Economic Trends

February 2009
(Covering January 9, 2008 to February 12, 2009)

In This Issue

December Price Statistics

01.27.09
by Brent Meyer

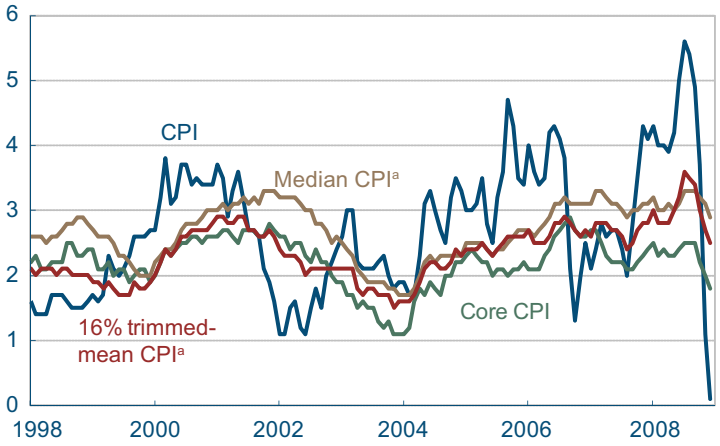
December Price Statistics

	Percent change, last					
	1mo.[a]	3mo.[a]	6mo.[a]	12mo.	5yr.[a]	2007 avg.
Consumer Price Index						
All items	−8.5	−12.7	−5.4	0.1	2.7	4.2
Less food and energy	−0.2	0.3	1.2	1.8	2.2	2.4
Median[b]	0.6	1.6	2.7	2.9	2.8	3.1
16% trimmed mean[b]	0.1	−0.2	1.5	2.5	2.6	2.8
Producer Price Index						
Finished goods	−20.7	−24.3	−13.2	−1.2	3.1	7.1
Less food and energy	2.1	2.9	4.4	4.3	2.4	2.1

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, Core CPI, and Trimmed-Mean CPI Measures

12-month percent change



a. Calculated by the Federal Reserve Bank of Cleveland.
Sources: U.S. Department of Labor, Bureau of Labor Statistics, Federal Reserve Bank of Cleveland.

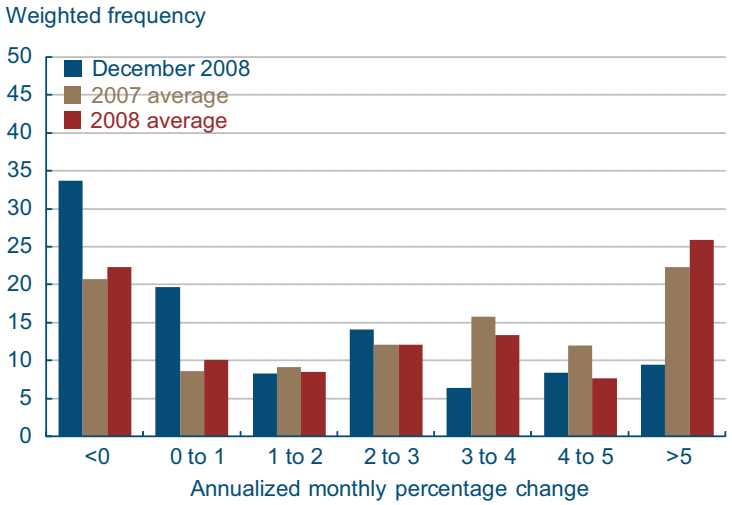
After posting a decline of 8.5 percent (annualized rate) in December, the CPI finished the year up only 0.1 percent on a year-over-year basis, its lowest yearly price appreciation since 1945. This comes just months after the 12–month growth rate of the CPI was running at a 17-year high of 5.6 percent. As expected, plummeting energy prices (namely a 17 percent slide (nonannualized) in gas prices) caused much of the headline decrease in December.

The core CPI was virtually unchanged during the month, falling just 0.2 percent at an annualized rate. Over the past three months, the core CPI has actually decreased 0.3 percent, its first negative growth rate since September 1960. It seems, at least on the surface, that retail prices on many nonessential consumer goods fell in December: Apparel prices decreased 10.7 percent (annualized rate), recreation prices fell 2.4 percent (the largest decrease in a little over nine years), and personal care product prices (toiletries, perfumes, haircuts, and so on) fell 2.1 percent (their steepest decline on record, though this series, in its current form, goes back only to 1999).

The Federal Reserve Bank of Cleveland's measures of underlying inflation trends, the median CPI and the 16 percent trimmed mean rose 0.6 percent and 0.1 percent, respectively. This is a much tighter dispersion than during the prior five months. The average absolute difference (since 1983) between the annualized percent change in the median CPI and the 16 percent trimmed-mean measure is about 0.5 percentage point. From July to November, the average absolute difference between the two measures was 2.2 percentage points.

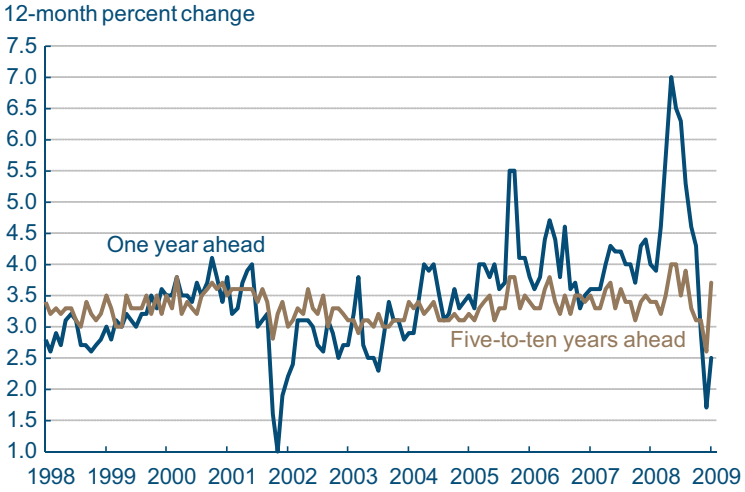
The underlying price distribution shows that more than half of the index (53 percent, by expenditure weight) rose at rates of less than 1.0 percent in December, up a bit from November's 44 percent, while 34 percent exhibited price decreases in December (up from November's 30 percent). On the

CPI Component Price Change Distributions



Source: Bureau of Labor Statistics.

Household Inflation Expectations



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

Source: University of Michigan.

other side of the distribution, just 24 percent of the CPI increased in excess of 3.0 percent in December, down substantially from 49 percent in November.

As mentioned before, the longer-term trend (12-month growth rate) in the CPI plummeted all the way to 0.1 percent during December. Measures of underlying inflation (core, median, and trimmed-mean CPI measures) all ticked down in December and are ranging between 1.8 percent and 2.9 percent.

Given the recent downward momentum in consumer prices, consumer inflation expectations curiously jumped in January (according to the preliminary release by the University of Michigan). One-year-ahead average inflation expectations increased to 2.5 percent, up from a recent low of 1.7 percent in December. Longer-term (5- to 10-year) average inflation expectations, after a brief stint below 3.0 percent last month, spiked up 1.1 percentage points to 3.7 percent in January.

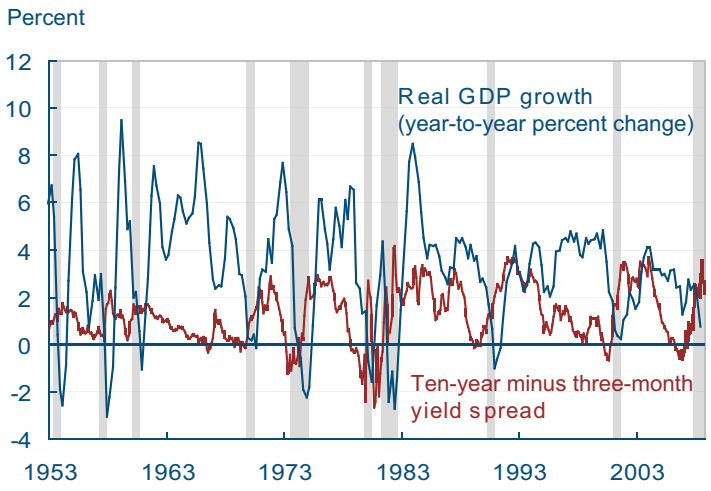
Financial Markets, Money, and Monetary Policy

The Yield Curve, January 2009

01.20.09
by Joseph G. Haubrich and Kent Cherny

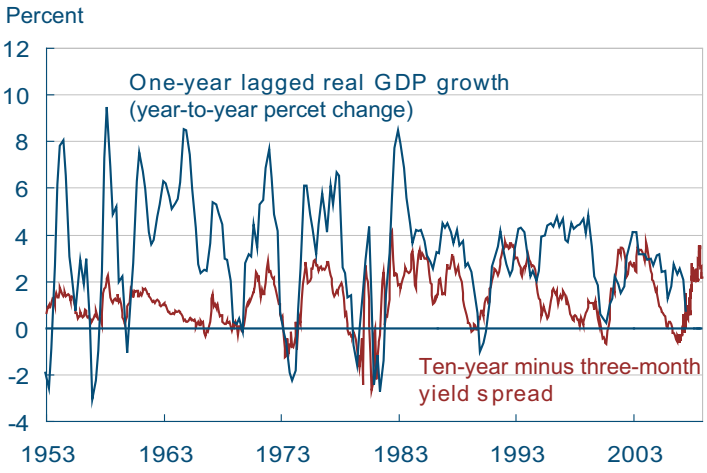
In the midst of all the depressing news about the economy, the yield curve might provide a slice of optimism. Not everyone sees it that way, however. Nobel prize winner and New York Times columnist Paul Krugman disagreed with our assessment last month of the yield curve's implications for economic growth.

Yield Spread and Real GDP Growth



Note: Shaded bars represent recessions.
Sources: Bureau of Economic Analysis, Federal Reserve Board.

Yield Spread and One-Year Lagged Real GDP Growth Source



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

So what's the argument about? Many financial analysts have come to view the slope of the yield curve (the difference between long and short rates) as a simple forecaster of economic growth. Krugman questions how well it does so in the current financial environment.

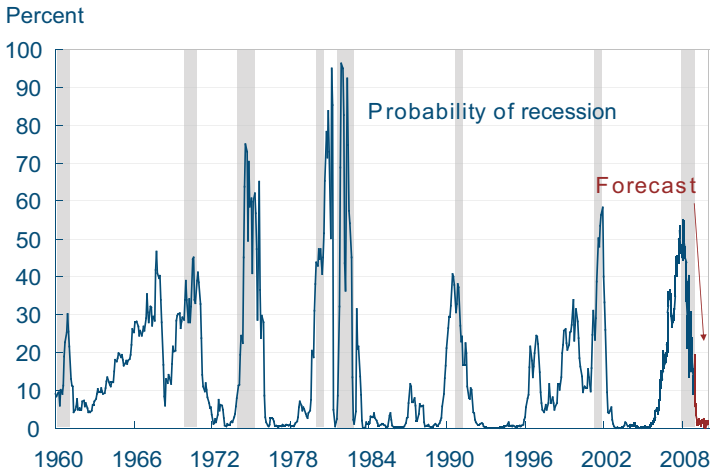
The rule of thumb is that an inverted yield curve (short rates above long rates) indicates a recession in about a year, and yield curve inversions have preceded each of the last seven recessions (as defined by the NBER). In particular, the yield curve inverted in August 2006, a bit more than a year before 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 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.

Professor Krugman thinks the zero bound on nominal interest rates makes the current prediction suspect, at best. He argues that since short rates can't go down any further, long rates—as (more or less) the average of expected short rates—have to be above current short rates. This is a good point, but not decisive, for two reasons.

First, we don't know for sure that the information content of the yield curve represents solely the expectations of future short rates—it might include a residual component of the long rate, sometimes called the risk premium. Also, the length of time short rates remain low will affect the level of long rates—which means that higher long rates could indicate that market participants see an improving economy, with short rates moving up relatively soon.

Secondly, Krugman points out that in Japan, the yield curve had a positive slope all through its "lost decade." Another good point, but it's not clear that Japan's situation is all that comparable with that of the United States. Has Japan's yield curve been a useful predictor of economic growth, even outside zero-bound times? In the U.S., the yield curve

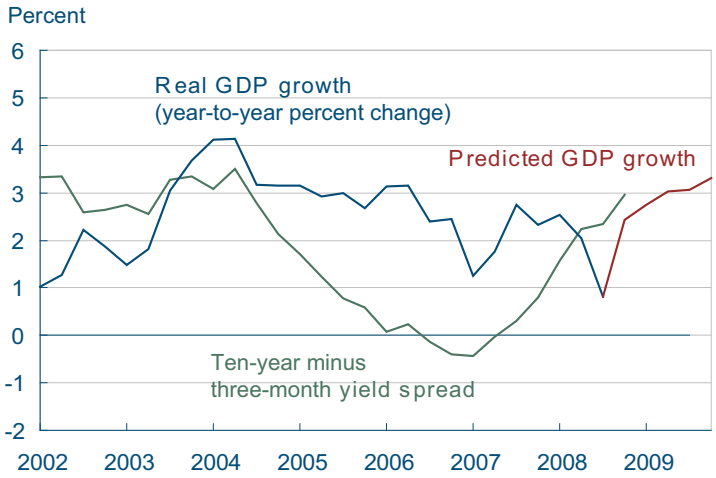
Probability of Recession Based on the Yield Spread



Note: Estimated using probit model.

Sources: Department of Commerce, Bureau of Economic Analysis; Board of Governors of the Federal Reserve System; author's calculations

Yield Spread and Predicted GDP Growth



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

has been a good predictor of growth, even going back to the 19th century (as pointed out here[1] and here[2]). The curve's forecasting power is more than just as a predictor of where the Fed will move the federal funds rate, because it worked even before there was a Fed. Still, given it is a statistical relationship (however robust), we can't be sure why it works, or the circumstances under which it won't.

Though the slope of the yield curve has flattened since last month, with long rates falling and short rates inching up, the difference between them remained strongly positive. The 3-month rate edged up from the miniscule 0.02 percent to a still tiny 0.11 percent (for the week ending January 9). The 10-year rate dropped from 2.67 percent to 2.48.

Consequently, the slope decreased to 237 basis points, down from December's 265 basis points and November's 331. The flight to quality, the zero bound, and the turmoil in the financial markets may impact the reliability of the yield curve as an indicator, but projecting forward using past values of the spread and GDP growth suggests that real GDP will grow at about a 3.3 percent rate over the next year. This remains on the high side of other forecasts, many of which are predicting reductions in real GDP.

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. But the yield curve can also be used 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 January stands at a low 1.11 percent, up a bit from December's 0.5 percent.

The probability of recession coming out of the yield curve is very low, and may seem strange the in the midst of the recent financial news, but one aspect of those concerns has been a flight to quality, which lowers Treasury yields. Furthermore, both the federal funds target rate and the discount rate have remained low, which tends to result in a steep yield curve. Remember also that the forecast is for where the economy will be next year, not where it is now.

Consider that, in the spring of 2007, the yield

curve was predicting a 40 percent chance of a recession in 2008, something that looked out of step with other forecasters at the time.

To compare the 1.11 percent to some other probabilities, and learn more about different techniques of predicting recessions, head on over to the Econbrowser blog.

Of course, it might not be advisable to take this 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, 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? "

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1. For more on the yield curve as a predictor of growth: http://www.mitpressjournals.org/doi/abs/10.1162/rest.90.1.182

2. http://www.sciencedirect.com/science?_ob=MImg&_imagekey=B6V84-4NVT9PD-1-1&_cdi=5860&_user=6754171&_orig=browse&_coverDate=04%2F30%2F2008&_sk=999009998&view=c&wchp=dGLbVlb-zSkzS&md5=764d5e9c5a38faba494ec88a0ba63cee&ie=/sdarticle.pdf

For Paul Krugman's column: http://krugman.blogs.nytimes.com/2008/12/27/the-yield-curve-wonkish/

For the NBER's recession dating procedure: http://www.nber.org/cycles/recessions.html

To read more on other forecasts: http://www.econbrowser.com/archives/2008/11/gdp_mean_estima.html

For more on predicting recessions at the Econbrowser blog: http://www.econbrowser.com/archives/2008/02/predicting_rece.html

"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

Credit Easing: A Policy for a Time of Financial Crisis

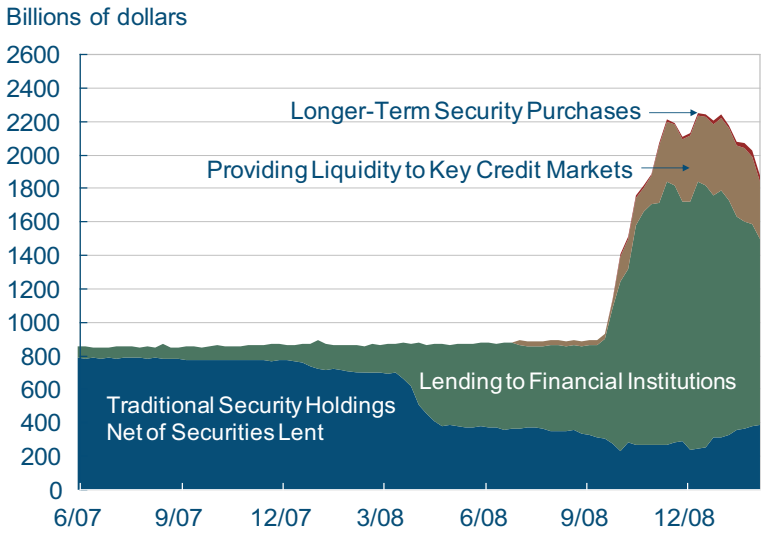
02.11.09
by John B. Carlson, Joseph G. Haubrich, Kent Cherny, and Sarah Wakefield

In a lecture at the London School of Economics on January 13, 2009, Federal Reserve Chairman Ben Bernanke added some clarity to the Fed's policy response to the current financial crisis. Against the backdrop of its traditional policy tools—changes to the federal funds rate target and loans made through the discount window—the chairman described a framework for understanding the new tools that have been created and employed to support credit markets and restore their functioning. These tools, he pointed out, enable the Fed to respond aggressively to the crisis even though the federal funds rate stands near zero.

One common feature of the new tools is that "They all make use of the asset side of the Federal Reserve's balance sheet. That is, each involves the Fed's authorities to extend credit or purchase securities." In this way, the Fed can supplement its traditional monetary policy tools by changing the mix of the financial assets it holds, stimulating specific troubled markets in the process. Chairman Bernanke calls the approach "credit-easing" to distinguish it from the one taken by the Bank of Japan ("quantitative easing") when it was in a similar, zero-interest-rate environment. Quantitative easing focuses on the quantity of reserves generated by policy actions, rather than the mix of assets.

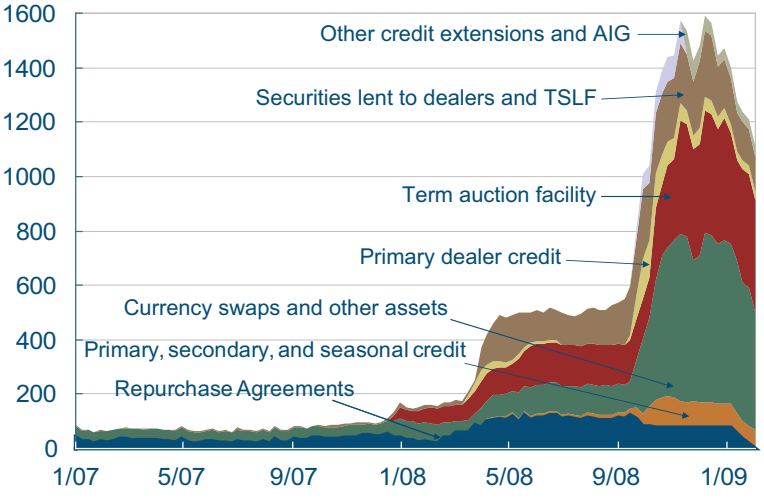
While many new, seemingly diverse credit-easing tools have been introduced, Bernanke divides them into three groups: lending to financial institutions, providing liquidity to key credit markets, and purchasing longer-term securities. Most of the tools are an extension of the Fed's traditional role as lender of last resort, the purpose of which is to ensure that healthy financial institutions have access to sufficient short-term credit, particularly during times of financial stress. The use of the new lending facilities has dramatically affected both the composition and size of the Fed's balance sheet.

Credit Easing Policy Tools



Source: Federal Reserve Board

Lending to Financial Institutions



Source: Federal Reserve Board.

Initially, as lending to financial institutions expanded in response to the crisis, it merely displaced securities held outright—the traditionally dominant asset in the Fed's portfolio. With the failure of Lehman Brothers in September 2008, lending to financial institutions rose sharply, increasing the size of the Fed's portfolio. Soon after, the size of the assets accumulated as the other two groups of policy tools began to increase as well. Since the beginning of December, however, the total size of the portfolio has diminished, as several of the newly created lending facilities have begun to unwind.

Lending to Financial Institutions

Over the course of the financial crisis, innovative approaches have been needed to ensure that financial institutions have access to short-term credit. Traditionally, the Fed has offered short-term loans to banks through its discount window—most typically over a business day. Such loans are usually secured with very high-quality collateral. Loans to depository institutions in pristine financial condition are classified as primary credit, and banks that do not qualify for primary credit or need to resolve severe financial issues must apply for secondary credit. Unfortunately, there is a stigma associated with discount-window borrowing, and as the financial crisis progressed, the Fed grew concerned that banks were reluctant to tap this critical source of liquidity.

To overcome the stigma problem, the Federal Reserve unveiled the Term Auction Facility (TAF) in December 2007. The TAF auctions funds to depository institutions against the same kinds of collateral that can be used to secure funds at the discount window. But because healthy banks are just as likely to participate in the auction as those in trouble, individual banks are not assumed to be under distress just because they use the facility. The facility has promoted an efficient distribution of liquidity.

At the same time it introduced the TAF, the Federal Reserve announced it would extend currency swap lines with the European Central Bank and the Swiss National Bank. The swap lines provide these central banks with dollars, which they can use to supply liquidity to credit markets in their jurisdictions that

are based on dollars.

Despite the success of the TAF, financial conditions worsened in early 2008, especially in March when Bear Stearns collapsed. Liquidity became scarce again when a highly leveraged hedge fund defaulted on a loan, making creditors even more cautious. Another problem emerged as a shortage of Treasury securities in the marketplace threatened to interfere with the process of reducing leverage. In more tranquil times, both U.S. Treasury securities and triple-A rated private mortgage-backed securities serve as collateral in private borrowing arrangements. Not so in today's environment. Many lenders will now accept only Treasury securities as collateral, and shun the triple-A rated mortgage-backed securities. Some creditworthy borrowers are shut off because they do not have Treasury securities. To deal with the shortage of collateral, the Federal Reserve introduced two new policies: the Term Securities Lending Facilities (TSLF) and the Primary Dealer Credit Facility (PDCF).

The TSLF extended the borrowing term and expanded the types of collateral primary dealers could provide in order to borrow Treasury securities from the Fed. Primary dealers can now hold the securities for up to 28 days (extended from overnight) and provide less-liquid securities as collateral, including federal agency debt, federal agency mortgage-backed securities, and non-agency AAA private mortgage-backed securities.

The PDCF authorized the Federal Reserve Bank of New York to create a lending facility for primary dealers. Under the PDCF, credit extended to primary dealers can be collateralized by a broad range of investment-grade debt securities. This facility extended the Fed's typical liquidity support facilities to the nonbank broker-dealers and investment banks that the Fed and Treasury transact with on a regular basis. In effect, it created a temporary "discount window" for the some of the largest non-depository institutions. Because the new facilities involved lending to institutions not explicitly allowed for under the Federal Reserve Act, the Fed needed to invoke its authority under section 13(3) of the Act which allows such credit under exigent and emergency conditions.

In September of 2008, the Board of Governors expanded the types of collateral that would be accepted at the TSLF and the PDCF. The TSLF now accepts all investment-grade securities and the PDCF accepts any collateral acceptable in tri-party repo systems. The currency swap lines with the ECB and SNB were also increased at that time, and new swap lines with other central banks were authorized, including the Bank of Japan, the Bank of England, and the Bank of Canada.

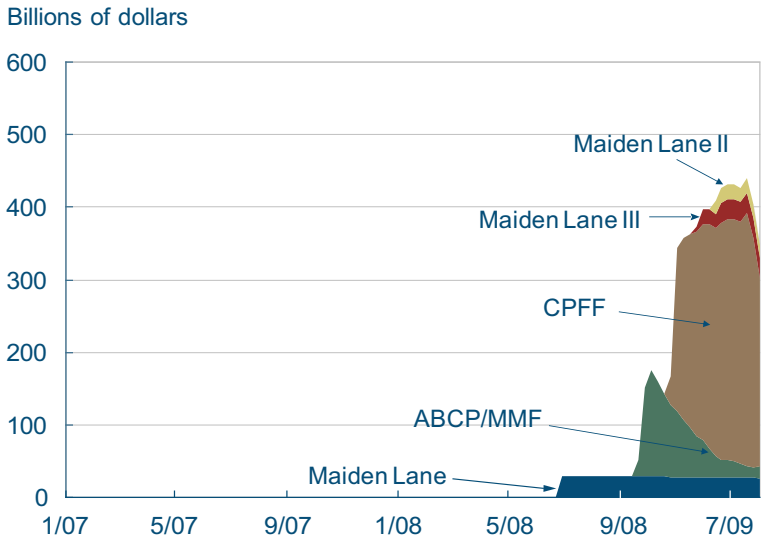
Under section 13(3) of the Federal Reserve Act, the Federal Reserve was able to extend loans directly to a distressed financial institution, namely AIG. The loan is collateralized by all of AIG's assets, and the U.S. government received a 77.9 percent equity interest in AIG.

Providing Liquidity to Key Credit Markets

In spite of these creative devices and their success in funneling massive amounts of liquidity to financial institutions, credit markets were still faltering. One problem was that Fed-supplied liquidity was not necessarily being transferred to credit markets by the financial institutions that had obtained it. Another was that lending to financial institutions was not addressing credit strains in nonbank markets. Over the past two decades, financial intermediation has gradually shifted away from bank lending and toward the capital markets. Because of this shift, stabilizing the financial system requires the Federal Reserve to target the specific lending markets that many companies depend on for short- and long-term financing. The Fed introduced a number of tools intended to support the functioning of these credit markets by providing them access to liquidity.

The first of these markets was money market mutual funds. These funds hold trillions of dollars of short-term government and private sector debt, earning a low-but-steady return for investors who favor the preservation of principal over longer-term, higher-return investments. Following the Lehman Brothers failure, some of these funds sustained losses when they found themselves holding nearly-worthless Lehman debt. The news of losses was threatening to freeze the market (most investors choose money market funds to avoid losses of

Providing Liquidity to Key Credit Markets



Source: Federal Reserve Board.

any kind). Four days after Lehman Brothers filed for bankruptcy, the Federal Reserve announced a new lending facility intended to provide a liquidity backstop for these funds. The facility provides a way for banks to finance the purchase of asset-backed commercial paper from the money funds. The effect of the announcement was to permit an orderly management of withdrawals from the money funds, preventing a liquidation of assets at distressed prices, which could have destabilized the funds' net asset values.

The Fed's Commercial Paper Funding Facility (CPFF) was introduced on October 7 to support the commercial paper market. Commercial paper is short-term (overnight to 270-day maturity) debt issued by corporations, often to manage cash needs in the short run, such as payroll obligations. It is most often unsecured, but in recent years many financial institutions secured their paper (called "asset-backed commercial paper") with their holdings of long-term assets, most notably mortgage-backed bonds. Uncertain credit markets in the fall of 2008 led to concerns that companies that had issued unsecured paper or asset-backed commercial paper would be unable to roll it over into new debt. At the time the CPFF was announced, the market would only allow paper to be rolled over one night and at very high interest rates. The CPFF is intended to alleviate the rollover risk. The facility purchases 3-month unsecured and asset-backed commercial paper that carries credit ratings in the top tier. Interest rates float at levels intended to make short-term financing costs reasonable for issuing companies, but high enough that the private commercial paper market will be the better economic choice as it returns to normalcy.

The Maiden Lane LLCs are some of the most esoteric components of the Federal Reserve's balance sheet. All three are tied to pools of assets that the Fed has lent against to stabilize specific companies and asset classes. The Maiden Lane LLC consists of a loan to J.P. Morgan that is backed by a pool of securities that were obtained from the acquisition of Bear Stearns in March 2008. The pool consists primarily of investment-grade residential and commercial mortgage-backed securities. According to the agreement with J.P. Morgan, the first $1 billion

of collateral losses will be borne by the acquiring bank.

Maiden Lane III LLC was created after billions were loaned to AIG. The insurer had extended credit protection—in the form of credit default swaps—on billions of dollars' worth of collateralized debt obligations (CDOs). When AIG's credit rating was downgraded, the credit default swap holders ordered collateral postings at levels that threatened the company's solvency. Beginning in late November 2008, the Fed loaned funds to Maiden Lane III so that it could begin to purchase the CDOs upon which the credit default swap contracts had been written (the CDOs also serve as collateral for the Fed loan). The entity could then begin the process of unwinding the swaps—since it held the assets they derived value from—to stabilize both the derivatives market and AIG.

Maiden Lane II LLC's purpose also traces back to AIG. In previous years, the insurer had lent some of its large securities holdings to other companies in exchange for cash collateral, which it then invested in mortgage-backed debt products. This produced higher yields than more traditional investments like Treasury securities. However, increasing residential delinquencies and defaults caused the mortgage investments to lose both value and liquidity. Many securities borrowers stopped rolling over their loans and instead demanded their cash back, particularly after AIG was downgraded in September 2008. In December, the Federal Reserve extended a loan to AIG to meet cash redemptions and stabilize the value of the mortgage-backed securities. The loan collateral (mortgage bonds) is represented in the Maiden Lane II LLC vehicle.

Finally, the Federal Reserve announced in November 2008 the creation of the Term Asset-Backed Securities Loan Facility (TALF). Though not yet operational, the program will provide both liquidity and capital to the consumer and small business loan asset-backed securities markets. The Fed will lend money against asset-backed securities that are backed by student, auto, credit card, and SBA loans. What's more, the Treasury Department has agreed to provide $20 billion in credit protection from its Troubled Asset Relief Program (TARP) to

the TALF—a cushion against losses on the ABS collateral. This capital will allow the Federal Reserve to revive the market for securitized consumer loans, which has been essentially shut down since last fall.

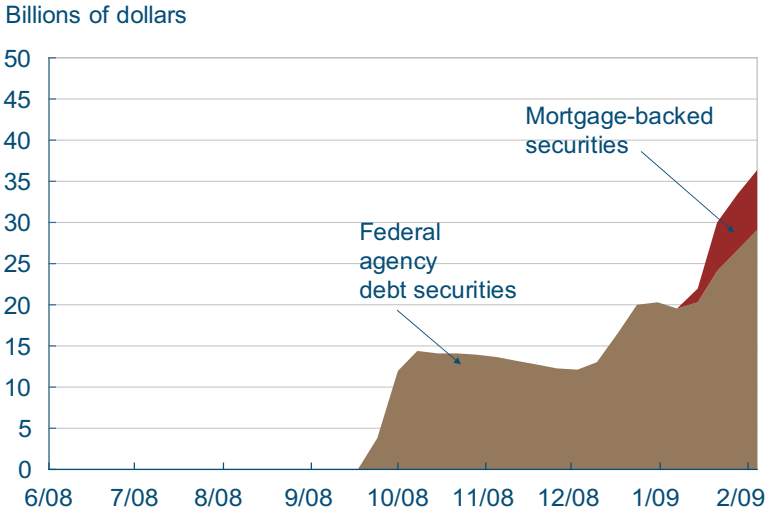
Purchasing Longer-term Securities

In addition to lending to financial institutions and providing liquidity directly to key financial markets, the Federal Reserve employed a third set of policy tools aimed at improving conditions in private credit markets. These tools involve the purchase of long-term securities in these markets. In November 2008, the Federal Reserve announced plans to purchase the direct obligations of the housing-related government-sponsored enterprises (GSEs), specifically Fannie Mae, Freddie Mac, and the Federal Home Loan Banks. In principle, the extra demand for these obligations is designed to increase the price of the securities and thereby lower rates paid for mortgages. Additionally, the Fed outlined plans to purchase mortgage-backed securities backed by Fannie Mae, Freddie Mac, and Ginnie Mae. These actions were designed to improve the availability of credit for the purchase of houses, therefore supporting the housing markets and financial markets in general.

In January 2009, the Federal Reserve began purchasing mortgage-backed securities. Purchases up to $100 billion in GSE obligations and $500 billion in mortgage-backed securities are expected to take place over several quarters. The mortgage market has responded favorably to the Federal Reserve's program.

Each of the Federal Reserve's "credit easing" strategies—lending to financial institutions, providing liquidity to key credit markets, and purchasing long-term securities—has helped to restore liquidity to impaired markets and to push down lending spreads to more typical levels. Moreover, the Fed has shown that its policy arsenal can be greatly expanded by changing the composition of its balance sheet assets. With the target federal funds rate now near zero, credit easing will undoubtedly play a leading role in promoting the full recovery of the economy and financial markets.

Buying Longer-Term Securities



Source: Federal Reserve Board.

Weaker Still

02.11.09
by Owen F. Humpage and Michael Shenk

With world trade and industrial production falling precipitously, the International Monetary Fund has again pared its forecast for global economic growth. The agency now expects world economic activity to expand by only 0.5 percent in 2009, the slowest growth rate since World War II. The agency believes that economic activity will pick up in 2010, but only to a paltry 3.0 percent. The outlook is highly uncertain with risks clearly to the downside.

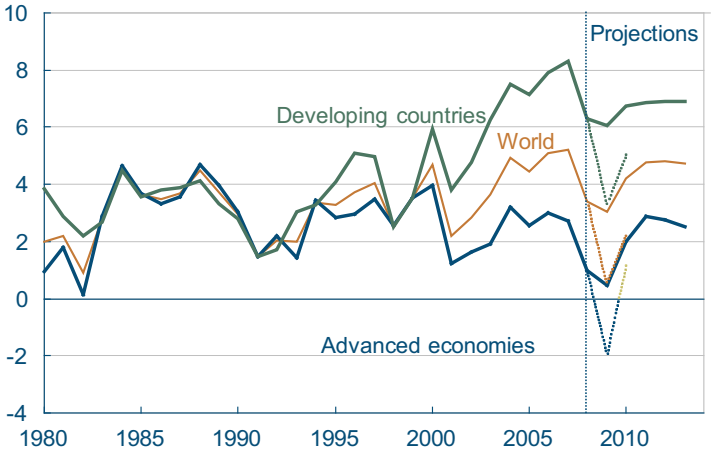
Output among the advanced economies is likely to contract by 2 percent in 2009, another post–World War II first. All of the large developed countries are likely to experience a contraction this year but return to growth in 2010. The IMF now estimates that the cumulative output shortfalls from potential between 2008 and 2010 will be on par with those sustained in the 1974–75 and 1980–83 recessions.

With worldwide export demand falling, with lower commodity prices, and with financial conditions substantially tighter, emerging and developing countries are feeling the pinch. These countries came into the current economic malaise in a substantially stronger position than in the past. Consequently, their growth rates are likely to remain above levels reached during previous worldwide recessions. The IMF expects economic growth among the emerging and developing countries to slow to 3.3 percent in 2009 and 5.0 percent in 2010.

The IMF sees the deteriorating economic situation as a continuing problem in credit markets. The adverse feedback from slower economic growth continues to overwhelm financial institutions' attempts to improve their balance sheets. As long as this problem continues, the credit flows necessary to support domestic and international economic activity will remain scarce. The IMF recommends that policy focus on the provision of liquidity, bank recapitalization, and efforts to address problem assets.

World GDP Growth

Annual percent change



Note: Dotted lines are January 2008 revisions for 2009 and 2010.
Source: International Monetary Fund, *World Economic Outlook Database*, October 2008.

World GDP Growth

			Projections	
	2007	2008	2009	2010
World	5.2	3.4	0.5	3.0
Advanced economies	2.7	1.0	−2.0	1.1
United States	2.0	1.1	−1.6	1.6
Euro area	2.6	1.0	−2.0	0.2
Japan	2.4	−0.3	−2.6	0.6
United Kingdom	3.0	0.7	−2.8	0.2
Canada	2.7	0.6	−1.2	1.6
Emerging and developing economies	8.3	6.3	3.3	5.0
China	13.0	9.0	6.7	8.0
India	9.3	7.3	5.1	6.5
ASEAN-5	6.3	5.4	2.7	4.1
Western Hemisphere	5.7	4.6	1.1	3.0

Note: GDP growth is measured as a year-over-year percent change.
Source: International Monetary Fund, World Economic Outlook Update July 2008.

For the IMF's World Economic Outlook Update:
http://www.imf.org/external/pubs/ft/weo/2009/update/01/index.htm

For the IMF's Global Financial Stability Report:
http://www.imf.org/external/pubs/ft/fmu/eng/2009/01/index.htm

Economic Activity

The Employment Situation, December 2008

01.13.09
by Yoonsoo Lee and Beth Mowry

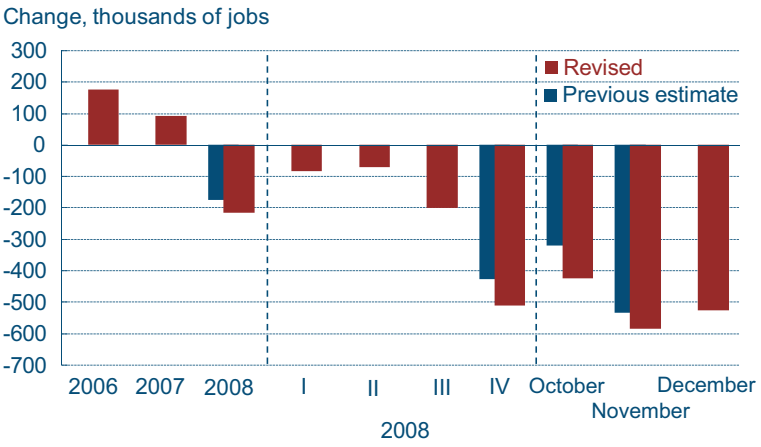
December employment fell by 524,000, roughly meeting expectations and bringing the year's total losses to 2.6 million. Downward revisions to both October and November figures leave those months' losses at 423,000 and 584,000, respectively. The revised numbers for October and November, coupled with December's newly reported losses, reveal fourth–quarter 2008 declines exceeding 1.5 million jobs. The unemployment rate also jumped 0.4 percentage point from 6.8 to 7.2 percent in December, the highest rate since January 1993. The number of unemployed rose by 632,000, even as the labor force contracted by 173,000. Unemployment rates for the prior two months were also revised higher, to 6.6 percent in October and 6.8 percent in November.

The diffusion index of employment change also sank a little further from 27.2 to an unprecedented low of 25.4, meaning that only about one–quarter of industries are expanding, while the rest are trimming positions.

Job losses were about evenly split between the goods–producing sector (251,000) and the service–providing sector (273,000). Within the goods sector, onstruction lost 101,000 jobs and anufacturing lost 149,000. Residential construction losses (54,000) were heavier than nonresidential losses (34,000). The greatest manufacturing declines were seen in durable goods (–114), particularly within the motor vehicles and parts and fabricated metal products. Nondurable goods shed 35,000 jobs, with food manufacturing suffering the heaviest casualties.

Last month's service–sector payroll loss of 273,000

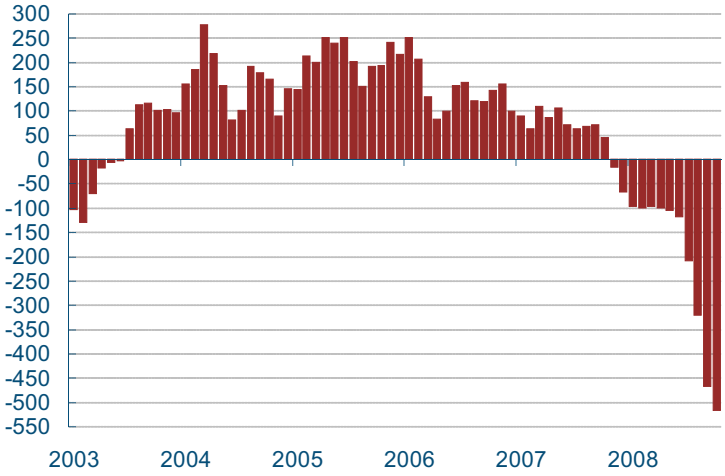
Average Nonfarm Employment Change



Source: Bureau of Labor Statistics.

Private Sector Employment Growth

Change, thousands of jobs: three-month moving average



Source: Bureau of Labor Statistics.

follows November's even larger loss of 402,000, larger than any loss experienced since August of 1983. Total net losses in the sector this year now total over 1.2 million. The biggest service–sector losers last month were trade, transportation and utilities (–121,000) and professional and business services (–113,000). Auto dealers alone accounted for about one–third of retail trade's 67,000 payroll cuts. The drop–off in professional and business services this year has been uncharacteristically steep, even in comparison to past recessions. Also within services, information lost 20,000 jobs and financial activities lost 14,000. Declines last month in Leisure and hospitality (22,000) slowed down a bit from the previous few months. The only bright spots in the report, as usual, were in education and health (which gained 45,000) and government (which gained 7,000).

Labor Market Conditions

	Average monthly change (thousands of employees, NAICS)			
	2006	2007	2008	December 2008
Payroll employment	175	91	−216	−524
Goods-producing	3	−38	−113	−251
Construction	13	−19	−53	−101
Heavy and civil engineering	3	−1	−7	−12.6
Residential[a]	−5	−20	−31	−53.6
Nonresidential[b]	14	1	−15	−34.3
Manufacturing	−14	−22	−66	−149
Durable goods	−4	−16	−50	−114
Nondurable goods	−10	−6	−16	−35
Service-providing	172	130	−102	−273
Retail trade	5	6	−44	−66.6
Financial activities[c]	9	−9	−12	−14
PBS[d]	46	26	−57	−113
Temporary help services	1	−7	−41	−80.9
Education and health services	39	44	45	45
Leisure and hospitality	32	29	−14	−22
Government	16	21	15	7
Local educational services	6	5	2	2.2
	Average for period (percent)			
Civilian unemployment rate	4.6	4.6	5.8	7.2

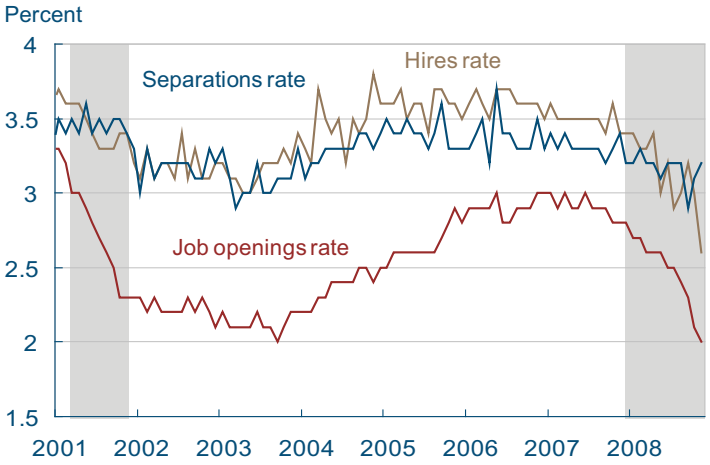
a. Includes construction of residential buildings and residential specialty trade contractors.
b. Includes construction of nonresidential buildings and nonresidential specialty trade contractors.
c. Includes the finance, insurance, and real estate sector and the rental and leasing sector.
d. PBS is professional business services (professional, scientific, and technical services, management of companies and enterprises, administrative and support, and waste management and remediation services.
Source: Bureau of Labor Statistics.

The three–month moving average of private–sector employment growth dropped to an almost unprecedented low of –516,600 last month. Greater losses were seen only back in February 1975, five recessions ago.

Economic Activity

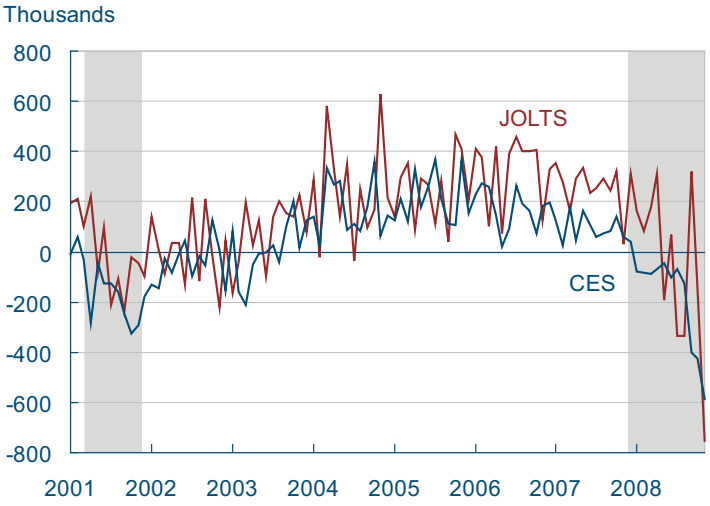
Labor Turnover

Labor Turnover



Note: Shaded bars indicate recessions.
Sources: U.S. Department of Labor, Bureau of Labor Statistics.

Net Employment Change



Notes: JOLTS (Job Openings and Labor Turnover Survey) net employment change is the monthly number of hires minus separations; CES net change is taken from the Current Employment Statistics survey; Shaded bars indicate recessions.
Source: U.S. Department of Labor, Bureau of Labor Statistics.

02.02.09
by Murat Tasci and Beth Mowry

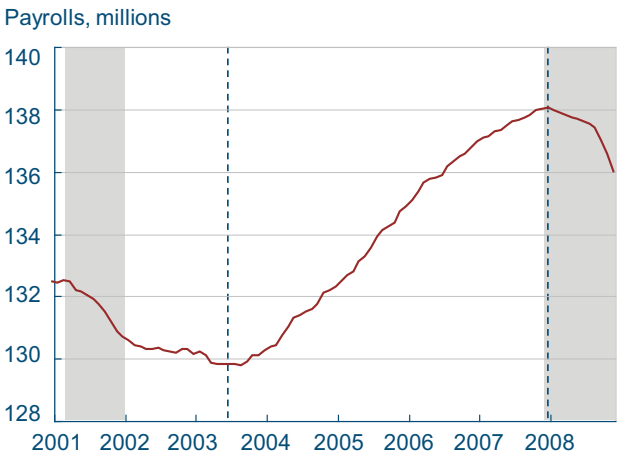
The Bureau of Labor Statistics tracks the hiring and firing activity of establishments across the nation in its Job Openings and Labor Turnover (JOLTS) series. One important statistic from JOLTS is the net hires rate, the difference between the hires rate and the separations rate. A positive net hires rate indicates an increase in aggregate employment across establishments. Up until May 2008, the net hires rate had been positive for almost five years.

More recently, other JOLTS statistics have been painting a clearly deteriorating picture of the labor market. This is true of turnover numbers, such as separations and hires, as well as labor demand measures such as job openings. Aggregate hires registered their largest decline in November 2008 (607,000) and now stand at an all-time low of 3,548,000. Similarly, job openings declined 208,000 in November—their lowest level since September 2003.

One well-known problem with the JOLTS dataset is that it overestimates net job creation relative to the Current Employment Survey (CES). Hence, a change in the net hires rate may not imply a similar change in CES payroll numbers from one month to the next. For instance, the CES entered negative territory in January 2008, while JOLTS implied net employment gains until four months later. Nevertheless, JOLTS provides our only measure of aggregate turnover, and more importantly, job openings data.

Since the beginning of the JOLTS series, there have been two clear downturns in aggregate employ-

Total Nonfarm Employment



Notes: Shaded bars indicate recessions; Dotted lines indicate peaks and troughs in CES payroll employment (June 2003 and December 2007).
Source: U.S. Department of Labor, Bureau of Labor Statistics.

ment. The first was from December 2000 to June 2003, and the second is the ongoing downturn that started in January 2008. When we look at the behavior of labor turnover and job openings in both of these downturns and the expansion in between, several patterns emerge.

First of all, for the aggregate economy, average monthly job openings, separations, and hires were all higher in the expansion than in either downturn. At the sector level however, this is not always the case. A secular increase in the education and health services sector, for instance, provided robust growth and reallocation in the sector over time. In fact, the demand for workers in this sector, as measured by job openings, was higher during the downturns than in the expansion.

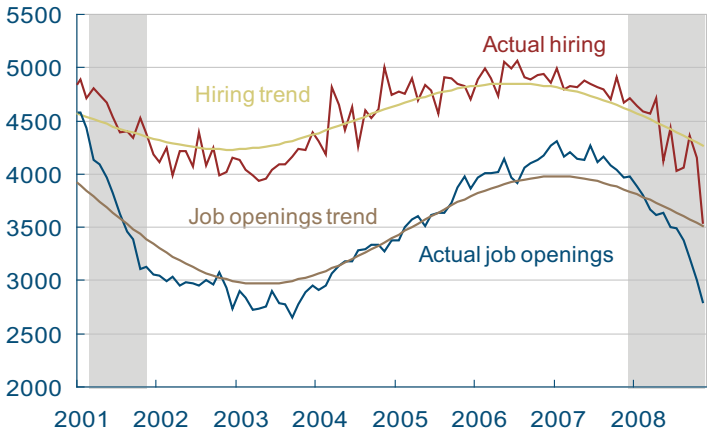
Average Job Openings and Labor Turnover by Industry

	Job openings			Hires			Total separations		
	12/00-6/03	7/03-12/07	1/08-11/08	12/00-6/03	7/03-12/07	1/08-11/08	12/00-6/03	7/03-12/07	1/08-11/08
Total private	2845	3253	3023	3962	4362	3961	4012	4164	4085
Mining[a]	7	11	15	19	20	27	19	19	24
Construction	115	132	101	370	385	315	388	383	394
Manufacturing	232	282	232	340	352	276	457	367	355
Trade, transportation, and public utilities	514	325	557	322	1006	867	355	981	954
Information[a]	73	100	60	72	70	52	84	74	58
Finance, insurance, and real estate[a]	176	231	193	177	197	190	173	192	197
Professional and business services	544	640	638	672	841	795	611	775	773
Education and health services	635	621	661	440	470	496	391	410	430

a. Not seasonally adjusted.
Note: December 2000 to June 2003 indicates the first downturn in aggregate employment. July 2003 to December 2007 is the expansion. January 2008 to November 2008 is the second downturn.
Sources: U.S. Department of Labor, Bureau of Labor Statistics.

Aggregate Economy

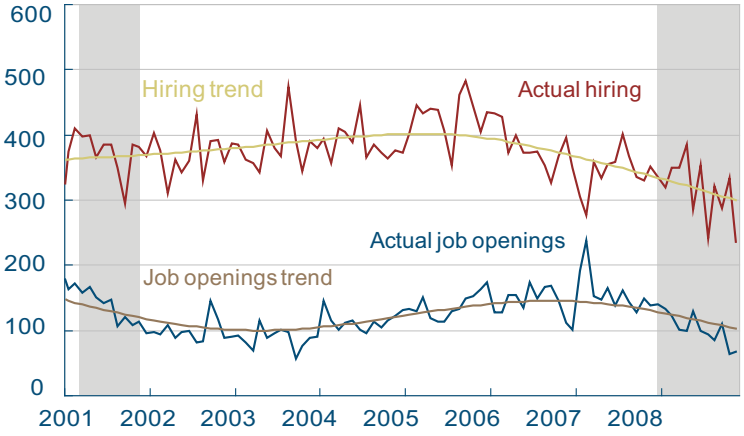
Thousands of hirings/openings



Note: Shaded bars indicate recessions.
Sources: U.S. Department of Labor, Bureau of Labor Statistics.

Construction Sector

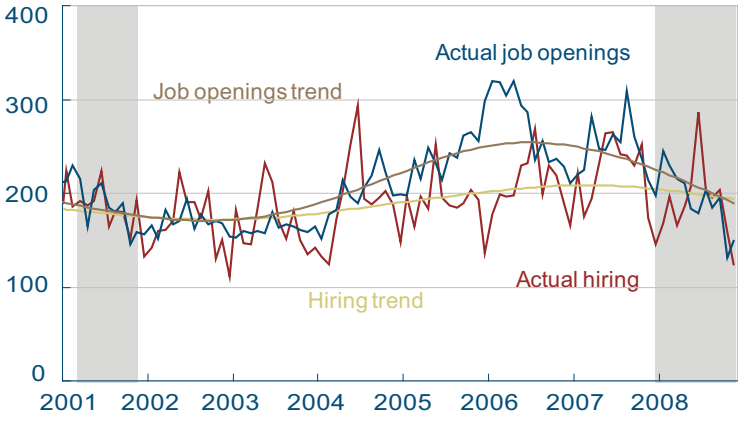
Thousands of hirings/openings



Note: Shaded bars indicate recessions.
Source: U.S. Department of Labor, Bureau of Labor Statistics.

Finance, Insurance, and Real Estate Sector

Thousands of hirings/openings



Notes: Shaded bars indicate recessions; Data are not seasonally adjusted.
Source: U.S. Department of Labor, Bureau of Labor Statistics.

We also see the effects of a booming housing sector in the data on construction jobs for the first seven years of the series. More specifically, hires and separations were very stable between the first downturn and the following expansion. However, as the problems grew in the housing sector, construction employment declined, as did the demand for workers and overall turnover.

Even though it is far from complete, the current downturn shows a lot of similarity with the previous one with respect to measures of turnover and job openings. Average monthly hires and separations are about the same in the aggregate and in some sectors (such as mining; trade, transportation, and utilities; and education and health services). Even though total job openings have been higher on average in the current downturn, they have stayed at relatively the same level for some sectors, most notably for manufacturing. However, we need to be cautious here, since low demand for labor might persist for some time, significantly changing the picture.

It is often hard to get a meaningful understanding of labor turnover by looking at monthly levels of hiring, separations, and job openings in isolation of the broader trends. If we look at the trends in hiring and job openings, we see that both have been declining gradually since the end of 2006. The declining trend seems to be sharper for job openings than hires.

As we noted, aggregate trends can disguise differences across sectors. For instance, consider the construction and financial services sectors, which are expected to be hardest hit by the turmoil in the housing and financial markets. Employment activity in the construction sector is slightly different from the aggregate economy's. First, the construction sector does not seem to have large swings in trend like the aggregate economy. Unlike the aggregate economy, hiring in construction started to trend down in November 2004.

Employment in the financial services sector also behaved differently than the aggregate economy. For one thing, financial services employment did not experience a sharp decline in its trend during the 2001 recession. Instead, most of the decline in the

demnd for workers in this industry coincided with the onset of housing and financial market troubles starting in mid-2006.

Economic Activity

Dating a Recession and Predicting Its Demise

02.02.09
by Paul Bauer and Michael Shenk

Few were surprised when the NBER's Business Cycle Dating Committee announced on December 1, 2008, that the U.S. economy was in recession. However, what may have surprised some observers is that the committee dated the last business cycle peak, and hence the beginning of the recession, to December 2007. After all, the first of the two consecutive negative quarters of real GDP growth (the common rule-of-thumb definition of a recession) did not come until the third quarter of 2008 (when it fell to -0.5 percent). The previous two quarters had posted growth of 0.9 percent and 2.8 percent, respectively.

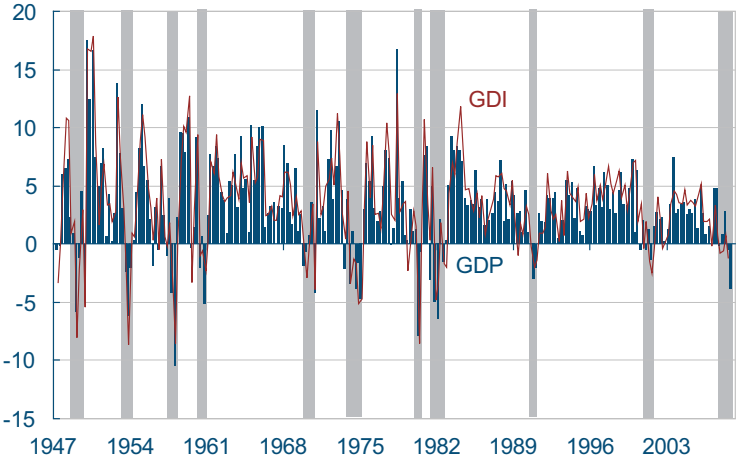
The simple answer is that the committee's definition is both broader and less precise: "A recession is a significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in real GDP, real income, employment, industrial production, and wholesale-retail sales."

The performance of the two main employment series, nonfarm payroll employment and the BLS's household survey, certainly look consistent with a recession dating to late 2007. The related unemployment rate series sends a similar signal. If anything, it suggests an even earlier date for the start of the recession. As of now, unemployment has already risen above the peak it hit in the last recession and is fast approaching the one it hit in the 1991 recession.

The signal is less pronounced in the two main measures of output, GDP (gross domestic product) and GDI (gross domestic income). Theoretically, the two should be equivalent, as sales of products generate income for firms and workers equal to

Real GDP and GDI

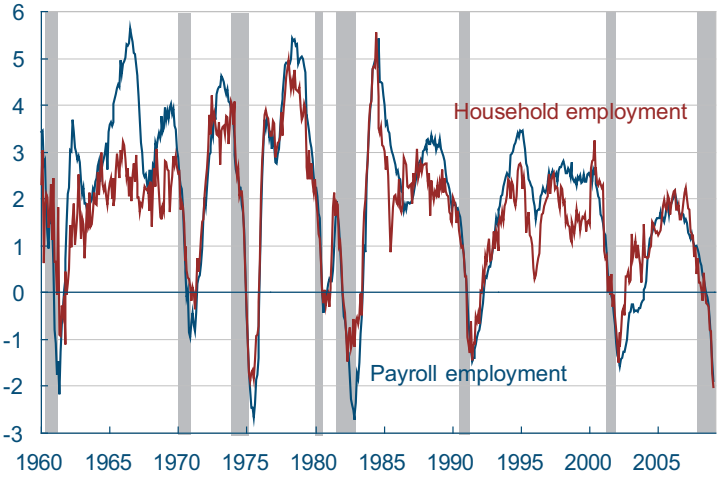
Percent change, annual rate



Source: Bureau of Economic Analysis.

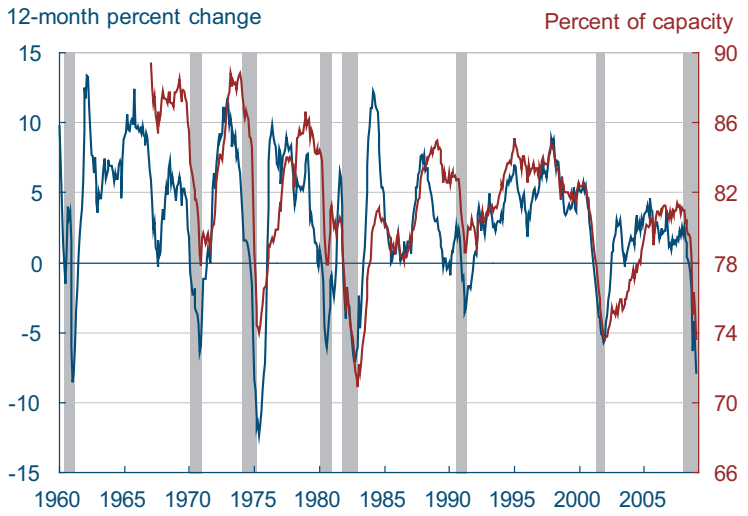
Employment

12-month percent change



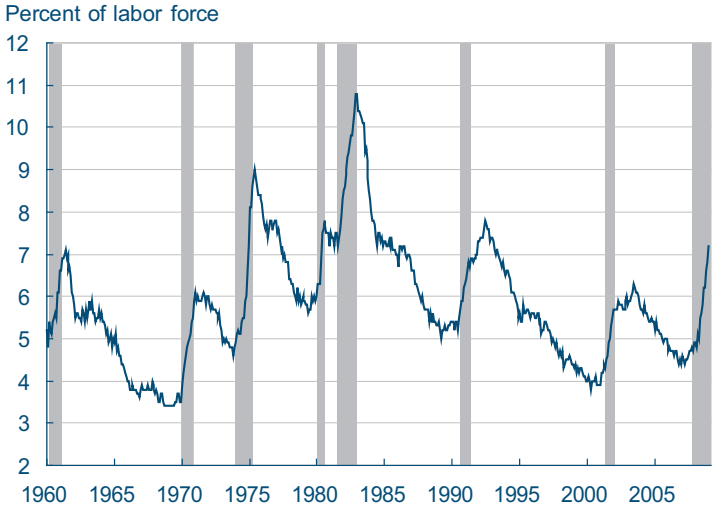
Note: Shaded bars indicate recessions.
Source: Bureau of Labor Statistics.

Industrial Production and Capacity Utilization



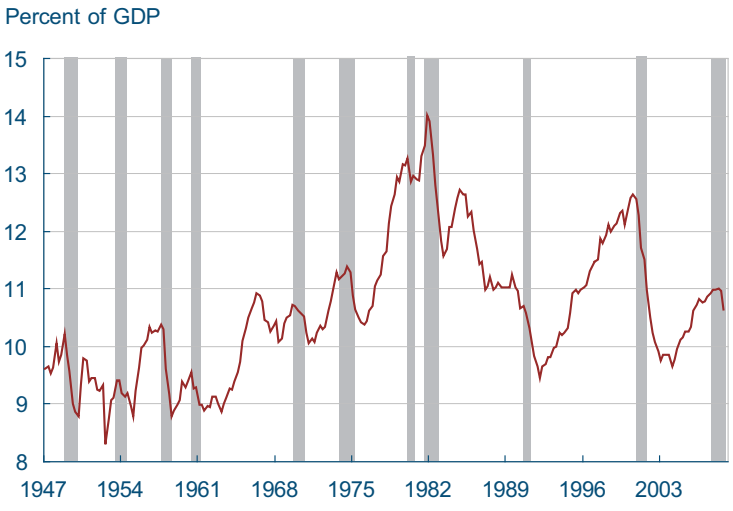
Note: Shaded bars indicate recessions.
Source: The Federal Reserve Board.

Unemployment Rate



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

Business Fixed Investment



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

the amount of sales, but in practice they differ by a "statistical discrepancy," which in this case is enough to provide a muddied signal for the start of the recession. GDI was just enough weaker than GDP over the past year to indicate a downturn. GDI data for the fourth quarter of 2009 are not yet available, but GDP data for that quarter (–3.8%) leaves no doubt that the U.S. economy is in a recession now.

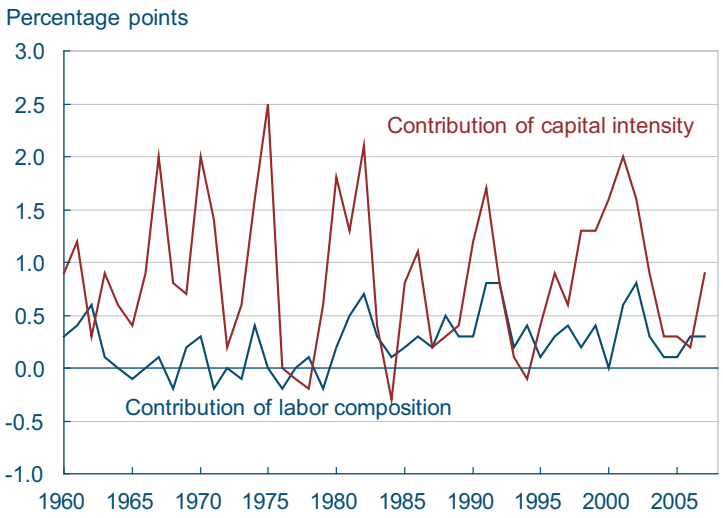
The Federal Reserve produces some narrower output-related measures (industrial production and capacity utilization series for manufacturing, mining, and utilities), and looking only at them would shift the dating of the recession's onset only one month forward to January 2009. Even though both are likely to fall further, they have already dropped below their respective troughs in the last two recessions and seem likely to reach the depths of the most severe postwar recessions.

Going forward, there are at least three questions on everyone's mind: How long? How deep? and What will be the lasting effects? While no one can answer any of these questions with any certainty, some broad outlines are possible. With most series still headed south, this will certainly be among the deepest—if not the deepest—postwar downturn. When the recovery comes, evidence from past financial crises suggest that the recession is unlikely to be V–shaped (a quick snap back). The best we can hope for seems to be a U-shaped one (more time spent in the trough). As unpromising as that may sound, that outcome would be better than an L-shaped one (a long protracted recovery).

As for lasting effects, there are likely to be many. Assuming liquidity is mopped up in a timely fashion—and much of the added liquidity is set up with incentives for that to happen as financial markets recover—then inflation should remain tamed. Also, there will be permanent changes in financial and housing markets, but what those will be depends crucially on regulatory reforms and changes in participants' behavior that are beyond a simple summary here.

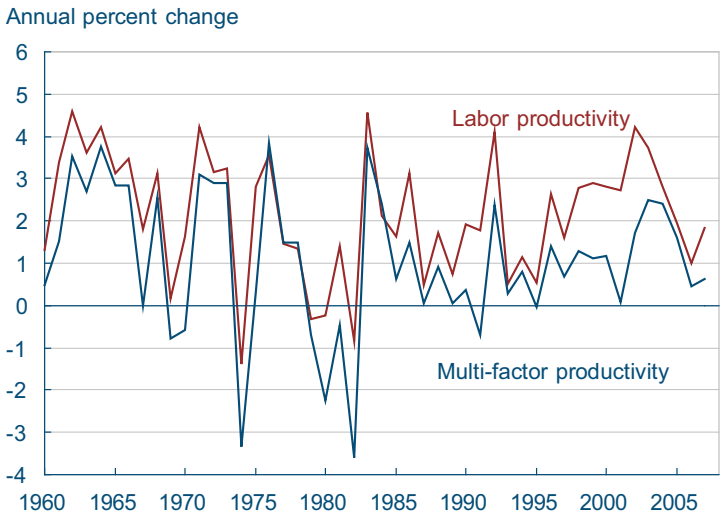
It is crucial to get these reforms right because they will determine, in part, investment going forward. Investment is keenly watched because of its influ-

Productivity Growth



Source: Bureau of Labor Statistics

Productivity Growth



Source: Bureau of Labor Statistics

ence on labor productivity—the main source of improving living standards over time. Directly, investment is needed to increase the capital-labor ratio (capital deepening), which boosts labor productivity. Indirectly, investment is often required to realize the gains that appear as multifactor productivity growth, the main source of gains in labor productivity in the long run. Productivity held up surprisingly well in the last recession even though investment as a share of GDP fell, though the gains from capital deepening did fall. If we are fortunate, the same will happen this time around.

Economic Activity

Real GDP: Fourth-Quarter 2008 Advance Estimate

02.09.09
by Brent Meyer

Real GDP decreased at an annualized rate of 3.8 percent in the fourth quarter of 2008. While this marks the statistic's worst quarterly performance since 1982, it is much less than the –5.5 percent that was expected.

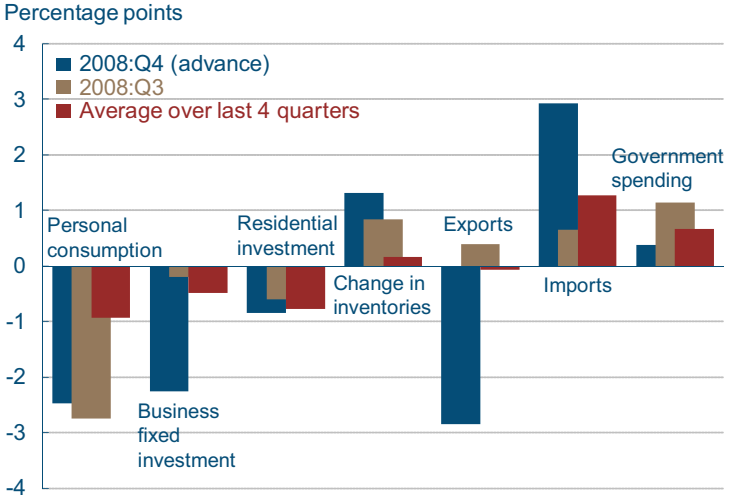
The four-quarter growth rate in real GDP turned negative for the first time since the third quarter of 1991, falling to –0.2 percent. Personal consumption expenditures, which comprise roughly 70

Real GDP and Components, 2008:Q4 Advance Estimate

	Quarterly change (billions of 2000$)	Annualized percent change, last: Quarter	Four quarters
Real GDP	−113.0	−3.8	−0.2
Personal consumption	−73.7	−3.5	−1.3
Durables	−72.4	−22.4	−11.4
Nondurables	−43.5	−7.1	−2.8
Services	20.3	1.7	1.2
Business fixed investment	−73.5	−19.1	−4.4
Equipment	−82.5	−27.8	−10.9
Structures	−1.5	−1.7	8.5
Residential investment	−23.0	−23.6	−19.7
Government spending	9.6	1.9	3.4
National defense	2.9	2.1	8.5
Net exports	−3.3	—	—
Exports	−83.3	−19.8	0.6
Imports	−79.9	−15.7	−7.0
Private inventories	6.2	—	—

Source: Bureau of Economic Analysis.

Contribution to Percent Change in Real GDP



Source: Bureau of Economic Analysis.

percent of real GDP, decreased 3.5 percent, following a 3.8 percent decline in the previous quarter. The investment picture grew substantially darker, as business fixed investment plummeted 19.1 percent, compared to just a –1.7 percent decline in the previous quarter. Residential investment fell 23.6 percent (–16.1 percent last quarter). Private inventories rose by $6.2 billion (–$29.6 billion last quarter). International trade seemed to fall off the map, with the largest quarterly decreases in exports and imports since 1974 and 1980, respectively. Exports plunged 19.8 percent, while imports fell by 15.7 percent.

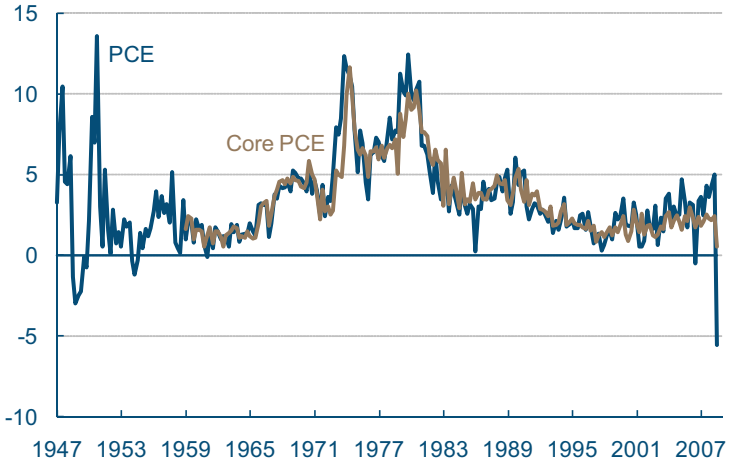
Personal consumption subtracted 2.5 percentage points from real GDP growth, all of which came from goods consumption, as services added 0.7 percentage point. This is a slight improvement over the third quarter's 2.8 percentage point subtraction. Private inventories added 1.3 percentage points to output growth, which far exceeded the average addition to growth of this component (0.2 percentage point) over the past four quarters. While there were wild swings in the contributions of both exports and imports, net exports actually added 0.1 percentage point to growth in the fourth quarter.

The fourth quarter of 2008 saw some of the most dramatic price swings on record for the GDP chain-type price indexes. First, the PCE price index decreased 5.5 percent in the fourth quarter, a record by far (core PCE prices rose 0.6 percent). The next-closest quarterly decrease in the PCE (–3.0 percent) occurred in the first quarter of 1949. Also, the price indexes for imports and exports shattered previous records, falling 36.7 percent and 20.7 percent, respectively. For comparison, the previous record declines were –15.2 percent for imports and –9.6 percent for exports, both happening in the first quarter of 1952.

The latest Blue Chip consensus forecast for real GDP is a –3.3 percent decrease in the first quarter of 2009. However, given the modest upside surprise in the fourth-quarter growth estimate (especially the large run-up in private inventories) and the relatively negative recent forward-looking economic indicators, the first-quarter forecast will likely get revised down. That said, the Blue Chip panelists

PCE Price Index

Annualized percent change

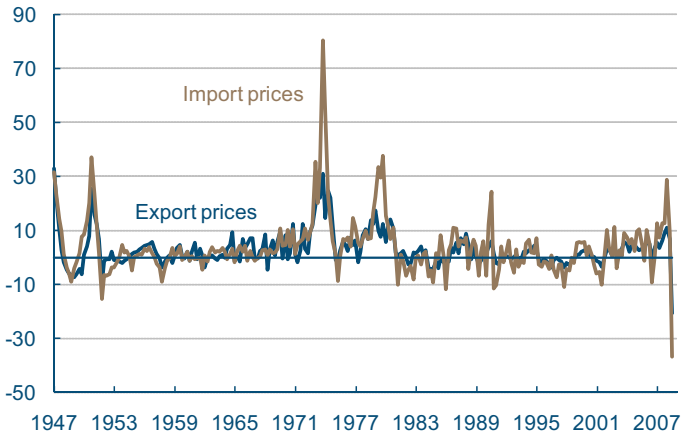


Source: Bureau of Economic Analysis.

generally see the recession ending in mid-2009 and growth rebounding to its longer-term trend in 2010.

Import and Export Chain Price Indexes

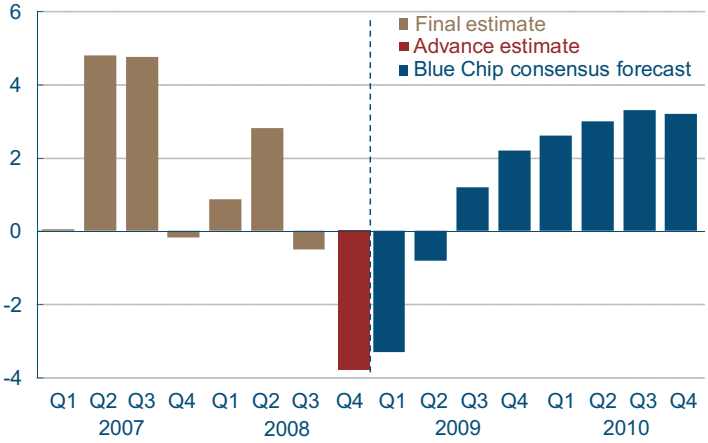
Annualized percent change



Source: Bureau of Economic Analysis.

Real GDP Growth

Annualized quarterly percent change



Source: Blue Chip Economic Indicators, January 2009; Bureau of Economic Analysis.

Economic Activity

The Employment Situation, January 2009

02.09.09
by Murat Tasci and Beth Mowry

The labor market shed 598,000 jobs in January, coming in worse than expected and bringing this downturn's total losses to 3.6 million. Downward revisions subtracted an additional 66,000 jobs from November and December's figures, which now amount to losses of 597,000 and 577,000. Roughly half the losses in the current downturn have come in the past three months. Additionally, the unemployment rate jumped from 7.2 to 7.6 percent, the

Average Nonfarm Employment Change

Source: Bureau of Labor Statistics

highest rate since September 1992.

Meanwhile, the diffusion index of employment change continued to hit new record lows since its creation in 1991. It sank from 25.5 to 25.3 last month, meaning that only 25.3 percent of industries are increasing their payrolls.

January's payroll decline was the worst since 1974, with losses spread broadly across most industries. Goods-producing employment fell by 319,000, with the manufacturing sector accounting for two-thirds of those losses (207,000) and experiencing its largest monthly decline since October 1982. Durable goods bore the brunt of losses within manufacturing, owing largely to the subcategories of fabricated metal products (–37,000) and transportation equipment (–41,000). Construction had its second-worst month of the current downturn, shedding 111,000 jobs.

Losses in service-providing industries (279,000) were spread across all major sectors, with the lone exceptions of education and health (+54,000)—which has not contracted since September 2004—and the government, which made a small contribution of 6,000 jobs. The biggest losses were in trade, transportation, and utilities (–118,000) and professional and business services (–121,000). Within the trade, transportation, and utilities sector, truck transportation lost 25,000 jobs, its sharpest monthly drop since the trucking strike in April 1994 (when losses reached 49,000). Retail trade continued its poor performance, losing 45,000 jobs. A huge portion of the losses within professional and business services came from employment services (–89,000). The financial activities sector lost 42,000 jobs, its second-largest drop of the current downturn.

The three-month moving average of private sector employment growth dropped to an all-time low of –590,670 last month. The only losses in the private sector greater than that date way back to 1945.

In addition to the usual Employment Report information out today, the Bureau of Labor Statistics released its annual benchmark revisions to nonfarm employment, which affect data back to January 2004. These more comprehensive counts

of employment are derived from unemployment-insurance tax records compiled by the Quarterly Census of Employment and Wages (QCEW) program. This year's revision resulted in anadditional loss of 385,000 jobs for the entire 2008 calendar year. About two-thirds of this loss was in services, most of which was due to additional losses in financial activities (79,000) and leisure and hospitality (71,000). Within goods-producing industries, manufacturing had the largest downward revision (66,000).

Labor Market Conditions

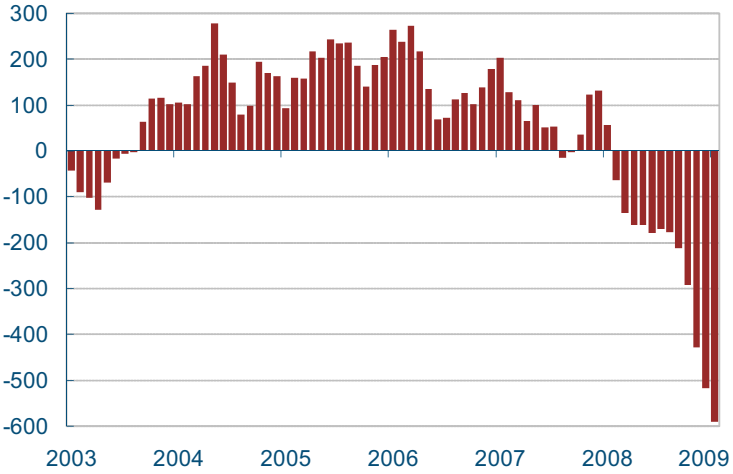
	Average monthly change (thousands of employees, NAICS)			
	2006	2007	2008	January 2009
Payroll employment	178	96	−248	−598
Goods-producing	5	−34	−123	−319
Construction	15	−16	−56	−111
Heavy and civil engineering	3	0	−6	−3
Residential[a]	−5	−23	−34	−61
Nonresidential[b]	16	6	−15	−46.9
Manufacturing	−14	−22	−71	−207
Durable goods	−4	−16	−52	−157
Nondurable goods	−10	−5	−19	−50
Service-providing	173	130	−125	−279
Retail trade	3	14	−44	45.1
Financial activities[c]	9	−10	−19	−42
PBS[d]	45	25	−61	−121
Temporary help services	2	−7	−44	−76.4
Education and health services	39	43	43	54
Leisure and hospitality	33	2	−20	−28
Government	17	24	14	6
Local educational services	6	8	2	2.8
	Average for period (percent)			
Civilian unemployment rate	4.6	4.6	5.8	7.8

a. Includes construction of residential buildings and residential specialty trade contractors.
b. Includes construction of nonresidential buildings and nonresidential specialty trade contractors.
c. Includes the finance, insurance, and real estate sector and the rental and leasing sector.
d. 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: Bureau of Labor Statistics.

Unemployment continued to increase during January, following its upward trend in the past nine months. As of now, the unemployment rate stands 2.7 percentage points higher than a year ago, almost a 55 percent increase. This is the high-

Private Sector Employment Growth

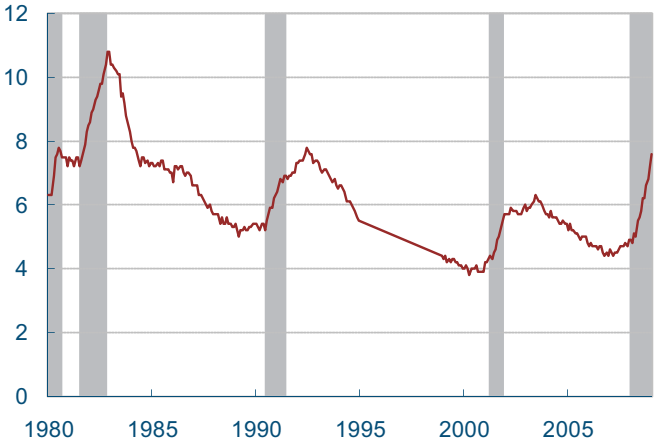
Change, thousands of jobs: 3-month moving average



Source: Bureau of Labor Statistics.

Unemployment Rate

Percent



Note: Seasonally adjusted rate for the civilian population, age 16+.
Source: Bureau of Labor Statistics

est year-over year change since August 1975. This jump resulted from an increase in the number of unemployed workers (508,000) and the largest labor force contraction since May 1995 (731,000).

Regional Acrivity

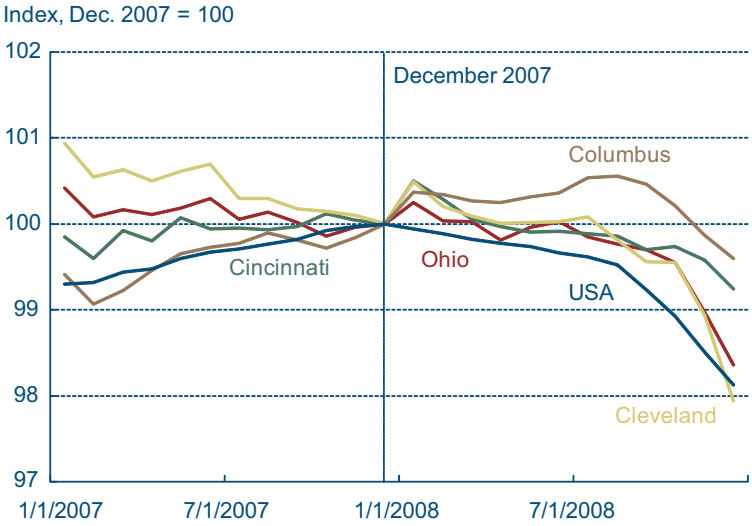
Ohio's Local Labor Markets

02.05.09
by Kyle Fee

Since the recession started in December 2007, the U.S. economy has shed 2.5 million jobs, or 1.9 percent of nonfarm payroll employment, and Ohio has reduced its payrolls by 1.6 percent. However, not all areas of Ohio have experienced similar employment losses.

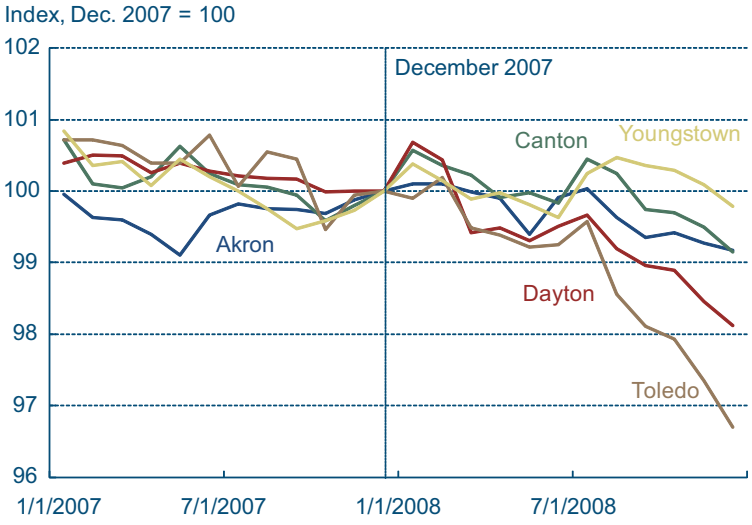
Looking at nonfarm payroll data from the Bureau of Labor Statistics for the three largest metropolitan areas in Ohio, we see that Cleveland has experi-

Nonfarm Payroll Employment: Large Ohio MSAs



Note: metro area data has been seasonally adjusted using X-11.
Source: Bureau of Labor Statistics.

Nonfarm Payroll Employment: Smaller Ohio MSAs



Note: Metro area data has been seasonally adjusted using X-11.
Source: Bureau of Labor Statistics.

enced the steepest decline in employment since the recession began (–2.1 percent). This is worse than Ohio's overall rate of decline (–1.6 percent) but is in line with the percentage change at the national level. Meanwhile, Cincinnati's and Columbus's labor markets have held up relatively well, with each metropolitan area losing less than 1 percent of its employment over the course of the current recession.

Examining the BLS data for the state's smaller metropolitan areas, we see considerable dispersion in job losses. Akron, Canton, and Youngstown have experienced job losses of less than 1 percent, while Dayton and Toledo have experienced considerably higher losses of –1.9 percent and –3.3 percent, respectively.

The source of the differences in job losses across Ohio's metropolitan areas lies in the manufacturing sector. Job losses in this sector also account for why the declines in nonfarm payroll employment are much steeper in Cleveland, Dayton, and Toledo than other Ohio metropolitan areas. In Cleveland, Dayton, and Toledo, for example, job losses in the manufacturing sector accounted for 40 to 55 percent of the decline in employment for sectors that were contracting.

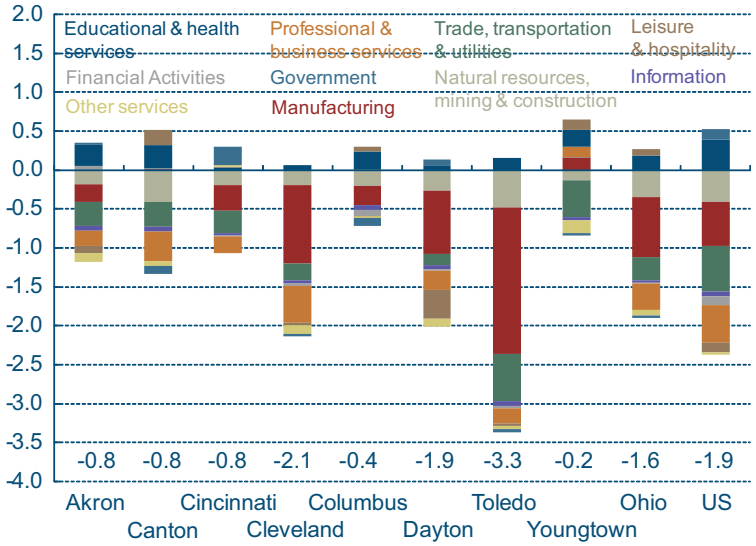
There are two possible explanations for this pattern. A negative shock to the manufacturing sector could be affecting all metropolitan areas equally, but if Cleveland, Dayton, and Toledo have higher shares of their workforces employed in manufacturing than other areas have, the shock would subtract more from the overall growth of those cities with more manufacturing employment.

Alternatively, metropolitan areas like Cleveland, Dayton, and Toledo may have suffered much larger negative shocks to their manufacturing industries. This could be the case if manufacturing in these metropolitan areas is more tied to heavy industries that have experienced large negative shocks over the last several months, such as automobiles and steel.

The first possibility does not look likely. Areas hardest hit by employment losses in manufacturing do not have higher shares of manufacturing employment than areas not so hard hit. Cleveland's,

Sector Components of Employment Growth

Percent



Note: metro area data has been seasonally adjusted using X-11.
Source: Bureau of Labor Statistics.

Dayton's, and Toledo's shares of manufacturing employment, for example, are similar to Ohio's. Meanwhile, Canton and Youngtown—areas with the highest share of manufacturing employment—have held up relatively well. Columbus's low share of manufacturing employment, however, has likely had a mitigating effect on the overall employment loss in that metropolitan area.

Employment Growth and Sector Shares

	Manufacturing as a percent of total employment (2007)	Manufacturing employment growth (percent)	Non-manufacturing employment growth (percent)
Akron	13.7	–1.7	–0.7
Canton	17.6	0.1	–1.1
Cincinnati	11.5	–2.8	–0.5
Cleveland	13.3	–7.8	–1.2
Columbus	8.0	–3.2	–0.2
Dayton	13.1	–6.4	–1.2
Toledo	14.5	–13.6	1.6
Youngstown	15.2	1.1	–0.1
Ohio	14.2	–5.5	–1.0
Nation	10.0	–5.7	–1.4

Source: Bureau of Labor Statistics.

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