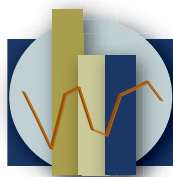


Federal Reserve Bank of Cleveland



# Economic Trends

January 2007

(Covering December 21, 2006 - January 10, 2007)

## In This Issue

### **Economy in Perspective**

Economic Trends in Perspective

### **Inflation and Prices**

Inflation Expectations

Trimmed Mean CPI Inflation

November Price Statistics

### **Money, Financial Markets, and Monetary Policy**

Market Expectations of Policy Rates

Interest Rates, Yields, Outstanding Debt, and Consumer Attitudes

The Yield Curve's Predictive Power

### **International**

Current Account Sustainability

### **Economic Activity**

Labor Market Conditions

ISM Report on Business Activity

Housing

Labor Turnover

Durable Goods

Revised GDP

### **Regional Economic Activity**

Employment Conditions

State Per Capita Personal Income

The Akron MSA

### **Banking and Financial Institutions**

Banking Conditions

*Economic Trends* is published by the Research Department of the Federal Reserve Bank of Cleveland.

Views stated in *Economic Trends* are those of individuals in the Research Department and not necessarily those of the Federal Reserve Bank of Cleveland or of the Board of Governors of the Federal Reserve System. Materials may be reprinted provided that the source is credited.

If you'd like to subscribe to a free e-mail service that tells you when *Trends* is updated, please send an empty email message to **[econpubs-on@mail-list.com](mailto:econpubs-on@mail-list.com)**. No commands in either the subject header or message body are required.

ISSN 0748-2922



# The Economy in Perspective

---

01.10.07

by Mark S. Sniderman

*Economic Trends in Perspective...* The Federal Reserve Bank of Cleveland has been publishing *Economic Trends* since 1981, and for the past 25 years it has looked more or less the same: *Trends* has consisted of 20 to 24 pages of material that briefly analyzed a variety of regional, national, and international economic topics and presented a few graphic images on each page. With this issue, we are breaking new ground—*Economic Trends* is going fully electronic and will be updated regularly on our Web site. Instead of waiting until the second Thursday of each month for the entire issue to be posted, you can now read our analysis as soon as it is written. We are confident that *Trends* readers will benefit by receiving this information with the swiftness that Internet posting allows. At the same time, we still intend to cover some longer-term issues that merit attention.

But *Trends* had another incarnation even before the initial print publication. For as long as anyone can recall, the Bank's Research Department has presented a monthly analysis of economic conditions and monetary policy—complete with visual aids—to the Board of Directors. (Does anyone remember overhead projectors and film transparencies?) In the late 1970s, we began producing hard copy of the transparencies, putting a sentence or two of text on each page, spiral binding the whole set together, and handing them out at Board meetings.

The Bank had always been strongly committed to giving the public reliable, free access to our research and analysis. We soon realized that because our monthly analysis did not contain any confidential information, economists could distribute it to their audiences when they gave speeches to outside organizations. We discovered that people really liked having these booklets and wanted to obtain them regularly. From, there, it was a short hop to recognizing an opportunity for sharing information with the general public through subscription to what you now know as *Economic Trends*.

Even though we have not altered the design of *Trends* much over the years, the technology for producing it has changed a great deal, with ever-more-sophisticated software packages enabling us to move information from databases to charts and tables more quickly and accurately. And now, Web-posting our *Trends* pages on a flow basis, rather than once a month, will enable us to provide the data you want in an even more timely way. The Web format provides other advantages as well. Previously, each *Trends* page had a fixed number of text lines and square inches of graphics. In the Web format, we can tailor the length of text and number of graphics to the topic at hand. Moreover, readers who are interested in particular topics can simply select the pages they want to view and disregard the rest.

With the introduction of the Web-based *Trends*, we are discontinuing our hard-copy production and mailing. Readers can always print out the pages they want to have in paper form, and visitors to the site will be able to print an entire “issue” (30 days of *Trends* postings, in which all the regular *Trends* topics are covered) with a single click at any time. This will give you our most recent set of analysis and graphics whenever you want it, not just on the monthly cycle we followed in past issues.

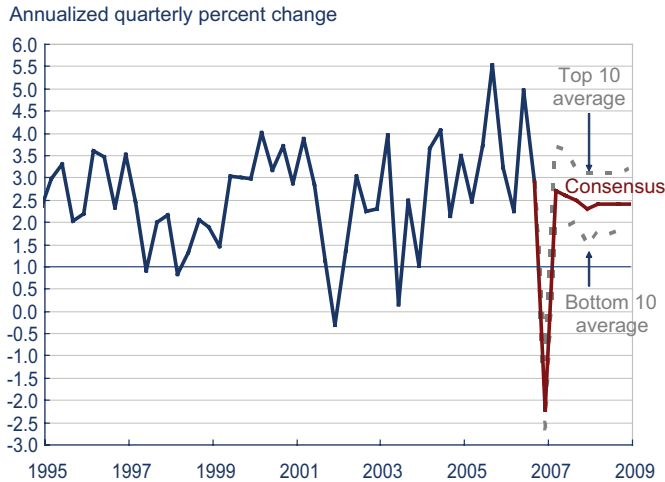
I will continue writing the “Economy in Perspective” feature and posting it in the first half of each month, around the time of our monthly Board meetings. The exact posting dates will be listed on our Web site. If you subscribe to our electronic mailing list, you are already being periodically informed about our new postings. If you are not currently a subscriber, you can become one by going to our Econpubs page. Should you have comments or questions about our new online-only *Trends*, we'd love to hear from you. Check your mail for a survey you can send back to us or send us an email.

# Inflation Expectations

01.10.07

by Michael Bryan and Linsey Molloy

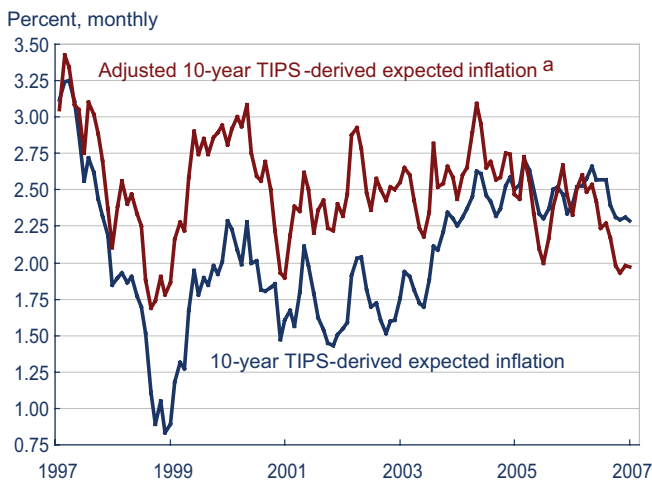
## CPI Inflation and CPI Inflation Forecasts\*



\*Blue Chip panel of economists.  
Source: *Blue Chip Economic Indicators*, January 10, 2007.

Keeping inflation expectations “contained” seems to be an important preoccupation for central bankers. This is because the expectation of higher inflation induces changes in economic behavior that impose costs on the economy, which, over time, are detrimental to long-term prosperity. For example, when people anticipate an increase in inflation—and the corresponding decline in the purchasing power of their money—they are more likely to invest their wealth in real assets, such as land or commodities. This reallocation is a less efficient use of resources than what may have occurred if people didn’t have to seek this inflation-protected form of saving. Rising inflation expectations may also help to perpetuate an otherwise temporary rise in prices, making the job of maintaining price stability more difficult to achieve.

## Market-Based Inflation Expectations\*

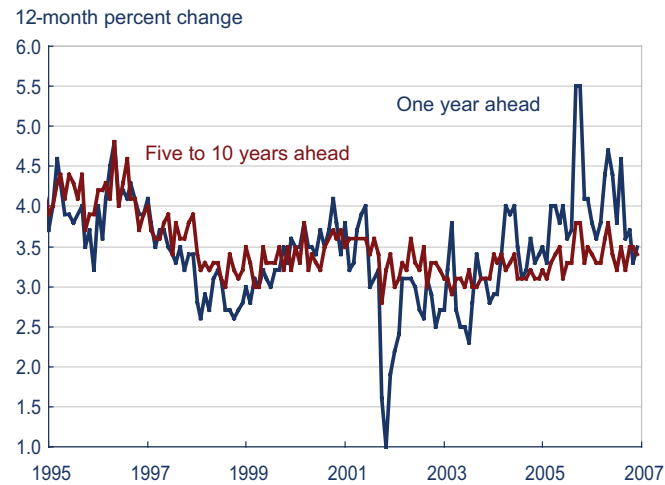


\*Derived from the yield spread between the 10-year Treasury note and Treasury inflation-protected securities.  
a. Ten-year TIPS-derived expected inflation, adjusted for the liquidity premium on the market for the 10-year Treasury note.  
Sources: Federal Reserve Bank of Cleveland; and Bloomberg Financial Information Services.

To gauge inflation expectations, economists turn to a number of sources, including surveys of consumers, financial market data, and economists’ predictions. A recent look at each of these sources shows inflation expectations are running anywhere from 1 to 3-1/2 percent, depending on the source and the period over which inflation expectations are projected (1 to 10 years).

Consumers’ year-ahead inflation expectations were elevated in the wake of Hurricane Katrina and geopolitical issues that drove up the price of oil through last summer but have since tumbled downward. Consumers now anticipate that prices will rise about 3-1/2 percent over the next year. Long-term inflation expectations—which have been slightly higher, on average, over the past couple of years—indicate that consumers anticipate that prices will rise about 3-1/2 percent over the next 5 to 10 years as well.

## Household Inflation Expectations\*

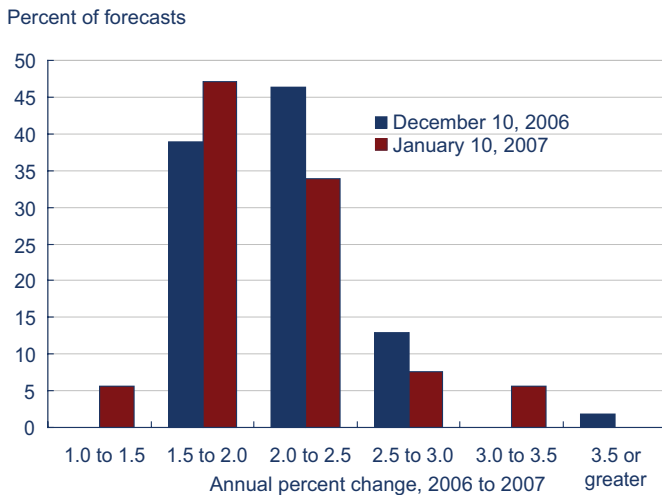


\*Mean expected change as measured by the University of Michigan's *Survey of Consumers*.  
Source: University of Michigan.

One source of data from financial markets that can be used to gauge inflation expectations is a comparison of the returns on Treasury inflation-protected securities (TIPS) and regular (nominal) Treasury securities (click here for data and an overview and here for more detail). TIPS-derived inflation expectations have come down a bit in recent months: Investors now expect prices to rise between 2 and 2 ¼ percent over the next 10 years.

Meanwhile, the Blue Chip panel of economists anticipates that quarterly inflation will fall dramatically in the fourth quarter of 2006 and average about 2-1/2 percent over the next two years. In light of the relatively sanguine inflation report for November, the distribution of 2007 forecasts has shifted downward a bit. In December, the consensus forecast was for a 2.1 percent annual growth rate in the CPI in 2007, with a majority of forecasters predicting a 2 to 2-1/2 percent rise in the CPI. In January, the consensus forecast ticked down to 2 percent, with a majority of forecasters predicting a 1-1/2 to 2 percent rise in the CPI in 2007.

## Distribution of 2007 CPI Forecasts\*

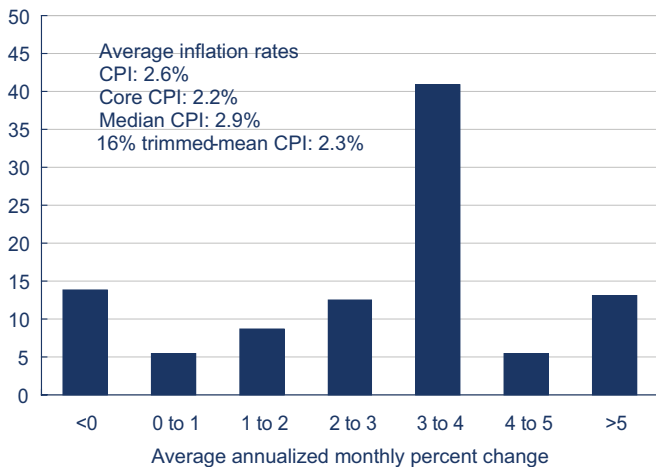


\*Blue Chip panel of economists.  
Sources: *Blue Chip Economic Indicators*, December 10, 2006 and January 10, 2007.

# Trimmed Mean CPI Inflation

## CPI Component Price-Change Distribution, January 1998 to November 2006

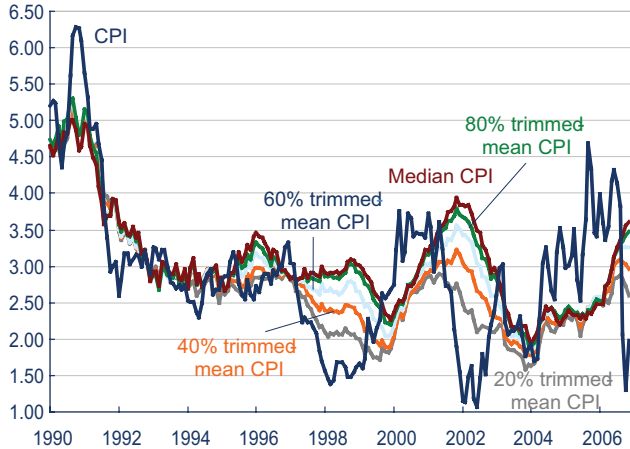
Weighted frequency



Source: U.S. Department of Labor, Bureau of Labor Statistics.

## Trimmed-Mean CPI

12-month percent change



Sources: Department of Labor, Bureau of Labor Statistics; and Federal Reserve Bank of Cleveland.

01.10.07

by Michael Bryan and Linsey Molloy

In a recent speech Governor Kohn of the Federal Reserve System noted that

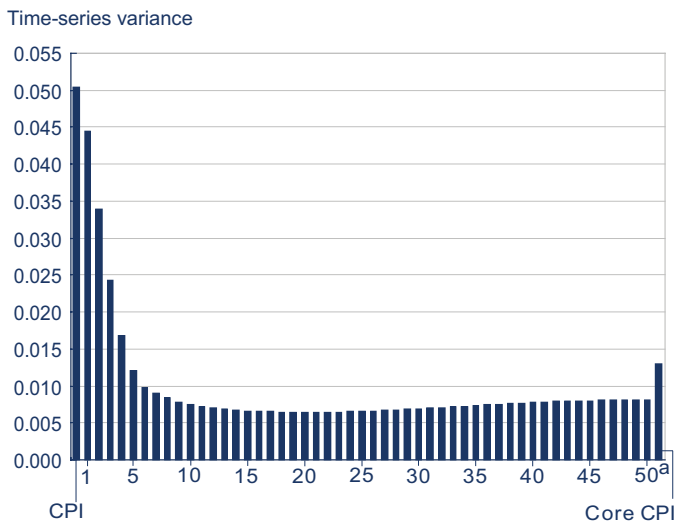
“[c]ertainly, the recent data on consumer prices have been encouragingly consistent with the downward tilt to inflation that the FOMC has been expecting. However, we need to be cautious about extrapolating trends from a couple of months of data. The data themselves are noisy—subject to month-to-month variations that are unrelated to more-persistent developments. And we need to recognize that some of the very recent disinflation may represent one-time influences.”

Separating transitory “noise” from the price data to reveal the more persistent inflation trend that the central bank hopes to control is difficult—and controversial. It is difficult because it is often unclear when a price change is transitory and when it signals a change in the inflation trend. It’s controversial because ignoring certain price signals may be interpreted as a selective and perhaps biased interpretation of the data.

The most common approach to reducing the “noise” in the price data is the so-called Core CPI measure, which excludes the prices of food and energy items. This measure certainly eliminates two of the most volatile, or “noisy” components in the U.S. retail price data. But this approach does not address transitory price fluctuations in other components of the retail market basket. And because it systematically eliminates two components from the retail market basket, it may also bias the inflation measure—if there are long-term movements in the prices of food and energy relative to other goods and services.

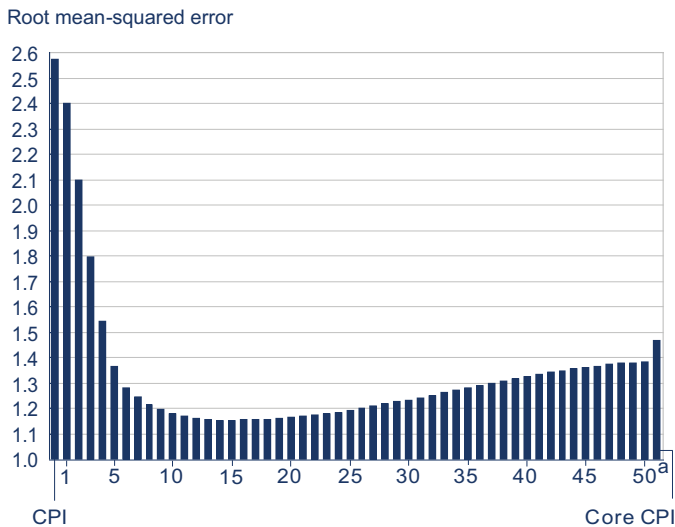
An alternative approach uses “trimmed-mean estimators,” which eliminate any price change above or below a certain threshold, regardless of what the component is. In the CPI, for example, one commonly sees a significant portion of the items in the

## Volatility of One-Month Percent Changes in the Trimmed-Mean CPI Inflation Measures, January 1990 to November 2006



a. The 50 percent trimmed-mean CPI is equivalent to the Median CPI.  
Sources: Department of Labor, Bureau of Labor Statistics; and Federal Reserve Bank of Cleveland.

## Forecast Accuracy of the One-Month Annualized Percent Change in the Trimmed-Mean CPI Inflation Measures in Predicting CPI Inflation over the Next 12 Months



a. The 50 percent trimmed-mean CPI is equivalent to the Median CPI.  
Source: U.S. Department of Labor, Bureau of Labor Statistics; and Federal Reserve Bank of Cleveland.

market basket with price increases well above or below what the inflation trend ultimately is revealed to be.

Where the appropriate threshold lies is unclear, as is the question of which items get excluded from consideration are unclear. We can exclude the most extreme, say 5 percent, from each tail of the price-change distribution, resulting in a “10 percent trimmed-mean” inflation estimate. Or we could calculate a more substantial trim—say 49-1/2 percent from each tail to produce the median CPI.

In December, the 12-month change in the CPI was 2 percent. But the trimmed-mean CPI estimates showed considerably higher trends, ranging from about 2-1/2 percent for the 20 percent trimmed mean, to around 3-1/2 percent for the median CPI. Each trimmed-mean estimate can give a different read on the underlying inflation trend, so which one comes closest to measuring the inflation trend that we ultimately see in the data? We find that once we trim about 8 percent off each tail of the CPI monthly price-change distribution (a 16 percent trimmed mean), we have reduced a substantial amount of the volatility in the monthly data. More extreme trims of the CPI distribution result in nearly the same stability, which means it is hard to distinguish between the relative accuracy of any trimmed-mean CPI estimator from the 16 percent trimmed-mean to the median CPI. And all of these trimmed-mean estimates appear to give a better reading of the inflation trend than the more traditional “core” approach.

How do we know that these trimmed-mean estimators don’t eliminate some of the inflation “signal?” Well, we don’t, and this is always a risk when appealing to any “core” inflation measures when trying to gauge underlying price pressure. Still, repeated tests in the United States and for other nations (for example, Australia) indicate that these trimmed-mean estimators seem to track the future behavior of the CPI better than either the CPI or the more traditional Core CPI.

In other words, whatever is being excluded, or trimmed, from these measures doesn’t seem to be very helpful in telling us where the inflation trend is headed.



# November Price Statistics

## November Price Statistics

|                                      | Percent change, last |                   |                   |       |                   | 2005 avg. |
|--------------------------------------|----------------------|-------------------|-------------------|-------|-------------------|-----------|
|                                      | 1mo. <sup>a</sup>    | 3mo. <sup>a</sup> | 6mo. <sup>a</sup> | 12mo. | 5yr. <sup>a</sup> |           |
| <b>Consumer prices</b>               |                      |                   |                   |       |                   |           |
| All items                            | 0.0                  | -3.9              | -0.2              | 2.0   | 2.6               | 3.6       |
| Less food and energy                 | 0.6                  | 1.6               | 2.3               | 2.6   | 2.0               | 2.2       |
| Median <sup>b</sup>                  | 3.0                  | 3.4               | 3.8               | 3.7   | 2.7               | 2.5       |
| 16 percent trimmed mean <sup>b</sup> | 1.0                  | 1.5               | 2.2               | 2.5   | 2.2               | 2.6       |
| <b>Producer prices</b>               |                      |                   |                   |       |                   |           |
| Finished goods                       | 26.4                 | -3.9              | -0.6              | 0.9   | 2.9               | 5.7       |
| Less food and energy                 | 16.3                 | 3.9               | 1.1               | 1.8   | 1.2               | 1.5       |

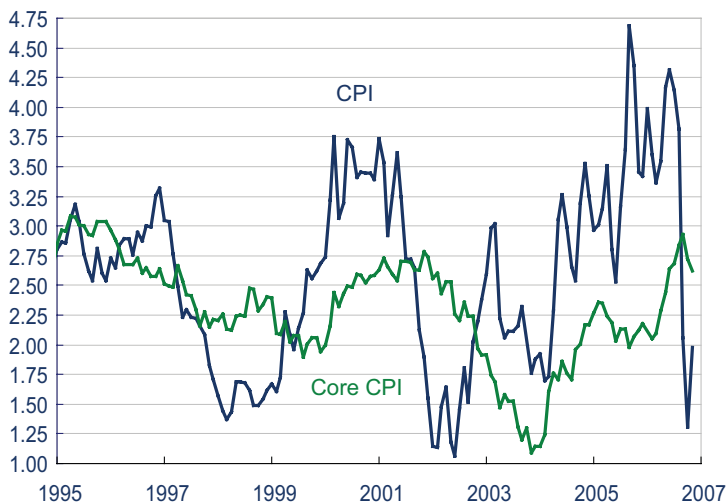
a. Annualized.

b. Calculated by the Federal Reserve Bank of Cleveland.

Sources: U.S. Department of Labor, Bureau of Labor Statistics; and Federal Reserve Bank of Cleveland.

## CPI and CPI Excluding Food and Energy

12-month percent change



Source: U.S. Department of Labor, Bureau of Labor Statistics.

12.21.06

by Michael Bryan and Linsey Molloy

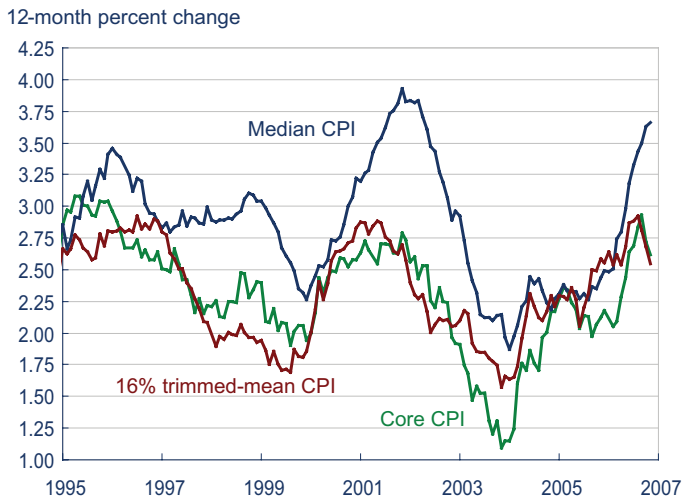
The Consumer Price Index (CPI) was unchanged in November following two months of substantial declines. Monthly growth in the core inflation measures showed a marked deceleration from longer-term trends in November. Like the CPI, the CPI excluding food and energy was also largely unchanged (rose at a 0.6 percent annualized rate) during the month. The 16 percent trimmed-mean CPI, which eliminates 8 percent of weighted components with both the largest and smallest monthly price changes, rose a modest 1.0 percent (annualized rate), while monthly growth in the median CPI has come down a bit to 3.0 percent (annualized rate).

Longer-term inflation trends were still relatively high in November yet appear to be decelerating some from their recent peaks. Both the 12-month growth rate in the CPI excluding food and energy, as well as the 16 percent trimmed-mean CPI, are down over 1/4 percentage point since 2006Q2, yet remain elevated at rates between 2-1/2 and 2-3/4 percent. The longer-term trend of the median CPI, however, continued to accelerate during the month to its highest rate since mid-2002.

While the shorter-term trends in the retail price measures seem to suggest on the surface that inflation rates slowed during the month, the curious component price distribution makes it difficult to identify any underlying trend among retail prices. Indeed, a mere 10 percent of the CPI registered price increases in the 0 percent to 3 percent range—the range which most economists consider to be consistent with the current inflation trend. The monthly price declines offset the sizeable monthly price increases: Either prices were falling (34 percent of the CPI), or rising in excess of 3 percent (about 55 percent).

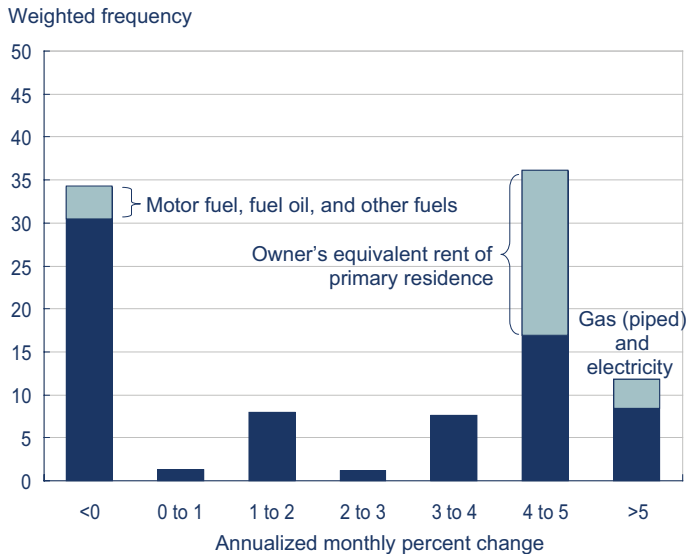


## CPI and Trimmed-Mean CPI Measures\*



\*The Median CPI and the 16% trimmed mean CPI are calculated by the Federal Reserve Bank of Cleveland.  
Sources: U.S. Department of Labor, Bureau of Labor Statistics; and Federal Reserve Bank of Cleveland.

## CPI Component Price Change Distribution

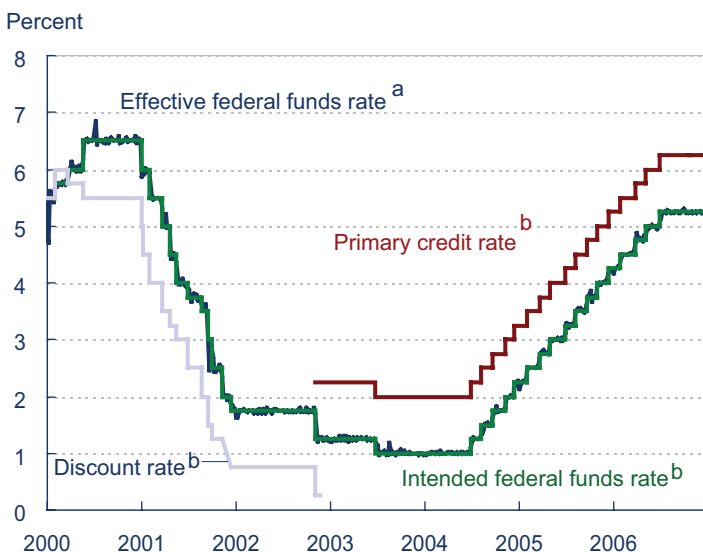


Source: U.S. Department of Labor, Bureau of Labor Statistics.

## Money, Financial Markets, and Monetary Policy

### Market Expectations of Policy Rates

### Reserve Market Rates



a. Weekly average of daily figures.  
b. Daily observations.  
Source: Board of Governors of the Federal Reserve System, "Selected Interest Rates," *Federal Reserve Statistical Releases*, H.15.

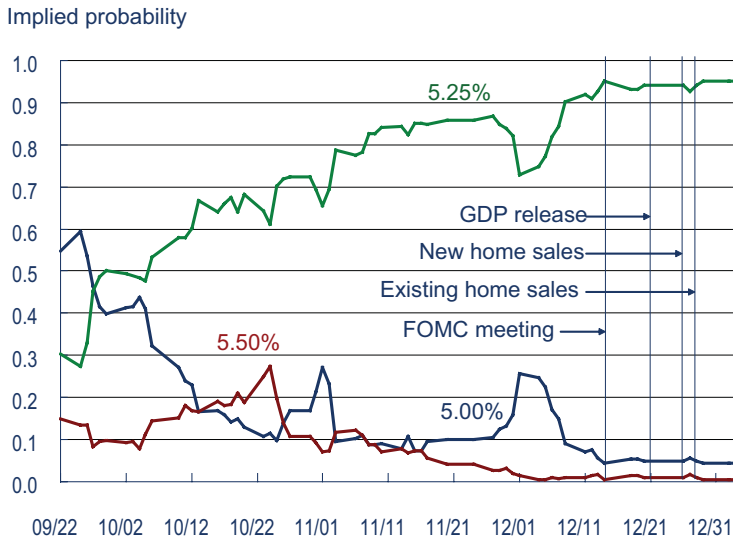
01.04.07

by Bruce Champ and Bethany Tinlin

On December 12, the Federal Open Market Committee (FOMC) decided to leave the federal funds rate unchanged at 5.25 percent. In its statement, the FOMC noted that economic growth had slowed, primarily because of a weak housing market. However, the committee also remarked that "the economy seems likely to expand at a moderate pace on balance over coming quarters." The FOMC expressed some concern about recent data on core inflation but felt that "inflation pressures seem likely to moderate over time." It left open the possibility of additional policy tightening in order to curb potential "inflation risks." Richmond Fed President Jeffrey M. Lacker dissented from the committee's decision, preferring a rate hike of 25 basis points.

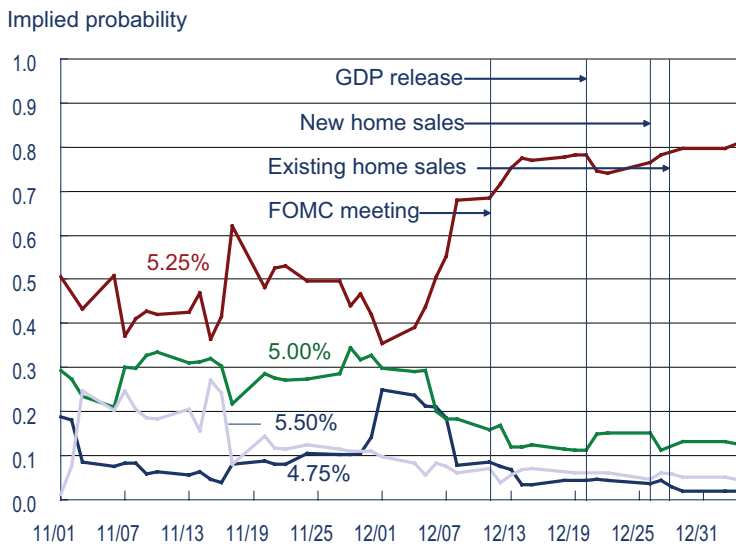
Looking ahead, participants in the federal funds options market currently expect the FOMC to keep the funds rate at 5.25 percent over the next

## Implied Probabilities of Alternative Target Federal Funds Rates, January Meeting Outcome\*



\*Probabilities are calculated using trading-day closing prices from options on January 2007 federal funds futures that trade on the Chicago Board of Trade. Sources: Chicago Board of Trade; and Bloomberg Financial Services.

## Implied Probabilities of Alternative Target Federal Funds Rates, March Meeting Outcome\*



\*Probabilities are calculated using trading-day closing prices from options on March 2007 federal funds futures that trade on the Chicago Board of Trade. Sources: Chicago Board of Trade; and Bloomberg Financial Services.

two meetings. These expectations were moderately reinforced by the December 12 decision. Key data releases, such as revisions in third-quarter GDP and data on home sales, had only minor impact on expectations regarding the future course of monetary policy. The minutes of the December meeting, released on January 3, seemed to jar recent investor optimism. Market participants focused on the extent of the FOMC's concern regarding the housing market slowdown, and the minutes' release prompted a sharp decline in the stock market. However, the release of the minutes had little impact on expectations regarding future monetary policy.

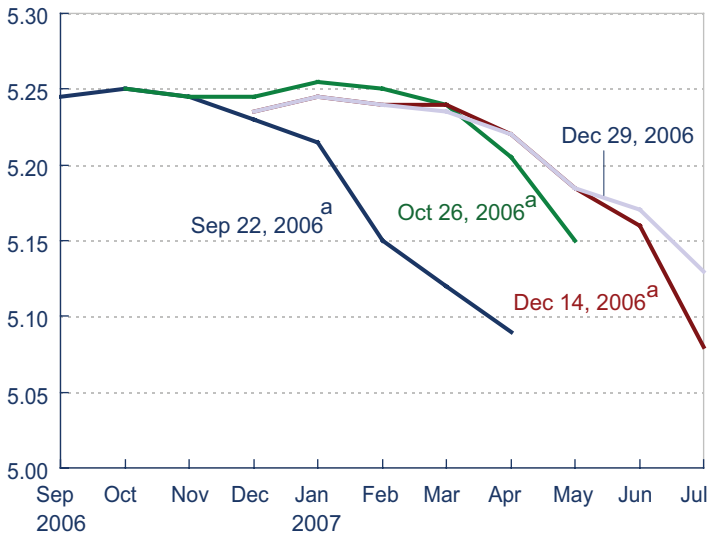
Currently, participants place more than a 95 percent probability on the committee keeping the funds rate at 5.25 percent at the January meeting. Looking further ahead toward the FOMC's March meeting, participants overwhelmingly expect no change in policy, although a 13 percent probability is placed on a cut of 25 basis points in the funds rate at that meeting. Participants in the federal funds futures markets also see the possibility

Eurodollar futures, which provide a longer-run perspective on the expected course of monetary policy, similarly point policy change over the coming months. Participants in this market expect the FOMC to lower rates throughout 2007; however, they also expect a fairly quick round of policy easing, with rate hikes in 2008.

During the last round of policy tightening, from June 2004 to June 2006, the real federal funds rate, defined as the effective nominal federal funds rate less core PCE inflation, rose more than 370 basis points. Currently, the nominal funds rate stands near the upper end of the range suggested by the Taylor rule, with a target inflation rate of between one and three percent. The Taylor rule views the federal funds rate as a reaction to a weighted average of inflation, target inflation, and economic growth.

## Implied Yields on Federal Funds Futures\*

Percent



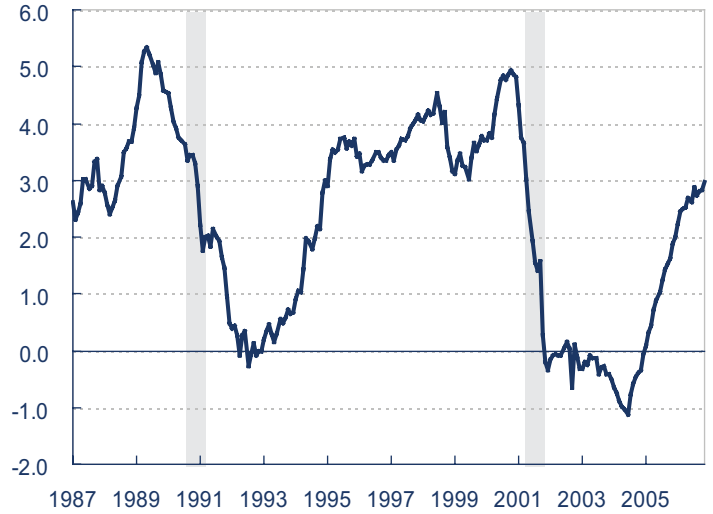
\*All yields are from constant-maturity series.

a. One day after FOMC meeting.

Source: Bloomberg Financial Information Services.

## Real Federal Funds Rate\*

Percent

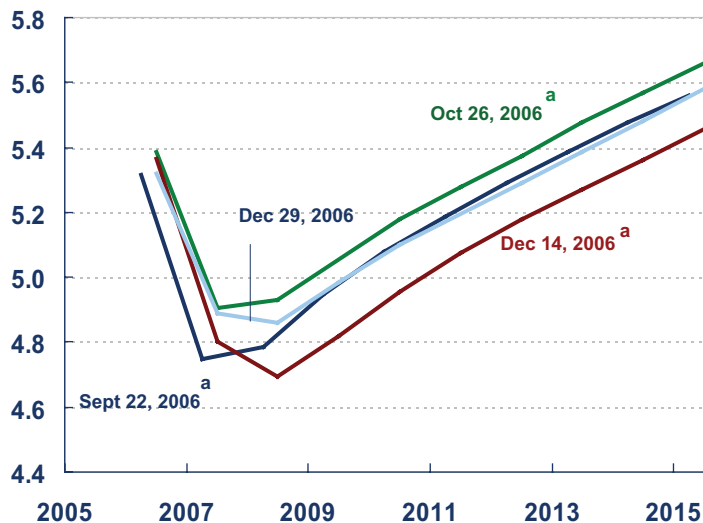


\*Defined as the effective federal funds rate deflated by the core PCE. Shaded bars represent periods of recession.

Sources: U.S. Department of Commerce, Bureau of Economic Analysis; Board of Governors of the Federal Reserve System, "Selected Interest Rates," *Federal Reserve Statistical Releases, H.15*; Federal Reserve Bank of Philadelphia; and Bloomberg Financial Information Services.

## Implied Yields on Eurodollar Futures

Percent

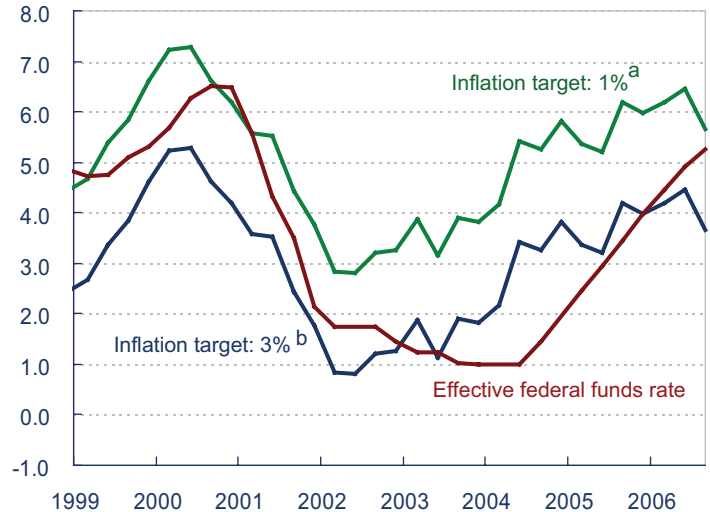


a. One day after FOMC meeting.

Source: Bloomberg Financial Information Services.

## Taylor Rule\*

Percent



\*The formula for the implied funds rate is taken from the Federal Reserve Bank of St. Louis, *Monetary Trends*, January 2002, which is adapted from John B. Taylor, "Discretion versus Policy Rules in Practice," *Carnegie-Rochester Conference Series on Public Policy*, vol. 39 (1993), pp. 195-214.

a. This line assumes an interest rate of 2.5 percent and an inflation target of 1 percent.

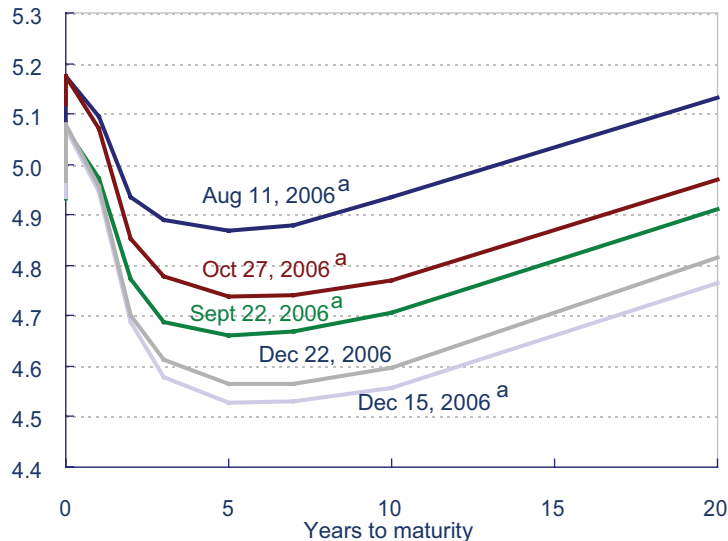
b. This line assumes an interest rate of 1.5 percent and an inflation target of 3 percent.

Sources: U.S. Department of Commerce, Bureau of Economic Analysis; Board of Governors of the Federal Reserve System, "Selected Interest Rates," *Federal Reserve Statistical Releases, H.15*; Federal Reserve Bank of Philadelphia; and Bloomberg Financial Information Services.

# Interest Rates, Yields, Outstanding Debt, and Consumer Attitudes

## Yield Curve

Percent, weekly average

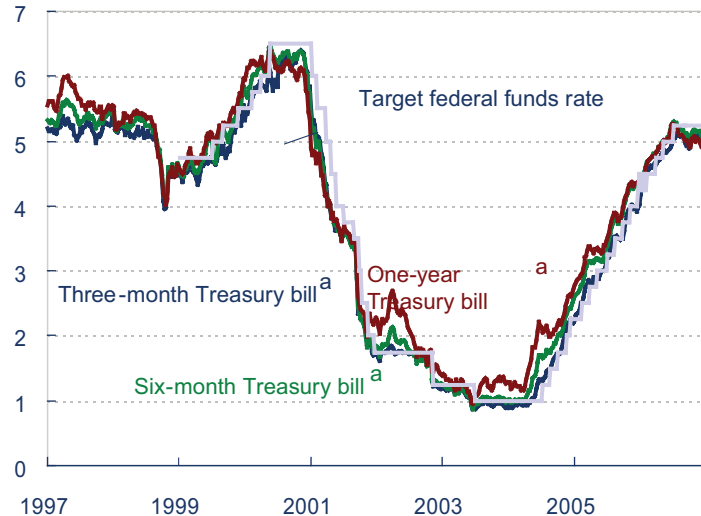


a. Friday after the FOMC meeting.

Sources: Board of Governors of the Federal Reserve System, "Selected Interest Rates," *Federal Reserve Statistical Releases*, H.15; and Bloomberg Financial Information Services.

## Short-term Interest Rates

Percent, weekly



a. Yields from constant-maturity series.

Sources: Board of Governors of the Federal Reserve System, "Selected Interest Rates," *Federal Reserve Statistical Releases*, H.15; and Bloomberg Financial Information Services.

01.02.07

by Bruce Champ and Bethany Tinlin

The yield curve remained inverted in December, with the yield on 10-year Treasury securities nearly 40 basis points below that on the 1-year Treasury bill. An inverted yield curve has been a feature of the data throughout the summer and fall months of 2006. Historically, inverted yield curves have often preceded recessions. However, an inverted yield curve can also be consistent with the Federal Reserve's ability to contain long-run inflationary expectations. For an analysis of the predictive power of the yield curve, see "The Yield Curve's Predictive Power."

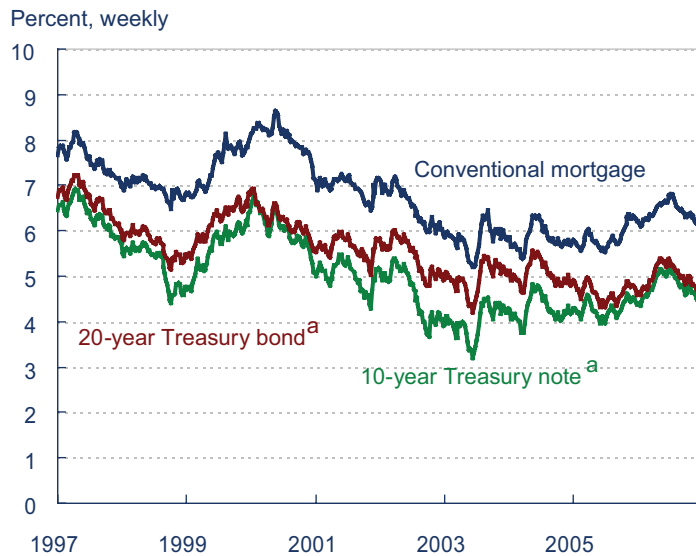
Short-term interest rates increased step in step with the federal funds rate during the last round of tightening by the Federal Open Market Committee. Over the two-year round of policy tightening, the 90-day Treasury bill rate increased more than 350 basis points.

Nominal yields on long-term Treasury securities have trended downward since policy tightening ended in late June. Since that point in time, the yield on 10-year Treasury notes has fallen nearly 70 basis points, resulting in the strongly inverted yield curve we observe today. The decline in long-term Treasury rates has been mimicked by a nearly identical fall in conventional mortgage rates over the same period.

Due to strong and liquid corporate balance sheets, risk premiums on corporate debt remain at historically low levels. Since January 2004, the spread between yields on AA-rated debt and the 10-year Treasury rate have varied little, averaging slightly over one basis point. However, risk premiums on lower-rated corporate debt have been higher and more volatile over that period.

Home mortgage debt continued to rise at double-digit rates in the third quarter of 2006, albeit at

## Long-term Interest Rates



a. Yields from constant-maturity series.  
Sources: Board of Governors of the Federal Reserve System, "Selected Interest Rates," *Federal Reserve Statistical Releases, H.15*; and Bloomberg Financial Information Services.

more modest rates than those observed earlier in the year. Nonrevolving consumer credit growth continued to slow. Much of this slowdown is attributed to a decline in vehicle sales. Monthly data demonstrate a marked slowdown in consumer credit outstanding during October. Nonetheless, levels of consumer debt remain at historically high levels. However, despite high levels of consumer debt, delinquency rates on consumer loans remain subdued.

The Conference Board's Index of Consumer Confidence rose markedly in December, after falling modestly in October and November. December's increase placed the index at its highest level since April. Both the present conditions and expectations component of the index registered increases. Consumer perceptions of conditions in the labor market improved, according to the survey.

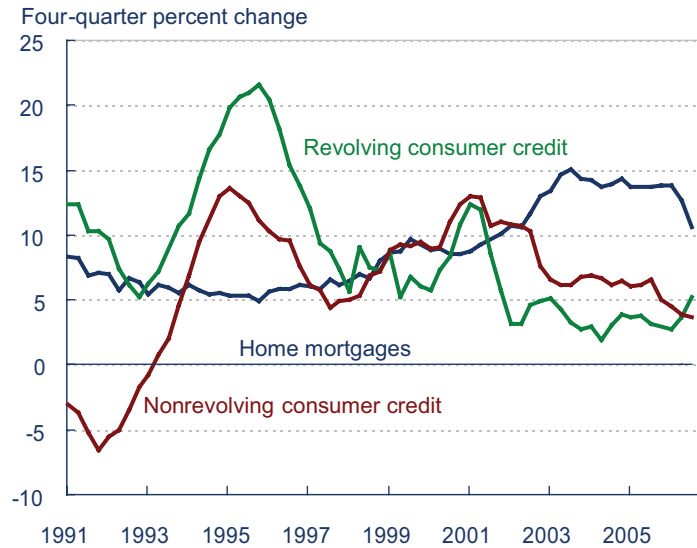
In contrast, the University of Michigan Consumer Sentiment Index fell slightly in December. After reaching its highest level since July 2005 in the October survey, the index has fallen modestly during the last two months. The expectations component of the index fell two points from November to December. However, the current conditions component of the index actually rose in December. Lower gasoline prices appear to be an important factor improving consumers' views about their current conditions. According to the Michigan survey, household inflation expectations fell slightly in December, with the one-year ahead inflation expectation at 2.9 percent.

## Yield Spreads: Corporate Bonds Minus the Ten-Year Treasury Note\*



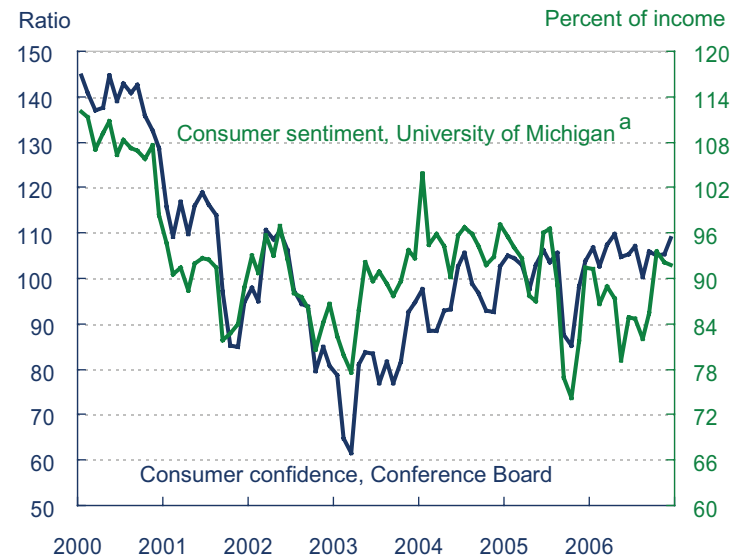
\*Merrill Lynch AA, BBB, and High Yield Master II indexes, each minus the yield on the 10-year Treasury note.  
Sources: Board of Governors of the Federal Reserve System, "Selected Interest Rates," *Federal Reserve Statistical Releases, H.15*; and Bloomberg Financial Information Services.

## Outstanding Debt



Source: Board of Governors of the Federal Reserve System.

## Consumer Attitudes

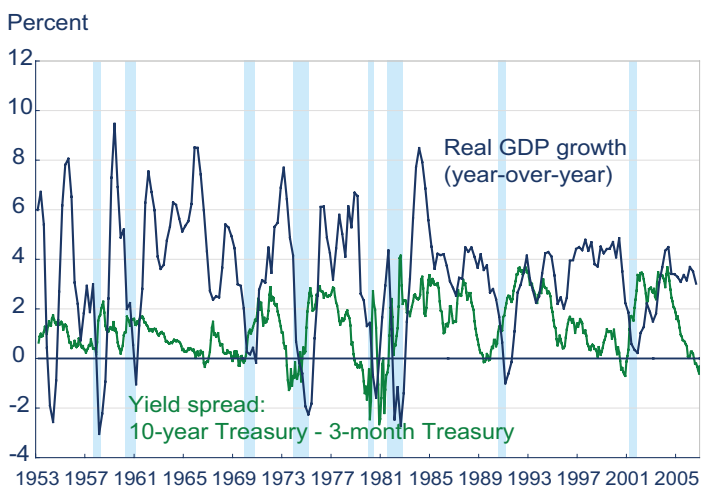


a. Data are not seasonally adjusted.  
Sources: University of Michigan; and the Conference Board.

## Money, Financial Markets, and Monetary Policy

### The Yield Curve's Predictive Power

#### Yield Spread and Real GDP Growth\*



\*Shaded areas represent recessions.  
Sources: Department of Commerce, Bureau of Economic Analysis;  
Board of Governors of the Federal Reserve System.

12.21.06

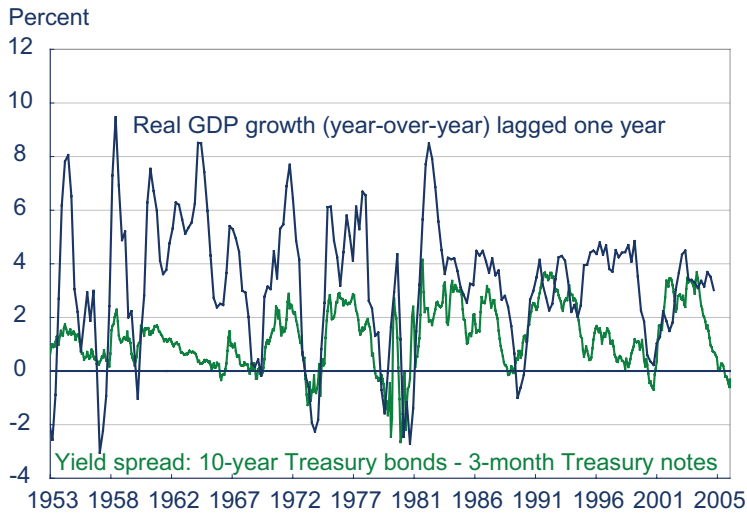
by Joseph G. Haubrich and Brent Meyer

The slope of the yield curve has achieved some notoriety as a simple forecaster of economic growth. The rule of thumb is that an inverted yield curve (short rates above long rates) indicates a recession in about a year, and yield curve inversions have preceded each of the last six recessions (as defined by the NBER). Very flat yield curves preceded the previous two, and there have been two notable false positives: an inversion in late 1966 and a very flat curve in late 1998. More generally, though, a flat curve indicates weak growth, and conversely, a steep curve indicates strong growth. One measure of slope, the spread between 10-year bonds and 3-month T-bills, bears out this relation, particularly when real GDP growth is lagged a year to line up growth with the spread that predicts it.

Lately, the yield curve has some forecasters worried. One reason for concern is that the spread is currently negative: with 10-year rate at 4.56 percent



## Yield Spread and Lagged GDP Growth



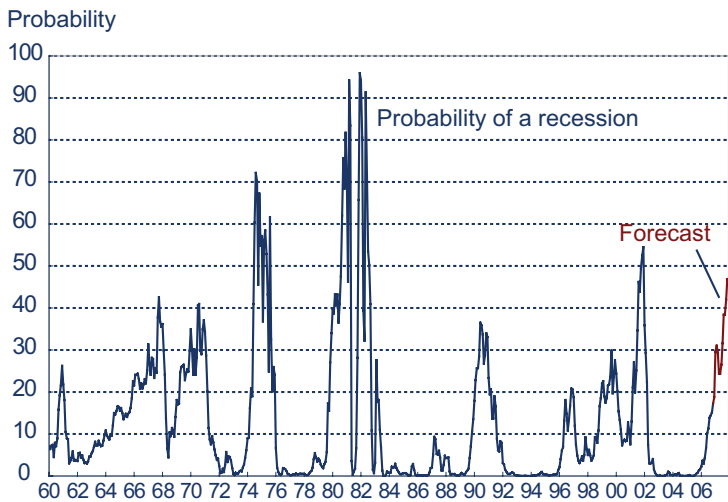
Sources: Department of Commerce, Bureau of Economic Analysis; Board of Governors of the Federal Reserve System.

and the 3-month rate at 4.93 percent (both for the week ending December 15), the spread stands at a negative 37 basis points, and indeed has been in the negative range since August. Projecting forward using past values of the spread and GDP growth suggests that real GDP will grow at about a 1.4 percent rate over the next year.

While such an approach predicts when growth is above or below average, it does not do so well in predicting the actual number, especially in the case of recessions. Thus, it is sometimes preferable to focus on using the yield curve to predict a discrete event: whether or not the economy is in recession. Looking at that relationship, the expected chance of a recession in the next year is 44 percent.

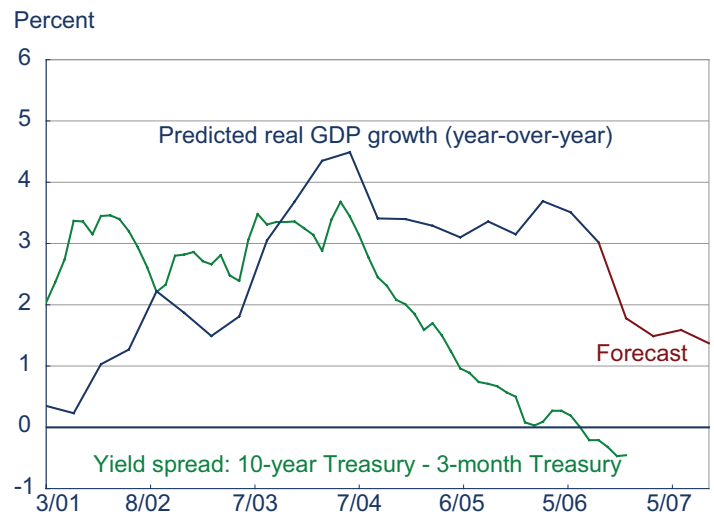
For an extended discussion of using the yield curve to predict output and recessions, see the Commentary, “Does the Yield Curve Signal Recession?”

## Probability of Recession Based on the Yield Spread\*



\*Estimated using probit model.  
Sources: Department of Commerce, Bureau of Economic Analysis; Board of Governors of the Federal Reserve System.

## Yield Spread and Predicted GDP Growth



Sources: Department of Commerce, Bureau of Economic Analysis; Board of Governors of the Federal Reserve System.

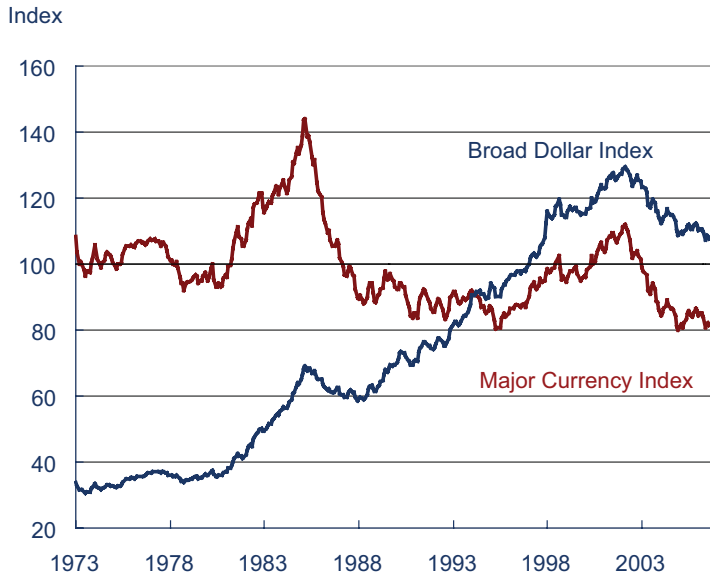


# Current Account Sustainability

01.03.07

by Owen F. Humpage and Michael Shenk

## Foreign Exchange Indexes\*



\*The Major Currency Index includes large industrialized countries; the Broad Dollar Index includes these plus the important developing countries. Source: Board of Governors of the Federal Reserve System, "Foreign Exchange Rates," *Federal Reserve Statistical Releases*, H.10.

The dollar has softened a bit since early October, largely because of changing beliefs about the probable course of monetary policies here and abroad. Market participants seem to believe that the Federal Reserve will move to lower the federal funds target sometime this year and that the European Central Bank and the Bank of Japan are likely to raise their target rates.

Leveraging the impact of changing beliefs about monetary policy, however, is the longer-held expectation that the dollar must depreciate to correct what has become an unsustainable U.S. balance-of-payments pattern. The United States has financed a nearly unbroken twenty-year string of current account deficits by issuing financial claims in unprecedented amounts. Many observers fear that the market is becoming saturated with dollar-denominated assets. They warn of portfolio diversification accompanied by sharp dollar depreciation and higher U.S. interest rates. Projections of a hard landing have been around for a number of years now, but so far the landing has been nothing if not soft. Current account deficits are likely to persist for the foreseeable future, and their financial burden will set the general tone for the dollar.

## Foreign Exchange Rates\*

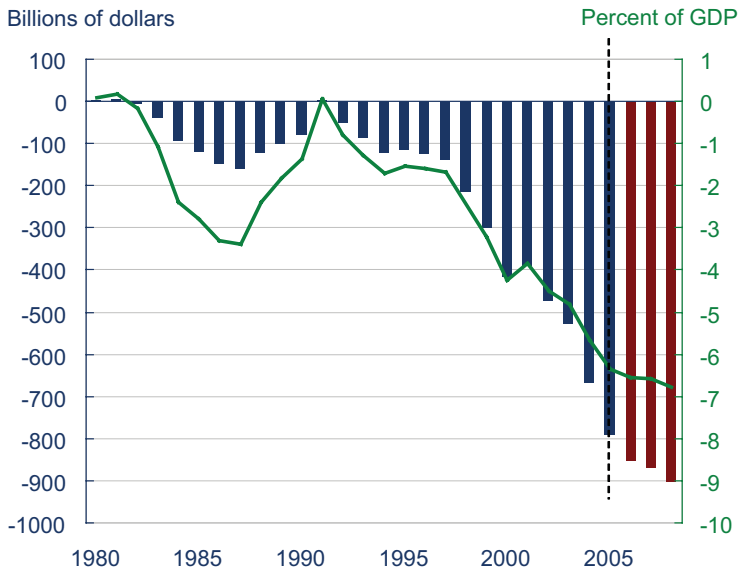


\*Foreign currency units per dollar. Source: Bloomberg Financial Information Services.

The United States has run a current account deficit every year save one since 1982; this is likely to continue for the foreseeable future. Although the current account incorporates more than trade in goods and services, our propensity to import more goods than we export largely explains the current account deficit.

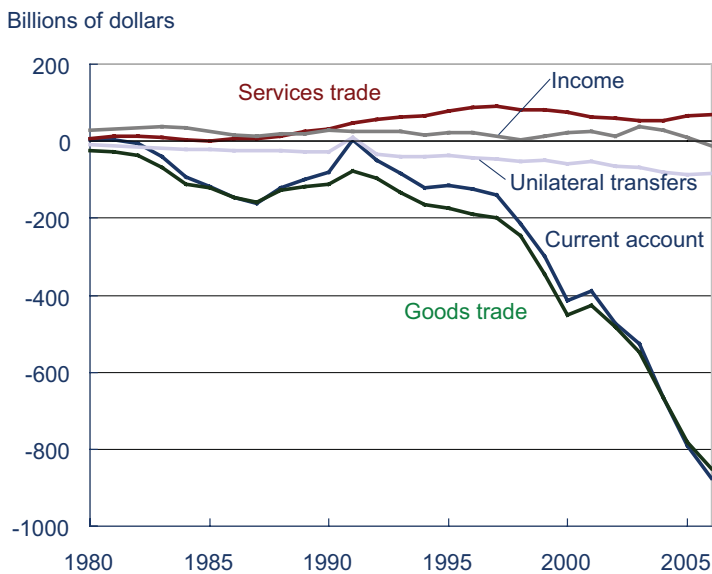
The United States pays for its surfeit of imports by issuing financial claims (for example, stocks, bonds, Treasury securities, and bank accounts) to the rest of the world. Private individuals and organizations hold most of these claims, but foreign governments, their central banks, and international agencies own a significant share. Governments such as China, Japan, and the oil-producing nations often add a

## Current Account Balance\*



\*Data for 2006 are quarterly data shown at an annual rate.  
Source: U.S. Department of Commerce, Bureau of Economic Analysis.

## Components of Current Account\*



\*Data for 2006 are authors' estimates.  
Source: U.S. Department of Commerce, Bureau of Economic Analysis.

substantial portion of these claims to their official foreign exchange reserves.

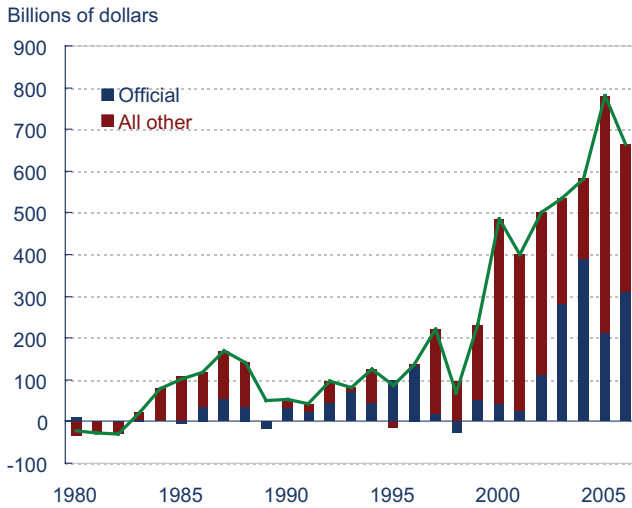
Since 1986, foreigners have held more financial claims against the United States than U.S. residents have held against them, giving us a negative net international investment position. In 2005, the last year for which we have complete information, foreigners' net claims against the United States equaled approximately \$2.7 trillion, mostly held by the private sector in a relatively liquid form. Official reserves, for example, amount to 17 percent of foreign financial claims on the United States, and direct investments, which presumably are relatively illiquid, amount to 15 percent of these claims.

Because these ultimately are claims on future U.S. output, we typically gauge their size relative to GDP. In 2005, the net stock of outstanding foreign claims against the United States amounted to 22 percent of GDP. Given projections for this year's current account deficit, our negative net international investment position could reach \$3.5 trillion (approximately 27 percent of GDP) this year.

The ratio has increased sharply since 1999, but it cannot rise indefinitely. As foreign portfolios become saturated with dollar-denominated assets, global investors will become increasingly reluctant to hold additional dollar-denominated assets without compensation for the risk of doing so. They may eventually begin to diversify their portfolios out of dollars. Should we reach this point, the dollar will depreciate and U.S. interest rates will rise. The dollar depreciation will help reduce the current account deficit by raising the dollar price of foreign goods, lowering the foreign-currency price of U.S. goods, and shifting worldwide demand towards U.S. markets. The rise in interest rates will reduce investment in the United States and encourage saving.

Economists are fairly certain about the nature of these adjustments. Nevertheless, no one knows when they might commence, how long they might take, or how disruptive they may be.

## Net Financial Flows\*

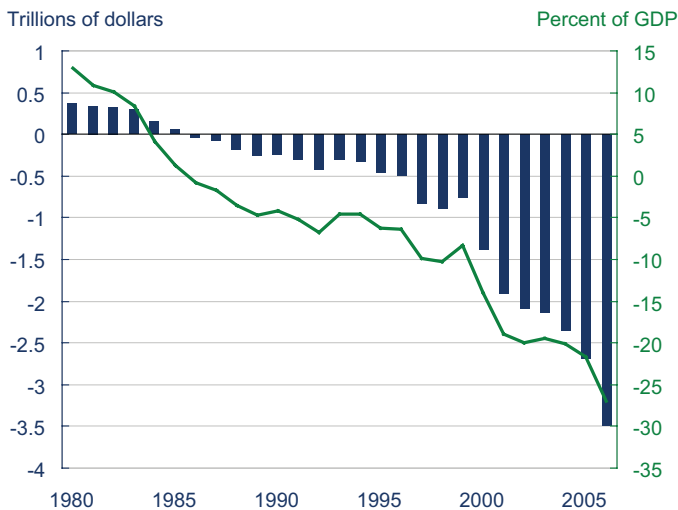


\*Data for 2006 are authors' estimates.  
Source: U.S. Department of Commerce, Bureau of Economic Analysis.

A change in investment and savings patterns is a necessary, but often forgotten, aspect of the adjustment pattern. A country's savings and investment pattern corresponds to its current account position. A nation, like the United States, that maintains a current account deficit also invests more than it saves. Foreign savings, channeled into the country when foreigners buy U.S. financial instruments, makes up the difference between domestic investment and savings.

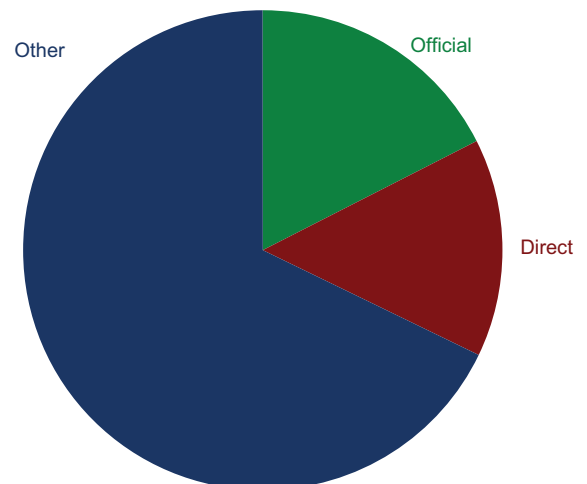
The pattern of investment and savings in a deficit country often has implications for the sustainability of its negative net international investment position. Throughout most of the 1990s, for example, foreign savings went to support an investment boom in the United States. Both investment and savings rose as a share of GDP. The added capital seemed to boost the pace of our long-term economic growth, making it easier—in terms of foregone domestic consumption—to service and repay foreign financial claims on the United States. Since 2000, however, investment has fallen along with domestic savings. Inflows of foreign savings have financed consumption spending—notably government spending—in the United States. This pattern is not likely to foster the economic growth necessary to repay our foreign obligations without a drop in private domestic consumption.

## Net International Investment Position\*



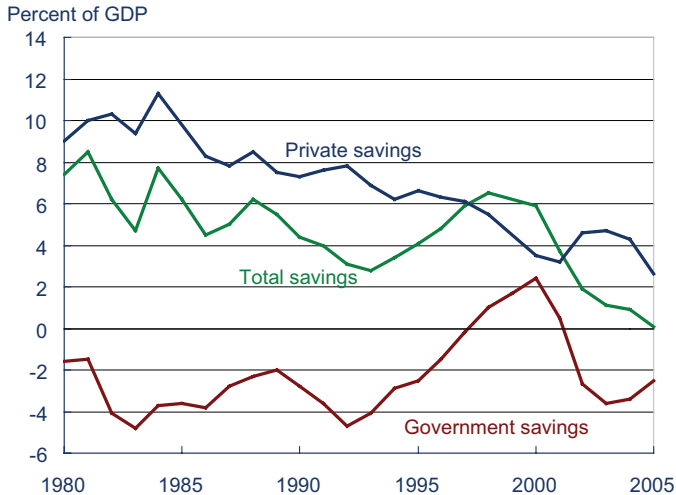
\*Data for 2006 are authors' estimates.  
Source: U.S. Department of Commerce, Bureau of Economic Analysis.

## Composition of Foreign Claims



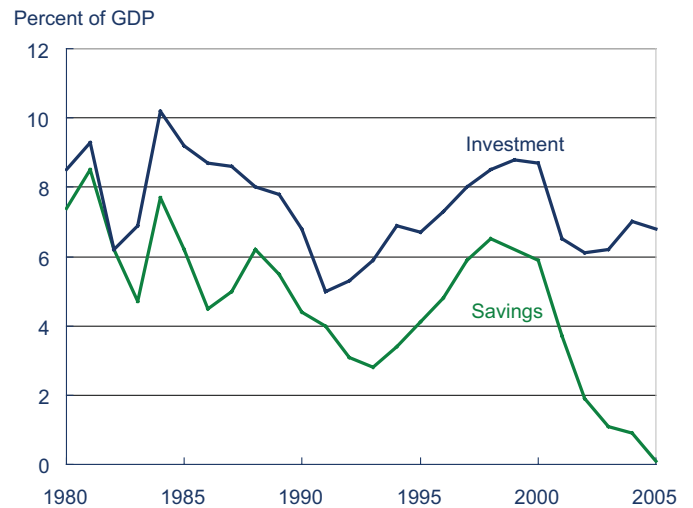
Source: U.S. Department of Commerce, Bureau of Economic Analysis.

## Net Savings: Private and Government



Source: U.S. Department of Commerce, Bureau of Economic Analysis.

## Net Savings and Investment

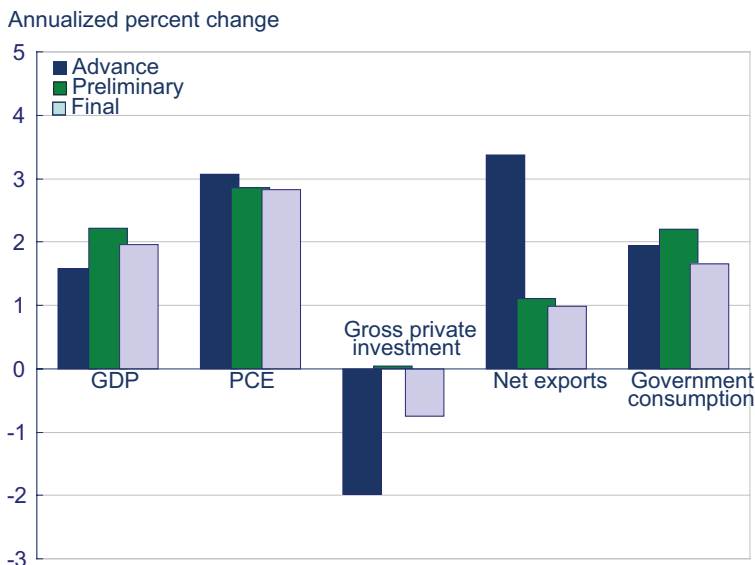


Source: U.S. Department of Commerce, Bureau of Economic Analysis.

## Economic Activity and Labor Markets

### Revisions to Real GDP

#### Revisions to Real GDP: 2006:IIIQ



Sources: U.S. Department of Commerce, Bureau of Economic Analysis.

12.22.06

by David E. Altig and Brent Meyer

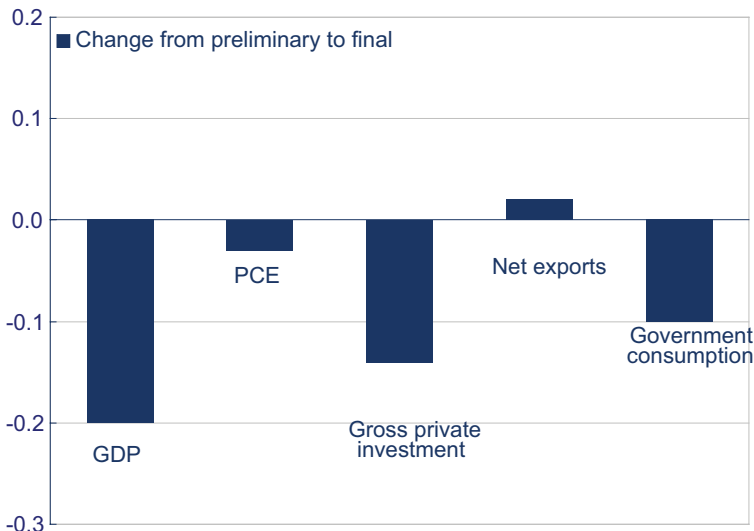
There will be another revision in July 2007—as there is every year—but until then the final word from the Bureau of Economic Analysis is that real Gross Domestic Product grew at an annualized rate of just under 2 percent in the third quarter. This is slightly below the preliminary estimate issued in November, but still above the growth rate estimate in October’s advance report.

There is both unpleasant and (maybe) not-so-unpleasant news buried in the details of the latest revision. The single largest reason for the decline in the growth estimate from the preliminary report was a downgrading of private investment spending.

The unpleasantness came by way of the fact that part of the decline in the investment estimate was a reflection of the ongoing weakness in residential investment. But the largest factor was a revision in the estimated pace at which businesses accumulated inventories over the quarter.

## Contributions to Revisions in Contributions to Real GDP, 2006:IIIQ

Annualized percent change



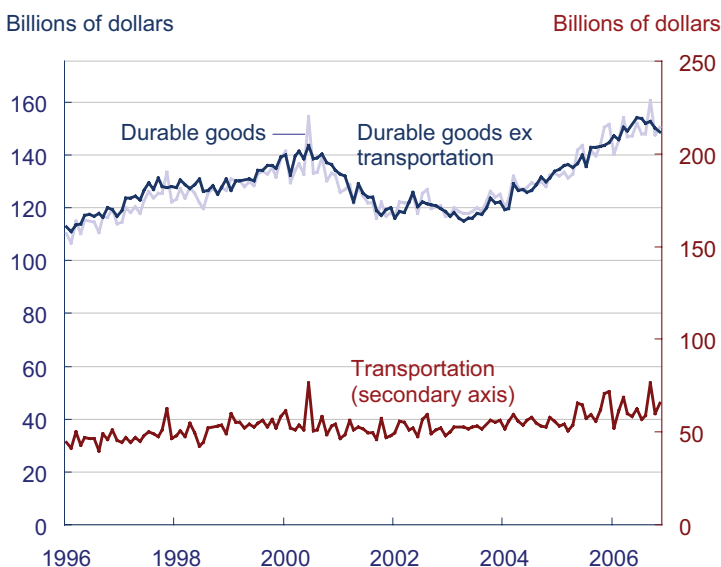
Sources: U.S. Department of Commerce, Bureau of Economic Analysis.

That's the maybe not-so-unpleasant news. To the extent that an accumulation of inventories is either unwanted or intended to build desired ratios relative to sales, a slower pace of inventory build-up would be consistent with one less potential drag on production going forward, small though it may be.

## Economic Activity and Labor Markets

### Durable Goods Orders and Personal Income and Consumption Reports

#### Durable Goods Orders



Source: U.S. Department of Commerce, Bureau of the Census.

12.27.06

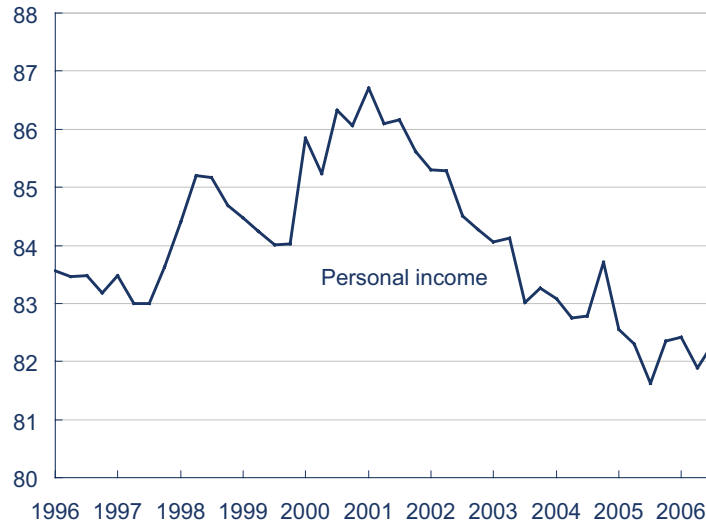
by Ed Nosal and Michael Shenk

Durable goods orders rose 1.9 percent in November, reversing October's decline of 8.2 percent. However, if transportation is excluded, total durable goods orders fell 1.1 percent. Analysts often exclude transportation to discern the underlying trend in orders. Aircraft, which are part of transportation, are very expensive. If large numbers are ordered, as sometimes happens, the industry can dominate the series. For example, the October number was big and negative, primarily because of hefty aircraft orders in September. The figure below illustrates aircraft's effect on total durables.

It shows durable goods excluding transportation orders (the dark blue line) as a smoothed version of total durable goods orders. The red line represents transportation orders alone.

## Growth in GDP and Personal Income

Percent of GDP



Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Personal income, which rose 0.3 percent in November, and consumption, which increased 0.5 percent, are used as inputs in constructing the GDP series.

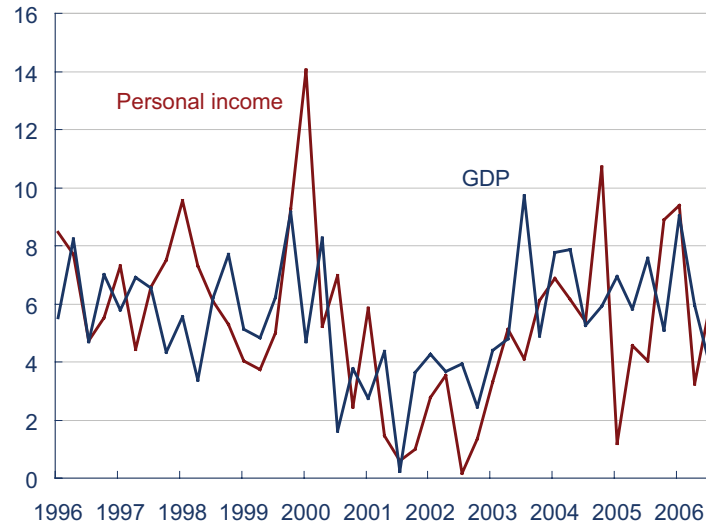
Over the past five years, personal income as a fraction of GDP has fallen fairly steadily from a high of nearly 87 percent to slightly over 82 percent.

This decline is consistent with observed increases in corporate profits as a share of GDP. Although personal income accounts for a huge fraction of GDP, the quarterly growth rates for personal income and the GDP series behave quite differently.

The personal income series seems more volatile than the GDP series. The chart above suggests the need for caution when using monthly personal income data to estimate quarterly GDP growth.

## Personal Income as a Share of GDP

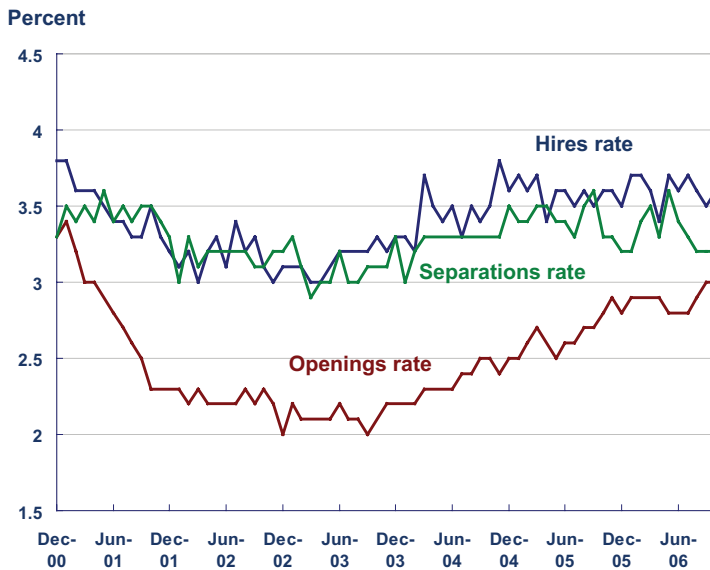
Annualized percent change, quarterly



Source: U.S. Department of Commerce, Bureau of Economic Analysis.

## Labor Turnover

### Labor Turnover



Source: U.S. Department of Labor, Bureau of Labor Statistics, *Job Openings and Labor Turnover Survey*, November 2006.

### Average Net Hires Rate by Industry, 2004 – October 2006

|                               | Percent |             |           |              |
|-------------------------------|---------|-------------|-----------|--------------|
|                               | Hires   | Separations | Net hires | Job openings |
| Total private                 | 4.0     | 3.8         | 0.24      | 2.8          |
| Mining                        | 3.4     | 2.9         | 0.46      | 1.8          |
| Construction                  | 5.5     | 5.3         | 0.19      | 1.8          |
| Manufacturing                 | 2.5     | 2.6         | -0.07     | 1.9          |
| TPU <sup>a</sup>              | 4.0     | 3.8         | 0.13      | 2.3          |
| Information                   | 2.4     | 2.5         | -0.08     | 3.1          |
| FIRE <sup>b</sup>             | 2.4     | 2.3         | 0.11      | 2.8          |
| PBS <sup>c</sup>              | 5.2     | 4.6         | 0.57      | 3.7          |
| Education and health services | 2.7     | 2.4         | 0.31      | 3.4          |

a. Transportation and public utilities.

b. Finance, insurance, and real estate.

c. Professional and business services.

Source: U.S. Department of Labor, Bureau of Labor Statistics, *Job Openings and Labor Turnover Survey*, November 2006.

12.29.06

by Murat Tasci and Laura Kleinhenz

One of the more useful recent additions to the menu of government statistics available to economic analysts is the Bureau of Labor Statistics' Job Openings and Turnover Survey, commonly referred to as JOLTS. The survey, begun in 2001, provides data on employment, job openings, hires, quits, layoffs, discharges, and other separations from employment.

The net hires rate—the difference between the hires rate and the rate of job separations of all sorts—has been positive since September 2005, consistent with the employment growth evident from the usual payroll and household surveys released on the first Friday of every month. The detail available from JOLTS makes it clear that a big part of the story behind the employment picture this year has been the recent decline in separations rate. At 3.2 percent, this is the lowest separations rate since January 2004. Furthermore, the job openings rate—a measure of job availability—has been increasing steadily, implying a growing demand for labor.

Most of the employment growth in the past two years was driven by professional and business services, with an average net hire rate of 0.57 percent. Although the rate of net hires in the information sector has been negative since 2004, there is clear evidence of unmet demand for labor in this area, as indicated by the sector's higher-than-average rate of job openings.

Since 2004, most of the monthly growth in net hires occurred in the South, accounting for 48 percent of U.S. employment growth. The other three regions of the country shared the remaining 52 percent of growth almost equally. As for job openings, the South accounted for 39 percent of the total since 2004, followed by the West at 23 percent, the Midwest at 20 percent, and the Northeast at 18 percent.



## Regional Shares in Job Openings and Labor Turnover, 2004 – October 2006

|           | Percent |             |              |           |
|-----------|---------|-------------|--------------|-----------|
|           | Hires   | Separations | Job openings | Net hires |
| Northeast | 0.17    | 0.17        | 0.18         | 0.18      |
| South     | 0.38    | 0.38        | 0.39         | 0.48      |
| Midwest 0 | .22     | 0.22        | 0.20         | 0.16      |
| West      | 0.23    | 0.23        | 0.23         | 0.18      |

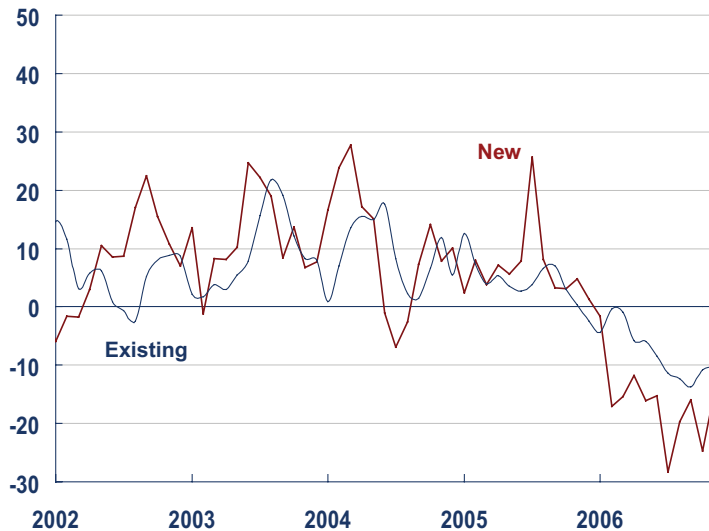
Source: U.S. Department of Labor, Bureau of Labor Statistics, Job Openings and Labor Turnover Survey, November 2006.

## Economic Activity and Labor Markets

### Housing

#### Single-Family Home Sales

Year-over-year percent change



Sources: U.S. Department of Commerce, Bureau of the Census; National Association of Realtors.

01.02.07

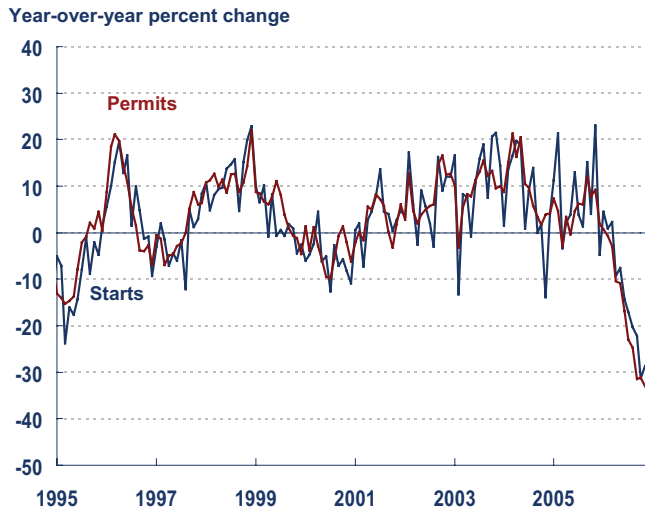
by David E. Altig and Brent Meyer

It is never a good idea to read too much into a few months worth of data, but some signs that we may have seen the worst of the downturn in the residential housing market are providing a few straws for the optimistic to grasp. Both new and existing home sales for November exceeded expectations, and year-over-year growth rates are, arguably, showing signs of having bottomed out.

Furthermore, inventories of unsold homes, though still on the high side, appear to be retreating.

If you are operating on the theory that the real problem resides in falling housing values (and what that might mean for consumers' balance sheets and spending behavior), it is clear that rapid appreciation of the previous four years is done. But the actual amount of price depreciation has been relatively modest compared to the 25 percent to 30 percent appreciation enjoyed from 2002 through 2005.

## Housing Starts and Permits

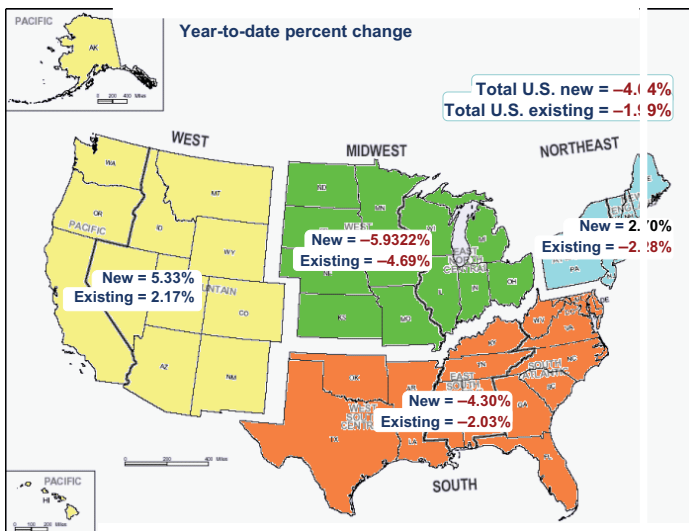


Sources: U.S. Department of Commerce, Bureau of the Census.

Those bits of light notwithstanding, there is still of plenty to keep the pessimists in bad humor. Housing starts and permits—the latter being a component of the Conference Board’s index of leading indicators—are still signaling weakness, despite the recent uptick in starts:

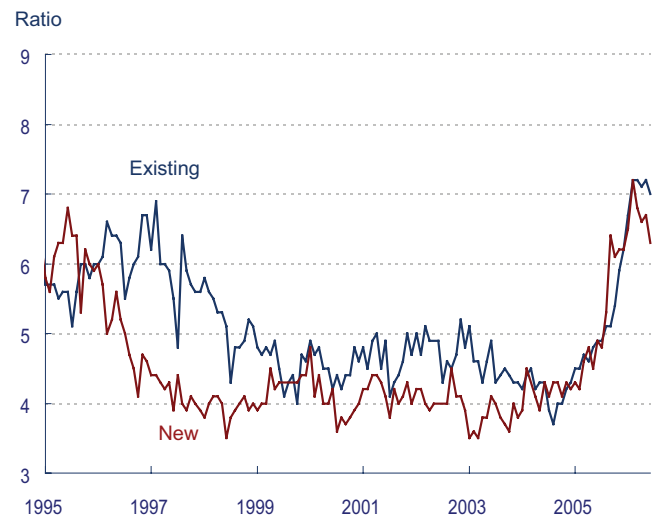
You may keep your brow furrowed, if you wish.

## Median Prices: Single-Family New and Existing Homes



Sources: U.S. Department of Commerce, Bureau of the Census; National Association of Realtors.

## Month’s Supply of Single-Family Homes



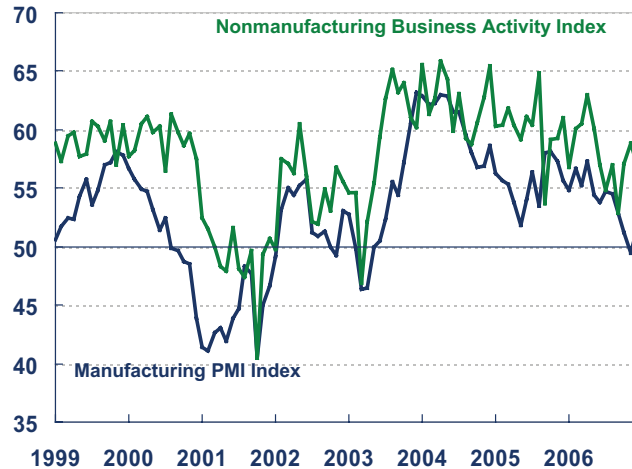
Sources: U.S. Department of Commerce, Bureau of the Census; National Association of Realtors.

# Economic Activity and Labor Markets

## ISM Report on Business Activity

### ISM Manufactures and Services Diffusion Indexes

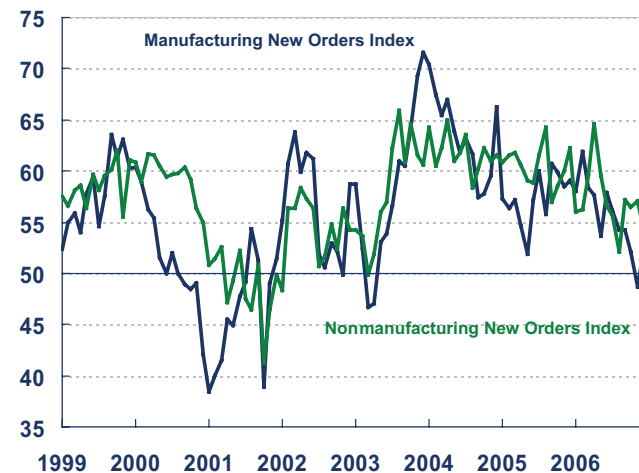
Index, SA (50+ = Economic expansion)



Source: Institute for Supply Management.

### New Orders Index

Index, SA (50+ = Economic expansion)



Source: Institute for Supply Management.

01.04.07

By Tim Dunne and Bethany Tinlin

According to the latest release of the Institute for Supply Management (ISM) surveys, both the manufacturing and nonmanufacturing sectors expanded as they closed out 2006. The ISM composite index for manufacturing registered a rebound in December, finishing out the year at a level of 51.4. The ISM uses a diffusion index, and a level above 50 indicates that the sector is expanding, while a value below 50 indicates contraction. The manufacturing index has trended downward over 2006, showing a general slowing in growth in manufacturing. As has been the case all year, the nonmanufacturing index has showed considerably more strength than manufacturing, closing out the year at 57.1—slightly down from November's reading of 58.9.

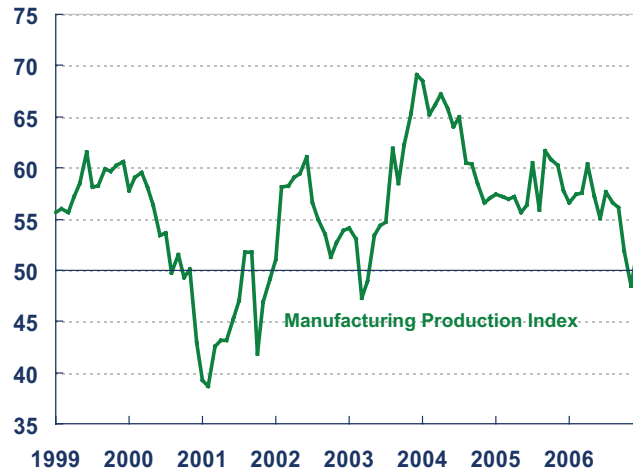
Looking at the details of the reports, the new orders and production components in manufacturing showed improvement in December compared to November, with both indexes moving from below 50 to above 50. For nonmanufacturing industries, new orders also continued to grow but at a slower rate than in November. The growth in new export orders slowed in manufacturing but accelerated for nonmanufacturers.

The employment picture differed across the two sectors as 2006 finished up. The manufacturing employment index remained slightly below 50 in December, indicating little change in employment in manufacturing. This index has hovered around 50 since September. Alternatively, the employment index for nonmanufacturing industries increased moderately in December to 53.3, suggesting continued expansion in nonmanufacturing payrolls.

The ISM also surveys producers on the prices they pay for supplies and services. For 2006, both manufacturers and nonmanufacturers reported a general slowing in the growth in prices over the year. However, the December surveys paint a mixed picture on the growth in prices at the end of the year. The manufacturing price index fell sharply to

## Production Index

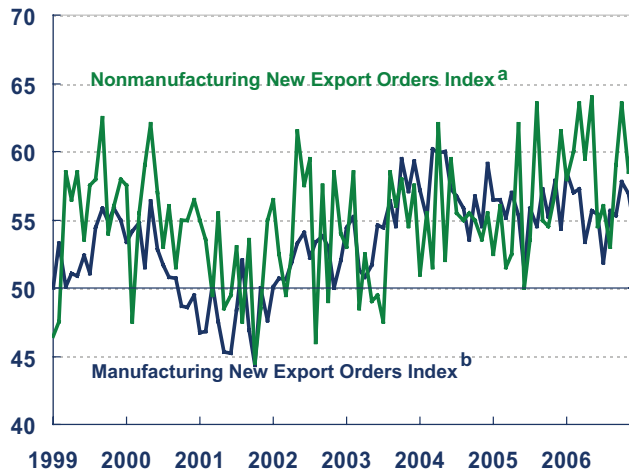
Index, SA (50+ = Economic expansion)



Source: Institute for Supply Management.

## ISM Export Diffusion Indexes

Index (50+ = Economic expansion)



a. Not seasonally adjusted.

b. Seasonally adjusted.

Source: Institute for Supply Management.

below 50, indicating decreasing supply prices. The manufacturing price index is now well below the average values observed earlier in 2006. In the non-manufacturer sector, the index rebounded from the November reading to 59.1, showing some strengthening in supply prices in the last month of the year. Even with this increase, the nonmanufacturing index ended the year significantly less than its peak level in 2006 of 77.5 and well below the average index values in 2004 and 2005.

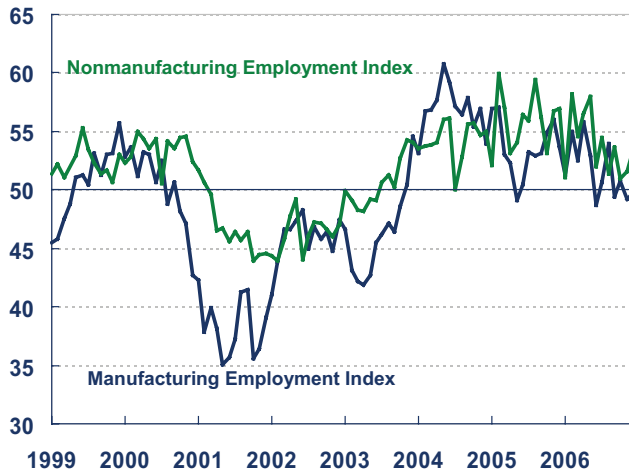
Overall, the ISM surveys offer a picture of an economy that at the end of 2006 continues to grow moderately, with some evidence of a reduction in the price pressures observed earlier in the year.

What's in store for 2007? Producers are relatively optimistic looking forward to 2007. The December ISM Semiannual Economic Forecast indicates that supply executives expect, on average, to increase production capacity by 5 percent to 6 percent in 2007. If this expected growth is achieved, it would represent an acceleration in capacity growth compared to 2006, when survey respondents reported increases in capacity of about 3 percent. Both sectors expect capital expenditures to increase in nominal terms by roughly 8 percent next year, and this is in line with the growth in capital expenditures observed in 2006. On the employment front, manufacturers see little expansion in payrolls while nonmanufacturers forecast an increase of 1.6 percent.

The supply executives differ in their forecasts of supply price growth in 2007. Manufacturing supply executives think the price growth they saw in 2006 will abate and forecast supply prices to increase, on average, by only 1.1 percent in the upcoming year. Alternatively, nonmanufacturers see continued price pressures expecting supply price increases of 4 percent in 2007—a roughly 1.5 percentage point rise in expected supply price inflation compared to 2006.

## ISM Employment Diffusion Indexes

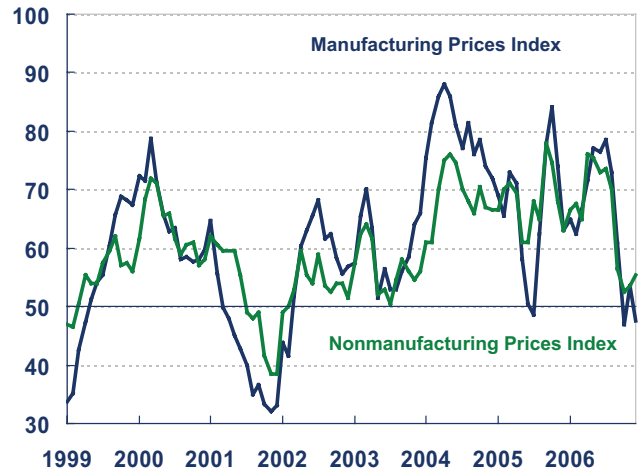
Index, SA (50+ = Economic expansion)



Source: Institute for Supply Management.

## ISM Price Diffusion Indexes

Index, NSA (50+ = Economic expansion)



Source: Institute for Supply Management.

## ISM Forecasts for 2007

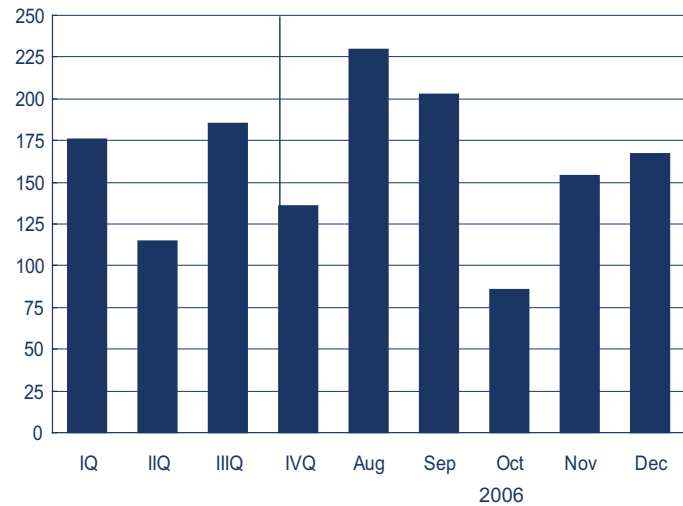
|  | Manufacturing<br>forecast<br>(percent) | Nonmanufacturing<br>forecast<br>(percent) |
|--|--|---|
| Growth in production capacity          | +5.4                                   | +6.2                                      |
| Growth in nominal capital expenditures | +8.5                                   | +8.2                                      |
| Employment growth                      | +0.1                                   | +1.6                                      |
| Growth in supply prices                | +1.1                                   | +4.0                                      |

Source: Institute of Supply Management.

## Labor Market Conditions

### Average Monthly Nonfarm Employment Change

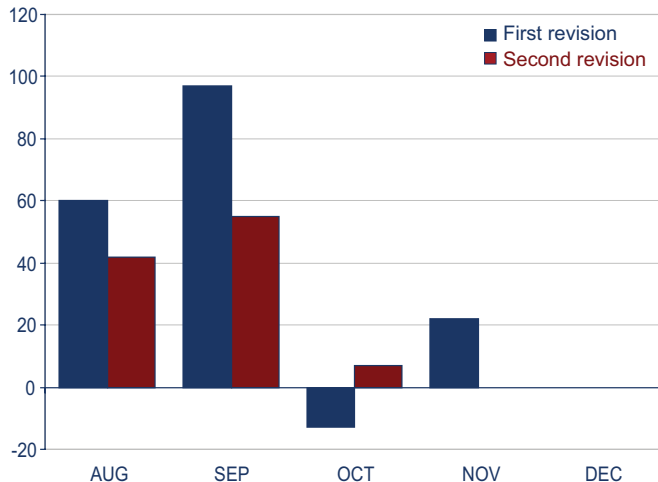
Change, thousands of workers



Source: Department of Labor, Bureau of Labor Statistics.

### Long-Term Manufacturing and Service Industry Changes

Thousands of jobs



Source: Department of Labor, Bureau of Labor Statistics, January 2006.

01.10.07

by Peter Rupert and Cara Stepanczuk

The December employment data showed far more job growth than most had predicted. The Bureau of Labor Statistics (BLS) reported that nonfarm payroll employment increased by 167,000 that month (preliminary estimate), building on November's unexpectedly strong upward revision of +154,000 jobs.

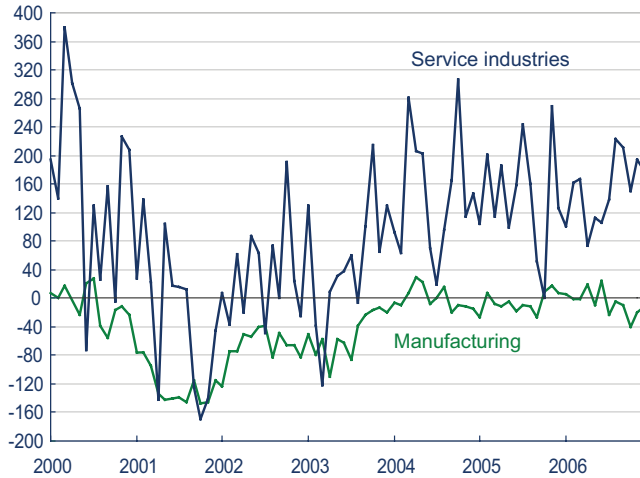
Service-sector jobs continued to increase at a relatively strong pace (up 178,000), whereas manufacturing jobs were still declining (off 12,000). For 2006, the service sector added a net monthly average of 151,000 jobs; manufacturing employment, on the other hand, fell by 6,000 jobs monthly. Professional and business services drove the service sector's jobs growth in December (as it did over most of the year), with a net gain of 50,000 in December and 420,000 jobs total during 2006. Health care followed closely, adding 31,000 new jobs for the month and 324,000 for the year as a whole. December's loss of construction jobs was small (-3,000) and, in light of the sector's 53,000 net job loss during October and November, suggests that construction activity may have begun to level off at year's end.

The strength in the December jobs report was especially surprising, given that earlier in the week, the ADP Employer Services' survey of 307,000 businesses (covering about 18 million payroll workers) showed a decline of 40,000 jobs during the month. The survey results may have led some analysts to reduce their estimates of labor market strength—two major investment houses reportedly cut their December jobs growth projections by roughly 40,000 to 50,000 jobs after the ADP survey was released.

Predicting job growth is no easy task, not even for the BLS, which adjusts its estimates on the basis of incoming payroll data as they are reported by businesses. The BLS has made substantial revisions to their preliminary estimates over the past few months: The first published estimate for September

## Revisions on Monthly Payroll

Job growth, in thousands



\*November received the first revision only, and December has not yet been revised.  
Source: Department of Labor, Bureau of Labor Statistics.

showed a 51,000 job increase; the second preliminary estimate showed an increase of 148,000 jobs; and the final estimate for the month reported an increase of 203,000—four times the original estimate. The point here is a cautionary one: Take care when examining monthly changes in the employment data. Recent revisions have revealed that the U.S. labor market was considerably stronger than the preliminary jobs report led us to believe. The BLS acknowledges that recent revisions have been somewhat high, but notes that “the overall magnitude of revisions has held steady in recent years” and further, that “the revisions have not been either predominantly upward or predominantly downward.”

## Labor Market Conditions

Average monthly change (thousands of employees, NAICS)

|                                   | 2003                                | 2004 | 2005 | Jan.-Nov. 2006 | Dec 2006 |
|-----------------------------------|-------------------------------------|------|------|----------------|----------|
| <b>Payroll employment</b>         | 9                                   | 175  | 165  | 152            | 167      |
| <b>Goods-producing</b>            | -42                                 | 28   | 22   | 3              | -11      |
| Construction                      | 10                                  | 26   | 25   | 4              | -3       |
| Manufacturing                     | -51                                 | 0    | -6   | -5             | -12      |
| Durable goods                     | -32                                 | 9    | 1    | 0              | -6       |
| Nondurable goods                  | -19                                 | -9   | -7   | -5             | -6       |
| <b>Service-providing</b>          | 51                                  | 147  | 143  | 149            | 178      |
| Retail Trade                      | -4                                  | 17   | 13   | -4             | -9       |
| Financial activities*             | 7                                   | 8    | 12   | 13             | 9        |
| PBS**                             | 23                                  | 40   | 41   | 34             | 50       |
| Temporary help svcs.              | 12                                  | 13   | 14   | -3             | 15       |
| Education & health svcs.          | 30                                  | 33   | 31   | 37             | 43       |
| Leisure and hospitality           | 19                                  | 26   | 21   | 29             | 31       |
| <b>Government</b>                 | -4                                  | 13   | 14   | 21             | 17       |
|                                   | <b>Average for period (percent)</b> |      |      |                |          |
| <b>Civilian unemployment rate</b> | 6.0                                 | 5.5  | 5.1  | 4.6            | 4.5      |

a. Financial activities include the finance, insurance, and real estate sector and the rental and leasing sector.

b. PBS is Professional Business Services (professional, scientific, and technical services, management of companies and enterprises, administrative and support, and waste management and remediation services).

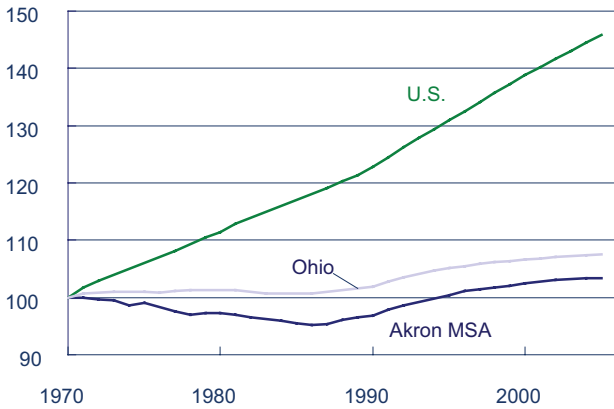
Source: Department of Labor, Bureau of Labor Statistics.



# The Akron Metropolitan Statistical Area

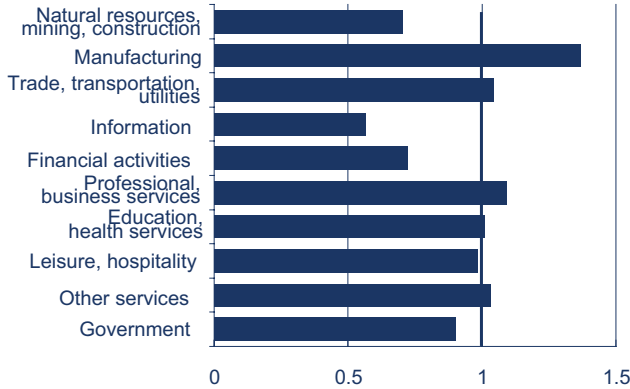
## Population

Index, 1970 = 100



Source: U.S. Department of Commerce, Bureau of the Census.

## Location Quotients, Akron MSA / U.S., 2005



Note: The location quotient is the simple ratio between a given industry's employment share in two locations.

Source: U.S. Department of Labor, Bureau of Labor Statistics.

12.21.06

by Bob Sadowsky and Brian Rudick

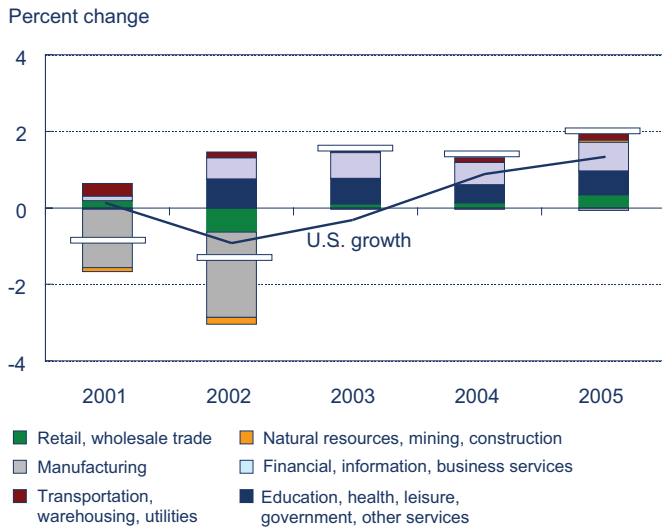
The Akron metropolitan area—home to 702,000 residents—stretches across Summit and Portage Counties. The region is typical of many metro areas in the Fourth District in that it has seen limited population growth over the past three decades. In fact, since 1970 Akron's population grew by only 3.5 percent compared to 46 percent for the United States.

Although Akron enjoys a relatively diverse economy, the manufacturing sector still claims the highest employment concentration relative to the United States, followed by professional and business services.

Nevertheless, manufacturing employment in the Akron region has experienced a dramatic decline since the last business cycle peak in March 2001—17.4 percent compared to a 16.3 percent decrease for the United States. In contrast, Akron outpaced the country as a whole in non-manufacturing job growth during the same time period—8.4 percent locally versus 5.3 percent nationally.

Looking more closely at total annual employment growth, we see that the United States did slightly better than the Akron metro area in 2001 and 2002. This was due primarily to a larger decline in local manufacturing jobs. However, beginning in 2003 and continuing through 2005 the trend was reversed. During this latter period Akron showed annual employment gains of 1.5 to 2.0 percent. Further, manufacturing job losses became negligible and increases were seen in two broad sectors—finance, information and business services and education, health, leisure, government and other services.

## Components of Employment Growth, Akron MSA



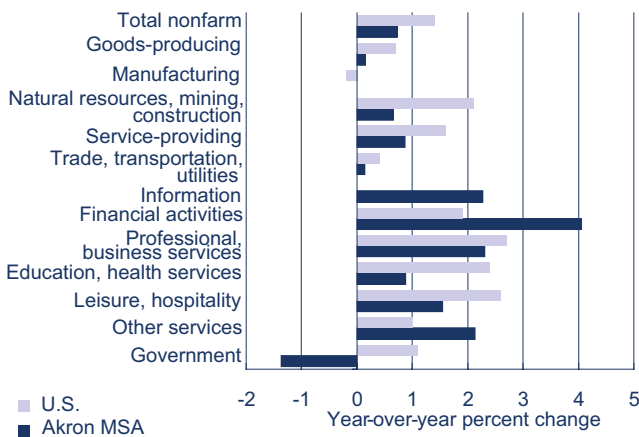
Local employment trends seen during 2003 through 2005 continued into 2006. For the 12-month period ending in October, financial activities, information, and professional and business services led all other industry sectors in employment growth with increases ranging from 2.3 to 4 percent. Manufacturing continued to show a negligible employment change on a year-over-year basis.

During the 1990s, the Akron metro area enjoyed a consistently lower unemployment rate than the United States. In fact, during the mid 1990s, local unemployment was about one percentage point less than was reported nationally. Only during the past three years has this trend been reversed. For the 12-month period ending in October 2006, Akron's average unemployment rate was 0.5 percentage point higher than in the United States.

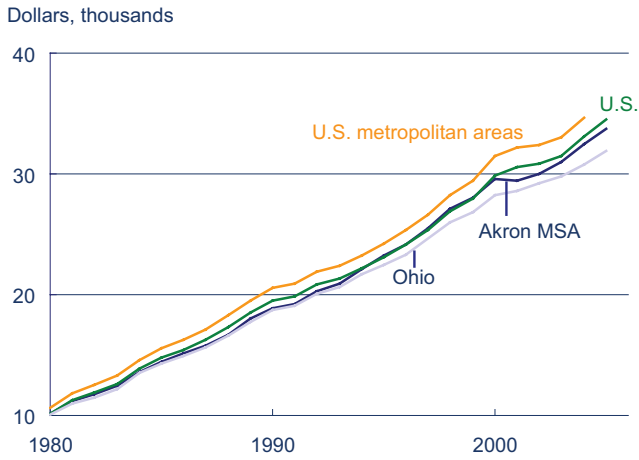
Over time, average per capita personal income across all U.S. metro areas has been somewhat higher than in Akron with a gap of about 6.4 percent. However, when comparing per capita income growth, we find that the growth rates in Akron and the United States are almost the same. Between 1980 and 2004, local income increased by 219 percent compared to 226 percent nationally.

The similarity in growth may be partially due to the educational attainment of Akron residents. In 2005, over 28 percent of these residents held a bachelor's degree or higher. This compares to 23.3 percent in Ohio and 27.2 percent nationally.

## Payroll Employment Growth, October 2006

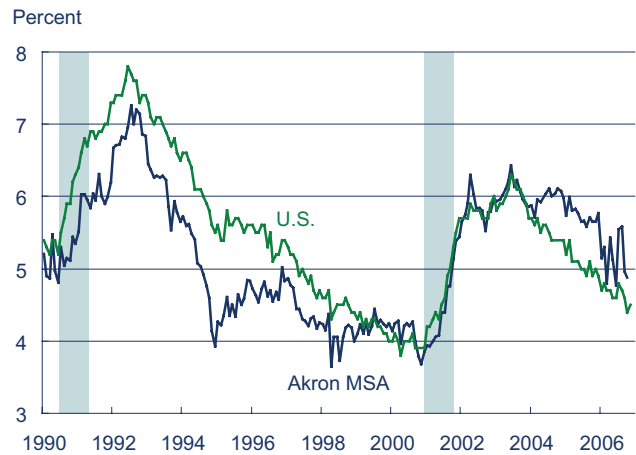


## Per Capita Personal Income



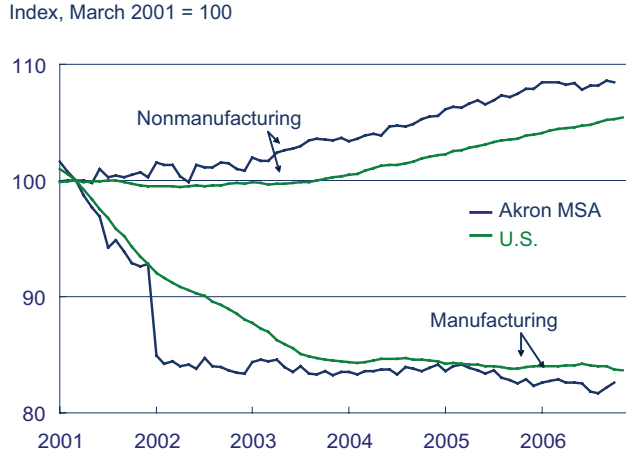
Source: U.S. Department of Commerce, Bureau of Economic Analysis.

## Unemployment Rate



Source: U.S. Department of Labor, Bureau of Labor Statistics.

## Payroll Employment since March 2001



Source: U.S. Department of Labor, Bureau of Labor Statistics.

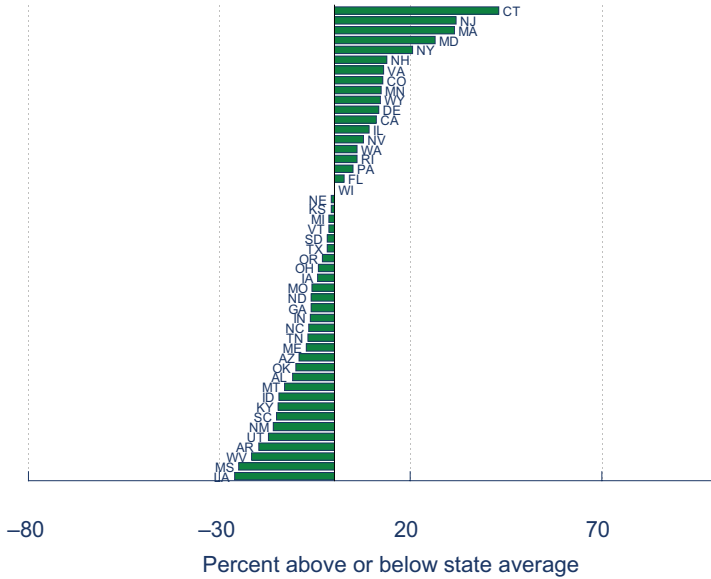
## Selected Demographics

|  | Akron MSA | Ohio | U.S.  |
|--|-----------|------|-------|
| Total population (millions)                | 0.7       | 11.2 | 288.4 |
| Percent by race                            |           |      |       |
| White                                      | 86.1      | 85.7 | 76.3  |
| Black                                      | 12.2      | 12.3 | 12.8  |
| Other                                      | 1.7       | 2.0  | 10.9  |
| Percent by age                             |           |      |       |
| 0 to 19                                    | 26.0      | 27.0 | 27.8  |
| 20 to 34                                   | 19.3      | 19.3 | 20.1  |
| 35 to 64                                   | 41.6      | 40.8 | 40.0  |
| 65 or older                                | 13.0      | 12.8 | 12.1  |
| Percent with a bachelor's degree or higher | 28.1      | 23.3 | 27.2  |
| Median age                                 | 38.3      | 37.6 | 36.4  |

Source: U.S. Department of Commerce, Bureau of the Census.

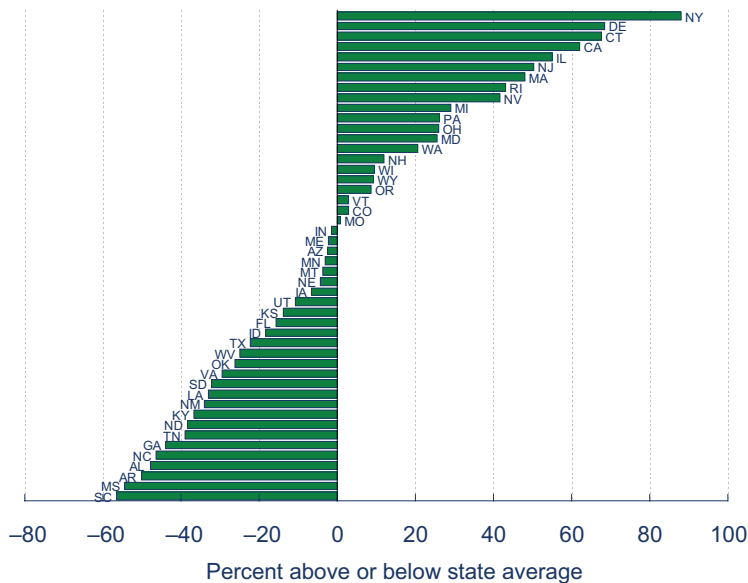
# State Per Capita Personal Income

## Relative Per Capita Personal Income in 2005



Source: U.S. Department of Commerce, Bureau of Economic Analysis.

## Relative Per Capita Personal Income in 1929



Source: U.S. Department of Commerce, Bureau of Economic Analysis.

01.04.07

by Yoonsoo Lee, Brian Rudick, and Bethany Tinlin

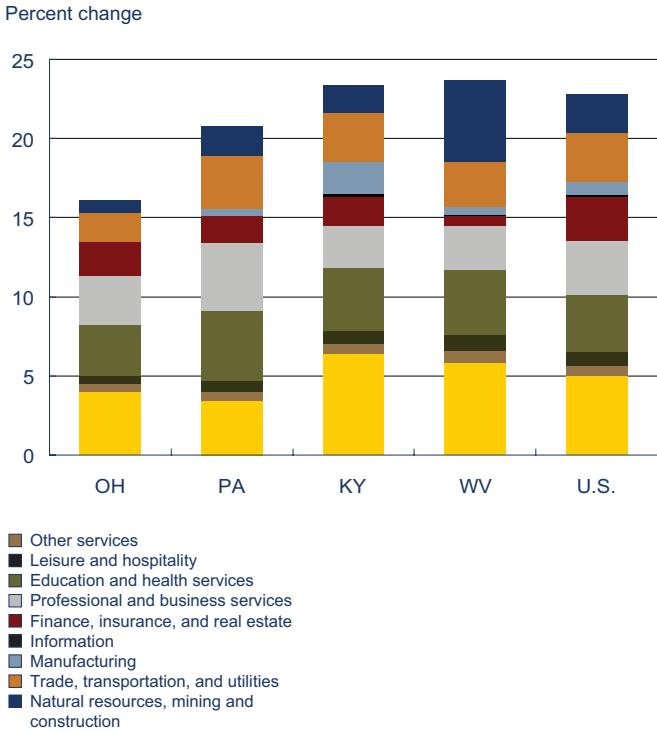
Of the fifty U.S. states, the one with the highest per capita income in 2005 was Connecticut, where residents' median income hit \$42,620 (all figures are in real 2000 dollars). As for the states within the Fourth District, per capita incomes grew in Kentucky and West Virginia, to \$25,398 and \$23,345, respectively. Compared with the median state per capita income, Kentucky's is about 13 percent lower, and West Virginia's is about 20 percent lower. While Ohio's per capita income was 2 percent lower than the median, Pennsylvania was 7 percent higher.

With respect to rankings of median per capita incomes among the fifty states, the ranking of each of the four states in the district has fallen since 1929. Overall, the gap between the richest state and poorest state has narrowed since 1929, as economic growth theory predicts (See our 2005 Annual Report essay for a more detailed analysis of per capita income growth across U.S. states).

In 1929, New York had the highest per capita personal income of all the states at \$9,837. The disparity across states was greater then than in 2005, with the standard deviation of state incomes in 1929 more than twice the 2005 level. While Ohio and Pennsylvania's income levels were about 30 percent higher than the median in 1929, Kentucky's and West Virginia's, at \$3,316 and \$3,923 respectively, were 35 percent and 23 percent lower than the median.

Since 1929, incomes have grown in real terms for every state. The U.S. average, which was \$5,969 in 1929 and \$30,939 in 2005, grew 418 percent. Growth in Pennsylvania (373 percent) and Ohio (334 percent) trailed the national mark, but growth in Kentucky (666 percent) and West Virginia (495 percent) exceeded it.

## Components of Earnings Growth, 2000–2005

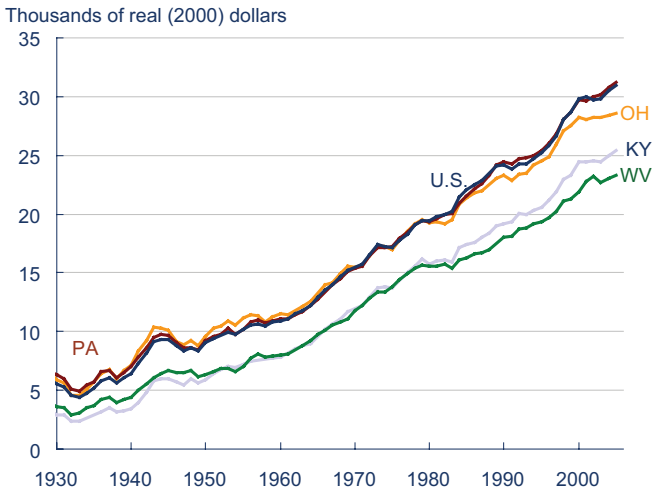


Source: U.S. Department of Commerce, Bureau of Economic Analysis.

More recently, Ohio's per capita income growth has started to slow. Since the beginning of 2000, it has grown by 3.1 percent, compared to 6.9 percent for the U.S. as a whole. Meanwhile, growth in per capita incomes in Pennsylvania (8.4 percent), Kentucky (5.8 percent), and West Virginia (10.6 percent) all outpaced Ohio's over this time period.

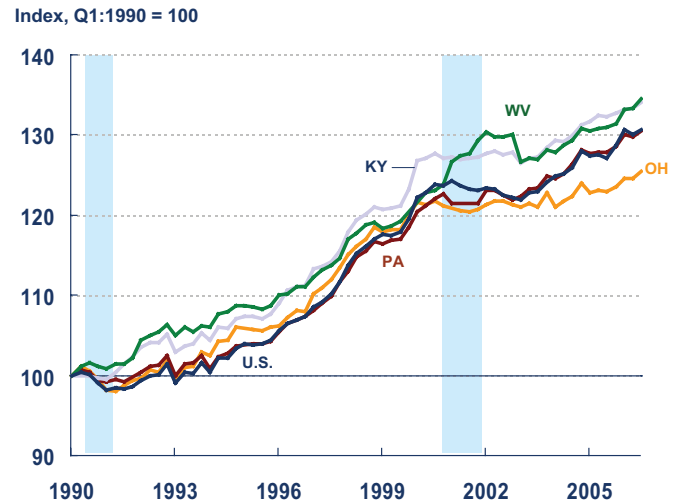
Looking at the industrial components of earnings growth reveals that no one specific sector is responsible for Ohio's relatively slower growth. In fact, in terms of the contributions that different industry sectors make to earnings growth, every major industry in Ohio lagged with respect to the contribution it made to U.S. growth from 2000 to 2005. For example, while the natural resources, mining, and construction industry added 2.5 percent to overall U.S. earnings growth in this time period, it added only 0.8 percent to Ohio earnings growth.

## Per Capita Personal Income Growth



Source: U.S. Department of Commerce, Bureau of Economic Analysis.

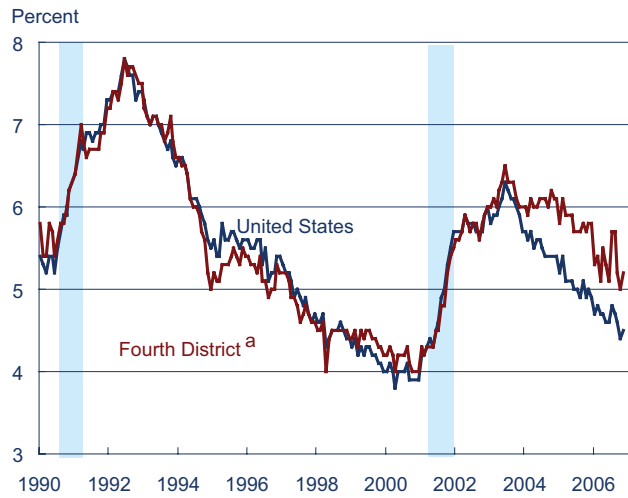
## Per Capita Personal Income Growth



Source: U.S. Department of Commerce, Bureau of Economic Analysis.

# Fourth District Employment Conditions

## Unemployment Rates\*



Sources: U.S. Department of Labor, Bureau of Labor Statistics; Kentucky Office of Employment and Training, Workforce Kentucky; Ohio Department of Job and Family Services, Bureau of Labor Market Information; Pennsylvania Department of Labor and Industry, Center for Workforce Information and Analysis; and West Virginia Bureau of Employment Programs, Workforce West Virginia.

01.10.07

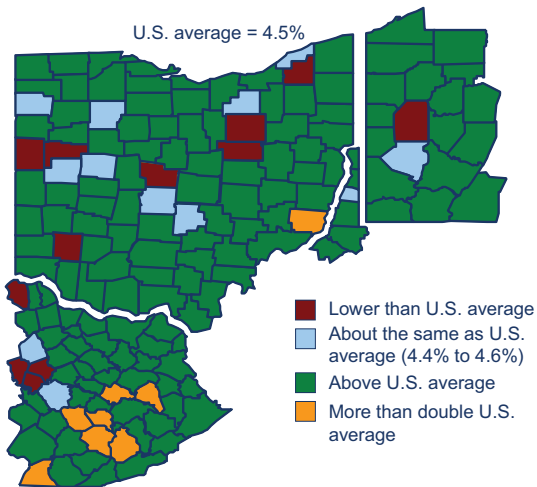
by Christian Miller and Paul Bauer

The Fourth District’s unemployment rate rose from 5.0 percent in October to 5.2 percent in November. The main causes were a 4.8 percent monthly increase in the number of unemployed and slight reductions in employment (–0.3 percent) and the labor force (–0.1 percent). Over the same period, the U.S. unemployment rate rose from 4.4 percent to 4.5 percent.

In November, 12 of the District’s counties posted unemployment rates below the national average, another 12 counties were close to average, and the remaining 145 exceeded the U.S. rate; these levels were slightly higher than October’s. The vast majority of counties (151) reported rising unemployment rates. However, rates remained low in the Columbus, Pittsburgh, and Lexington metropolitan areas.

As for employment growth, Lexington was the only metro area in the District that has kept pace with the U.S. since November. The District’s goods-producing industries continued to lose jobs, whereas its service-providing industries were the main engines of growth. Only Dayton lost service-sector jobs over the past year. Lexington is the fastest-growing metro area in the District, but Cincinnati’s employment has also grown 1.0 percent, with a 1.4 percent increase in service-sector jobs.

## Unemployment Rates, November 2006\*



Sources: U.S. Department of Labor, Bureau of Labor Statistics; Kentucky Office of Employment and Training, Workforce Kentucky; Ohio Department of Job and Family Services, Bureau of Labor Market Information; Pennsylvania Department of Labor and Industry, Center for Workforce Information and Analysis; and West Virginia Bureau of Employment Programs, Workforce West Virginia.

## Payroll Employment by Metropolitan Statistical Area

|   | 12-month percent change, November 2006 |          |            |        |        |            |           |      |
|---|--|----------|------------|--------|--------|------------|-----------|------|
|   | Cleveland                              | Columbus | Cincinnati | Dayton | Toledo | Pittsburgh | Lexington | U.S. |
| Total Nonfarm                           | -0.2                                   | 0.4      | 1.0        | -0.6   | 0.6    | 0.6        | 1.4       | 1.3  |
| Goods-producing                         | -1.4                                   | -0.2     | -0.7       | -1.5   | 0.0    | -1.7       | 0.6       | 0.1  |
| Manufacturing                           | -0.9                                   | -0.8     | -1.4       | -2.1   | 0.2    | -3.5       | -0.6      | -0.4 |
| Natural resources, mining, construction | -3.1                                   | 0.9      | 0.9        | 0.6    | -0.6   | 1.3        | 3.9       | 1.0  |
| Service-providing                       | 0.1                                    | 0.5      | 1.4        | -0.4   | 0.8    | 1.0        | 1.5       | 1.6  |
| Trade, transportation, utilities        | 0.0                                    | -0.4     | 0.7        | -3.2   | 0.2    | -0.2       | 2.3       | 0.4  |
| Information                             | -1.6                                   | -0.5     | -1.9       | -0.9   | 0.0    | -3.1       | -2.2      | -0.1 |
| Financial activities                    | -0.3                                   | -0.8     | 0.3        | -1.1   | 3.7    | 0.6        | -1.9      | 1.8  |
| Professional and business services      | 0.8                                    | 0.6      | 3.3        | 1.7    | -1.7   | 1.3        | 1.6       | 2.3  |
| Education and health services           | 1.3                                    | 2.6      | 3.0        | -0.5   | 2.0    | 2.1        | 0.0       | 2.6  |
| Leisure and hospitality                 | 0.6                                    | 1.0      | 1.6        | 1.1    | 3.4    | 2.5        | 3.2       | 2.6  |
| Other services                          | -0.7                                   | 1.6      | 1.4        | 1.8    | -0.7   | -1.2       | 0.0       | 0.7  |
| Government                              | -1.4                                   | 0.1      | -0.6       | -0.2   | 0.2    | 1.3        | 2.7       | 1.3  |
| November unemployment rate (percent)    | 5.1                                    | 4.5      | 4.9        | 5.8    | 5.9    | 4.6        | 4.2       | 4.5  |

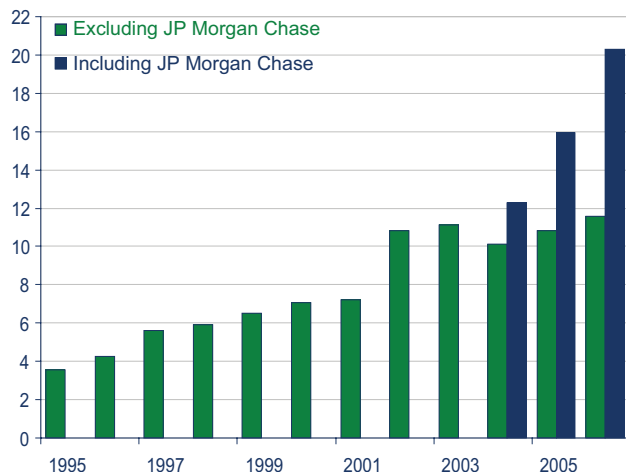
U.S. Department of Labor, Bureau of Labor Statistics; Kentucky Office of Employment and Training, Workforce Kentucky; Ohio Department of Job and Family Services, Bureau of Labor Market Information; Pennsylvania Department of Labor and Industry, Center for Workforce Information and Analysis; and West Virginia Bureau of Employment Programs, Workforce West Virginia.

### Regional Activity

## Fourth District Banking Conditions

### Annual Net Income\*

Dollars, billions



\*Through 2006:IIIQ only. Data for 2006 are annualized.  
Sources: Author's calculation from Federal Financial Institutions Examination Council, *Quarterly Banking Reports of Condition and Income*, Third Quarter 2006.

12.21.06

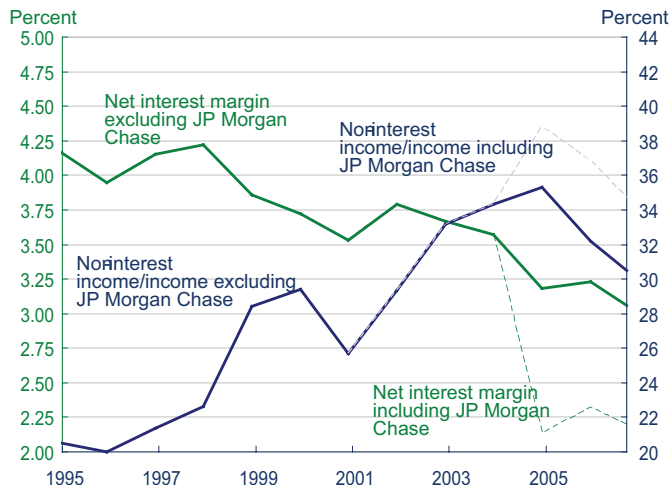
By O. Emre Ergungor and Cara Stepanczuk

FDIC-insured commercial banks headquartered in the Fourth Federal Reserve District posted net income of \$8.7 billion for the first three quarters of 2006 or \$11.6 billion on an annual basis. (JP Morgan Chase, chartered in Columbus, is not included in this discussion because its assets are mostly outside the District and its size—roughly \$1 trillion—dwarfs other District institutions.) The U.S. banking industry as a whole posted earnings of \$112.75 billion for the same period or \$150.32 billion on an annual basis.

Fourth District banks' net interest margin (core profitability computed as interest income minus interest expense divided by average earning assets) fell slightly to 3.06 percent of total income at the end of 2006:IIIQ, but still exceeds the 2.95 percent



## Income Ratios\*



\*Through 2006:IIIQ only. Data for 2006 are annualized.  
Sources: Author's calculation from Federal Financial Institutions Examination Council, Quarterly Banking Reports of Condition and Income, Third Quarter 2006.

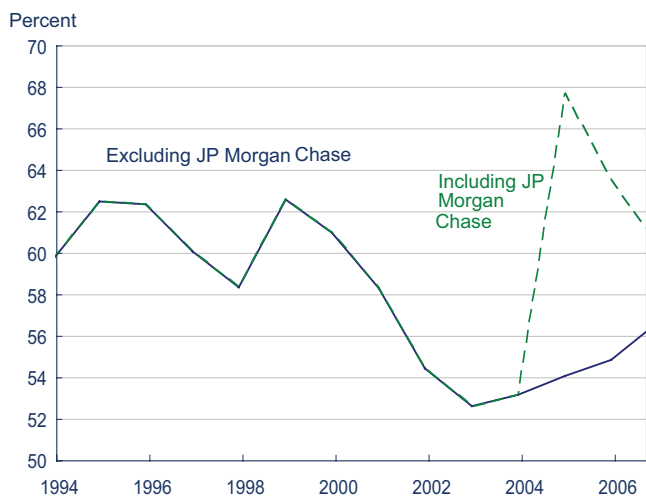
U.S. average. Fourth District banks' non-interest income edged up to 30.48 percent, while the national average slipped down to 30.52 percent of total income.

Fourth District banks' efficiency (operating expenses as a percent of total income) continued to worsen in 2006:IIIQ, deteriorating to 56.21 percent from the 52.64 percent record set in 2002. (Lower numbers correspond to greater efficiency.) Banks outside the Fourth District fared better, with the national average continuing to improve to 54.46 percent (from 56.40 percent at the end of 2005).

At the end of 2006:IIIQ, District banks posted a 1.39 percent return on assets (down from 1.43 percent at the end of 2005) and a 14.45 percent return on equity (down from 15.32 percent at the end of 2005). The District's decline contrasted with an upward trend nationwide: At the end of 2006:IIIQ, the U.S. banking industry reported that return on assets rose to 1.19 percent (from 1.08 percent at the end of 2005); and return on equity rose to 12.63 percent (from 11.55 percent at the end of 2005).

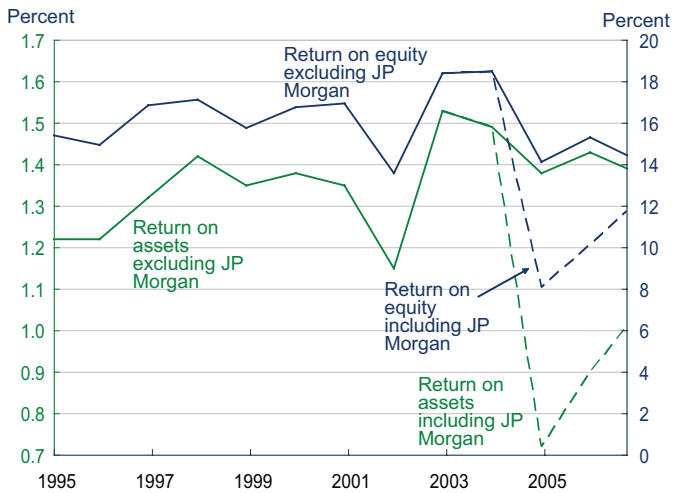
Overall, Fourth District banks' financial indicators point to stable balance sheets. Asset quality, as measured by net charge-offs (losses realized on loans and leases currently in default minus recoveries on previously charged-off loans and leases) continued to improve in 2006:IIIQ. Net charge-offs dropped from 0.38 percent at the end of 2005 to 0.3 percent of total loans, the lowest level in over a decade. Problem assets (nonperforming loans and repossessed real estate) as a share of total assets, however, rose to 0.68 percent, from 0.59 percent at the end of 2005. The increase in problem assets may translate into higher charge-offs in the future if borrowers cannot catch up with their late payments. At the national level, both asset quality ratios are still improving. Net charge-offs and nonperforming loans fell to a historically low 0.32 percent of loans (down from 0.46 percent at the end of 2005) and 0.42 percent of assets (down from 0.45 percent at the end of 2005), respectively.

## Efficiency\*,\*\*



\* Through 2006:IIIQ only. Data for 2006 are annualized.  
\*\* Efficiency is operating expenses as a percent of net interest income plus non-interest income.  
Sources: Author's calculation from Federal Financial Institutions Examination Council, Quarterly Banking Reports of Condition and Income, Third Quarter 2006.

## Earnings\*



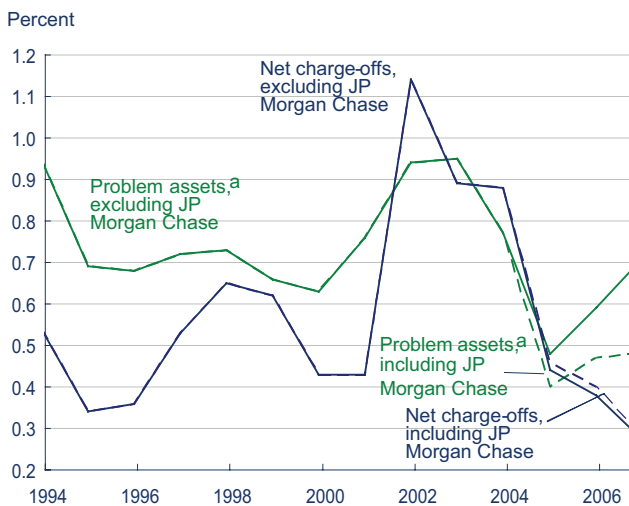
\*Through 2006:IIIQ only. Data for 2006 are annualized.  
 \*\*Efficiency is operating expenses as a percent of net interest income plus non-interest income.  
 Sources: Author's calculation from Federal Financial Institutions Examination Council, *Quarterly Banking Reports of Condition and Income*, Third Quarter 2006.

Fourth District banks held \$17.62 in equity capital and loan loss reserves for every dollar of problem loans, well above the recent coverage ratio low of 10.75 at the end of 2002 but below the record high of 24.97 at the end of 2004.

Equity capital as a percent of Fourth District banks' assets (the leverage ratio) rose to 9.65 percent (from 9.36 percent at the end of 2005).

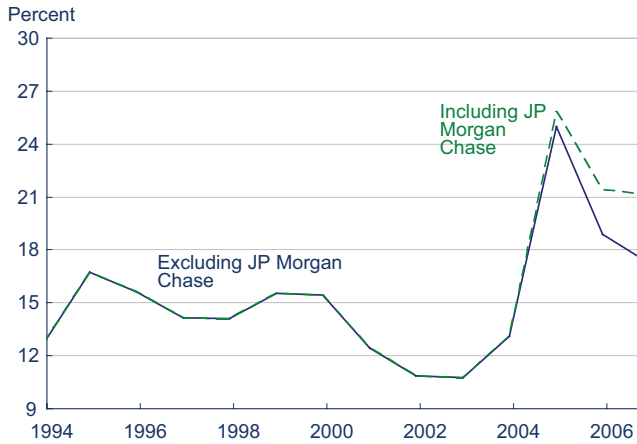
The percent of unprofitable institutions in the Fourth District fell to 5.17 percent for the third quarter of 2006 (from 5.43 percent at the end of 2005). Unprofitable banks' asset size also dropped because the share of District banks' assets accounted for by unprofitable banks fell from 0.56 percent to 0.14 percent. Industrywide, the share of unprofitable institutions rose from 6.28 percent to 6.82 percent at the end of 2006:IIIQ. However, unprofitable banks' asset size dropped from 1.13 percent at the end of 2005 to 0.43 percent at the end of 2006:IIIQ. Thus, the industrywide increase in the number of unprofitable banks comes from the smaller financial institutions.

## Asset Quality\*



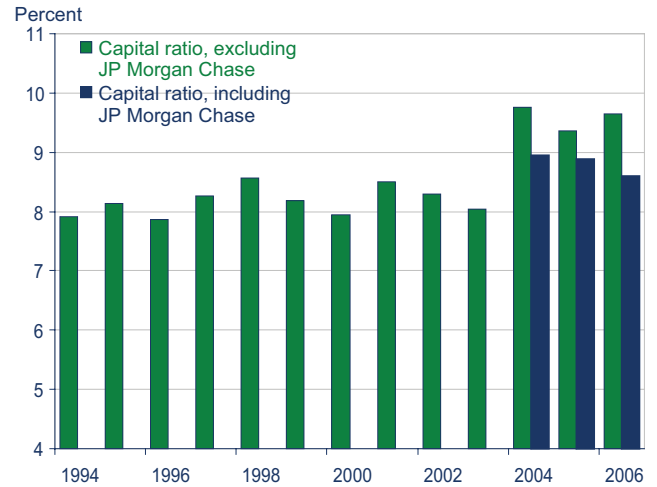
\*Through 2006:IIIQ only. Data for 2006 are annualized.  
 a. Problem assets are shown as a percent of total assets, net charge-offs as a percent of total loans.  
 Sources: Author's calculation from Federal Financial Institutions Examination Council, *Quarterly Banking Reports of Condition and Income*, 2006:IIIQ.

## Coverage Ratio\*



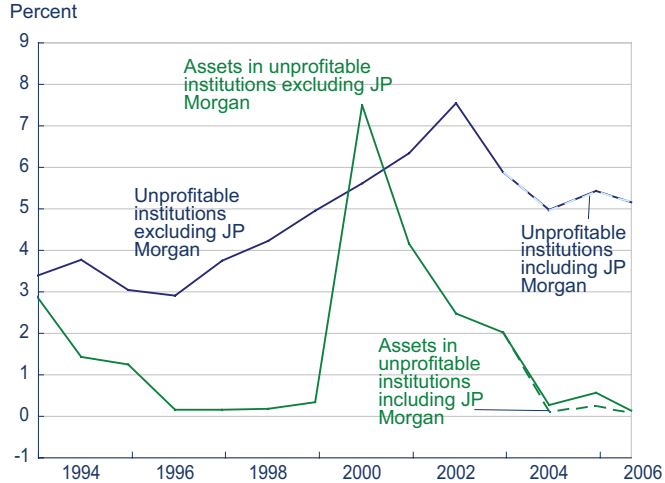
\*Through 2006:IIIQ only. Data for 2006 are annualized.  
Sources: Author's calculation from Federal Financial Institutions Examination Council, *Quarterly Banking Reports of Condition and Income*, 2006:IIIQ.

## Core Capital (Leverage) Ratio\*



\*Through 2006:IIIQ only. Data for 2006 are annualized.  
Sources: Author's calculation from Federal Financial Institutions Examination Council, *Quarterly Banking Reports of Condition and Income*, 2006:IIIQ.

## Unprofitable Institutions\*



\*Through 2006:IIIQ only. Data for 2006 are annualized.  
Sources: Author's calculation from Federal Financial Institutions Examination Council, *Quarterly Banking Reports of Condition and Income*, 2006:IIIQ.