavorable. In particular, Fed officials place little weight on their forecasts at longer time horizons and thus are not confident about the wisdom of trading off somewhat worse outcomes for inflation in the near term versus the possibility of a somewhat reduced risk of deflation (once the asset bubble bursts) over the longer term.

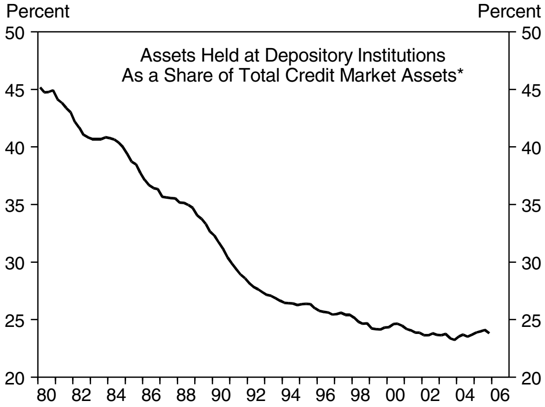
In contrast, the ECB is more optimistic about its ability to identify bubbles. ECB research notes that bubbles are often preceded by rapid periods of credit growth. Also, the ECB apparently sees the costs of the bursting bubbles as potentially greater. Finally, the ECB puts more weight on the longer-term inflation outlook. One leans against the wind in order to reduce the risks of deflation over the longer term.

In our opinion, it is impossible to know with any certitude which view is correct. In part, that is because the relevant hypotheses cannot be tested systematically. For example, we don't know how the US economy would have evolved if the Federal Reserve had taken "extra action" in 1999 to resist the stock market and dotcom bubble. That said, there are reasons why both views might be appropriate given the differences in financial systems between the United States and Europe.

In the United States, the systemic consequences of a collapse in financial asset prices are relatively low because the financial system is dominated by the capital markets rather than depository institutions (see Exhibit 1). When financial asset prices decline, the burden is borne broadly, and most asset price declines do not pose much threat to the health of the banking system. What was striking about the demise of the NASDAQ bubble was how limited the damage was to financial intermediaries and depository institutions.

[1] See "Monetary policy and asset prices," March 16, 2006, (http://www.federalreserve.gov/boarddocs/speeches/2006/20060316/default.htm).

Exhibit 1: A Diminished Role for Banks in the United States



* Excludes assets held at the Federal Reserve.
Source: Federal Reserve Board.

Moreover, the risks that deflation of an asset bubble would pose systemic risks to the US banking system should be lower now than in the past. First, US banks are now more geographically diverse. Second, the development of asset-backed securities markets and a credit derivatives market has enabled banks to diversify their asset holdings and shift credit risk to the capital markets.

In contrast, in Europe the banking system is much more dominant. This is important in terms of systemic risk because banks are highly leveraged. When the asset values against which banks have extended credit decline sharply in value, the solvency of banks (and the ability of the banking system to function properly) may be jeopardized.

Asset Prices Still Very Relevant for the US

So does this mean that the US monetary authorities should not worry about asset prices? Absolutely not. First, as Governor Kohn argues in his recent speech, asset prices must be considered in monetary policy making because shifts in asset prices affect economic activity and inflation:

…asset prices play critical and complicated roles in determining real activity and inflation.

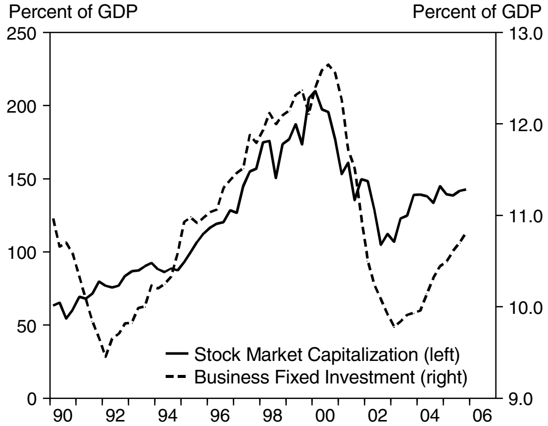
Second, asset price bubbles lead to a misallocation of resources, which represents a deadweight loss to society. On this score, we believe that Governor Kohn may be a bit too dismissive in arguing that there was little cost from the dotcom bubble because productivity growth remained strong even after the bubble collapsed. Perhaps productivity growth would have been even higher if resource allocation had been more efficient during that period.

Third, asset price bubbles do threaten economic stability. One problem that Governor Kohn does not address is the risk that the Fed's response to the collapse of one bubble may lead to subsequent bubbles in other areas. In our view, it is still premature to argue that the collapse of the stock market bubble and the investment boom that accompanied it had no dire macroeconomic consequences. The fact is that the demise of those two bubbles (see Exhibit 2) led to a long period of very accommodative monetary policy. This was the genesis of the housing boom, which eventually turned into its own bubble (see Exhibit 3). Until we know how that bubble plays out, it may be too early to conclude that the monetary policy response to the stock market bubble was optimal.

A Need for More and Better Instruments

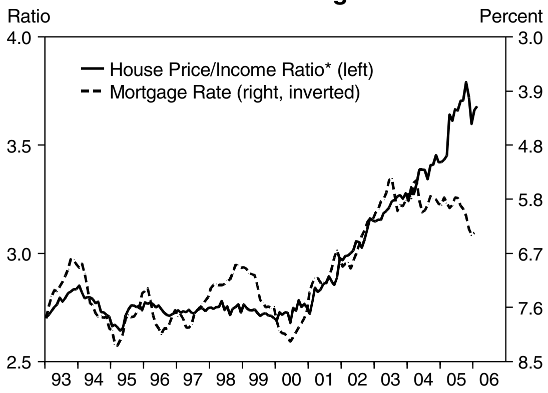
Rather than debating whether monetary policy should respond to asset bubbles or not, we would argue that a more fruitful area for inquiry would be to consider what instruments—other than the central bank's control of short-term interest rates—could be used to mitigate bubbles and their aftermath.

Exhibit 2: Stock Bubble and Investment Boom Demise…



Source: Federal Reserve Board. Dept. of Commerce.

Exhibit 3: …Leads to Monetary Ease and a Housing Bubble



* S.a. median home price divided by median family income.
Source: Department of Commerce. Federal Reserve Board. National Association of Realtors.

For the United States, we would argue that the need for other tools has increased. That is because the tool of prudential supervision and regulation of depository institutions has become less effective over time for several reasons. First, the role of depository institutions in the financial system has diminished. Second, in many cases, credit standards are now determined by the capital markets, rather than by commercial banks. For example, for mortgage loans, the willingness of investors in the capital markets to purchase various tranches of mortgage-backed securities plays an important role in determining the credit standards associated with mortgage lending. Similarly, the prices of credit derivative obligations, which are set in the capital markets, are the major determinant of credit spreads.

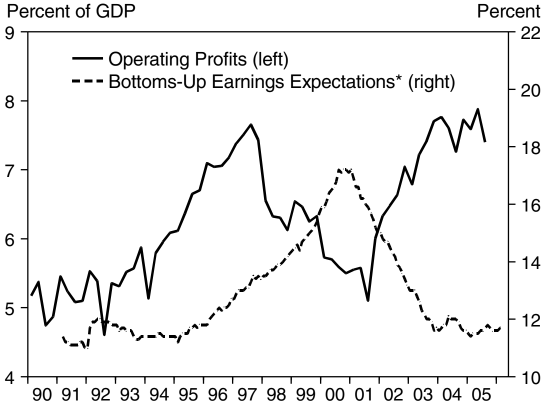
So what other tools besides prudential supervision and regulation are in the Federal Reserve's tool kit? First, the monetary authority can use the "bully pulpit" to caution investors about developing asset bubbles. In the past, this bully pulpit has not always been used in a consistent fashion. For example, although Alan Greenspan warned of "irrational exuberance" in December 1996, by the end of the decade, his emphasis had shifted toward endorsing the productivity boom that was underway. For example, he noted in April 2000[2]:

…the extent of the application of existing technology is still far from complete, plus potential benefits derived from continuing synergies, support a distinct possibility that total productivity growth rates will remain high or even increase further.

Given this endorsement, is it surprising that equity investors made the leap of faith that high productivity growth would keep profits strong and thus kept buying equities at unusually high valuation levels?

In our view, the monetary authority should use the bully pulpit to lean against the wind when market participants may be losing their heads. For example, Fed officials could have pointed out that heightened productivity that generates an investment boom is likely to put pressure on profit margins. Under such circumstances, profit margin pressure would call into question optimistic profit growth forecasts. As shown in Exhibit 4, bottoms-up equity analysts' expectations became increasingly optimistic during the boom even as corporate profit margins peaked in 1997. When expectations become unrealistic, central bankers can serve a useful role by discussing publicly the realism of the assumptions that underpin those expectations.

Exhibit 4: The Tension Between Profit Margins and Exuberant Profit Forecasts



*Five-year estimated growth rate for S&P 500 earnings.
Source: Dept. of Commerce. I/B/E/S.

A second avenue, which Federal Reserve officials have rejected, is the use of stock margin requirements to temper equity market booms. Although we agree that equity margin requirements could have been easily circumvented, the view held by Alan Greenspan and others that margin requirements would not have worked might have been held a bit too strongly. After all, an increase in margin requirements might have been an important signal of the central bank's unhappiness with the degree of market delirium. The combination of use of the bully pulpit and an increase in margin requirements might be more effective in combination than the use of either independently. If an asset bubble is truly irrational, then a strong signal from the central bank that the regime is changing may be sufficient to temper its development.

Clearly, however, the tools at the Fed's disposal are limited. Thus, a fertile ground for research would be to assess what types of new instruments could be developed to help central bankers manage asset bubbles. These might include: (1) broader application of margin rules, (2) additional capital adequacy rules or counterparty risk rules that could limit the degree of leverage and risk within the financial system, (3) increased disclosure requirements for lightly regulated entities, such as hedge funds, and (4) financial asset transaction taxes (the so-called "Tobin tax") designed to discourage speculative activity.

We don't have the answers. Moreover, developing a consensus concerning which new instruments would work best would undoubtedly prove difficult. But exploring this area seems appropriate given that the power of the central bank's supervisory and regulatory oversight over banks to curb excesses has lessened at a time that asset bubbles do not appear to have become less frequent.

Bill Dudley

[2] See "Technology innovation and its economic impact," April 7, 2000, (http://www.federalreserve.gov/boarddocs/speeches/2000/20000407.htm).

Goldman Sachs Financial Conditions Index^{SM}*

	Latest				Contribution to GSFCI Change		
	Week**	Feb	Jan	Dec	3 mo	6 mo	12 mo
GSFCI (index October 20, 2003=100)	100.16	100.17	100.01	100.17	0.02	0.26	0.29
3-month LIBOR (%)	4.94	4.76	4.61	4.49	0.15	0.36	0.66
A-Rated Corporate Bond Yield (%)	5.83	5.75	5.60	5.71	0.08	0.24	0.07
GS Trade-Weighted $ (index 1980=100)	292.00	292.25	291.32	295.70	-0.05	-0.02	0.06
S&P 500 Index	1303.99	1276.65	1278.72	1262.07	-0.16	-0.31	-0.49

* Revised as described in our April 8, 2005, *US Economics Analyst*. ** Ending Wednesday.

Key US Economic Data

	Latest Monthly Data				6 Mo	12 Mo	Next
	’06 Feb	’06 Jan	’05 Dec	’05 Nov	Trend	Trend	Release
Nonfarm Payrolls (ch. thousands)	243	170	145	354	166	171	Apr 7
Unemployment Rate (%)	4.8	4.7	4.9	5.0	4.9	5.0	
Index of Hours Worked (% ch)	-0.1	0.2	0.2	0.4	2.2	2.2	
Average Hourly Earnings (% ch)	0.3	0.4	0.4	0.0	3.9	3.5	
Producer Price Finished Goods Index (% ch)	-1.4	0.3	0.6	-0.4	2.6	3.8	Apr 18
Excluding food and energy	0.3	0.4	0.1	0.2	1.7	1.7	
Consumer Price Index (% ch)	0.1	0.7	-0.1	-0.7	3.0	3.6	Apr 19
Excluding food and energy (% ch)	0.1	0.2	0.1	0.2	2.3	2.1	
Retail Sales (% ch)	-1.3	2.9	0.3	0.9	6.7	6.7	Apr 13
Excluding motor vehicles (% ch)	-0.4	2.6	0.1	-0.3	8.3	8.9	
Industrial Production (% ch)	0.7	-0.3	1.0	0.9	4.3	3.3	Apr 14
Manufacturing	0.0	0.8	0.4	0.8	6.7	4.2	
Capacity Utilization (%)	81.2	80.8	81.2	80.5	80.4	80.2	Apr 14
Manufacturing	80.4	80.5	80.1	79.9	79.8	79.2	
Housing Starts (annual rate, thousands)	2120	2303	1989	2136	2127	2072	Apr 18
Single-family	1800	1843	1613	1803	1764	1722	
Existing Home Sales (% ch)	4.7	-1.2	-4.7	-0.5	-6.9	-0.2	Apr 25
New Home Sales (% ch)	-10.5	-5.3	3.1	-8.0	-28.1	-13.4	Apr 26
Trade Balance (billions, monthly)	--	-68.5	-65.1	-64.5	-65.0	-61.2	Apr 12
Merchandise	--	-73.4	-70.1	-69.4	-70.1	-66.0	
Factory Orders (% ch)	--	-4.5	1.6	3.3	6.7	6.9	Mar 31
Durable Goods	2.6	-8.9	2.5	5.3	4.0	8.1	
Personal Income (% ch)	--	0.7	0.5	0.3	6.4	5.8	Mar 31
Wages and Salaries	--	0.7	0.4	0.1	5.1	5.1	
ISM (NAPM) Index (diffusion index)	56.7	54.8	55.6	57.3	56.8	55.4	Apr 3
Consumer Sentiment U Mich (Feb 1966=100)	86.7	91.2	91.5	81.6	84.1	88.2	Mar 31
Conference Board (1985=100)	101.7	106.8	103.8	98.3	97.2	100.2	Mar 28

Note: Percentage changes are month to month for last four months, annualized for 6- and 12-month trends. 6- and 12-month figures for levels (e.g., unemployment rate) are averages over those periods.

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US Calendar

Focus for the Week Ahead

- We expect the Federal Open Market Committee to hike the federal funds rate to 4.75% and to tinker fairly little with its policy statement beyond the recognition of recent strong economic data (March 28). If Chairman Bernanke wishes to change the overall structure or content of the statement, we think he would be more likely to wait until the May 10 meeting.
- The Conference Board's survey of consumer confidence is apt to remain roughly at its February level, given stability in other measures of confidence in recent weeks (March 28).
- Following several months of brisk spending, due in part to a recovery in vehicle purchases and unusually warm weather, we suspect some softening in consumption occurred in February (March 31).

Economic Releases and Other Events

			Estimate		
Date	**Time**	**Indicator**	**GS**	**Consensus**	**Last Report**
Mon Mar 27	13:00	Treasury 2-Year Note Auction			
Tue Mar 28	**10:00**	**Consumer Confidence (Mar)**	**102.0**	**102.0**	**101.7**
	10:00	Richmond Fed Survey (Mar)	n.a.	n.a.	0
	14:15	FOMC Meeting Results			
Wed Mar 29	8:30	GS Econ Derivs Auction for Crude Oil Inventories			
	8:45	Fed Pres Geithner gives intro remarks at bk conf; NYC			
	9:00	Fed Pres Lacker spks at NY Fed conference; NYC			
	13:00	Treasury 5-Year Note Auction			
	15:00	GS Econ Derivs Auction for EIA Nat'l Gas Storage			
Thu Mar 30	7:00	GS Econ Derivs Auction for Initial Jobless Claims			
	8:30	Initial Jobless Claims	n.a.	+300,000	+302,000
	8:30	**Real GDP–Q4 Final**	**+1.6%**	**+1.7%**	**+1.6%**
	8:30	**Chain-Weight Price Index–Q4 Final**	**+3.3%**	**+3.3%**	**+3.3%**
	8:30	**PCE Core Price Index–Q4 Final**	**+2.1%**	**n.a.**	**+2.1%**
	10:00	Help-Wanted Index (Feb)	n.a.	38	37
	11:00	Kansas City Fed Survey (Mar)	n.a.	n.a.	n.a.
	17:00	GS Analyst Index (Mar)	n.a.	n.a.	60.0
Fri Mar 31	8:30	Fed Pres Hoenig spks on 2006 economic outlook; Missouri			
	8:30	**Personal Consumption (Feb)**	**-0.2%**	**Flat**	**+0.9%**
	8:30	**Personal Income (Feb)**	**+0.4%**	**+0.4%**	**+0.7%**
	8:30	**PCE Core Price Index (Feb)**	**+0.1%**	**+0.1%**	**+0.2%**
	9:45	U. Mich Consumer Sentiment—Final (Mar)	n.a.	87.0	86.7
	10:00	**Factory Orders (Feb)**	**+1.3%**	**+1.0%**	**+1.6%**
	10:00	**Chicago Purchasing Managers' Index (Mar)**	**56.0**	**57.0**	**54.9**

Interest Rates: Forecast vs. Forward Yields

	3 mo	6 mo	12 mo
LIBOR 3-month	**5.10%**	**5.00%**	**4.50%**
Forward	5.13	5.18	5.11
2-Year T-Note	**4.80**	**4.70**	**4.20**
Forward	4.75	4.71	4.68
10-Year T-Note	**4.70**	**4.50**	**4.00**
Forward	4.73	4.74	4.76

Key Numbers in the Business Outlook

	2005	2006			
	Q4	Q1E	Q2E	2005	2006E
Real GDP	1.6%	4.5%	4.0%	3.5%	3.5%
Ind. Prod., Mfg.	9.0	7.0	5.0	3.9	5.4
CPI	3.2	2.1	2.8	3.4	3.0
After-Tax Profits*	5.0E	6.5	2.5	6.9E	5.0
Unemployment	4.9	4.7	4.6	5.1	4.6

* Ex-inventory profits; adjusted for depreciation distortions, yr-to-yr.