

# Economic Trends

June 2010 (May 14, 2010 to June 10, 2010)

## In This Issue:

### **Inflation and Prices**

- Getting a Clear Signal on Inflation

### **Monetary Policy**

- The Yield Curve, May 2010
- Monetary Policy and an Extended Period of Time

### **Banking and Financial Markets**

- Has the Mortgage Market Run Out of Steam?
- Current Banking Conditions, FDIC-Insured Institutions

### **Regional Activity**

- Recent Manufacturing Employment Growth

### **Economic Activity**

- Economic Projections from the April FOMC Meeting

### **Growth and Production**

- Three Headwinds on the Current Recovery

FEDERAL RESERVE BANK  
*of* CLEVELAND

# Getting a Clear Signal on Inflation

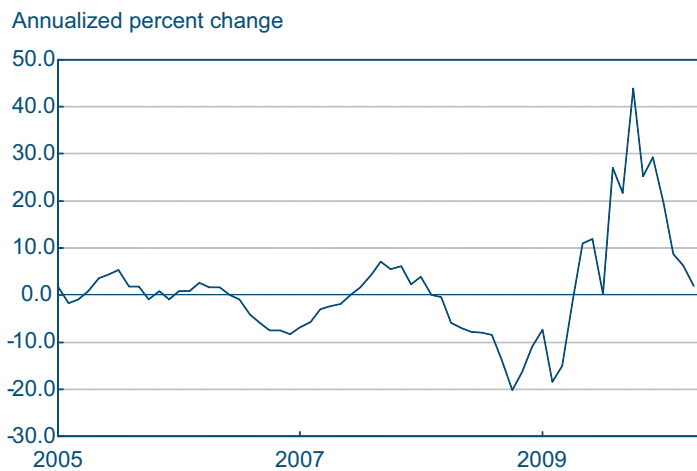
05.28.2010

by Brent Meyer

From time to time, components comprising the Consumer Price Index exhibit some idiosyncratic price changes, obscuring the inflation signal in the data. Examples of this “noise” range from mismeasurement and holidays that are not linked to calendar dates (causing unanticipated seasonal variation), to one-time changes in excise taxes (like the recent increase in tobacco taxes). Often researchers and analysts tend to explain away (or exclude) these peculiar “one-off” price movements, and rightly so. Or, since the effect of such idiosyncratic changes on the CPI dissipates over time, it can be greatly minimized by looking at the data over a longer time period, though this technique comes at the expense of a near-term read on the data. An alternative is to use cross-sectional trimming techniques, such as the median CPI or 16 percent trimmed-mean CPI. They offer a way to reduce noise in a much more consistent manner, with no sacrifice in timeliness.

Recently, a couple of examples of these idiosyncratic price changes have shown up in the data. First, the price of used autos spiked. The spike, which began in August 2009 and seems to have receded this past April, corresponds to the duration of the CARS program (commonly referred to as “Cash for Clunkers”). During that program, used cars that were traded in were destroyed instead of making their way to used auto dealer lots. So some of the recent price change likely reflects an artificial reduction in supply. That said, given the tightness in credit conditions, it is also possible that some of the increase is due to a shift away from higher-priced new vehicles, which are usually purchased with a loan. Still, the correspondence between the price movements of used autos and the CARS program is striking: prices fell roughly 10 percent between the start of the recession and the month before the CARS program began, but since that time they have jumped 12 percent.

## Used Auto Prices

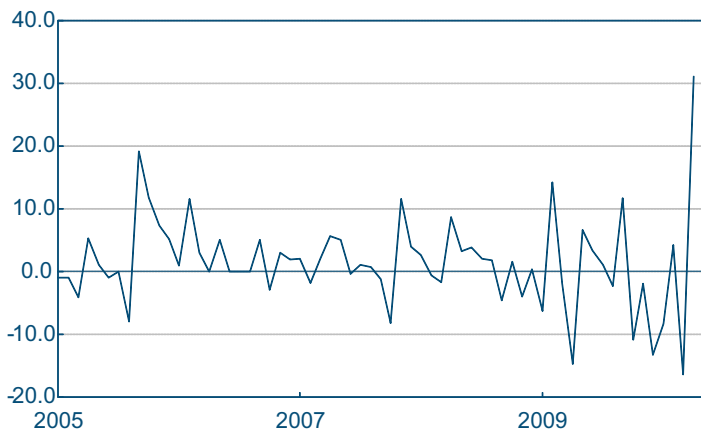


Source: U.S. Department of Labor, Bureau of Labor Statistics.

Another example of monthly noise in the CPI occurred in April, as club membership dues and

## Recreation Services: Club Membership Prices

Annualized percent change



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

fees for participant sports posted their largest monthly increase on record (the series goes back only to 1998). Prices spiked at an annualized rate of 31 percent, following a 16.4 percent decrease in March. Such a large increase immediately following a substantial decrease is indicative of a seasonal adjustment or mismeasurement issue.

A trimmed-mean approach with these sorts of price anomalies may be more useful than ad hoc exclusions. The median CPI and 16 percent trimmed-mean CPI eliminate much of the overall monthly noise by excluding the highest and lowest price changes—those that are usually symptomatic of idiosyncrasies. In fact, research shows that trimmed-mean measures are better predictors of future inflation than the headline CPI or the CPI excluding food and energy.

Recent trends in the trimmed-mean estimators have been decidedly disinflationary. The median CPI was virtually unchanged in April, rising at an annualized rate of 0.1 percent, and has been flat for the past six months. That pattern is much the same for the 16 percent trimmed-mean measure, which is up at an annualized rate of just 0.7 percent over the past six months. As for used auto prices, they were in the upper tail of the price-change distribution for seven consecutive months (August 2009 through February 2010), thus trimmed away in the calculations.

For more on how used auto dealer lots were affected by “Cash for Clunkers”:  
<http://online.wsj.com/article/SB125477625175965639.html?KEYWORDS=cash+for+clunkers+used+car+prices>

Federal Reserve Bank of Cleveland's Working Paper “Efficient Inflation Estimation”:  
<http://www.clevelandfed.org/research/trends/2010/0610/01infpri.cfm>

## April Price Statistics

	Percent change, last					2009 average
	1mo. <sup>a</sup>	3mo. <sup>a</sup>	6mo. <sup>a</sup>	12mo.	5yr. <sup>a</sup>	
Consumer Price Index						
All items	-0.8	0.0	1.1	2.2	2.3	2.8
Less food and energy	0.6	0.6	0.3	0.9	1.9	1.8
Median <sup>b</sup>	0.1	-0.1	0.2	0.5	2.4	1.2
16% trimmed mean <sup>b</sup>	0.2	0.3	0.7	0.9	2.3	1.3

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.

# The Yield Curve, May 2010

05.27.2010

by Joseph G. Haubrich and Kent Cherny

Since last month, the yield curve has flattened, with long rates falling as short rates barely ticked up. The difference between these rates, 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 seven recessions (as defined by the NBER). In particular, the yield curve inverted in August 2006, a bit more than a year before the current recession started in December, 2007. There have been two notable false positives: an inversion in late 1966 and a very flat curve in late 1998.

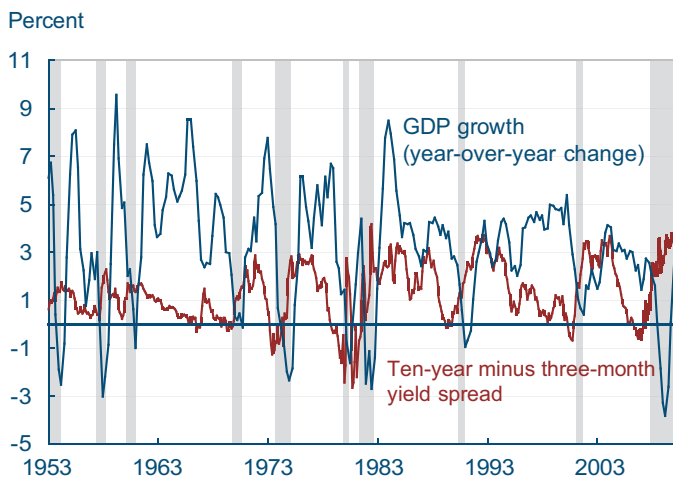
More generally, a flat curve indicates weak growth, and conversely, a steep curve indicates strong growth. One measure of slope, the spread between 10-year Treasury bonds and 3-month Treasury bills, bears out this relation, particularly when real GDP growth is lagged a year to line up growth with the spread that predicts it.

Since last month, the three-month rate rose to 0.17 (for the week ending May 21), up a mere 1 basis point from April's 0.16 percent. The 10-year rate took a fairly sizeable drop to 3.33 percent from April's 3.85 percent. This dropped the slope to 316 basis points, still high, but a drop of 53 basis points from April's 369 basis points.

Projecting forward using past values of the spread and GDP growth suggests that real GDP will grow at about a 0.98 percent rate over the next year, a bit below April's 1.17 percent. Although the time horizons do not match exactly, this comes in on the more pessimistic side of other forecasts, although, like them, it does show moderate growth for the year.

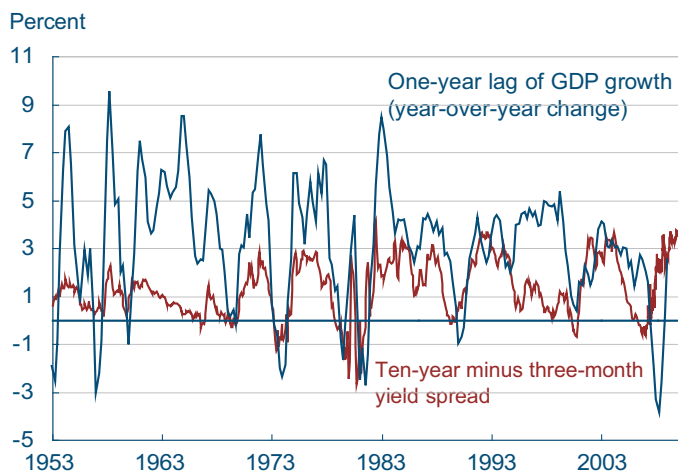
While such an approach predicts when growth is above or below average, it does not do so well in predicting the actual number, especially in the case of recessions. Thus, it is sometimes preferable to

## Yield Curve Spread and Real GDP Growth



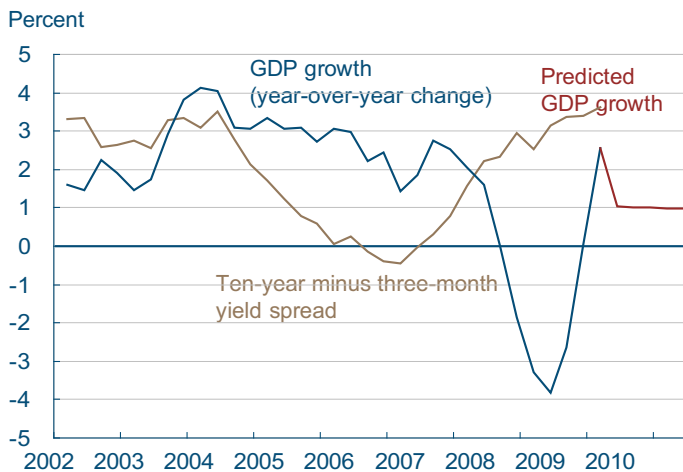
Note: Shaded bars indicate recessions.  
Source: Bureau of Economic Analysis, Federal Reserve Board.

## Yield Spread and Lagged Real GDP Growth



Sources: Bureau of Economic Analysis, Federal Reserve Board.

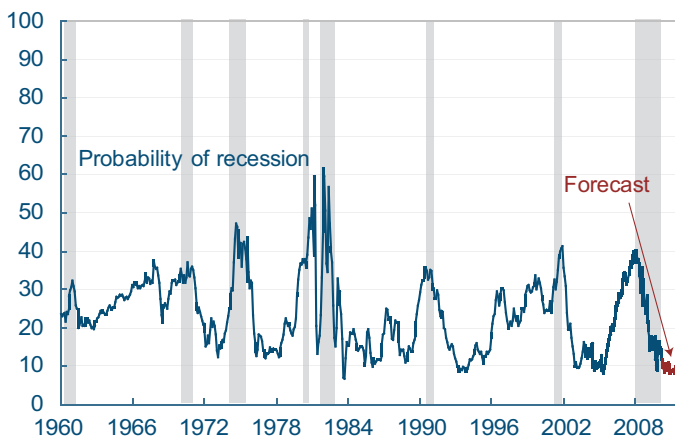
## Yield-Curve-Predicted GDP Growth



Sources: Bureau of Economic Analysis, Federal Reserve Board, authors' calculations.

## Recession Probability from Yield Curve

Percent probability, as predicted by a probit model



Note: Shaded bars indicate recessions.

Sources: Bureau of Economic Analysis, Federal Reserve Board, authors' calculations.

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 the economy being in a recession next May is 9.9 percent, up from the April number of 7.1 percent. This should not be too surprising, given the drop in the spread.

Of course, it might not be advisable to take these number quite so literally, for two reasons. (Not even counting Paul Krugman's concerns.) First, this probability is itself subject to error, as is the case with all statistical estimates. Second, other researchers have postulated that the underlying determinants of the yield spread today are materially different from the determinants that generated yield spreads during prior decades. Differences could arise from changes in international capital flows and inflation expectations, for example. The bottom line is that yield curves contain important information for business cycle analysis, but, like other indicators, they should be interpreted with caution.

For more detail on these and other issues related to using the yield curve to predict recessions, see the Commentary "Does the Yield Curve Signal Recession?"

For more on other forecasts:

[http://www.econbrowser.com/archives/2008/11/gdp\\_mean\\_estima.html](http://www.econbrowser.com/archives/2008/11/gdp_mean_estima.html)

For Paul Krugman's column:

<http://krugman.blogs.nytimes.com/2008/12/27/the-yield-curve-wonkish/>

"Does the Yield Curve Yield Signal Recession?," by Joseph G. Haubrich. 2006. Federal Reserve Bank of Cleveland, *Economic Commentary* is available at: <http://www.clevelandfed.org/Research/Commentary/2006/0415.pdf>

# Monetary Policy and an Extended Period of Time

05.27.2010

Charles T. Carlstrom and John Lindner

The FOMC met on April 27 and 28 and, like at previous meetings, continued to assert that the “Committee will maintain the target range for the federal funds rate at 0 to ¼” for an “extended period.” However, Thomas Hoenig dissented as he did at the previous meeting because he believed that “continuing to express the expectation of exceptionally low levels of the federal funds rate for an extended period was no longer warranted.”

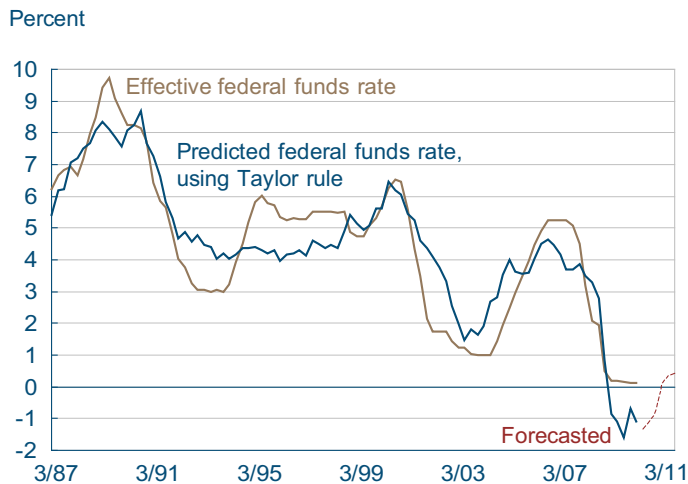
Trying to figure out when the Committee should increase the funds rate is complex. But John Taylor in a seminal 1993 paper argued that a useful guidepost for conducting monetary policy can be given by a simple rule or strategy whereby the central bank sets the federal funds rate in response to two variables—inflation and deviations of output from potential output. He maintains that using such a guidepost constitutes good monetary policy, and furthermore that the rule is a good characterization of how the FOMC has actually set policy since 1987. The chart below estimates and plots a Taylor-type rule.

Clearly this is a guidepost, and the FOMC should and does consider a myriad of data when making decisions. Nevertheless, using this metric we ask whether conditions still warrant the extended period of time language, or whether the language should be weakened to indicate that a future rate hike may be more imminent.

While Taylor originally argued for policy to be set in response to inflation and the output gap, modifying the rule so that the funds rate also depends on the lagged funds rate fits the data better and, many believe, constitutes better monetary policy. There are two possible reasons for using such a rule (a type referred to as an inertial rule).

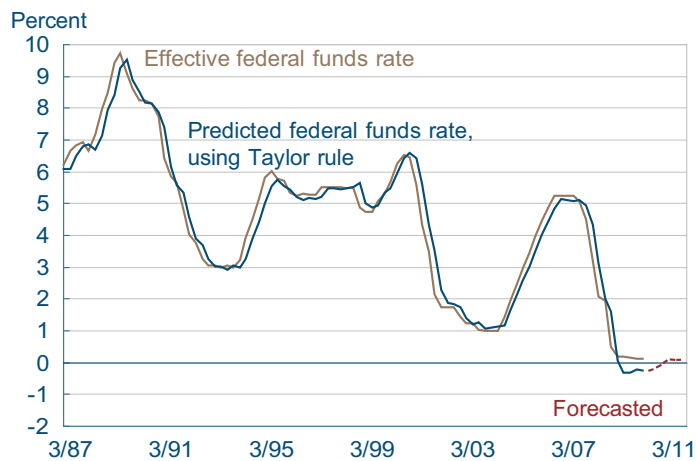
First, the inertial rule is one that can be thought of as a so-called partial adjustment rule—it characterizes the future path of the actual funds rate over the next several FOMC meetings. In other words, the

## Non-Inertial Taylor Rule



Sources: Federal Reserve Board, Bureau of Labor Statistics, Congressional Budget Office, Bureau of Economic Analysis, Blue Chip *Economic Indicators* May 2010, authors' calculations.

## Partial-Adjustment Taylor Rule



Sources: Federal Reserve Board, Bureau of Labor Statistics, Congressional Budget Office, Bureau of Economic Analysis, Blue Chip *Economic Indicators* May 2010, authors' calculations.

Committee moves a fraction of the way to where the original non-inertial Taylor rule would suggest. A way to interpret the rule is that the Committee dislikes big movements in the funds rate and will avoid them. Clearly such a rule mimics the actual funds rate pretty closely.

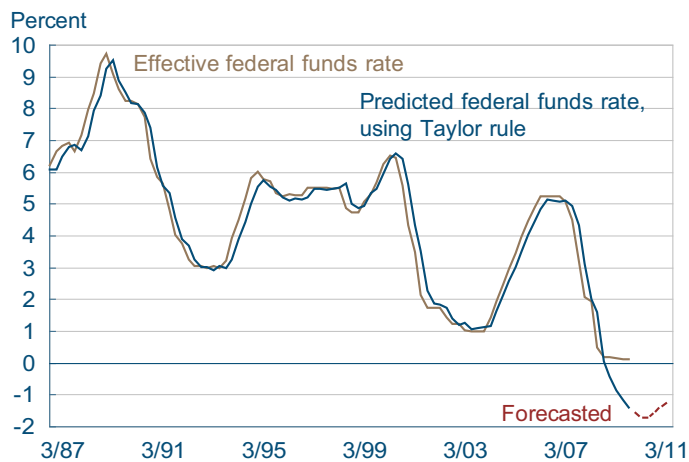
According to this simple rule, policy is still constrained by the zero lower bound and therefore we should not have expected a policy increase before now. But what does this rule say about the likelihood of monetary policy going forward? To answer this question we extend the Taylor rule projections using Blue Chip consensus estimates about what output growth and inflation will be over the next year and a half. Assuming trend output growth is roughly 2.1 percent we can back out estimates of where this monetary guidepost suggests the funds rate will be in the next year and a half. According to this metric, the extended period of time language still seems appropriate. Even a very small rate increase (25 basis points) is probably three or more quarters away.

But these are just estimates given highly uncertain projections. Indeed, policy changes are based on many more factors not considered here. Similarly, there is a lot of uncertainty about the size of today's output gap and the forecast of the gap and inflation going forward. Because of this, many argue that the Taylor rule provides little guidance for monetary policy given the small discrepancy between the predictions of the rule and 50-75 basis points funds rate.

However, an inertial rule is also identical to one where the Committee is not simply responding to today's inflation and today's output gap, but one where the Committee takes into account past inflations and past output gaps as well. For example, the rule responds to today's inflation directly, but yesterday's funds rate in the rule can be thought of as responding to yesterday's inflation. This process goes on, so that the rule is one where the Committee responds to a weighted average of past inflations and past output gaps. The weights decline the further back the rule looks. Given that policy is



## Backward-Looking Taylor Rule



Sources: Federal Reserve Board, Bureau of Labor Statistics, Congressional Budget Office, Bureau of Economic Analysis, Blue Chip *Economic Indicators* May 2010, authors' calculations.

currently constrained by the zero lower bound, the policy implications of why monetary policy is inertial can be different.

As the name suggests, the zero lower bound refers to the fact that policymakers cannot lower rates any further, even though the Taylor rule suggests that rates should have been negative, and policymakers would most likely have preferred negative rates. If the lagged funds rate is important because it is a short-hand way of saying that policy responds to a weighted average of past inflations and past output gaps, today's funds rate does not depend on yesterday's funds rate, but what policy would have been if the zero lower bound were not present.

Thus, with a zero lower bound, the inertial rule is equivalent to another variation of the basic Taylor rule, one which is much more backward-looking. This backward-looking rule also suggests that it is likely to be an "extended period" before rates are increased. Indeed, according to this version of the rule, even a year from now we will still be more than a percentage point below where we should be. Another way of expressing this point is to say that even if our estimates of the output gap are 1 ½ percent lower, a policy increase is still one year away.



# Has the Mortgage Market Run Out of Steam?

05.21.2010

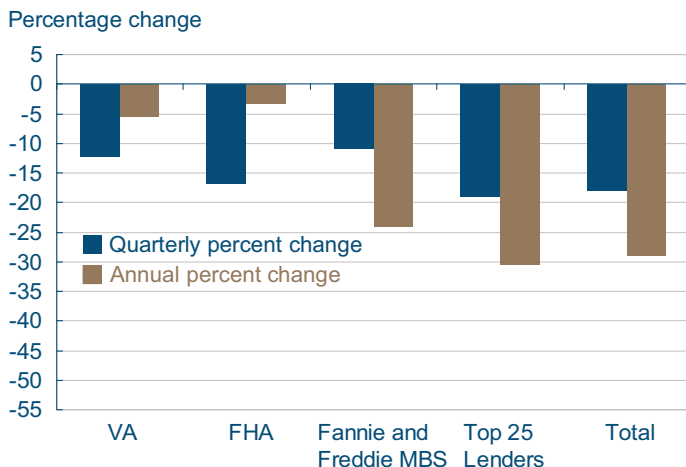
by Yuliya Demyanyk and Kent Cherny

Early last year, the Federal Reserve began purchasing large quantities of mortgage-backed securities (MBS) in a bid to stabilize the housing sector and the secondary market for mortgages. This intervention drove mortgage interest rates down to historic lows, and federal government stimulus measures, such as the tax credit for first-time home buyers, gave new purchasers additional financial resources. The result was a wave of mortgage originations in the middle of 2009, as homeowners refinanced existing mortgages and others bought houses for the first time. However, new origination data from Inside Mortgage Finance shows that origination volumes fell substantially in the first quarter of 2010. This suggests that the mortgage market may slow down now that the refinancing wave has passed and purchaser tax incentives have expired.

Overall originations fell almost 30 percent from the levels of 2009's first quarter, and there were steep drops in both new mortgage bonds and loans from the top 25 mortgage lenders, most of which are large or regional banks and some of the larger mortgage companies. Even FHA loans—which the federal government has relied upon heavily in its recent housing market strategies—showed declines.

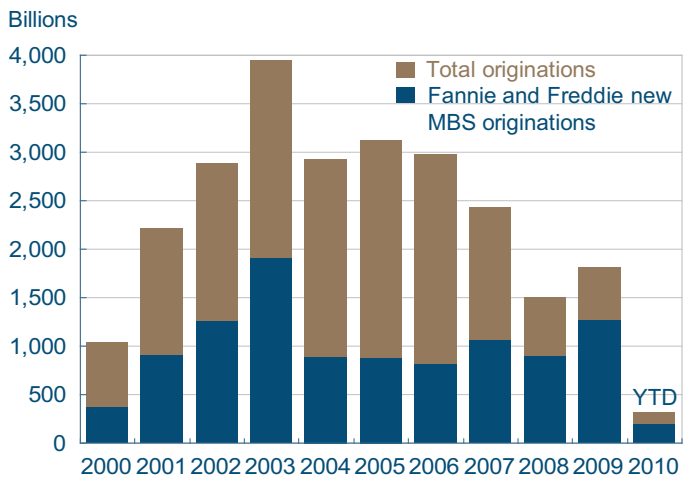
To account for the weakness in new originations, we looked for any obvious dislocations in the financing markets for new or refinanced mortgages. One major consideration is the operation of the government-sponsored enterprises Fannie Mae and Freddie Mac. Since the financial crisis erupted in late 2008, a large number of newly originated mortgages have been converted into bonds (MBSs), which are insured by these GSEs (that is, the federal government, since it has placed both companies into conservatorship.) Since the purchase of loans provides the original lenders with more capital to lend out, the GSEs are effectively financing new mortgage originations. As a result, large

## First Quarter 2010 Mortgage Origination



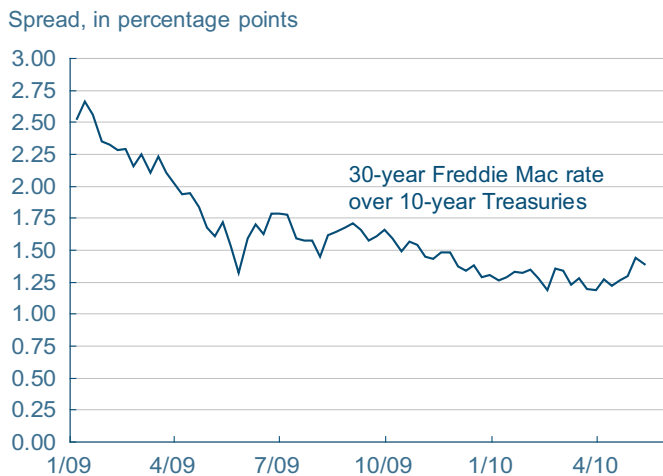
Source: Inside Mortgage Finance.

## Significance of Fannie and Freddie MBS



Source: Inside Mortgage Finance.

## Mortgage Bond Spread



Source: Federal Reserve Board.

upward movements in mortgage bond interest rates can signal investor concerns that might reduce new mortgage originations.

The relative riskiness of mortgage securities—here depicted as the spread of mortgage bond interest rates over 10-year Treasury security rates—did not change much in the first quarter of 2010, and rates on new mortgages are still near historical lows. A decline in mortgage bond issuance, then, does not seem to be the result of bond investors reappraising the riskiness of mortgage holdings, or any obvious hesitancy in the financial markets for mortgage assets.

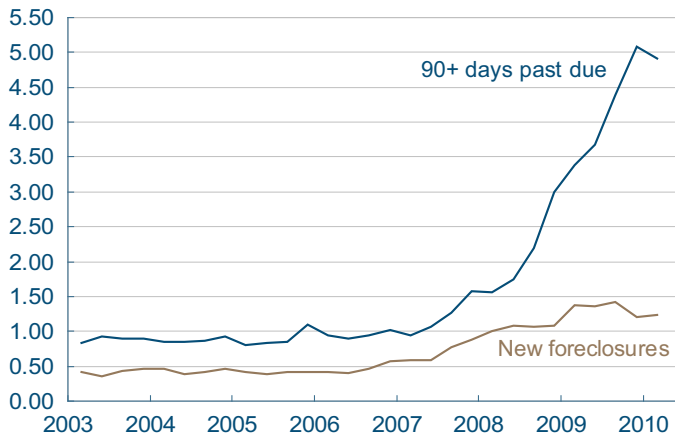
Without clear hindrances to mortgage origination on the supply side (that is, from credit providers), we can reasonably conclude that originations are falling because demand for new loans and homes is, likewise, declining. Most first-time home buyers must have applied for mortgages ahead of the initial deadline in early November of last year. The deadline was later pushed to the end of April, but the sluggish quarter-over-quarter origination data detailed above suggest that either fewer people used the tax credit after the deadline extension, or many originations were pushed into the month of April (and outside of our available data).

Likely, the decline in new mortgage activity is the result of two upward trends coming to a close. The first originated in last year's low interest rate environment, which allowed those homeowners who were financially sound to refinance their mortgages at lower rates, beginning many months ago. The second boost to housing—the federal tax credit—has also ended, a development that will weaken first-time buyers' demand going forward. Absent the force of these stimuli, originations are falling.

There are other factors weighing on the housing and mortgage markets as well. In particular, the performance of existing mortgages is worsening. Foreclosure starts ticked up 0.03 percent in the first quarter of 2010, after having fallen 0.22 percent in the fourth quarter of 2009. More noticeable, though, are loans that are seriously delinquent (90 or more days past due) and therefore on the precipice of foreclosure. These delinquency rates have more than tripled since 2008, and reports indicate

## Serious Delinquencies and Foreclosures

Percent of mortgages outstanding



Source: Mortgage Bankers Association.

that such mortgage performance problems are becoming increasingly broad-based, not limited to subprime loans or particular states. The weakened economy, then, and not regional housing markets or original loan quality, is beginning to account for more and more of the underperforming mortgages.

Increasingly poor performance in existing mortgages may threaten the possibility that new originations will regain the momentum lost in the first quarter. If the so-called “shadow inventory” of near-foreclosure homes puts downward pressure on home prices, it could lower home equity for existing homeowners and undermine their ability to refinance going forward. Falling prices could also make creditors less willing to lend (since homes serve as collateral for new mortgages) and home buyers more likely to wait for reduced prices.

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Federal Reserve Bank of Cleveland's *Economic Trends* “The Changing Composition of the Fed's Balance Sheet”:  
<http://www.clevelandfed.org/research/trends/2009/0909/02monpol.cfm>

*Inside Mortgage Finance* publications:  
<http://www.imfpubs.com/>

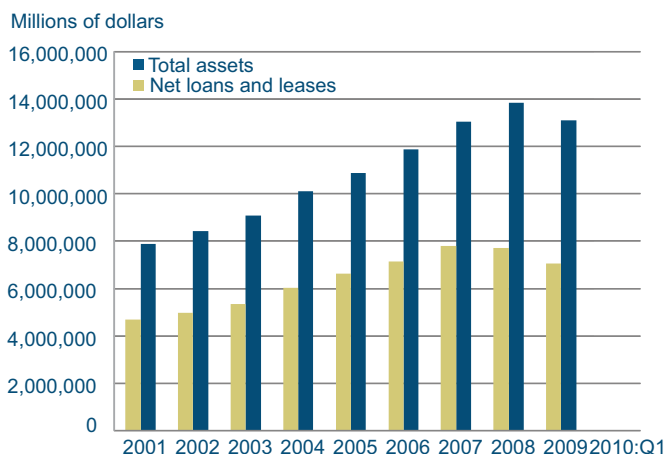
Calculated Risk's Mortgage Delinquencies by Period and by State:  
<http://www.calculatedriskblog.com/2010/05/mortgage-delinquencies-by-period-and-by.html>

# Current Banking Conditions, FDIC-Insured Institutions

## Assets and Loans of FDIC-Insured Institutions

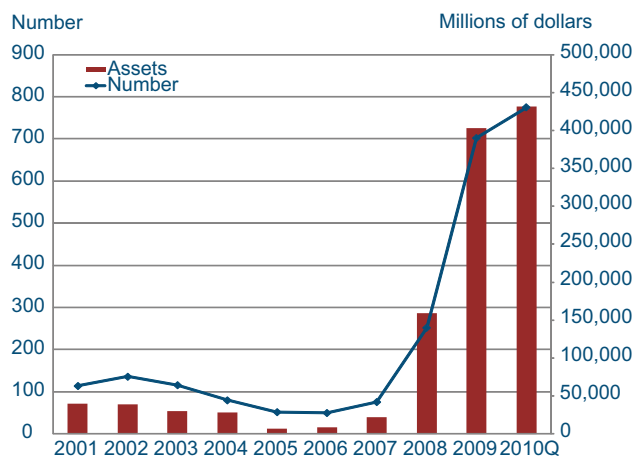
06.01.2010

by James B. Thomson



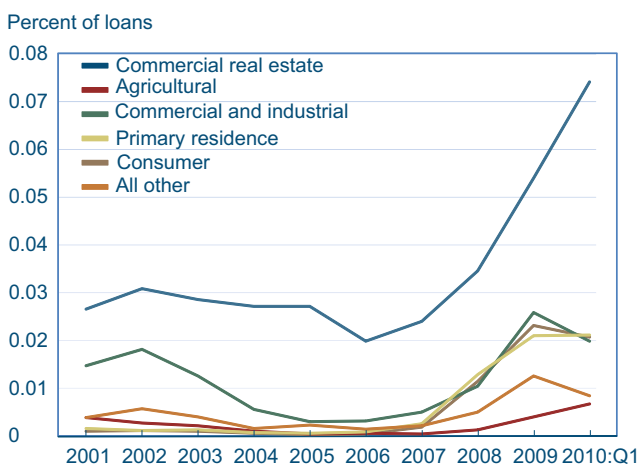
Source: Federal Deposit Insurance Corporation, *Quarterly Banking Profile*, first quarter 2010.

## Problem Banks



Source: Federal Deposit Insurance Corporation, *Quarterly Banking Profile*, first quarter, 2010.

## Net Charge-offs on Loans



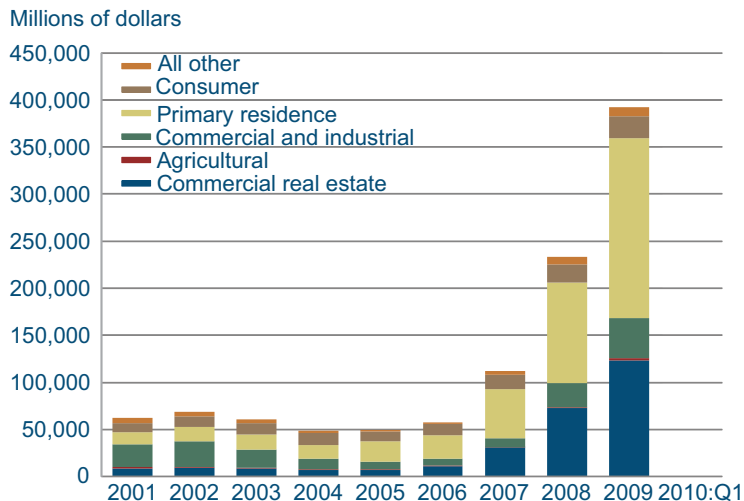
Source: Federal Deposit Insurance Corporation, *Quarterly Banking Profile*, first quarter 2010.

The latest financial data for depository institutions insured by the Federal Deposit Insurance Corporation (FDIC) show signs that the banking and thrift industries may be turning the corner. The first-quarter financial results for these firms, however, are at best mixed. The \$18 billion in earnings reported for the quarter were the best quarterly results in over two years. Moreover, the on-balance sheet assets of FDIC-insured institutions increased by nearly \$249 billion since the end of 2009, driven in part by a \$220 billion increase in on-balance sheet loans. The small increase in on-balance sheet assets and loans reflects a change in accounting rules. The rule change resulted in the consolidation of \$300 million of certain credit card receivables, which were previously carried off of banks' books, back onto the balance sheet. Without this change in accounting rules, assets and loans on the books of FDIC-insured institutions would have fallen slightly.

Another sign of weakness in the banking sector in the first quarter of 2010 is the increased number of institutions on the FDIC's list of problem institutions, the total of which now stands at 775. Problem institutions are FDIC-insured banks and thrifts with substandard examination ratings. Assets in problem institutions hit \$431 billion—their highest level in more than a decade. Moreover, 41 banks with more than \$22 billion in assets failed during the first quarter, setting the stage for 2010 to exceed the 140 bank failures in 2009.

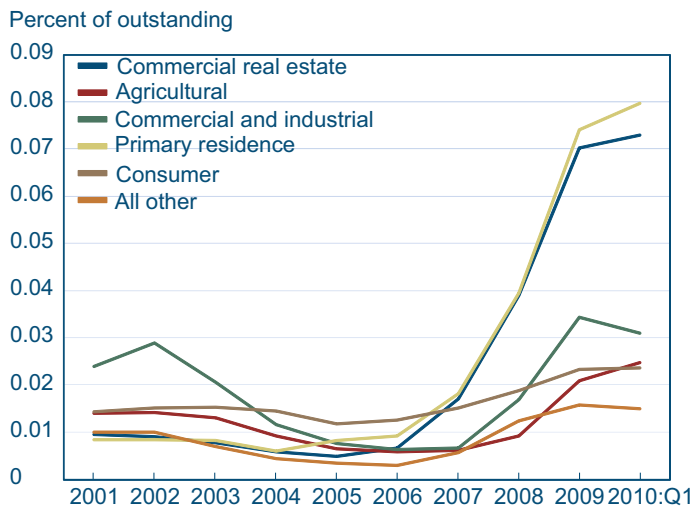
Asset quality remains a concern, as noncurrent loans (loans 90 days or more past due and still accruing interest, plus nonaccruing loans) totaled \$409 billion, or around 5.45 percent of total loans. Problem residential real estate loans—commercial and primary residence—account for 80 percent of noncurrent loans. There are some signs, however, that asset quality may be stabilizing, as the increase of noncurrent loans in the first quarter of 2010 was only 4 percent. The increase in noncurrent loans

## Loans 90 Days Past Due and Nonaccruing



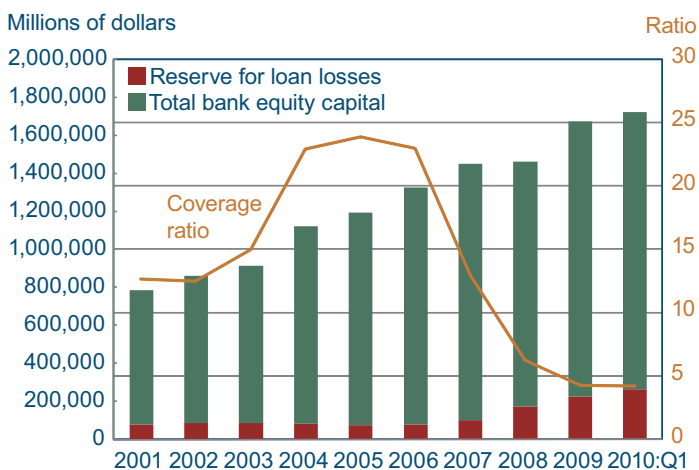
Source: Federal Deposit Insurance Corporation, *Quarterly Banking Profile*, first quarter 2010.

## Noncurrent Loan Rates



Source: Federal Deposit Insurance Corporation, *Quarterly Banking Profile*, first quarter 2010.

## Coverage for Loan Losses



in the first quarter of 2010 was driven primarily by problems in the residential real estate sector, which accounted for 70 percent of the increase in problem loans.

Problems in the real estate sector have had a particularly deleterious impact on asset quality for two reasons. First, loans for commercial real estate and primary residences collectively account for roughly 57 percent of loans held by FDIC-insured institutions. Second, the share of primary-residence loans and commercial real estate loans that were noncurrent at the end of the first quarter of 2010 were 7 and 9 percent, respectively—more than double the share of commercial and industrial loans that were noncurrent.

For six of the eight loan categories, losses as represented by net charge-offs (loans charged-off, less recoveries) as a percent of loans declined in the first quarter of 2010. Losses on agricultural loans increased slightly, from just over 0.4 percent to nearly 0.7 percent of agricultural loan balances. Of more concern are the rising losses on commercial real estate loans. Net charge-offs on these loans increased from over 5 percent at the end of 2009 to an annual rate of more than 7 percent of loan balances in the quarter.

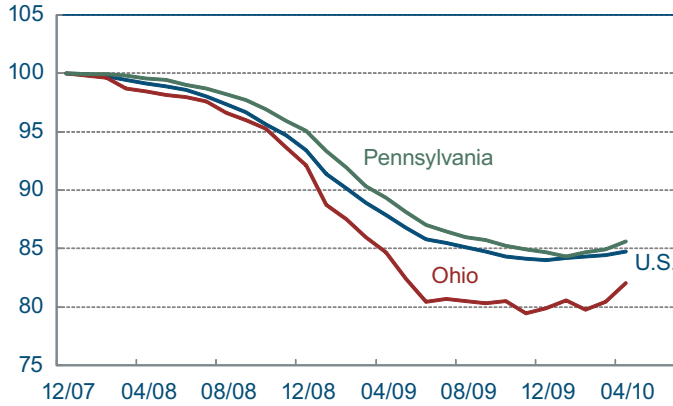
Despite some encouraging signs that the deterioration of loan quality is slowing and loan performance is stabilizing, concerns remain that the balance sheets of FDIC-insured institutions may continue to weaken. A major factor underpinning these concerns is the reduction in the ability of FDIC-insured institutions to absorb losses. The coverage ratio has fallen from nearly \$23.92 of loan-loss reserves and equity capital per dollar of noncurrent loans at the end of 2005 to \$4.21 of coverage at the end of first quarter of 2010. This decline in the coverage ratio occurred despite the fact that FDIC-insured institutions have been increasing their loan-loss reserves and equity capital lately. Unfortunately, the rate of the increase in noncurrent loans has swamped the ability of banks and thrifts to build up capital and loan-loss reserves.

# Recent Manufacturing Employment Growth

06.01.2010  
by Kyle Fee

## Manufacturing Payroll Employment

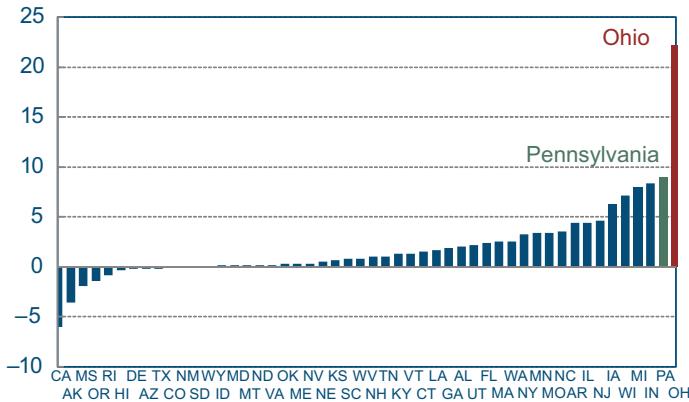
Index, December 2007 = 100



Source: Bureau of Labor Statistics.

## Share of National Manufacturing Gains, April 2010

Percent



Note: Negative values means that states lost manufacturing jobs in April.  
Source: Bureau of Labor Statistics.

Over the past few months, the labor market has begun to show signs of stabilization. Lost in the excitement of multiple positive employment reports has been growth in the manufacturing industry. Even though industrial production numbers have been trending upward since last June, national manufacturing employment has only recently posted gains, adding 101,000 jobs in the first four months of 2010, while Fourth District states have been at the forefront of manufacturing employment growth.

There is no question that the recession has had profound effects on manufacturing employment, as the nation, Ohio, and Pennsylvania have all experienced declines in excess of 15 percent since December 2007. However, it appears that manufacturing employment stabilized in the first quarter of 2010 and is poised for job gains as the recovery gains momentum.

While manufacturing employment fell in Ohio by almost 20 percent over the course of the recession, the state has been the primary location for recent gains in manufacturing employment. Ohio leads all states in its share of national manufacturing employment gains, accounting for 22 percent of the national increase, followed by Pennsylvania at 9 percent.

Breaking out manufacturing employment into durable and nondurable goods production shows that Ohio and Pennsylvania differ in their sources of employment growth. Ohio, like the nation, has seen most of its recent growth in the production of durable goods, while Pennsylvania's growth has been driven by the production of nondurable goods. This is most likely due to the concentration of particular manufacturing sectors within each state.

Going forward, Ohio and Pennsylvania are not expected to continue leading all states in manufacturing employment, gains given longer-term

# Share of Manufacturing Gains, April 2010

	Durable goods (percent)	Nondurable goods (percent)
Ohio	70.7	29.3
Pennsylvania	38.6	61.4
Nation	68.2	31.8

Source: Bureau of Labor Statistics.

employment trends in the manufacturing industry. However, it could be a pleasant surprise as the recovery plays out.



## Economic Projections from the April FOMC Meeting

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05.21.10

by Brent Meyer

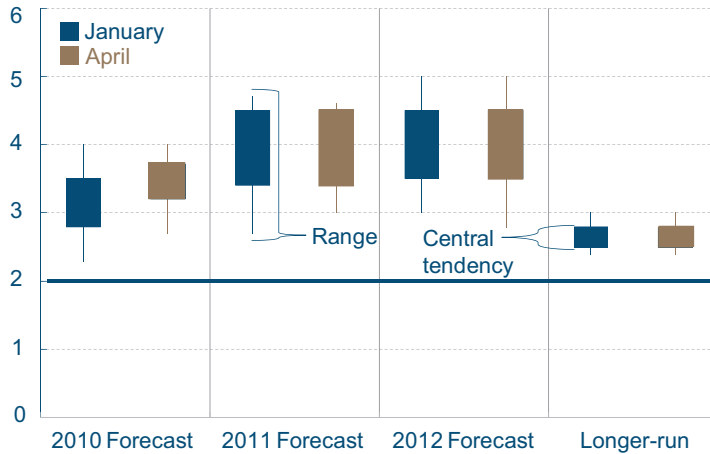
The economic projections of the Federal Open Market Committee (FOMC) were released along with the minutes of the meeting on April 27-28. (The Committee's projections are released four times a year: January, April, June, and November). As usual, the projections were based on the information available at the time, as well as participants' assumptions about the economic factors affecting the outlook and their view of appropriate monetary policy. Appropriate monetary policy is defined as "the future policy that, based on current information, is deemed most likely to foster outcomes for economic activity and inflation that best satisfy the participant's interpretation of the Federal Reserve's dual objectives of maximum employment and price stability."

Data available to FOMC participants on April 27-28 continued to confirm that the economy is in the midst of a nascent recovery, although the pace of recovery is expected to be somewhat slower than average. Notably, private payrolls increased in the first quarter of 2010 for the first time since the fourth quarter of 2007 (when the recession began). Available data suggested that consumer spending had improved more this quarter than in the fourth quarter, when it made modest gains. Manufacturing output jumped 6.3 percent in the first quarter, following a robust 5.5 percent gain in the fourth quarter. However, the data pointed to a bifurcated investment profile, with strong gains in equipment and software investment and continued deep decreases in business fixed investment. Also, data on residential construction pointed to some pullback after a steep run-up prior to the original tax-credit deadline.

The Committee's current forecasts for economic growth are very similar to those prepared in January, though somewhat higher in the near term, owing to the incorporation of some stronger-than-expected data. In 2010, the central tendency rose from 3.2 percent to 3.7 percent, an upward shift of

## FOMC Projections: GDP

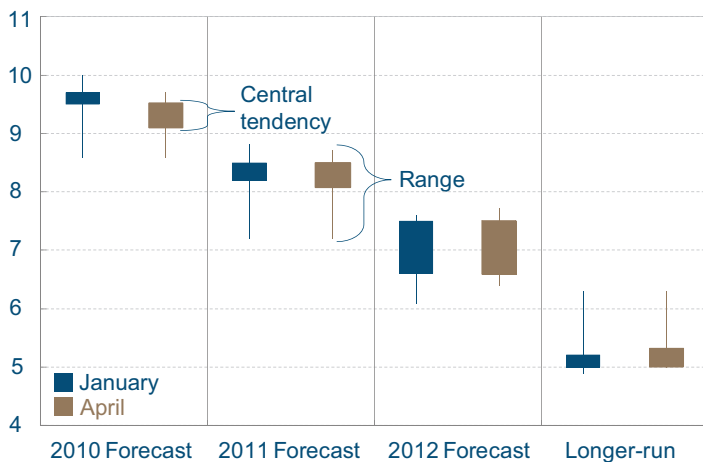
Annualized percent change



Source: Federal Reserve Board.

## FOMC Projections: Unemployment Rate

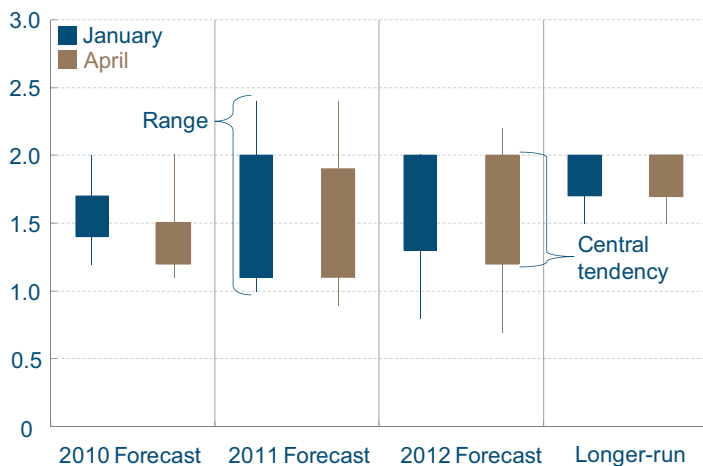
Annualized percent change



Source: Federal Reserve Board.

## FOMC Projections: PCE Inflation

Annualized percent change



Source: Federal Reserve Board.

roughly 0.3-0.4 percentage point. Still, this forecast is somewhat more muted than historical patterns based on the depth of the contraction would suggest. The committee continued to point to “uncertainty” on the part of businesses and households, and “only gradual” labor-market improvements as limiting the pace of the recovery. The central tendency for 2011 and 2012 in the April projections is qualitatively similar to January’s projections. Committee participants noted that “it would take some time” for the economy to “fully converge” to its longer-run trend, though only a few thought that it would take longer than five or six years.

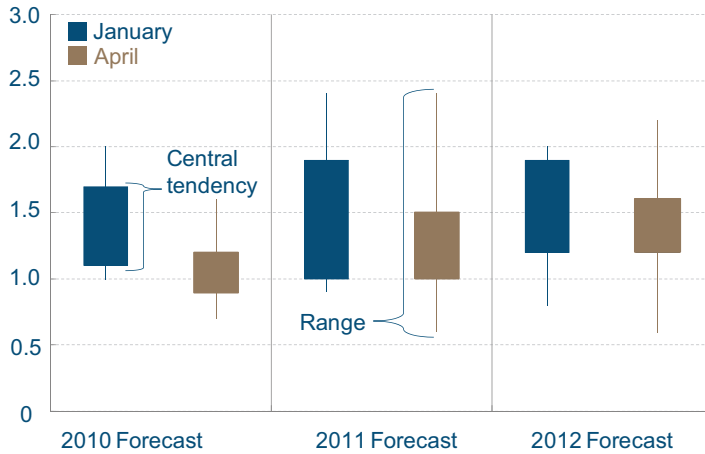
In a move that likely reflected an upward revision to near-term output growth, the Committee shaded down its 2010 projection for unemployment from a central tendency of 9.5-9.7 percent to 9.1-9.5 percent. However, participants’ forecasts still have unemployment remaining stubbornly high in 2012, with a central tendency between 6.6 percent and 7.5 percent, well above the central tendency in the longer-run estimates of 5.0 percent to 5.3 percent.

Committee participants revised down their estimates for Personal Consumption Expenditures (PCE) and core PCE inflation in 2010, as recent readings came in relatively low. In fact, the three-month annualized growth rate in the core PCE price index has been below 1.0 percent since January. Moreover, the release noted that participants, “generally anticipated that inflation would remain subdued over the next several years.” Indeed, the upper bound of the central tendency for core PCE in 2011 and 2012 did decrease relative to January’s projections. However, it is still clear that there is some disagreement among Committee participants, as the range widened to 0.6 percent and 2.4 percent in 2011 and 0.6 percent and 2.2 percent in 2012.

In the minutes of April’s FOMC meeting, most participants noted that uncertainty was higher than historical norms for all forecasted variables, and they generally judged the risks as roughly balanced for output and unemployment. Nearly all Committee participants regarded the risks to their respective inflation forecasts as “balanced,” though there were a couple of participants who weighted the inflation risk to the downside. That said, many participants

## FOMC Projections: Core PCE Inflation

Annualized percent change



Source: Federal Reserve Board.

noted that inflation expectations remained “well-anchored,” offsetting the downward response of inflation to continued economic slack. Others cited a risk that both inflation and inflation expectations may drift upward “especially if extraordinarily accommodative monetary policy measures were not unwound in a timely fashion.”

## Three Headwinds on the Current Recovery

06.04.2010

by Filippo Occhino and Kyle Fee

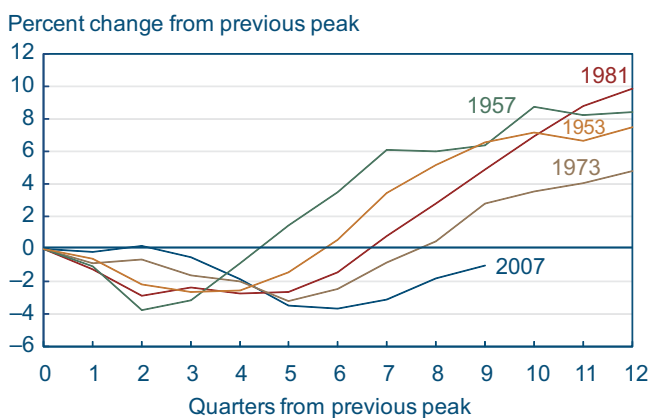
As many commentators have noted, the recession of 2007–2009 has been one of the most severe since the Great Depression. Among all postwar recessions, it has been the longest, lasting from December 2007 to mid-2009, and it has suffered the largest increase in the unemployment rate, which went from 4.8 in February 2008 to 10.1 in October 2009.

Whereas recoveries after severe recessions have been generally V-shaped, that is, very rapid, the current recovery has been remarkably sluggish. It has been two and a half years since the beginning of the recession, and real GDP is still about 1 percent below the peak it last reached in the fourth quarter of 2007.

Why has the current recovery been so slow? Moreover, the forecast for the growth rate of GDP is quite low as well. Two headwinds on the current recovery were identified by the president of the Cleveland Fed, Sandra Pianalto, in a recent speech. The first is damage done to the labor market by prolonged and widespread unemployment. The percentage of workers unemployed long-term recently reached a historically high level. When workers remain unemployed for a long period, they are likely to become less productive in subsequent jobs. The large number of long-term unemployed workers is then a factor that may reduce aggregate productivity and may constrain economic growth going forward.

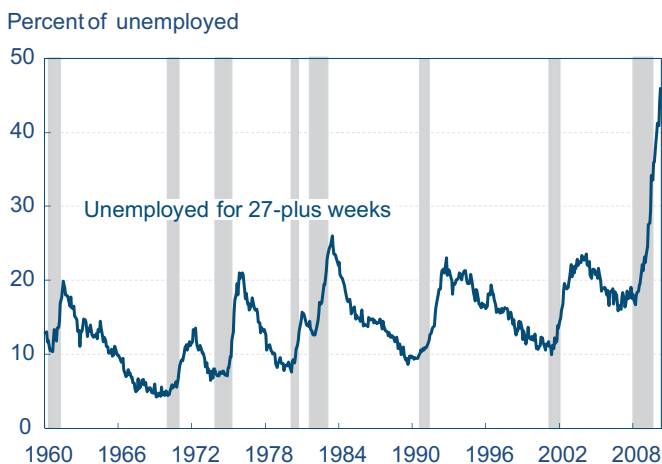
The second headwind is the heightened sense of caution on the part of consumers and businesses due to deep economic uncertainty. In a more uncertain environment, consumers and businesses tend to be more cautious and delay spending and investment. One indicator of economic uncertainty is the volatility of the GDP growth rate. It measures the amplitude of fluctuations of the growth rate around its mean. After averaging 4.75 percent from 1950 to 1984, volatility fell to an average of

### Real GDP



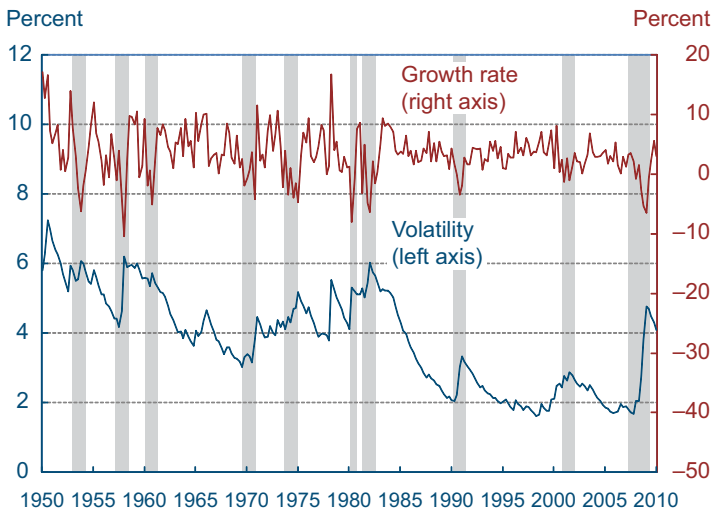
Source: Bureau of Economic Analysis.

### Unemployment Duration



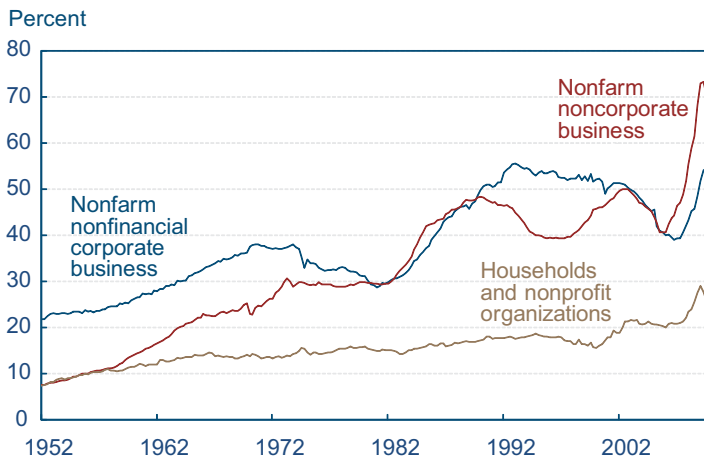
Note: Shaded bars indicate recessions.  
Source: Bureau of Labor Statistics.

## Real GDP



Note: Shaded bars indicate recessions.  
Source: Bureau of Economic Analysis.

## Debt as a Percentage of Net Worth



Source: Federal Reserve Board.

2.5 percent during the so-called Great Moderation. Recently, however, GDP volatility has spiked back to levels above 4 percent, pointing to an increase in uncertainty about future GDP growth.

Besides these two headwinds, an additional factor that may constrain the current recovery is ongoing financial imbalances. The household sector and the business sector owe too much debt relative to the value of their assets. During the economic expansion that preceded the recent financial crisis, both sectors became more indebted. The sudden fall of asset prices that occurred during the crisis caused a rapid deterioration of leverage ratios (ratios of liability to asset values). As a result, the balance sheets of businesses and households are currently very weak, with both high levels of debt and low asset values contributing to the weakness. The ratio of debt to net worth is very high, by historical standards, for several sectors of the economy.

Weak balance sheets are known to depress spending and investment through several channels. For one thing, they reduce the availability and increase the cost of external funds, which businesses need to finance new investment projects. Also, when debt is large, interest payments are likewise large, and this burden directly reduces the internal funds available for spending. Furthermore, the desire by businesses and households to repair their balance sheets encourages saving and discourages spending. Finally, the overhang of existing debt distorts firms' incentives to invest, leading them to invest less than would be optimal if they had fewer liabilities. Through all these channels, the weak balance sheets of the household and business sectors are likely to be a drag on consumption and investment for a while, making them another headwind on growth.

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