Economic Trends

November 2009 (Covering October 7, 2009, to November 12, 2009)

In This Issue:

FEDERAL RESERVE BANK
of CLEVELAND

September Price Statistics

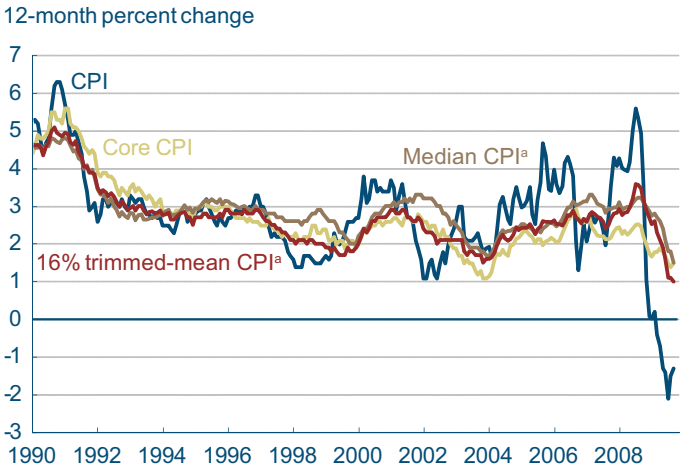
10.20.09
by Brent Meyer

September Price Statistics

	Percent change, last					
	1mo.[a]	3mo.[a]	6mo.[a]	12mo.	5yr.[a]	2008 average
Consumer Price Index						
All items	2.0	2.5	2.9	−1.3	2.6	0.3
Less food and energy	2.0	1.3	1.9	1.5	2.2	1.8
Median[b]	0.5	0.8	1.0	1.5	2.6	2.9
16% trimmed mean[b]	1.3	0.8	1.1	1.0	2.5	2.7
Producer Price Index						
Finished goods	−6.7	1.2	5.0	−4.8	3.1	0.2
Less food and energy	−0.7	0.0	1.1	1.8	2.3	4.3

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.

CPI, Core CPI, and Trimmed-Mean CPI Measures



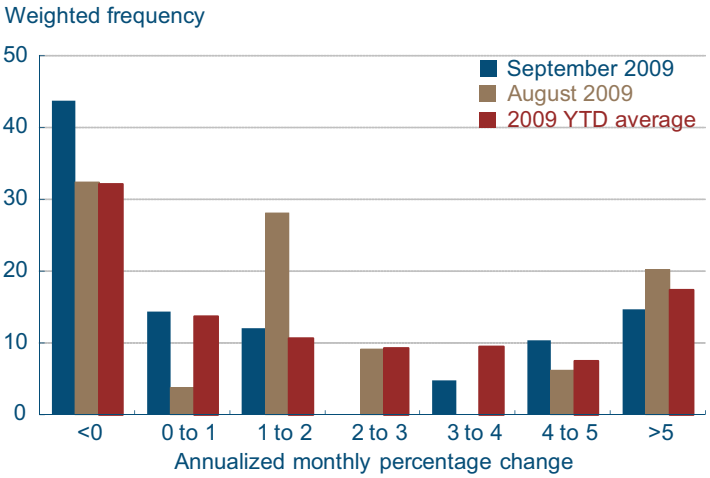
a. Calculated by the Federal Reserve Bank of Cleveland.
Sources: U.S. Department of Labor, Bureau of Labor Statistics, Federal Reserve Bank of Cleveland.

The CPI rose at an annualized rate of 2.0 percent in September, following an energy-price-induced 5.5 percent jump in August, and is now up 2.5 percent over the past three months. The BLS release states that the overall increase was "broad based" among components and tempered by a 1.2 percent decrease in food prices (their sixth decrease in the past eight months).

Excluding food and energy prices (core CPI), the index rose 2.0 percent in September. This is somewhat surprising given that Owners' Equivalent Rent (OER)—which comprises roughly 25 percent of the overall index (and roughly 40 percent of the core CPI)—fell 1.7 percent during the month, its first monthly decrease since 1992 and its largest decline on record (back to 1982). This decrease was offset by relatively strong increases in lodging away from home (up 19.0 percent), medical care commodities (up 8.1 percent), and vehicle prices. New vehicle prices rebounded somewhat in September, rising 4.9 percent compared to a 14.7 percent decrease in August, as the CARS rebates rolled off. Interestingly, used car and truck prices jumped 20.7 percent in September, following a roughly 25 percent increase in August, perhaps adding some credence to the story that the CARS incentive tightened the inventories of used-car dealers and led to higher wholesale and auction prices.

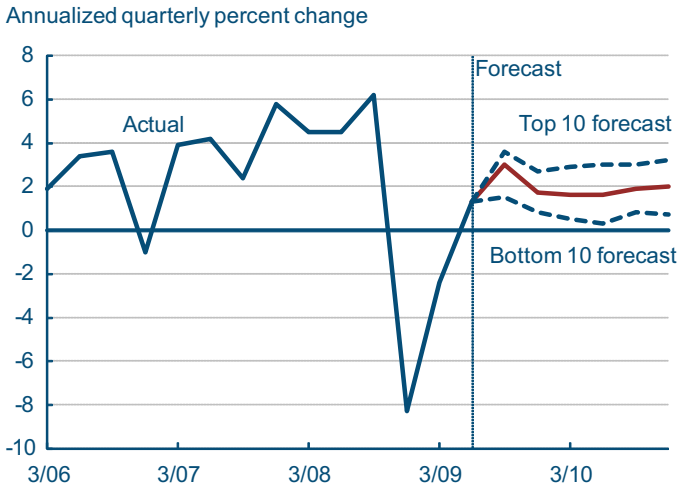
While price increases may have been "broad based" across the number of components, the underlying price-change distribution by expenditure weight reflected some softness. Roughly 44 percent of the overall index (by expenditure weight) exhibited outright price decreases, compared to 33 percent in August. On the other end of the distribution, just 15 percent of the consumer market basket increased in excess of 5.0 percent, leaving just 12 percent of the overall index rising at rates between the broad "sweet-spot" range of 1 percent and 3 percent. Reflecting some of the underlying softness in the price-change distribution, the median CPI rose just

CPI Component Price Change Distribution



Source: Bureau of Labor Statistics.

CPI and Forecasts



Sources: Blue Chip *Economic Indicators*, October 2009; Bureau of Labor Statistics.

0.5 percent in September, compared to its three-month growth rate of 0.8 percent and its longer-run (12-month percent change) growth rate of 1.5 percent. The 16 percent trimmed-mean measure increased 1.3 percent in September and is up just 1.0 percent over the past year.

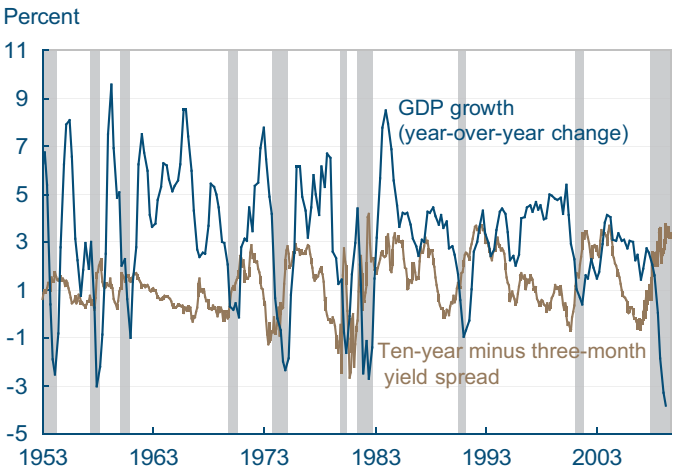
The longer-term (12-month) trends in the measures of underlying inflation produced by the Federal Reserve Bank of Cleveland, the median and the trimmed mean, ticked down in September and are now ranging between 1.0 percent and 1.5 percent. Interestingly, the longer-run trends in the CPI and core CPI headed in the opposite direction in September. The 12-month growth rate in the CPI rose from -1.5 percent to -1.3 percent, and the longer-term trend in the core CPI increased a slight 0.1 percentage point to 1.5 percent during the month.

Reading the headline inflation forecasts from the most recent Blue Chip survey is much like the reading the story of Goldilocks and the Three Bears. The average of the bottom 10 forecasts has inflation running "much too cold"—below 1.0 percent by the end of 2010. At the other end, the average of the top 10 has it rising above 3.0 percent by the fourth quarter of 2010—some might call that "too hot." However, the overall average hits 2.0 percent by the end of next year, which some might argue is "just right." The relatively wide dispersion is likely due to disagreement over the uncertain effects of a large output gap on inflation and the relative stability of inflation expectations.

The Yield Curve, October 2009

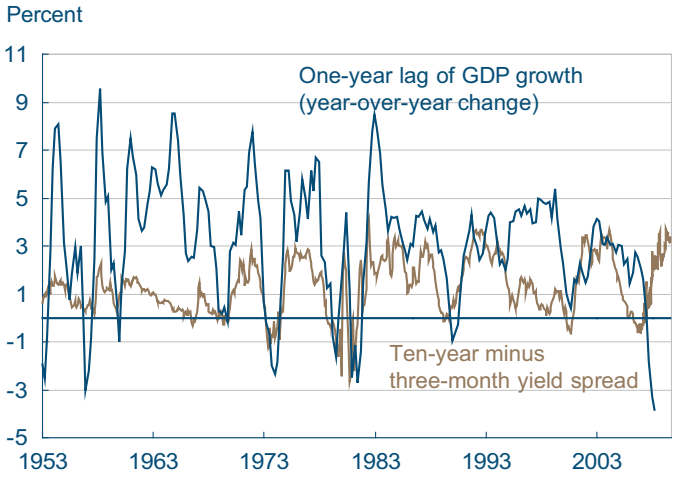
10.23.09
by Joseph G. Haubrich and Kent Cherny

Yield Curve Spread and Real GDP Growth



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

Yield Spread and Lagged Real GDP Growth



Sources: Bureau of Economic Analysis, Federal Reserve Board.

Since last month, the yield curve has shifted a bit downward and steepened slightly, with short rates dropping a bit faster than long rates. 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.

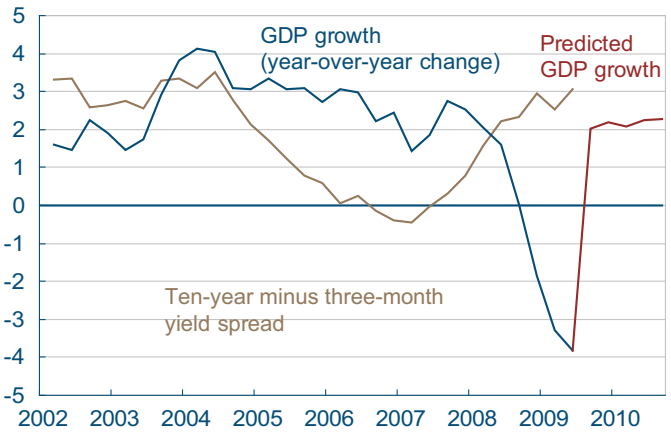
More generally, a flat curve indicates weak growth, and conversely, a steep curve indicates strong growth. One measure of slope, the spread between ten-year Treasury bonds and three-month Treasury bills, bears out this relation, particularly when real GDP growth is lagged a year to line up growth with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

Since last month, the three-month rate fell to 0.07 percent (for the week ending October 16), down from September's 0.11 percent and below August's 0.17 percent. The ten-year rate dropped to 3.43 percent, down 3 basis points from September's 3.46 percent, and only 2 basis points below August's 3.48 basis points. The slope increased 346 basis points, up from September's 335 basis points, and August's 331 basis points Projecting forward using past values of the spread and GDP growth suggests that real GDP will grow at about a 2.3 percent rate over the next year, the same prediction as last month, not surprising since the movement in rates was small. Although the time horizons do not match exactly, this comes in somewhat below other forecasts.

While such an approach predicts when growth is above or below average, it does not do so well in

Yield Curve Predicted GDP Growth

Percent



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

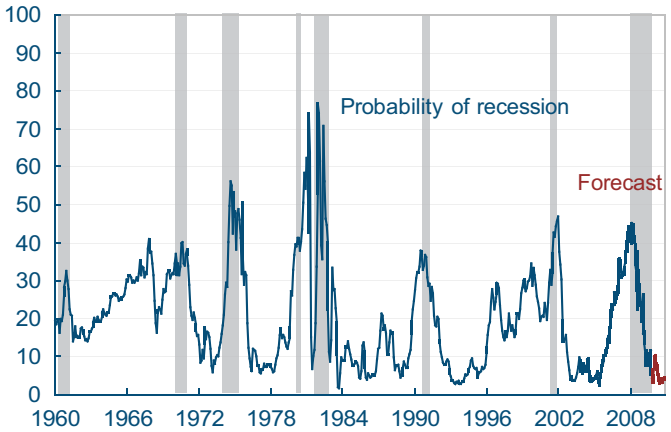
Durations of Yield Curve Inversions and Recessions

Recessions	Duration (months)	
	Recessions	Yield curve inversion (before and during recession)
1970	11	11
1973-1975	16	15
1980	6	17
1981-1982	16	11
1990-1991	8	5
2001	8	7
2008-present	21 (through September 2009)	10

Note: Yield curve inversions are not necessarily continuous month-to-month periods.
Sources: Bureau of Economic Analysis, Federal Reserve Board, and 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.

predicting the actual number, especially in the case of recessions. Thus, it is sometimes preferable to focus on using the yield curve to predict a discrete event: whether or not the economy is in recession. Looking at that relationship, the expected chance of the economy being in a recession next October stands at 3.9 percent, up from September's 3.0 percent, which was in turn up from August's 2.6 percent.

The probability of recession coming out of the yield curve is very low, but remember that the forecast is for where the economy will be in a year, not where it is now. However, 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.

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?".

To read more on other forecasts:
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/

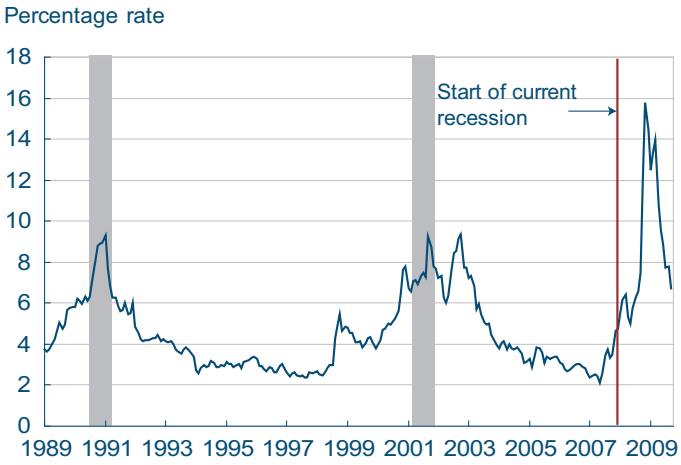
"Does the Yield Curve Yield Signal Recession?," by Joseph G. Haubrich. 2006. Federal Reserve Bank of Cleveland, *Economic Commentary* is available at:
http://www.clevelandfed.org/Research/Commentary/2006/0415.pdf

The High-Yield Corporate Bond Spread and Economic Activity

11.04.09

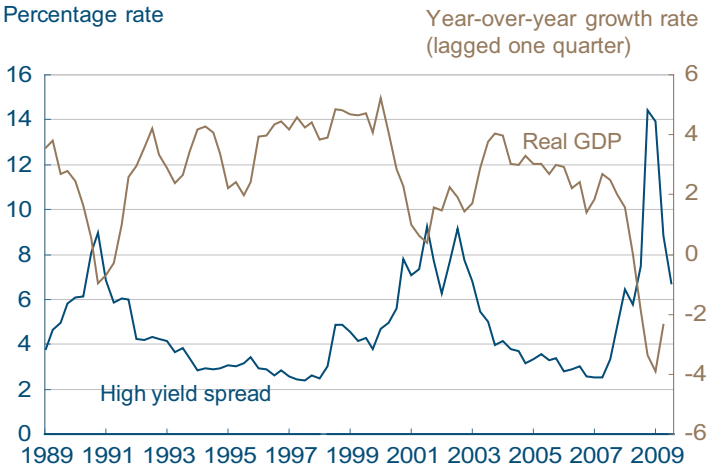
byTimothy Bianco and Mehmet Pasaogullari

High Yield Spread



Note: Shaded bars indicate recessions
Source: Merrill Lynch.

High Yield Spread and Real GDP Growth Rate



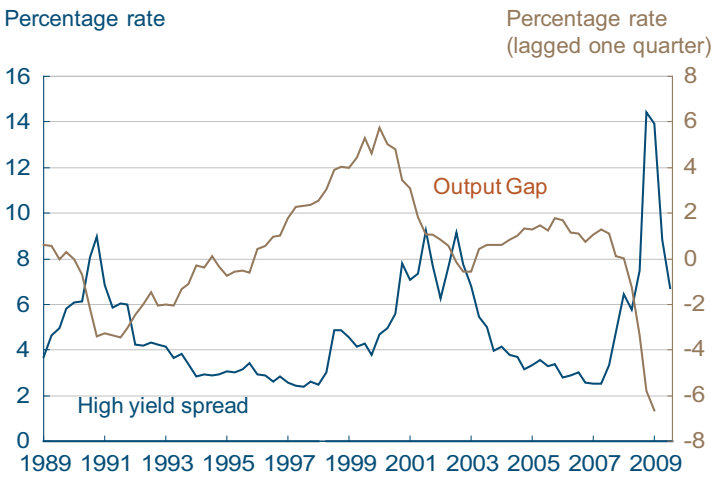
Sources: Merrill Lynch; Bureau of Economic Analysis.

The financial crisis has brought into focus the importance of financial markets to a properly functioning economy. These markets help the economy allocate resources and shape the investment and saving decisions of the society.

While financial markets are essential to economic growth, they may also play a role in propagating the business cycle. Economists call this effect the "financial accelerator," meaning that conditions in financial markets can perpetuate and amplify shocks to economic activity. One important channel through which the financial accelerator operates is the way investment is affected by the external finance premium. The external finance premium is the difference between the cost of external funds and the opportunity cost of internal funds. Borrowing from lenders is almost always more expensive for a firm than using its own funds because lenders must be compensated for the costs of evaluating and monitoring borrowers. Therefore, the external finance premium is generally positive. Moreover, it is inversely related to the strength of a firm's balance sheet. Improvements in balance sheet strength will lower the premium, degradations will raise it. Changes in the premium affect the investment decisions of firms, which in turn affect real economic activity. It is because the value of a firm's assets and the overall health of its balance sheet generally move positively with overall economic activity that financial market conditions can amplify the effect of shocks to economic activity.

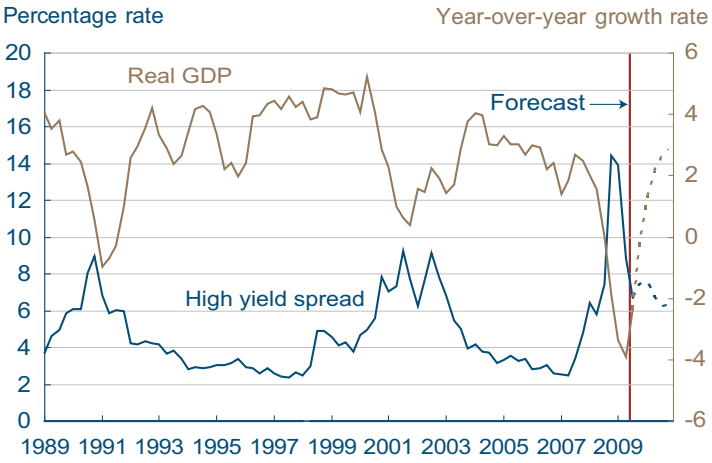
Measures of this external finance premium may contain valuable information about future economic activity. Corporate bond spreads, in particular the high-yield spread—the spread between the yields of high-yield (or junk) bonds and higher-grade bonds (say, AAA corporate bonds)—might be a suitable measure for this premium. The yields of the former type of bond are especially sensitive to the default probabilities of firms; thus, these yields are likely to be a good predictor of future economic activity.

High Yield Spread and Output Gap



Sources: Merrill Lynch, Congressional Budget Office, NBER.

Forecasts of High Yield Spread and Real GDP



Sources: Merrill Lynch, Bureau of Economic Analysis, authors' calculation.

There is a negative relationship between economic activity and the high-yield spread. Moreover, the increases in this spread have preceded the last three recessions. This can be seen in the relationship between the high-yield spread (defined here as the spread between the yield of the Merrill Lynch High Yield Master II Index and the Merrill Lynch AAA corporate bond index) and GDP or the output gap.

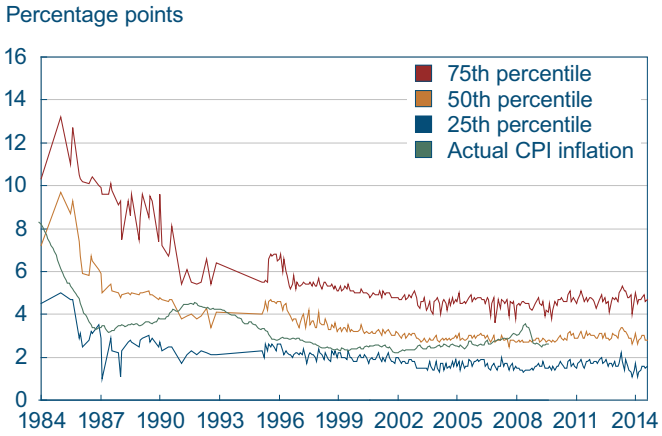
As for the most recent recession, the high-yield spread started increasing in June 2007, about two quarters before the start of the recession. It rapidly increased between May 2008 and mid-December 2008. It stayed at these historically high levels until the end of March 2009. Since then, the high-yield spread has steadily come down, paralleling developments in other financial markets. The spread moved down to 6.7 percent at the end of September after a six-month steady decline from a high of 14 percent at the beginning of April 2009. It continued to go down in October and was 6.4 percent on October 28. This may serve as yet another observation for the continued normalization of financial markets since last spring. However, it should be noted that the high-yield spread is still about 2 percent higher than its mean for the past 21 years.

So, what does the high-yield spread forecast for real GDP for the rest of 2009 and 2010? A simple empirical model of GDP and the high-yield spread predicts that real GDP will grow 2.8 percent in 2010. Of course, estimates from such a simple model should be approached cautiously since the high-yield spread is just one indicator of future economic activity. Yet the forecasted trend is in line with most other forecasts in predicting an upward trend in the annual growth of real GDP in 2010.

Inflation and Inflation Expectations

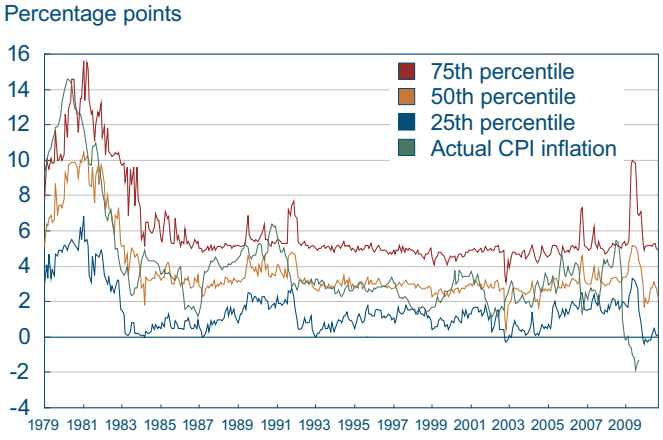
11.05.09
by Andrea Pescatori and Tim Bianco

University of Michigan Five-Year Inflation Expectations



Sources: University of Michigan; Bureau of Labor Statistics.

University of Michigan One-Year Inflation Expectations



Sources: University of Michigan; Bureau of Labor Statistics.

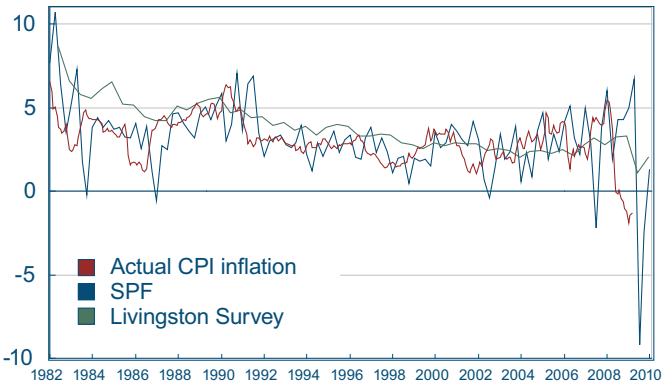
Inflation expectations play a crucial role in monetary policy making. Not only do they tell policymakers something about the real expected cost of borrowing and hence the viability of investment plans, they also help policymakers gauge the public's perception of the central bank's commitment to maintaining a low and stable rate of inflation. Especially in the current policy environment, where the Fed has been forced by events to take unconventional actions, it is more important than ever to make sure that long-run inflation expectations are well anchored and that the policy message is well understood by the public.

In principle, expectations are not observable. But there are at least two sources that can be used to infer them: surveys and market-based information. With surveys, people are asked directly what they think future price growth will be. There is a variety of surveys that are regularly conducted and that target different types of participants. Here, we will focus on the University of Michigan Surveys of Consumers, the Livingston Survey, and the Survey of Professional Forecasters (SPF). Measures taken from readily available market-based information usually exploit information that is contained in the yield curve of Treasury securities. In particular, some measures rely on the yields of Treasury inflation-protected securities (TIPS), which are traded daily in the secondary market. (See this Commentary for a new method of gauging inflation expectations).

The University of Michigan survey is different from other surveys because participants are actual consumers and not professionals, as they are in the Livingston, the SPF, or the Blue Chip surveys. A look at the survey's measure of one-year inflation expectations (1978-present, monthly frequency), shows that the median forecast quite often lags actual inflation, which suggests that current inflation plays an important role in determining inflation expectations. Most of the time, actual inflation falls

SPF and Livingston Survey One-Year Inflation Expectations

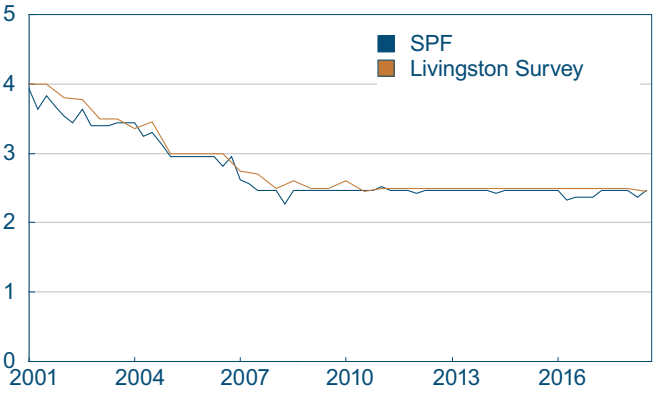
Percentage points



Sources: Federal Reserve Bank of Philadelphia; Bureau of Labor Statistics; Survey of Professional Forecasters.

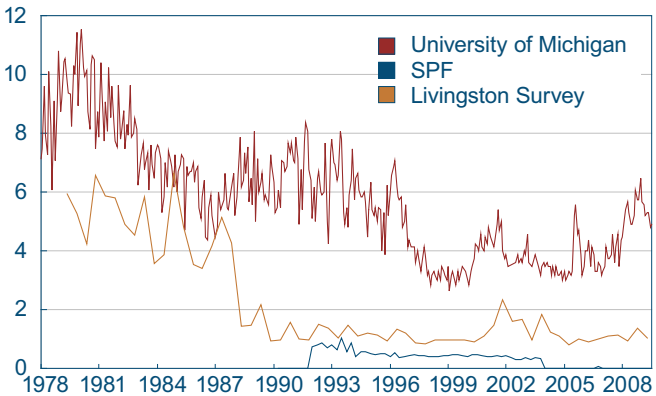
SPF and Livingston Survey Ten-Year Inflation Expectations

Percentage points



Sources: Federal Reserve Bank of Philadelphia; Survey of Professional Forecasters.

Standard Deviation of One-Year Inflation Expectations



Sources: Federal Reserve Bank of Philadelphia; Bureau of Labor Statistics; Survey of Professional Forecasters.

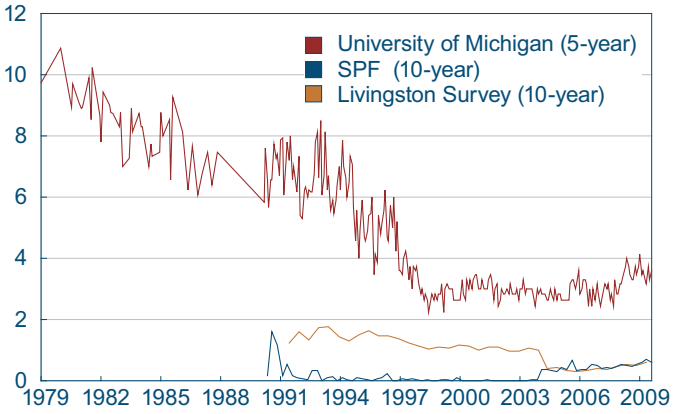
inside the 25th and 75the bands, with notable exceptions in the 1980s and most recently: The 2009 dramatic drop in prices was completely unexpected. It is also worth mentioning that the variety of opinions is quite substantial. For example, in the latest available reading of September 2009, only half of the people surveyed reported an inflation forecast that was between 0.1 percent and 4.9 percent; the rest had even more extreme views! In any case, all the percentiles tend to move together and, after increasing the substantially in the spring and summer of 2008, the latest figures give us a description of short-run inflation expectations just below their historic average.

The five-year forecast also has a very similar pattern, with the latest numbers close to their normal levels. However, this series is much less volatile, and, accordingly, the 25th and 75th percentile bands are also narrower. Given the longer horizon, we might be surprised to see that the recent median inflation expectation is quite stable around 3 percent, which is higher than the actual inflation comfort zone of 2 percent–2.5 percent described often by the Fed. In part, this might reflect a bias due to fact that, when people think of the CPI, they put less emphasis on the prices of goods they buy less often, like durable goods. At the same time, the prices that have decreased the most in the last few decades have been exactly those for durable goods. Moreover, it is also true that the forecasts vary substantially, which may be in part because each individual consumer perceives inflation in terms of his or her own personal consumption bundle. In any case, the graph above shows that the medium-run inflation expectations of the participants in the University of Michigan survey have not changed.

If the two charts above tell us what common people think about inflation, the next two show what professional forecasters and other business professionals think. In principle, the professionals should be more aware of what they are asked to forecast, and in fact, the levels forecasted are more in line with actual CPI-inflation. At the same time, trends in short-run and medium-run inflation expectations are similar to those of the University of Michigan survey.

One element that is worth mentioning is that uncertainty has recently increased across all forecast

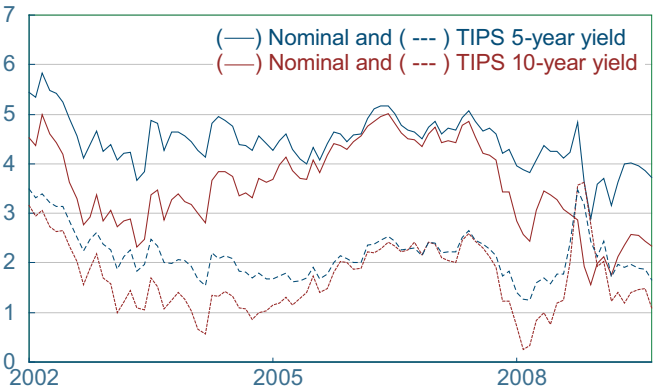
Standard Deviation of Medium-Term Inflation Expectations



Sources: Federal Reserve Bank of Philadelphia; Bureau of Labor Statistics; Survey of Professional Forecasters.

TIPS and Nominal Treasury Security Yields

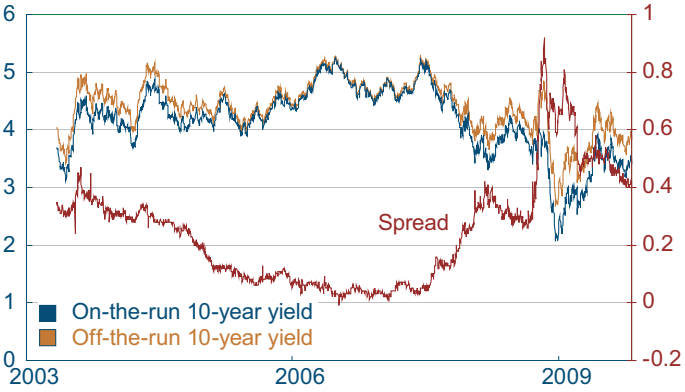
Percentage points



Source: Federal Reserve Board.

Spread between On- and Off-the-Run Treasury Securities

Percentage points



Source: Federal Reserve Board.

horizons in all the surveys discussed here. Uncertainty can be proxied for by the standard deviation of the forecasts at each point in time. The deviation has been going up for all measures, which probably reflects a policy environment that is more uncertain than usual and implies a wider set of views on the effects of the current policy actions on the economy and, hence, prices.

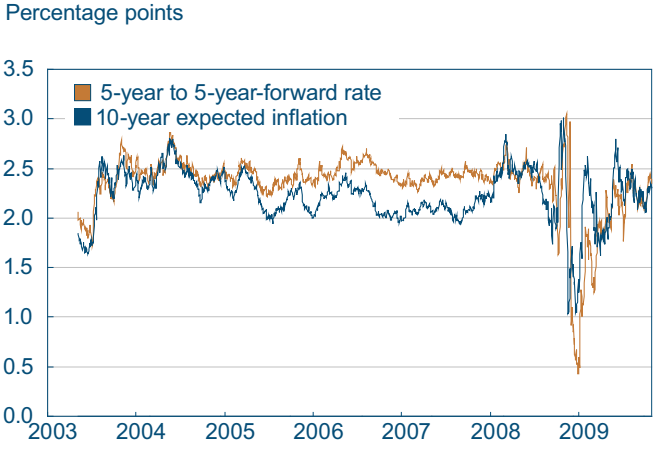
Looking at the charts above, we might argue that surveys are not bad at forecasting actual inflation. What is not shown in the figures, however, is that most measures missed big changes in inflation, like those at the end of the 1960s, the 1970s, and the 1980s (a disinflation). The surge and the drop in inflation of the past three years was also missed. This seems to suggest that big movements in commodity prices and their impact on CPI inflation are always hard to anticipate.

TIPS-based measures of expected inflation are obtained by taking the difference in the yields of conventional Treasuries and TIPS. In principle, the yield differences may provide an accurate measure of market inflation expectations because inflation has very different effects on the returns of the two kinds of securities. The yield on a conventional Treasury must compensate the buyer for any expected erosion in purchasing power due to future inflation. In contrast, the buyer of an inflation-protected Treasury need not worry about future inflation because the principal and interest payments are both indexed to inflation. This spread between the two yields is called the breakeven inflation compensation.

However, the breakeven inflation rate alone is not correctly interpreted as a measure of inflation expectations. Investors also attach premiums for inflation risk and liquidity to their required return. The inflation risk premium means that the breakeven inflation overestimates expected inflation, and the liquidity premium means it underestimates expected inflation.

While the inflation risk premium seems to be quite steady over time, the liquidity premium can move substantially. The liquidity premium arises because the TIPS market is a relatively recent one and it is not as deep as the one for conventional Treasur-

Five-Year-Forward Inflation Rate and TIPS-Based Inflation Expectations



Sources: Federal Reserve Board, authors' calculations.

ies. Over time, the value of TIPS outstanding has grown, as has their trading volume. The first indexed Treasury was issued in January 1997, with a maturity of 10 years, and since then, the U.S. Treasury has regularly issued 10-year TIPS and other maturities. However, a substantial difference in liquidity relative to conventional Treasuries persists. Furthermore, changes in the liquidity premium are exacerbated in moments of market turbulence, adding volatility to the inflation breakeven rate that has nothing to do with inflation expectations.

A way to see the effect of liquidity is to plot the spread between an off-the-run (old) and an on-the-run (new) Treasury security. As we can see in the chart below, the premium skyrocketed after the Lehman Brothers collapse.

It is possible to use the liquidity-premium spread to adjust the breakeven inflation compensation for movements in the liquidity premium. This is done in the chart below, where we plot the adjusted inflation compensation that comes out of 10-year TIPS (together with the five-year to five-year forward rate). The adjusted inflation breakeven rate was quite stable up until the end of 2007, between 2 percent and 2.5 percent. After that, its volatility increased, peaking at the moment of highest financial turbulence in the early fall of 2008, and after that, it collapsed, probably signaling deflation fears. However, the most recent readings of the series are back to historically normal values.

University of Michigan's *Survey of Consumers*: http://www.sca.isr.umich.edu/.

The Livingston Survey: http://www.phil.frb.org/research-and-data/real-time-center/livingston-survey/

The Survey of Professional Forecasters (SPF): http://www.phil.frb.org/research-and-data/real-time-center/survey-of-professional-forecasters/

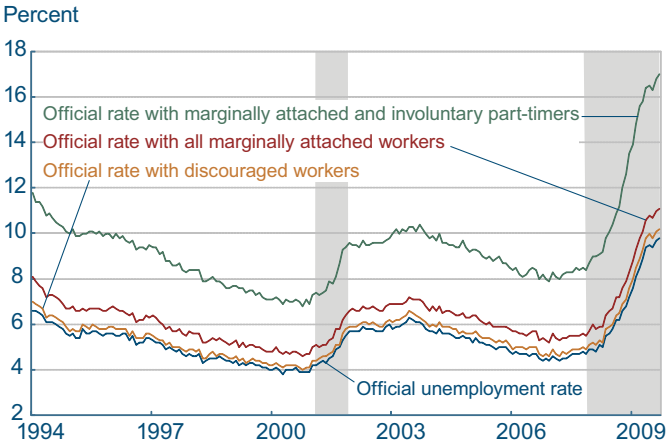
Federal Reserve Bank of Cleveland's *Commentary* "A New Approach to Gauging Inflation Expectations": http://www.clevelandfed.org/research/commentary/2009/0809.cfm

Blue Chip *Economic Indicators*: http://www.aspenpublishers.com/product.asp?catalog_name=Aspen&product_id=SS01934600&cookie%5Ftest=1

Alternative Measures of the Unemployment Rate

10.07.09
by Murat Tasci and Beth Mowry

Alternative Measures of the Unemployment Rate



Notes: The official unemployment rate is the ratio of unemployed persons to the labor force. The other rates include the additional worker classifications in the numerator and denominator. Shaded bars indicate recessions.
Source: Bureau of Labor Statistics.

The official unemployment rate, reported each month in the Bureau of Labor Statistics' "Employment Situation," is one of the most widely reported and closely watched labor statistics. The reason this indicator gets so much attention has much to do with its timeliness and the objective way in which it is defined. The rate for a given month is usually reported the first Friday of the following month. Simply defined, the official unemployment rate is the percentage of the civilian labor force that is not employed. The civilian labor force is the sum of the employed and unemployed, excluding people in the armed forces, institutionalized people such as prison inmates, and anyone under 16 years old.

While the unemployment rate is a valuable indicator of labor market stress and provides insight into the degree to which labor resources are used in the economy, no one statistic can capture all forms of labor market difficulties. The official definition of unemployment includes those who are able to work, available for work, and actively seeking work but not are currently employed. Excluded are marginally-attached workers—those who are available for and would take a job if offered but have not been looking recently—and involuntary part-time workers—those who would prefer full-time work but are instead stuck working part-time. Since these groups can provide important information about labor market slack or underutilization, the BLS publishes numerous alternative measures of unemployment in addition to the official rate each month. The alternatives range from less-inclusive to most inclusive.

Beyond the official rate, U-4 adds discouraged workers, a subset of the marginally attached, who have given up searching for jobs because they believe none are available. U-4 tends to sit just slightly above the official rate because the number of discouraged workers is apparently fairly small. U-5 adds all marginally-attached workers, or those who recently have given up the job search for a

Alternative Measures of Labor Underutilization (percent)

Measure	Current recession			2001 recession		
	December 2007	September 2009	Difference	March 2001	November 2001	Difference
U-3: The official unemployment rate. Total unemployed persons as a percent of the civilian labor force.	4.9	9.8	4.9	4.3	5.5	1.2
U-4: U-3 + discouraged workers	5.1	10.2	5.1	4.5	5.8	1.3
U-5: U-3 + All marginally attached workers	5.7	11.1	5.4	5.0	6.4	1.4
U-6: U-5 + Persons employed part-time for economic reasons	8.7	17.0	8.3	7.3	9.4	2.1

Note: Differences are given in percentage points.
Sources: Bureau of Labor Statistics, current Population Survey.

range of reasons extending beyond discouragement. These reasons, for example, could include lack of child care or transportation. The broadest measure of labor underutilization, U-6, includes people working part-time who would really like to have full-time jobs. These "underemployed" people may have had their hours cut back by employers, or perhaps they were looking for full-time work and had to settle for part-time. U-6 does not take into account people who are over-skilled for their position, such as an investment banker settling for work as a paint salesman in tough economic times.

The more inclusive the measure, from U-3 to U-6, the higher the corresponding unemployment rate is. During the course of the current recession, the official rate has risen 4.9 percentage points to 9.8 percent, its highest level since June 1983. Meanwhile, U-4 has risen 5.1 percentage points to 10.2 percent, U-5 has bumped up 5.4 points to 11.1 percent, and U-6 presently sits at a whopping 17.0 percent, up 8.3 percentage points since December 2007.

Adding discouraged and all marginally-attached workers to the official rate adds only a couple of percentage points, as can be seen in the tightly-packed lower three rates above. It is not until you include involuntary part-timers that the rate really climbs up. A U-6 rate of 17.0 percent implies a considerable amount of labor market slack, or underutilized potential labor resources. As alarming as 17.0 percent sounds, this rate should be interpreted in context. While it is true that including more groups drives the rate above the official measure, differences among the rates are always present. Although the various rates sit at different levels, they

track each other closely over time. In other words, the trends have generally been consistent over the past 15 years of the alternative measures' existence. The official rate rises in recessions and declines afterward, as do the others.

The fact that the less restrictive rates have risen more in terms of percentage points than the official rate in this recession is not particularly surprising. Over the course of the 2001 recession, the official rate rose 1.2 percentage points, while U-4 rose 1.3, U-5 rose 1.4, and U-6 rose 2.1. The difference, of course, between the current situation and 2001 is the magnitude by which the rates increased. Then again, the current recession has been much more prolonged than the 11-month downturn in 2001, and how much the unemployment rate rises is largely a function of the length of a recession.

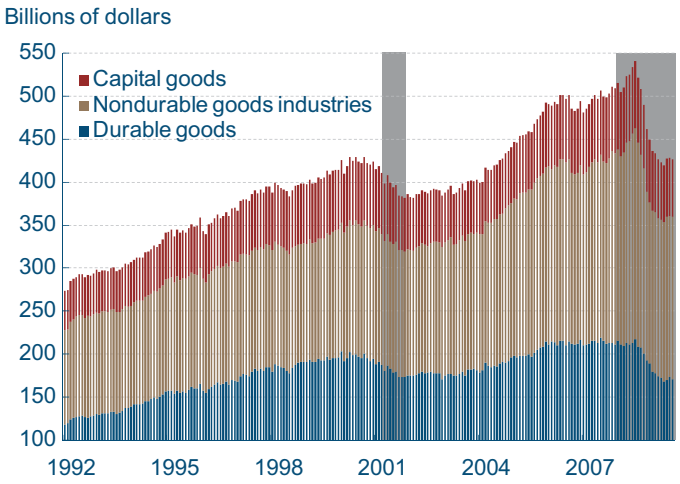
The alternative unemployment rates are important because of their implications for the course of a recovery. High rates indicate that there are many people who have given up job searching due to poor prospects, and there are many part-timers who want and need full-time employment. When economic activity begins to pick up, the official rate is likely to increase initially as the discouraged rejoin the labor force and try to find a job match. Additionally, employers usually increase the hours of part-time or existing workers before committing to a workforce expansion.

Yet another supplement to the labor picture is the employment-to-population ratio, which represents the proportion of the working-age population that is employed. Though it is less-publicized than the unemployment rate, it has the advantage of being less volatile because it is based on a larger population count rather than the labor force, which is subject to heavy seasonal variation. Furthermore, "employment" is a more clear-cut condition than "unemployment," as evidenced by all the alternative rates. Since the population is continuously growing, changes in the employment-to-population ratio tell whether the economy is generating jobs fast enough to keep pace with the population. As of September, the ratio sits at 58.8 percent, a significant drop from its cyclical peak of 63.4 percent in December 2006 and its lowest point since January 1984.

Do Shipping Volumes Signal an End of the Recession?

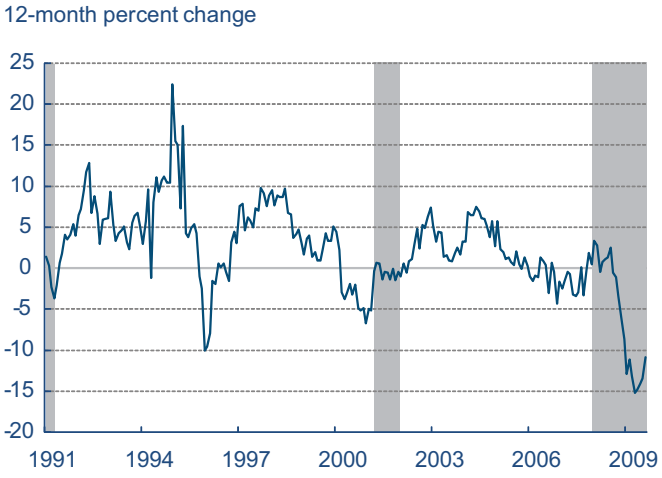
10.30.09
by Paul Bauer and Caroline Herrell

Manufacturers' Shipments



Note: Shaded bars indicate recessions.
Sources: Bureau of the Census, Haver Analytics.

Transportation Services: Freight



Note: Calculated using a chain-type index. Shaded bars indicate recessions.
Sources: Bureau of Transportation Statistics; Haver Analytics.

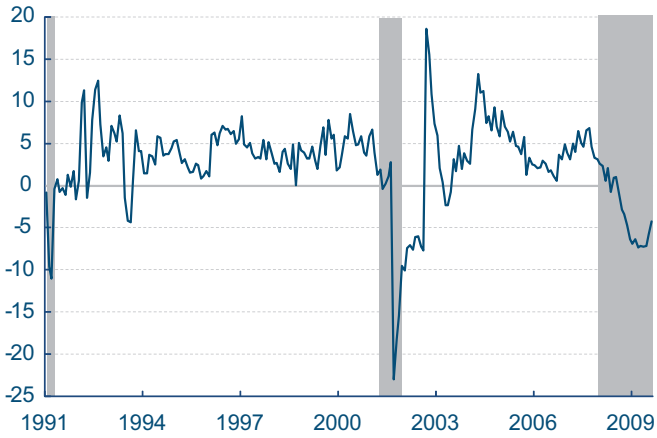
The advance estimate of 3.5 percent for GDP growth in the third quarter of 2009 is welcome news, and it suggests that the longest recession since the Great Depression and the deepest since the 1950s is likely to have ended at some point around the middle of the year. This isn't to say that the widespread pain experienced by households and firms is over, just that the economy has at least stopped contracting and is starting to grow. It is fairly widely agreed that it will take months if not years for output and employment to return to their former peak levels. Of course, because the NBER Business Cycle Dating Committee waits until the recovery is no longer in doubt, it could be 6 to 18 months before it assigns an official date for the end of the latest recession, in part because initial data are subject to revision.

While GDP is the best measure of overall economic activity, it is available only at a quarterly frequency (although the previous quarter's estimate is updated every month as more data become available). This can make for a long wait to be certain about turning points in the economy. Employment estimates, another major series considered by the dating committee, come out monthly, but this series tends to be a lagging indicator. In light of this, economic observers try to glean evidence of turning points from data series that come out more frequently and with less of a lag. Transportation data are good candidates, as many series are published monthly, relatively soon after the close of the month. Equally important for this purpose is the fact that they should be highly correlated with economic activity.

First consider manufacturers' shipments. Manufacturing constitutes the bulk of industrial production, and industrial production is an economic activity explicitly examined by the dating committee. Moreover, manufacturers' shipments should be closely in sync with business cycles. A look at the most recent data for manufacturers' shipments shows that the overall series and its components

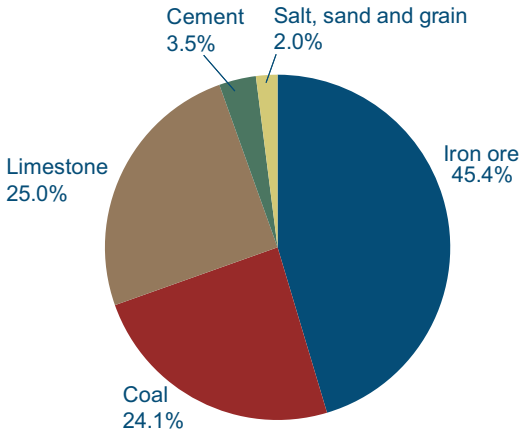
Transportation Services: Passenger

12-month percent change



Notes: Calculated using a chain-type index. Shaded bars indicate recessions.
Sources: Bureau of Transportation Statistics, Haver Analytics.

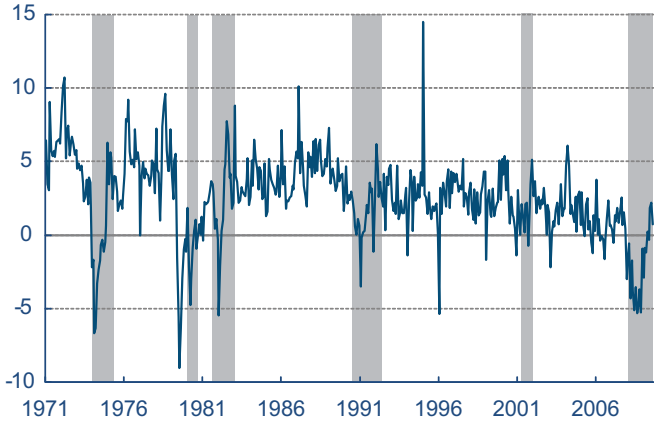
U.S. Dry-Bulk Cargo Carriage on the Great Lakes by Tonnage, 2007



Source: Lake Carriers' Association.

Vehicle Miles of Travel, United States

12-month percent change



Note: Shaded bars indicate recession.
Sources: Federal Highway Administration; Haver Analytics.

have all moved off their recent lows, a trend that began last May or June. However, they have yet to show robust growth. This pattern looks similar to the way the 2001 recession ended.

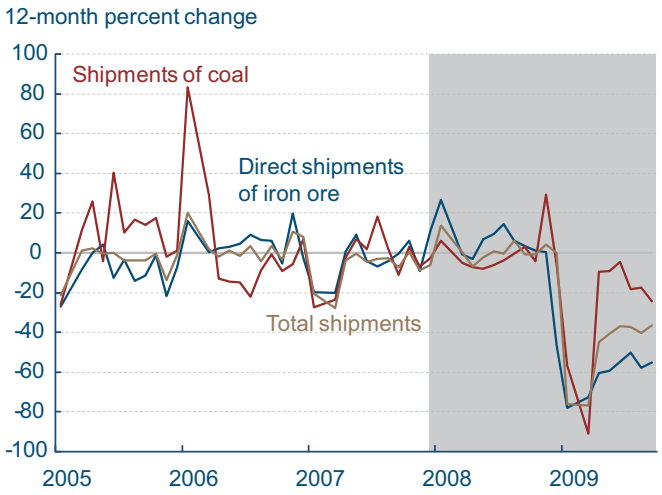
But while manufacturing accounts for most industrial production, it accounts for only about 13 percent of GDP, and its employment share is under 10 percent. For those reasons, it may be too narrow a measure to serve as a reliable indicator of overall economic activity. Some broader measures, based on transportation activity, are available from the Bureau of Transportation Statistics. It produces two data series of transportation services: one for freight and one for passengers.

The most recent values for freight and passenger transportation services' 12-month percentage change are still declining, but since June they have moved up from their recent lows.

Unfortunately, the link between these series and overall economic activity may not be as tight as one would hope. In the 1991 recession, the growth rate for freight declined before the recession officially started, was roughly flat through the recession, and began to grow again at the start of the recovery. The passenger series was even more problematic in that recession. Growth in passenger travel slowed at the onset of the recession but then plunged after the 9/11 terrorist attacks. These shocks put this series out of sync with the overall economy at the end of the last recession.

A series that goes back further—and that seems more closely tuned to the overall business cycle—is the Federal Highway Administration's estimate of vehicle miles of travel. This monthly series has the advantage of being dependent on a broader array of economic activity. People drive for a variety of reasons (to work, to shop, for vacations) in addition to delivering goods. While this measure does not always turn sharply negative during a recession, the growth rate does remain depressed relative to what it was just prior to a downturn. This occurs in part because there appears to be a modest long-run decline in the growth rate of vehicle miles, and so this trend must be accounted for in looking for turning points in the economy.

Shipments by Members of the Lake Carriers' Association



Note: Shaded bar indicates recession.
Source: Lake Carriers' Association.

Finally, on a related note, we look at a transportation measure with an application to more local economic activity. If you have a view of the Great Lakes, it's not your imagination, there really is less ore boat traffic out there. Water is the least expensive way to ship bulk items, and the Great Lake states have long benefited from this advantage. Iron ore, limestone, and coal, all key ingredients in the production of iron and steel, comprise almost 95 percent of Great Lakes cargo by tonnage. While Great Lakes shipping volumes have stopped shrinking as rapidly as they had been in the beginning of the year (when total shipments were down 80 percent year-over-year), they are still down nearly 40 percent. With iron and steel mill production down nearly 57 percent year-over-year, this should not be too surprising. Great Lakes shipping will recover only once these mills return to a higher production rate.

Real GDP: Third-Quarter 2009 Advance Estimate

11.02.09
by John Lindner

GDP rose at an annualized rate of 3.5 percent in the third quarter, somewhat higher than consensus expectations and pulling the four-quarter GDP growth rate up from –3.8 percent to –2.3 percent. The third quarter's increase was driven in large part by a 3.4 percent jump in personal consumption expenditures, the largest quarterly gain in this component since the first quarter of 2007. Durable goods purchases spiked up 22.3 percent, reflecting the impact of the CARS program. Residential investment recovered much of what it had lost in the second quarter, growing 23.3 percent and gaining 7.5 percentage points (pp) in its four-quarter growth rate. The growth in residential investment was the first growth in this component since the fourth quarter of 2005.

Other improvements could be seen in government spending and in the change in private inventories. Business fixed investment saw another quarterly decline, but this quarter's 2.5 percent drop is small in comparison to last quarter's 9.6 percent decline. Imports also outpaced exports, detracting from the growth in real GDP, even though exports grew for the first time in five quarters and imports grew for the first time in eight quarters.

Personal consumption contributed the most to the growth in real GDP, adding 2.4 pp. In its GDP release, the BEA cited the CARS program as a factor in this growth, as motor vehicle output alone added 1.7 pp to third-quarter output growth. The change in private inventories added 0.9 pp to growth in the third quarter, after three consecutive quarters of subtraction. Net exports ended up subtracting 0.5 pp from the real growth, as imports (a 2.0 pp subtraction in GDP accounting) outweighed exports (a 1.5 pp addition). Residential investment and government spending both added about one-half of a percentage point to real GDP growth.

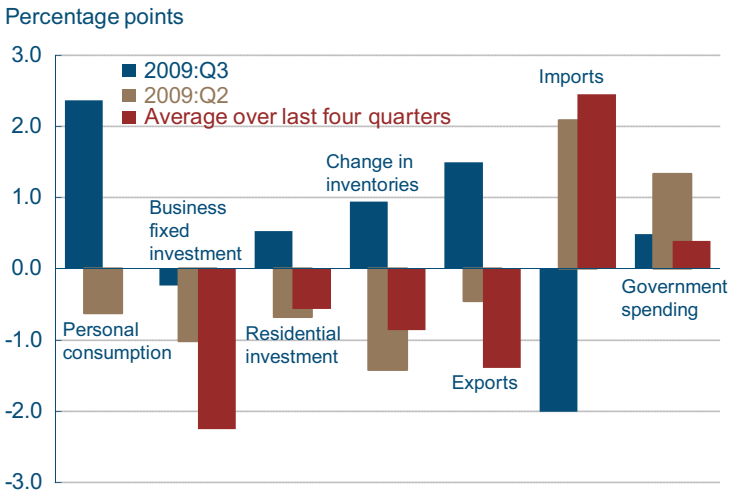
The Blue Chip consensus forecast for 2009 real GDP improved from –2.6 to –2.5 percent dur-

Real GDP and Components, 2009:Q2 Revised Estimate

	Quarterly change (billions of 2000$)	Annualized percent change, last: Quarter	Four quarters
Real GDP	112.5	3.5	−2.3
Personal consumption	76.1	3.4	0.0
Durables	55.5	22.4	−1.1
Nondurables	10.2	2.0	−0.8
Services	17.8	1.2	0.4
Business fixed investment	−8.2	−2.5	−18.9
Equipment	2.5	1.1	−17.9
Structures	−9.3	−9.0	−208
Residential investment	18.5	23.3	−18.1
Government spending	14.8	2.3	1.8
National defense	14.1	8.4	5.0
Net exports	−17.9	—	—
Exports	49.6	14.7	−11.2
Imports	67.5	16.3	−14.9
Private inventories	−130.8	—	—

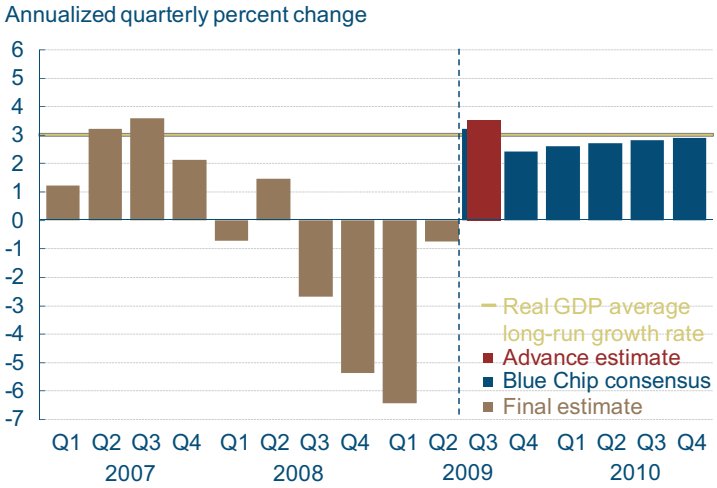
Source: Bureau of Economic Analysis.

Contribution to Percent Change in Real GDP



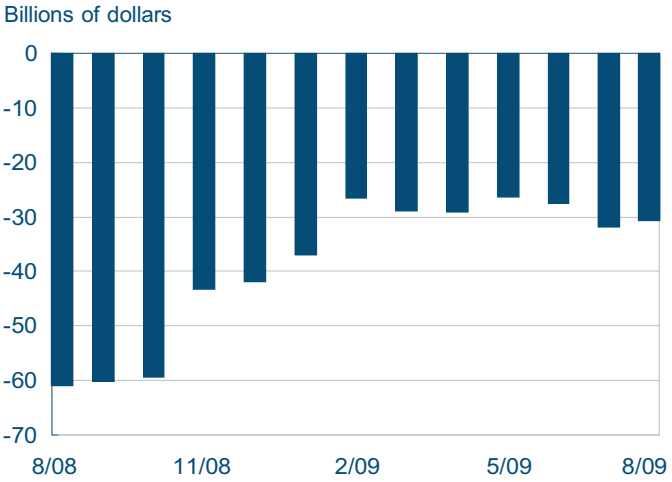
Source: Bureau of Economic Analysis.

Real GDP Growth



Sources: Blue Chip *Economic Indicators*, June 2009; Bureau of Economic Analysis.

Trade Balance: Goods and Services



Source: Census Bureau.

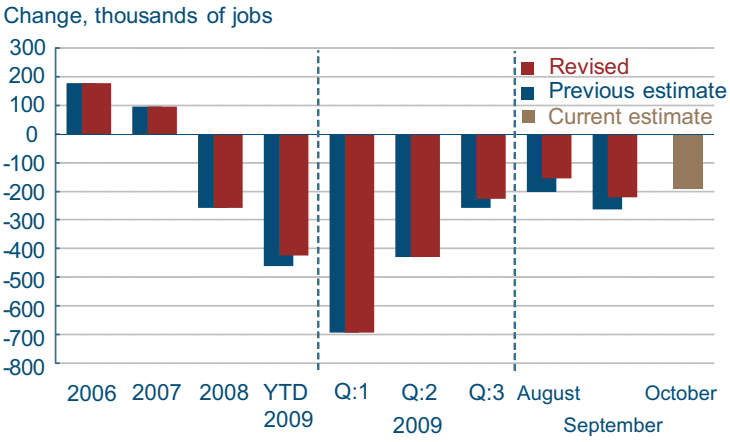
ing the October survey due to higher projections for the second half of 2009. The third-quarter first estimate came in 0.5 pp above the September consensus forecast and 0.3 pp above October's consensus. Fourth-quarter forecasts stayed at 2.4 percent, which remained high enough to improve the 2009 forecast. The consensus estimate for 2010 growth ticked up again, this month by 0.1 pp to 2.5 percent, its fifth upward revision in six months, though—at 2.5 percent—it still remains below its long-run trend. Looking ahead through the rest of the year, even pessimists are predicting positive GDP growth for the rest of this year and into 2010.

One of the most noticeable pieces of this third-quarter advanced estimate is the return to growth of both imports and exports. Exports grew to over $128 billion, reaching their highest mark of this year, likely influenced by a modest dollar depreciation during the third quarter. Imports recovered to January levels, rising 16.3 percent in the third quarter to a level near $160 billion. As a direct result of this growth, July's percent change in the trade deficit was a 16 percent increase, the largest month-to-month growth in over 10 years. The deficit grew to $32 billion during that span, an amount unseen since the very beginning of this year. The growth in exports is consistent with a recovery in foreign economies, while the rise in imports could be an early signal that U.S. consumers are confident enough to begin spending again. Even with import growth outpacing exports last quarter, the deficit remains below the $46 billion it has averaged from 2000 to 2007.

The Employment Situation, October 2009

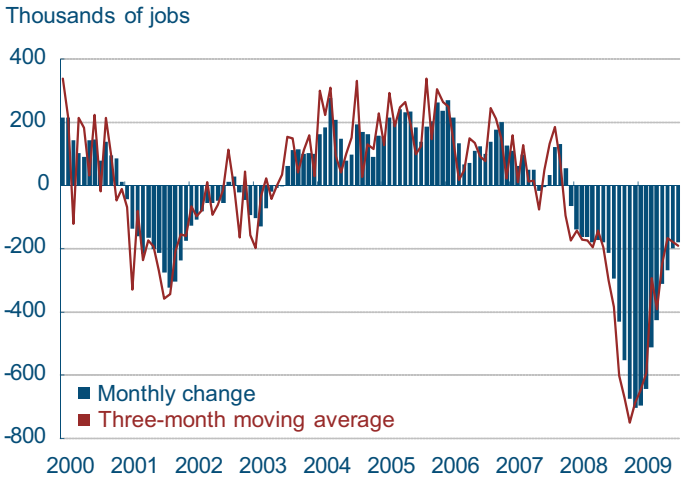
11.06.09
by Beth Mowry and Murat Tasci

Average Nonfarm Employment Change



Source: Bureau of Labor Statistics.

Private Sector Employment Growth



Source: Bureau of Labor Statistics

Nonfarm payrolls fell by 190,000 in October, coming in slightly below expectations. Previous estimates for August and September, however, were revised up strongly by a total of 91,000, reducing those months' respective losses to 154,000 and 219,000. The economy has shed a net total of 7.3 million jobs since December 2007, but losses have gradually slowed in recent months, with the average decline falling from 428,000 in the second quarter to 225,000 in the third quarter.

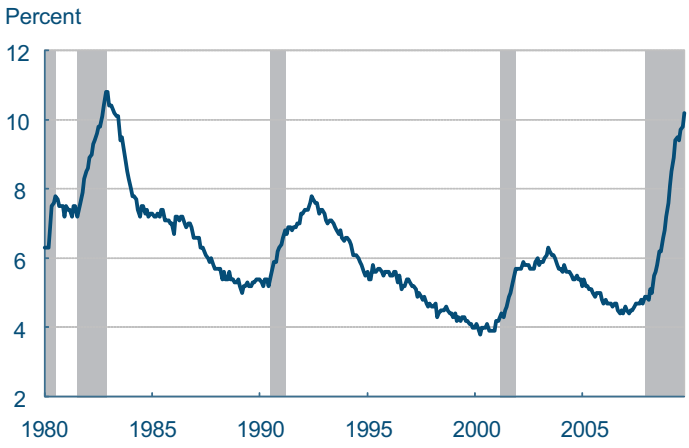
The more surprising aspect of the Bureau of Labor Statistics' employment report was the large jump in the unemployment rate, from 9.8 to 10.2 percent, a 26-year high. The increase resulted from a rise in the number of unemployed persons (558,000), as the size of the labor force stayed relatively constant. A less volatile measure of employment trends in the labor market is the employment-to-population ratio, which slipped 0.3 percentage point to 58.5 percent, its lowest since October 1983.

Industries contributing most to October's slowdown in payroll losses included professional and business services and education and health, which experienced larger gains over the month, and government, which had no net change after a 40,000 loss in September.

Goods-producing industries on the whole shed 129,000 jobs, split evenly between construction and manufacturing. Construction dropped 62,000 jobs last month, with losses continuing to be at least twice as great on the nonresidential side compared to residential. Manufacturing employment worsened for both durables and nondurables, falling by a total of 61,000 jobs. Motor vehicle and parts manufacturers, however, actually did not contribute to the decline for a change, adding 4,600 payrolls after losing an average of 14,000 per month over the course of the recession.

Service-providing industries lost a total of 61,000 jobs, with most areas seeing little change to moder-

Unemployment Rate



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

ate improvement. The exception was leisure and hospitality, with losses ballooning to 37,000 compared to just 2,000 in September. Performance was roughly unchanged in October for trade, transportation, and utilities (–66,000), information (–1,000), and financial activities (–8,000). Retail trade's loss of 39,800 was a tiny improvement, staying roughly on par with the average change since April. Professional and business services added 18,000 jobs compared to 3,000 in September, with progress particularly evident in temporary help services, which had its largest of three consecutive increases (33,700). The only industry without a single decline over the recession has been education and health services, and its gains rose from 17,000 to 45,000. The government sector neither added nor subtracted jobs on net last month but contributed heavily (+44,000) to the total upward revisions in August and September mentioned previously.

Labor Market Conditions and Revisions

	Average monthly change (thousands of employees, NAICS)				
	August current	Revision to August	September current	Revision to September	October 2009
Payroll employment	−154	47	−219	44	−190
Goods-producing	−130	2	−114	2	−129
Construction	−66	−6	−68	−4	−62
Heavy and civil engineering	−5.2	1	−12	0	−14
Residential[a]	−19.7	0	−13	0	−15
Nonresidential[b]	−41.5	−7	−42	−3	−33
Manufacturing	−55	11	−45	6	−61
Durable goods	−44	11	−39	4	−44
Nondurable goods	−11	0	−6	2	−17
Service-providing	−24	45	−105	42	−61
Retail trade	−21	−12	−44	−6	−40
Financial activities[c]	−23	2	−9	1	−8
PBS[d]	−6	13	3	11	18
Temporary help services	3	10	7	9	34
Education and health services	50	4	17	14	45
Leisure and hospitality	−14	0	−2	7	−37
Government	12	31	−40	13	0
Local educational services	−8	9	−14	−1	5

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 diffusion index of employment change tumbled in October, from 37.5 to 33.8, taking a bite out of progress made in each of the three months prior. The index has climbed up from a record low of 19.6 in March but remains far below the expansionary threshold of 50, which indicates an equal balance between industries expanding and contracting employment.

International Markets

Purchasing Power Parity and the Dollar

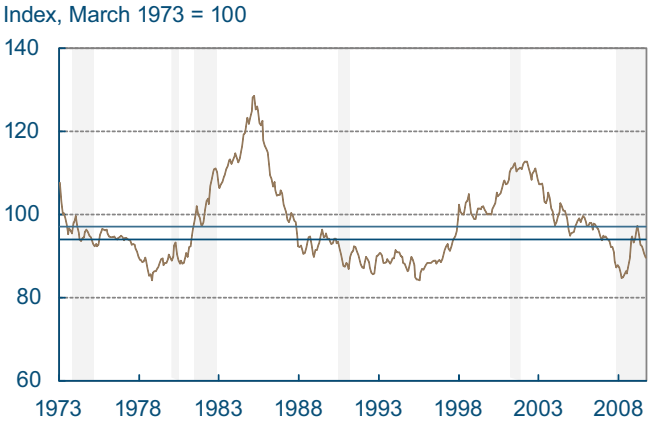
10.27.09
by Owen Humpage and Caroline Herrell

In terms of purchasing power parity, the dollar seems a tad undervalued these days, but that does not mean it will soon appreciate. Exchange rates can deviate from their purchasing-power-parity levels for long periods. What's more, the necessary adjustment can come through prices, not exchange rates.

People value money for what it buys, and, given the opportunity, they will use the national currency that offers them the greatest purchasing power. If, for example, goods are cheaper in Mexico than in the United States, Americans will trade U.S. dollars for Mexican pesos and buy Mexican goods. Such cross-border arbitrage should affect both exchange rates and prices so as to promote parity among the purchasing powers of the world's currencies. This idea—purchasing power parity—is fundamental to many economic models of exchange-rate behavior and to some descriptions of the dollar's equilibrium value. Observers who complain that the dollar is overvalued or undervalued often do so with reference to the dollar's purchasing-power-parity value.

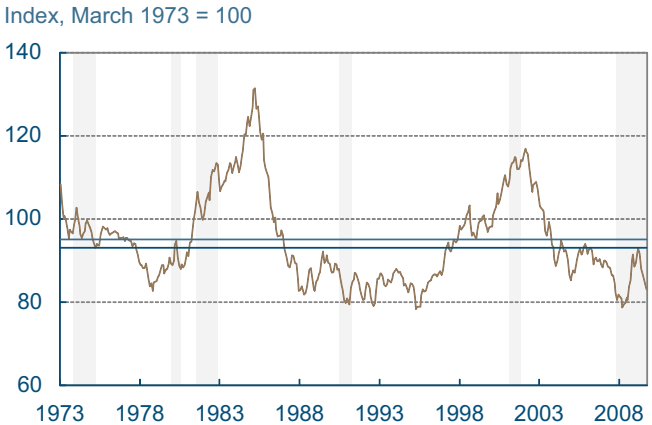
One way to get a quick fix on the dollar's purchasing-power-parity value is to look at a real exchange rate. Real exchange rates mathematically combine nominal exchange rates—the kind you can find in a newspaper—and price indexes—like consumer price indexes. A rising dollar real exchange rate indicates that American goods, when expressed in a common currency, are becoming more expensive than foreign goods, or that the United States is losing its competitive edge.

Real Broad Trade-Weighted Exchange Value of the U.S. Dollar



Note: Shaded bars indicate recessions.
Sources: Federal Reserve Board; Haver Analytics.

Real Trade-Weighted Exchange Value of the U.S. Dollar versus Major Currencies



Note: Shaded bars indicate recessions.
Sources: Federal Reserve Board; Haver Analytics.

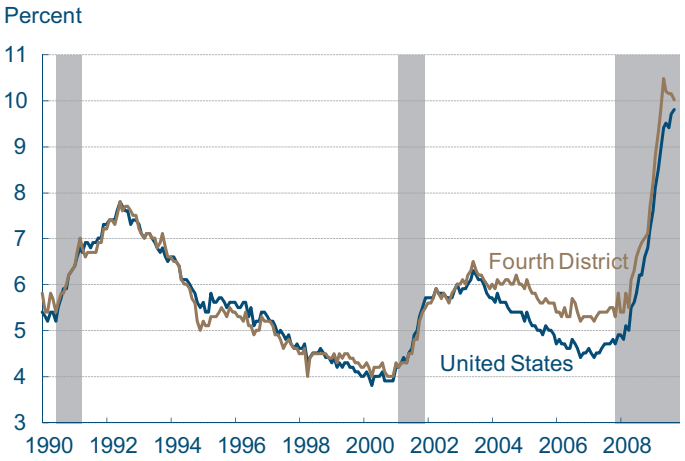
Using a real exchange rate to judge whether the dollar is overvalued or undervalued, however, requires some reference point at which purchasing power parity holds. Such a point should also be consistent with a global balance-of-payments configuration that is sustainable. Good luck finding that! If, however, we assume that purchasing power parity holds in the long term—a belief that many economists hold—and if we assume that our sample is lengthy enough to reasonably represent the long term, then we might define purchasing power parity in terms of the mean or median of our exchange-rate data. By this method, the dollar now seems undervalued by roughly 11 percent against a trade-weighted average of developed and developing countries' currencies, and by approximately 7 percent against a trade-weighted average of major countries' currencies.

As our data demonstrate, real exchange rates can show large and persistent deviations from levels consistent with purchasing power parity. Because of the way economists construct real exchange rates, if the prices of some goods change relative to others, the real exchange rate will deviate from its purchasing-power-parity value even if arbitrage is complete for each and every individual good. Global economic shocks can induce relative-price changes, as can productivity differentials between traded- and nontraded-goods sectors in specific countries. Consequently, real exchange rates can deviate from their purchasing-power-parity levels as long as relative-price trends persist.

While the dollar currently seems undervalued relative to its purchasing-power-parity level, dollar exchange rates need not quickly—or ever—appreciate. Instead, the dollar could return to purchasing power parity if prices in the United States rise faster than prices abroad. Inflation expectations in the United States are well behaved and do not suggest fears of rising future inflation. Let's hope the exchange market does not see something that the rest of us are missing.

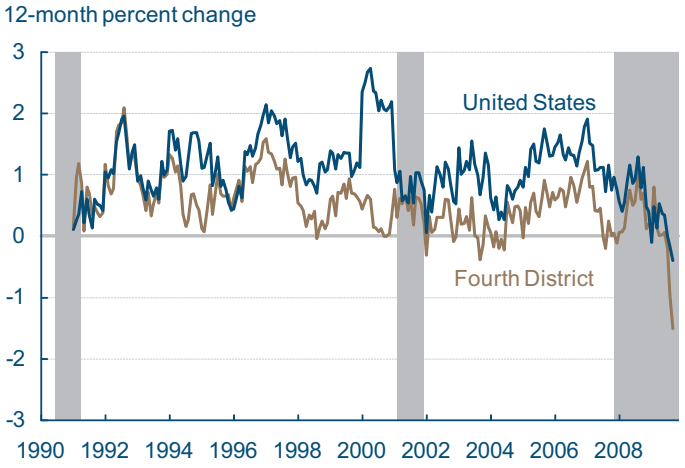
Fourth District Employment Conditions

Unemployment Rate



Notes: Shaded bars indicate recessions. Seasonally adjusted using the Census Bureau's X-11 procedure. Some data reflect revised inputs, reestimation, and new statewide controls. For more information, see http://www.bls.gov/lau/launews1.htm.
Sources: U.S. Department of Labor, Bureau of Labor Statistics.

Labor Force



Note: Seasonally adjusted using the Census Bureau's X-11 procedure. Shaded bars represent recessions. Some data reflect revised inputs, reestimation, and new statewide controls. For more information, see http://www.bls.gov/lau/launews1.htm.
Source: U.S. Department of Labor, Bureau of Labor Statistics.

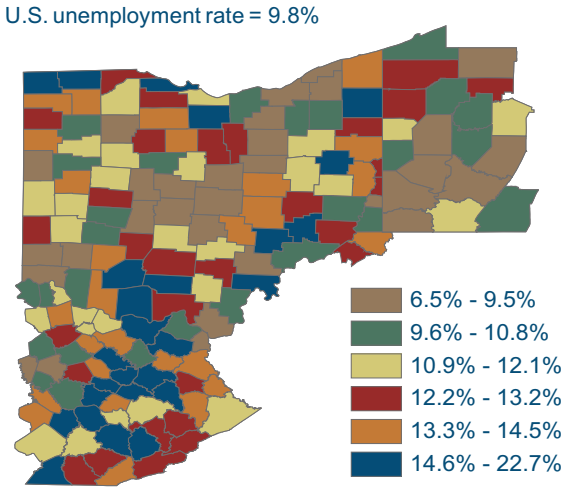
10.30.09
by Kyle Fee

The District's unemployment rate fell 0.1 percentage point to 10.0 percent for the month of September. The decrease in the unemployment rate is attributed to monthly decreases in the number of people unemployed (2.0 percent), the number of people employed (–0.3 percent), and the labor force (–0.7 percent). Compared to the nation's unemployment rate in September, the District's was higher (by 0.2 percentage point), as it has been since early 2004. Since the start of the recession, the nation's monthly unemployment rate has averaged 0.6 percentage point lower than the Fourth District's unemployment rate. Since this time last year, the Fourth District and the national unemployment rates have increased by 3.1 percentage points and 3.6 percentage points, respectively.

There are significant differences in unemployment rates across counties in the Fourth District. Of the 169 counties that make up the District, 37 had an unemployment rate below the national rate in September, and 132 counties had a higher rate than the national rate. There were 125 District counties reporting double-digit unemployment rates in September, indicating that large portions of the Fourth District have high levels of unemployment. Geographically isolated counties in Kentucky and southern Ohio have seen rates increase, as economic activity is limited in these remote areas. Distress from the auto industry restructuring can be seen in the unemployment rates of counties along the Ohio-Michigan border. Outside of Pennsylvania, lower levels of unemployment are limited to the interior of Ohio or the Cleveland-Columbus-Cincinnati corridor.

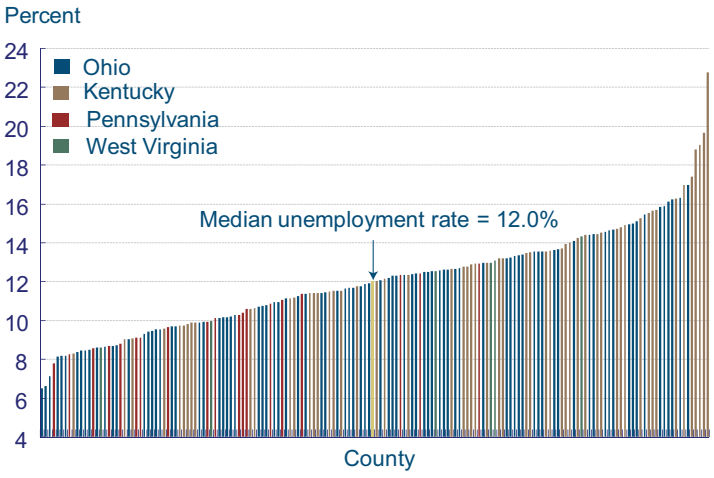
The distribution of unemployment rates among Fourth District counties ranges from 6.5 percent (Holmes County, Ohio) to 22.7 percent (Magoffin County, Kentucky), with the median county unemployment rate at 12.0 percent. Counties in Fourth District Pennsylvania generally populate the lower half of the distribution, while the few Fourth

County Unemployment Rates



Note: Data are seasonally adjusted using the Census Bureau's X-11 procedure.
Sources: U.S. Department of Labor, Bureau of Labor Statistics.

County Unemployment Rates



Note: Data are seasonally adjusted using the Census Bureau's X-11 procedure.
Sources: U.S. Department of Labor, Bureau of Labor Statistics.

District counties in West Virginia fall mostly in the upper half. Fourth District Kentucky continues to dominate the upper half of the distribution, with Ohio counties becoming more dispersed throughout the distribution. These county-level patterns are reflected in statewide unemployment rates, as Kentucky and Ohio have unemployment rates of 10.9 percent and 10.1 percent, respectively, compared to Pennsylvania's 8.8 percent and West Virginia's 8.9 percent.

The drop in the District unemployment rate most likely does not indicate an improving labor market, as the drop stems mostly from a shrinking labor force (–1.5 percent since this time last year). During recessions, workers leave the labor force because they become discouraged and stop looking for work, effectively shrinking the base from which the unemployment rate is calculated. When employment prospects increase, discouraged workers eventually return to the labor force. However, if labor force increases are not accompanied by strong growth in employment, the unemployment rate has the potential for further increases. Consequently, this drop in the unemployment rate is far from a positive sign about the condition of the Fourth District labor market.

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