Economic Trends

May 2011 (April 14, 2011-May 10, 2011)

In This Issue:

FEDERAL RESERVE BANK
of CLEVELAND

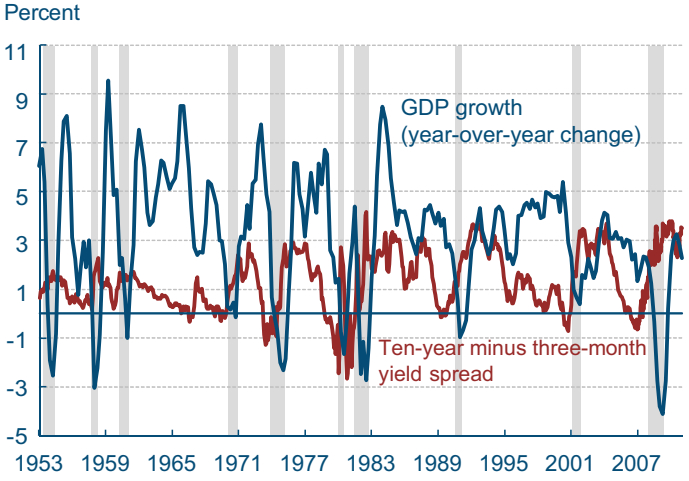
Yield Curve and Predicted GDP Growth, April 2011

Covering March 25, 2011–April 22, 2011
by Joseph G. Haubrich and Timothy Bianco

Highlights

	April	March	February
3-month Treasury bill rate (percent)	0.06	0.09	0.11
10-year Treasury bond rate (percent)	3.41	3.29	3.60
Yield curve slope (basis points)	335	320	349
Prediction for GDP growth (percent)	1.0	1.0	1.0
Probabilty of recession in 1 year (percent)	0.9	0.9	0.7

Yield Curve Spread and Real GDP Growth



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

Overview of the Latest Yield Curve Figures

Over the past month, the yield curve became steeper, as long rates increased, resuming a trend that had been broken in the previous month. Short rates edged down yet again. The three-month Treasury bill rate moved further into the single-digit range, to 0.06 percent (for the week ending April 22), down from March's 0.09 percent, and February's 0.11 percent. The ten-year rate increased to 3.41 percent, up from March's 3.29 percent, but still below February's 3.60 percent. The slope increased 15 basis points, giving back about half of the drop between February and March, and now stands at 335 basis points.

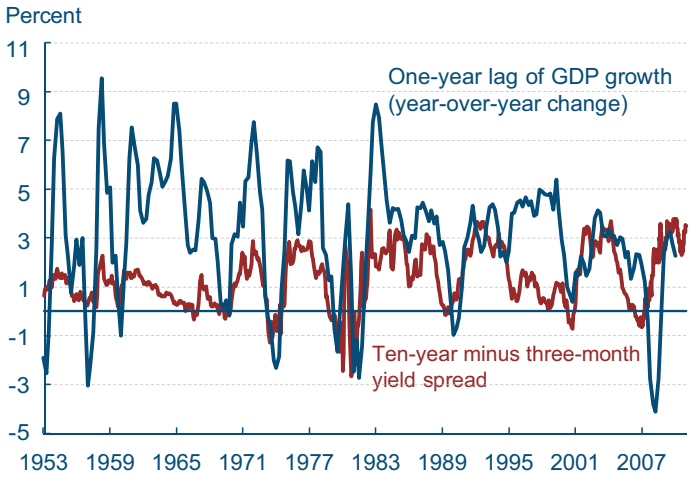
Projecting forward using past values of the spread and GDP growth suggests that real GDP will grow at about a 1.0 percent rate over the next year, the same forecast as March and February. The strong influence of the recent recession is leading toward relatively low growth rates, with a steady beat of 1 percent predictions. Although the time horizons do not match exactly, the forecast comes in on the more pessimistic side of other forecasts, although, like them, it does show moderate growth for the year.

Using the yield curve to predict whether or not the economy will be in recession in the future, we estimate that the expected chance of the economy being in a recession next April is 0.9 percent, essentially unchanged since March, but up slightly from February's 0.7 percent. Although our approach is somewhat pessimistic about the level of growth expected over the next year, it is more optimistic about the chances of the recovery continuing.

The Yield Curve as a Predictor of Economic Growth

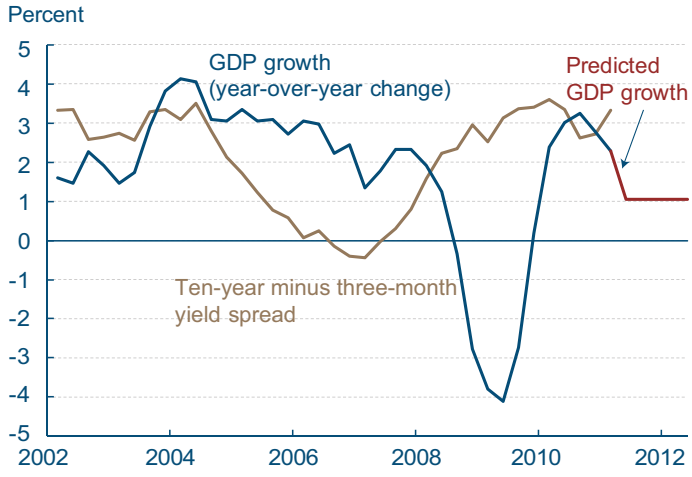
The slope of the yield curve—the difference between the yields on short- and long-term maturity bonds—has achieved some notoriety as a simple

Yield Spread and Lagged Real GDP Growth



Sources: Bureau of Economic Analysis, Federal Reserve Board.

Yield Curve Predicted GDP Growth



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

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). One of the recessions predicted by the yield curve was the most recent one. 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.

Predicting GDP Growth

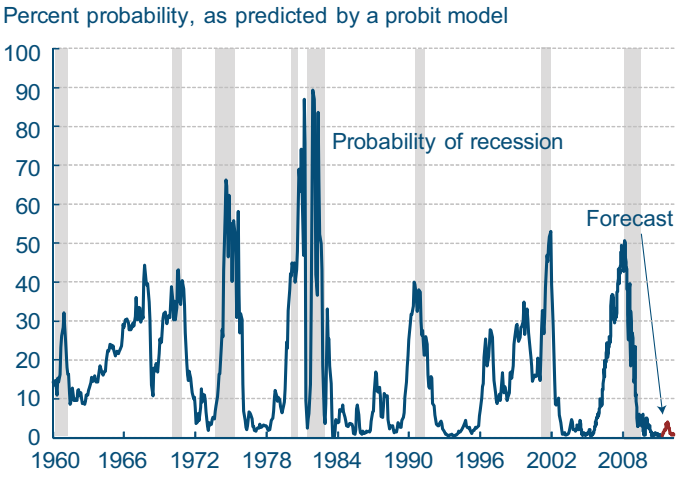
We use past values of the yield spread and GDP growth to project what real GDP will be in the future. We typically calculate and post the prediction for real GDP growth one year forward.

Predicting the Probability of Recession

While we can use the yield curve to predict whether future GDP growth will be above or below average, it does not do so well in predicting an actual number, especially in the case of recessions. Alternatively, we can employ features of the yield curve to predict whether or not the economy will be in a recession at a given point in the future. Typically, we calculate and post the probability of recession one year forward.

Of course, it might not be advisable to take these number quite so literally, for two reasons. 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

Recession Probability from Yield Curve



Note: Shaded bars indicate recessions.
Sources: Bureau of Economic Analysis, Federal Reserve Board, authors' calculations.

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?" The Federal Reserve Bank of New York also maintains a website with much useful information on the topic, including their own estimate of recession probabilities.

Potential Risks Associated with an Itchy Trigger Finger

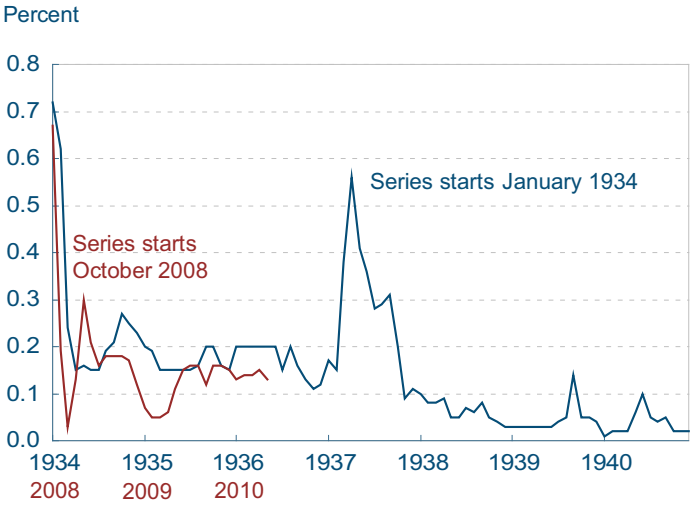
05.04.11
by John B. Carlson and John Lindner

Recent comments on monetary policy have focused more and more on containing the inflationary risks posed by rising food and commodity prices. Certainly, there are economic concerns associated with the possibility of high levels of inflation, but there are still several risks to the nascent economic recovery that could make policy tightening a worrisome move in its own right. While there are no episodes in history that correspond directly to our current policy situation, some past experiences are worth reviewing.

Though history offers relatively limited guidance to today's policymakers, two episodes catch one's eye, both of which involve sudden increases in short-term nominal interest rates following an extended period of accommodative policy and steady bond yields. The first period occurred during 1937, as the three-month Treasury bill rate made a sudden 40 basis point jump in response to a deliberate policy action to combat a perceived change in trend inflation. The bill yield quickly receded throughout the remainder of 1937, as the economy slumped back into another recession during that year. More recently, the Fed made the surprise move of raising the fed funds target rate in late 1994. It was a move that induced a large decline in bond prices. Both of these examples offer potential insights into the possible outcomes that could result from a tight monetary policy in the near future, but both also need to be explained in a more complete context.

Starting with the 1937 example, comparing Depression-era economics to present day is challenging for a number of reasons, primarily because the economic policies were different along several dimensions. For example, in 1937, the Board of Governors doubled the reserve requirement after three changes in the span of one year, and the Fed had no clear Congressional mandate on the employment objective as it does now with its dual mandate, leaving inflation as the center of attention. The level of the CPI during that year was still

3-Month Treasury Bill: Secondary Market Nominal Rate



Source: Federal Reserve Board.

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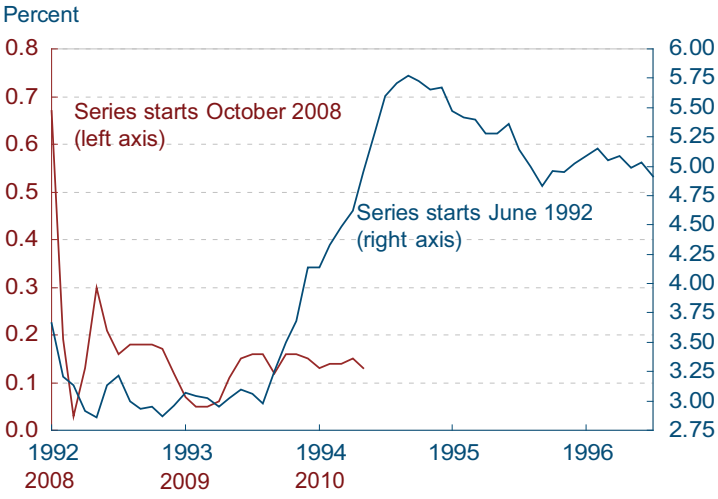


Source: Federal Reserve Board.

nearly 15 percent below its pre-Depression peak, and real GNP had just recovered from the downturn that started in 1929.

The current situation is a bit different. Just recently, real GDP climbed back to its previous peak, but the CPI is over 5 percent above its pre-recession level. Much like the economic environment in 1937, though, several sectors of the economy (including housing) remain much weaker than prior to the contraction. It should also be noted that the real rate of interest still hovers around -2 percent, much like the real rate in 1937.

Perhaps the most important thing to note about the 1930s was that the sharp increase in the Treasury bill rate was concurrent with tighter fiscal policy. As highlighted in a 2011 study by Christina and David Romer, the Great Depression dried up the federal coffers. Expenditures grew as revenues stagnated, forcing the government to run annual budget deficits consistently near 5 percent of GDP from 1932 to 1936. These deficits were counteracted by nine separate Revenue Acts from 1932 to 1940, including acts in 1934, 1935, and 1936. Romer and Romer estimate that those three Acts added revenues of between 0.37 percent of GDP to 0.74 percent of GDP. Also in the three-year period directly preceding the 1937 downturn a large chunk of the taxes enacted within the Revenue Acts were corporate tax hikes. Corporate tax hikes would not only have pass-through effects on consumer prices, but would also discourage investment and innovation.

Compare these numbers to today's situation, where the federal deficit for the past two years has averaged 9.5 percent of GDP. Revenues have fallen and expenditures have been expanding, fueling calls by deficit hawks to reverse the imbalances.

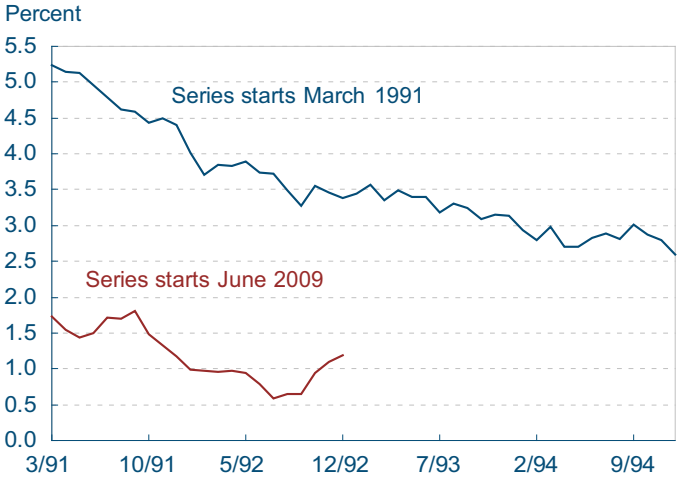
In light of the European sovereign debt crisis, these warnings about large and persistent deficits can hardly be ignored. But the historical data that we do have on federal deficits suggest to us that the economy should be on a clearly sustainable growth path before the necessary fiscal reform begins in earnest. The historical data should also warn policymakers that if the fiscal side decides to tighten its belt, the monetary authorities will have to consider

Net Federal Fiscal Year Deficits

	Federal deficit (millions of dollars)	As a percentage of GDP	Estimated federal deficit without Revenue Acts (millions of dollars)	As a percentage of GDP
1931	−462	−0.6	−462	−2.5
1932	−2735	−4.0	−3856	−4.0
1933	−2602	−4.5	−2602	−4.9
1934	−3586	−5.9	−3844	−6.3
1935	−2803	−4.0	−3073	−4.7
1936	−4304	−5.5	−4924	−5.5
1937	−2193	−2.5	−2193	−2.5
1938	−89	−0.1	−89	−0.1
1939	−2846	−3.2	−2846	−4.9
1940	−2920	−3.0	−4624	−3.0
2007	−160701	−1.2		
2008	−458553	−3.2		
2009	−1412688	−10.0		
2010	−1293489	−8.9		

Sources: CB Richard Ellis, Haver Analytics and author's calculations.

Core CPI Inflation Rates



Source: Bureau of Labor Statistics.

the economic consequences of those actions when making their own policy.

The years following the 1990-91 recession can also offer a valuable lesson. Interest rates, as measured by the three-month T-bill rate, fell during and after the recession before settling down from 1992 to 1994 at nearly 3 percent. By that time, the economic recovery from the recession had been well-enough established, as real GDP was almost 8 percent above the pre-recession peak. Unlike the current situation, the economy had reached annual growth of over 4 percent in three consecutive quarters by 1994. The recovery today is much softer; saying we have experienced even one solid year of growth may be questionable depending on the definition one applies to solid growth. As highlighted in the chart below, core inflation rates were much higher in the early 1990s as well, hovering near 3 percent. Today's core inflation measures still sit near 1 percent. Moreover, the current recession was borne of a financial crisis, and consumers and businesses might need even more time to rebalance their finances.

The most relevant aspect of the 1994 episode relates to concerns about accelerated inflation. Core consumer prices continued to increase at a clip above 3 percent, and, after long spells of core inflation rates above 10 percent in the mid- and late-1970s, keeping inflation in check was undoubtedly a top priority for the Fed of 1994. During the recession and recovery, core rates had climbed up over 6 percent, and lingering core inflation near 3 percent pushed the Fed into action. The first federal funds rate hike occurred in February 1994, when the Fed announced that it would be increasing the target rate. The fed funds rate was increased seven times during the next year, eventually reaching 6 percent. The series of rate hikes had a profound effect on long-term rates, spurring what became known as the "Bond Market Slaughter." Clearly, the major difference between the current circumstances and those in 1994 relates to the transparency that the Fed uses in its policy decisions.

February 1994 was the first post-meeting statement in a series of increasingly informative announcements made by the FOMC about its interest rate

decisions. Markets were unprepared for the first move, and market participants showed their shock in large selloffs of bonds. Any interest rate decision in our current environment will surely be communicated in advance, especially now that Chairman Bernanke will be conducting post-meeting press conferences.

Still, there are major lessons to be learned from a policy action that is predicated on concerns for inflation. The stronger footing of the economy in 1994 probably weathered most of the storm, but a large bond selloff in today's financial markets could induce panic. As Europe tries to right their budgetary ships and heightened risk aversion remains, a panic could short circuit the current recovery. Also, it is important to put the inflation rates into perspective. In 1994, core CPI inflation was around 3 percent in the context of a strong economy. Today, core CPI inflation is still near 1 percent in an economy that still has weak employment growth. Combined with the calls for fiscal austerity, rate increases motivated by rising price measures seem premature at this stage.

Further reading:

Romer, Christina D. and David H. Romer. A Narrative Analysis of Interwar Tax Changes. Unpublished paper. University of California, Berkeley, March 2011.

The Federal Reserve's Influence over Excess Reserves

04.29.11

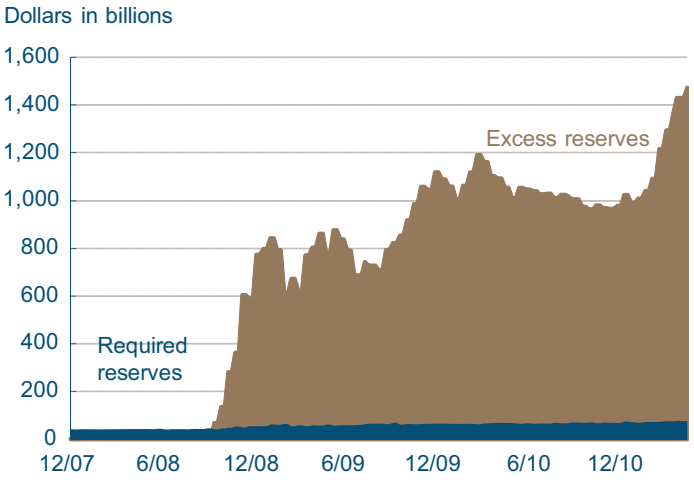
by Ben Craig and Matthew Koepke

As the economy continues to emerge from the recession, it is not yet clear how sustainable the recovery is. One concern is the strength of bank lending and banks' apparent preference to hold reserves instead of lending to consumers and businesses. Banks are required to hold a percentage of their customers' transaction accounts as reserves at the Federal Reserve, but reserve balances greater than those required are considered to be excess reserves. The level of excess reserves has expanded more than twentyfold since September 2008, leaving many to question why have banks have decided to hold such high levels of excess reserves instead of lending them out. In actuality, banks have little control over the aggregate level of excess reserves—changes in excess reserves are driven by changes in the Federal Reserve's balance sheet.

The Federal Reserve's credit-easing policy tools have had a significant impact on the level of excess reserves. The two largest credit-easing tools are the Fed's purchases of long-term treasuries and its purchases of federal agency debt and mortgage-backed securities. As a result of these purchases, the levels of securities on banks' balance sheets have declined and their levels of excess reserves have risen. (When the Fed buys securities, it buys them from banks by crediting their accounts at the Fed, which increases the banks' reserve balances.) Since September 2008, the levels of security purchases on Federal Reserve's balance sheet have increased from $3.7 billion to the current level of $1.97 trillion.

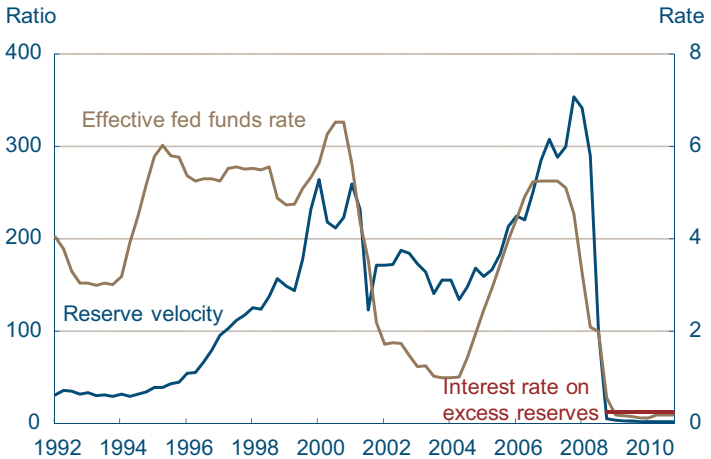
The Fed's purchases of securities have also increased level of liabilities on its balance sheet. Currently, the largest component of the Federal Reserve's liabilities is excess reserves. Since the Fed began buying long-term securities in September 2008, the level of excess reserves has grown from $68.7 billion to its current level of $1.47 trillion. The increase in asset purchases and the subsequent increase in excess reserves illustrates the lack of control that

Aggregate Reserves of Depository Institutions



Sources: Federal Reserve Board, Haver Analytics.

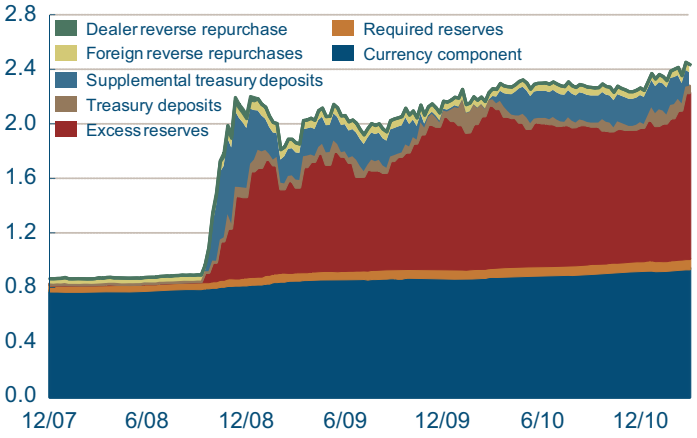
Reserve Velocity and Effective Fed Funds Rate



Note: Reserve velocity is defined as the ratio of the average daily value of transactions on Fedwire, divided by the daily average value of reserves held at the Federal Reserve.
Source: Federal Reserve, Haver Analytics.

Federal Reserve Liabilities

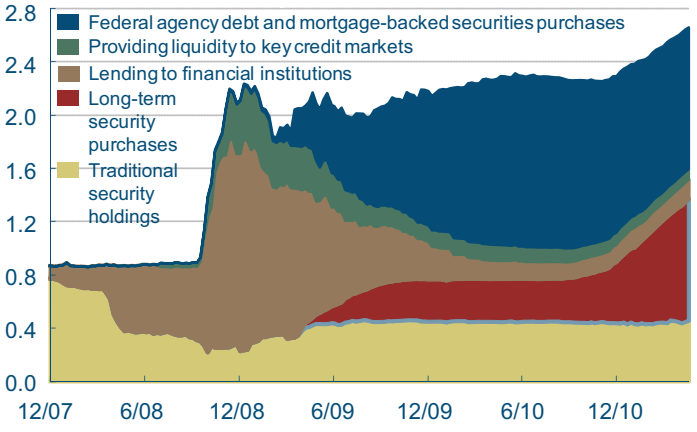
Dollars in trillions, SA



Note: Liabilities do not include Treasury cash holdings, foreign official deposits, service-related balances and adjustments or other liabilities and capital.
Source: Federal Reserve Board.

Credit Easing Policy Tools

Dollars in trillions



Note: Traditional security holdings is equal to securities held outright, less securities lent to dealers, less longer-term securities.
Source: Federal Reserve Board.

banks have over the aggregate level of excess reserves in the banking system and shows that changes in excess reserves are driven by changes in the Federal Reserve's balance sheet.

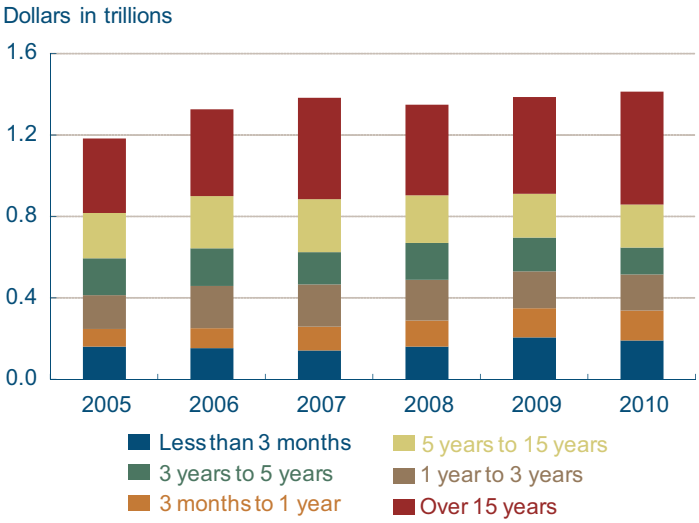
While banks cannot control the overall level of excess reserves, there are a several ways they can reduce the level of excess reserves on their own individual balance sheets. They can lend excess reserves to other banks in the federal funds market, they can lend them to consumers or businesses, or they can purchase securities. Each of these outlets has been constrained for various reasons since the recession.

Lending in the federal funds market has been constrained two factors. In October of 2008, the Federal Reserve began paying interest of 25 basis points on excess reserves. Before that time, banks sought to minimize their holdings of excess reserves by making interbank loans in the federal funds market. This new policy, coupled with the effective federal funds rate declining to under 25 basis points in November 2008, created a disincentive for banks to lend in the overnight market.

Since the decline in the effective federal funds rate and introduction of interest on excess reserves, activity in the federal funds market has declined significantly. One measure of how active banks are in the federal funds market is reserve velocity. Reserve velocity measures how quickly a unit of reserves is traded in a single day; thus a reserve velocity of 100 implies that a unit of reserves is traded 100 times in a day. Because the current rate paid on excess reserves exceeds the rate a bank would receive in the federal funds market, the reserve velocity has fallen from its peak in December 2007 of 353 to 2.4 as of December 2010. The lack of incentive to lend excess reserves to other banks explains why banks with high levels of excess reserves are choosing to hold reserves instead of lending them to other banks.

Banks' incentives to purchase securities or to lend excess reserves to consumers or businesses has also been diminished by the low interest rate environment. Banks are likely to hold excess reserves until there is more certainty as to when the Federal Reserve will begin to unwind its asset purchases and increase interest rates. Banks are unlikely to

Loans Secured by First Lien on 1-4 Residential Properties by Maturity and Repricing



Source: Call Report.

purchase new longer-term securities because they are likely to incur losses on those securities if interest rates rise. Moreover, banks would prefer to lend to borrowers when they can earn a high net-interest margin. As of December 2010, 63.5 percent of loans secured by 1-4 residential properties had a maturity greater than three years. Consequently, banks will be apprehensive to lend until there is more certainty about when the Federal Reserve will begin to sell its security holdings, how long it will take to sell them, and what the impact on interest rates will be.

On the surface, the large increase in excess reserves makes it appear that banks have significantly tightened their lending standards and are hoarding reserves, but in reality the increase in excess reserves has been a result of the Federal Reserve's asset purchases. Moreover, the incentives to reduce those reserves through the usual channels—the federal funds market, consumer and business loans, and security purchases—have been greatly reduced by current conditions.

Household Finances and a Sustainable Consumer Recovery

04.27.11
by O. Emre Ergungor and Nelson Oliver

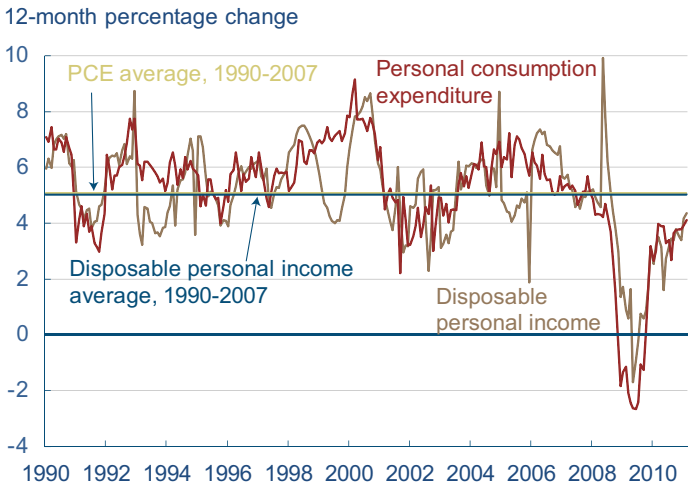
Consumption accounts for roughly 70 percent of gross domestic product. Consequently, households will play a substantial role in helping to sustain the recovery.

In thinking about household finances, the obvious primary resource available for new consumption is disposable personal income. From 1990 to 2007, annual changes to personal consumption expenditures (PCE) and disposable income fluctuated within a definable range of roughly 2 percent to 8 percent. However, the recession and financial crisis in 2008 pushed both disposable income and consumption growth negative for the first time in over 20 years. Both have since turned positive again and are approaching their long-run averages. It will take some time to make up for the lost crisis years, but the trend is encouraging.

Household spending can also be funded through debt. New individual borrowing as a percentage of GDP is still negative, meaning that on a net, aggregated basis loans are either being paid off (and not renewed) or are defaulting, or a combination of the two. For a sense of historical perspective, consider that the average borrowing level from 1990 to 2000 was about 4 percent of GDP before the loose loan underwriting environment of the 2000s set in.

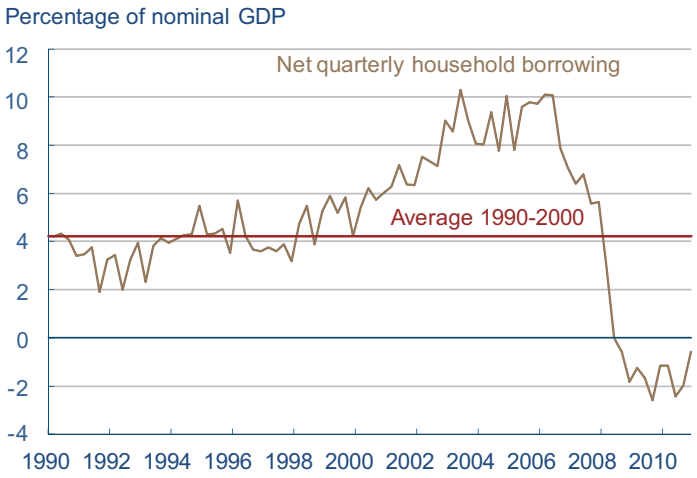
The personal savings rate, at 5.6 percent in the fourth quarter of 2010, shows that households are saving more, which explains part of the shrinkage in aggregate loans. Some of this contraction can also be explained by higher-than-average defaults on mortgages, consumer loans, and credit cards. While the charge-offs in securitization pools for credit card receipts have declined sharply from their peak in the middle of last year, they are still as high as the peak during the 2001 recession. Whether consumers are paying down existing debt through savings or banks are writing bad loans off, the result is less aggregate debt in the financial system.

Personal Income and Consumption



Source: Bureau of Economic Analysis.

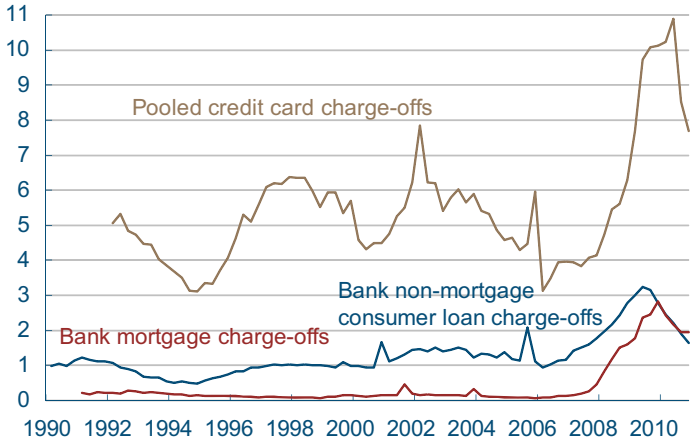
Household Borrowing



Sources: Bureau of Economic Analysis; Federal Reserve Board.

Consumer Debt Charge-offs

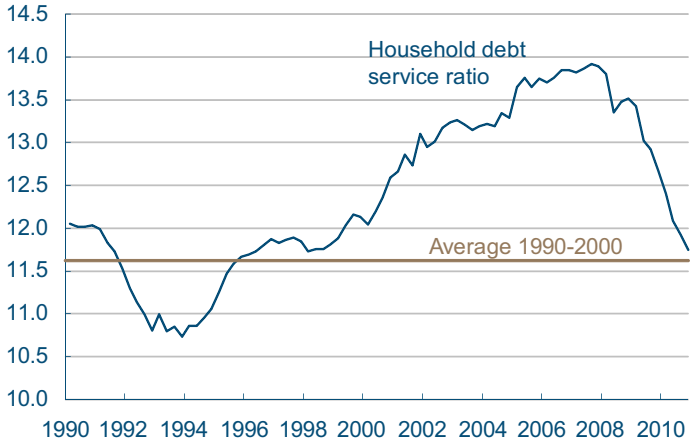
Percentage of average loan balances



Sources: Federal Reserve Board; Standard & Poor's.

Household Debt Burden

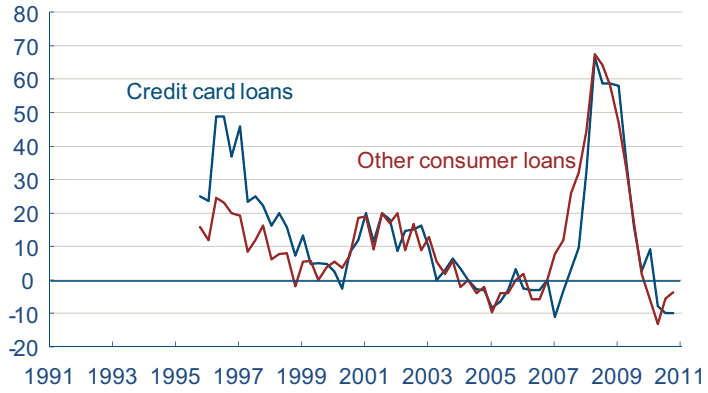
Percentage of disposable personal income



Source: Federal Reserve Board.

Net Percentage of Domestic Respondents Tightening Standards for Consumer Loans

Percent



Source: Federal Reserve Board.

As debt levels shrink, consumers are spending less of their disposable income on repayments related to mortgages and consumer loans. The household debt service ratio, which measures repayments as a share of income, has been consistently falling since the third quarter of 2008. Much of the drop is likely to be coming from historically low interest rates, which lower debt service requirements on new debt, refinanced debt, or debt that carries floating interest rates. The ratio is now back to the average levels seen from 1990 to 2000. While the ratio may potentially undershoot its long-term average, its sharp decline since 2008 indicates that the debt-service burden has fallen substantially, which may make borrowers more inclined to borrow again and financial institutions more willing to lend.

According to the January 2011 Senior Loan Officer Survey, banks are indeed showing greater enthusiasm to lend. The net percentage of domestic respondents reporting increased willingness to make consumer loans is at its highest level since the credit boom of the mid-2000s.

Banks are also easing their lending standards, albeit from very tight levels. Still, this is the largest net percentage of lenders easing consumer credit standards since the credit boom years.

Banks are also reporting stronger consumer loan demand. The net percentage of domestic banks reporting stronger demand has turned positive for the first time since 2005.

How does all of this bode for a recovery of consumption, the primary economic driver of the U.S. economy? The data shown here suggest that a sustainable recovery may finally be here. Consumers are still paying down loans or defaulting, but it seems like the worst is behind us and banks are no longer pulling back on lending. Recent memories of shrinking asset values may damp consumers' motivation to ramp up their expenditures immediately. Still, personal consumption expenditures have probably turned a significant corner and will continue to support our growing economy.

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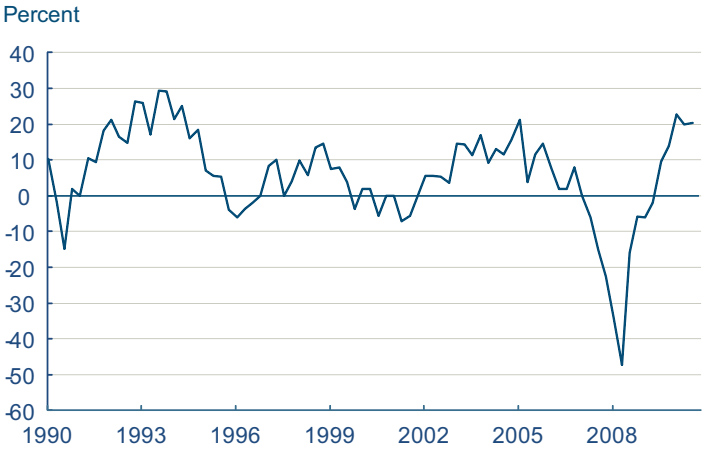
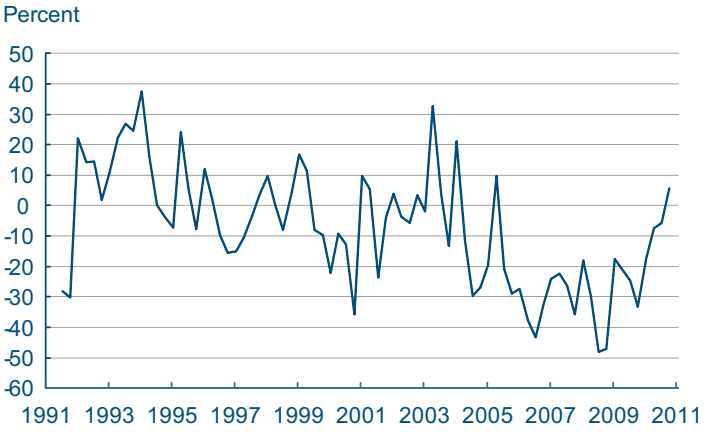
Net Percentage of Domestic Respondents Reporting Increased Willingness to Make Consumer Loans



Source: Federal Reserve Board.

Net Percentage of Domestic Respondents Reporting Stronger Demand for Consumer Loans



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Banks are also easing their lending standards, albeit from very tight levels. Still, this is the largest net percentage of lenders easing consumer credit standards since the credit boom years.

Banks are also reporting stronger consumer loan demand. The net percentage of domestic banks reporting stronger demand has turned positive for the first time since 2005.

How does all of this bode for a recovery of consumption, the primary economic driver of the U.S. economy? The data shown here suggest that a sustainable recovery may finally be here. Consumers are still paying down loans or defaulting, but it seems like the worst is behind us and banks are no longer pulling back on lending. Recent memories of shrinking asset values may damp consumers' motivation to ramp up their expenditures immediately. Still, personal consumption expenditures have probably turned a significant corner and will continue to support our growing economy.

Trends in Office Vacancy Rates

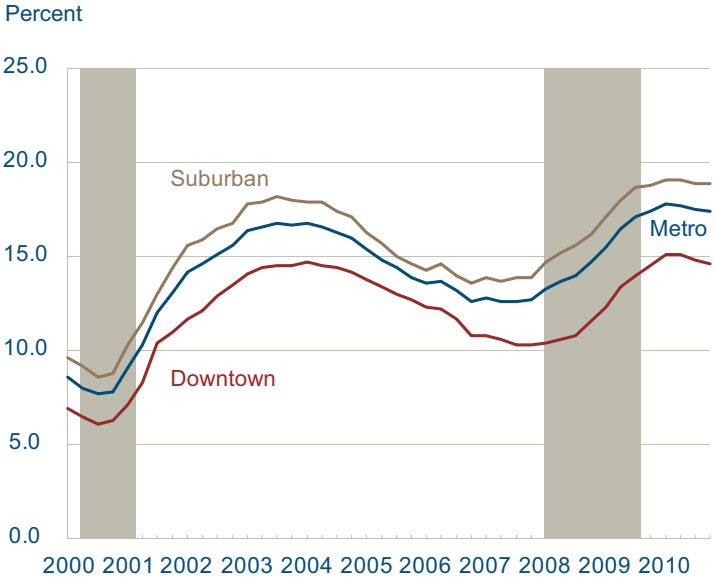
05.02.11
by Stephan Whitaker

Since the onset of the financial crisis, everyone involved in financing and developing office properties has been watching trends in commercial real estate markets. They recognize the risk of a downturn similar to that seen in residential real estate. If the demand for office space falls or remains weak, some office properties could slip into delinquency and foreclosure. The additional supply of buildings on the market could lower the value of office properties in the near term. For these reasons, analysts should be watching statistics on office vacancy rates closely. For those not directly involved in commercial real estate, office space statistics provide useful information about economic activity and current growth.

The most recent four quarters of data on office space vacancy show that the national vacancy rate has stopped climbing and has ticked down from 17.8 to 17.4 percent. Office vacancy is also declining or steady in the Fourth District metro areas of Cincinnati, Columbus, and Pittsburgh. The trends in vacancy rates vary widely between markets and are correlated with employment growth. (Data on metro-level office vacancy is provided by CB Richard Ellis, a major national commercial real estate brokerage. The firm reports office vacancy as the percent of all existing or nearly-complete office space that is available for lease.)

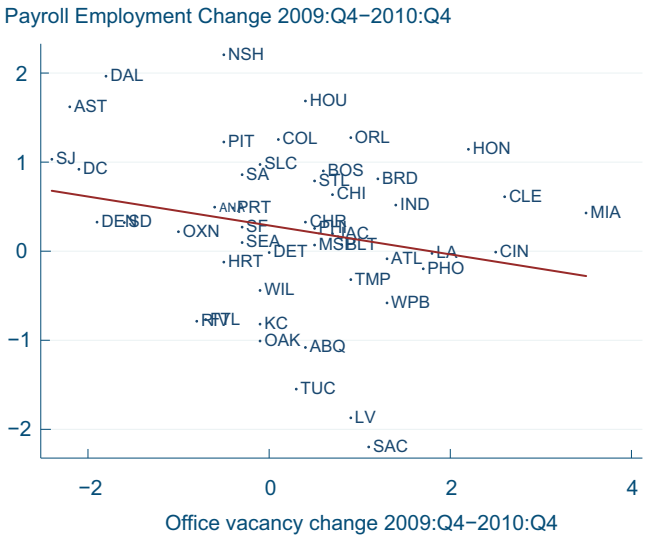
In the past, vacancy has fallen when employment was growing and risen when employment was falling. The national vacancy figure was below 10 percent at the turn of the century, but it rose following the 2001 recession (payroll employment continued falling until August 2003). While the market tightened between 2003 and 2007, the recent trough remained above 12 percent, approximately one and a half times the level at the previous trough. This elevated vacancy rate does not necessarily suggest that usage of office space never returned to the levels of 2000, only that net increases in the total stock (new construction) were not absorbed to the

National Trends in Office Vacancy



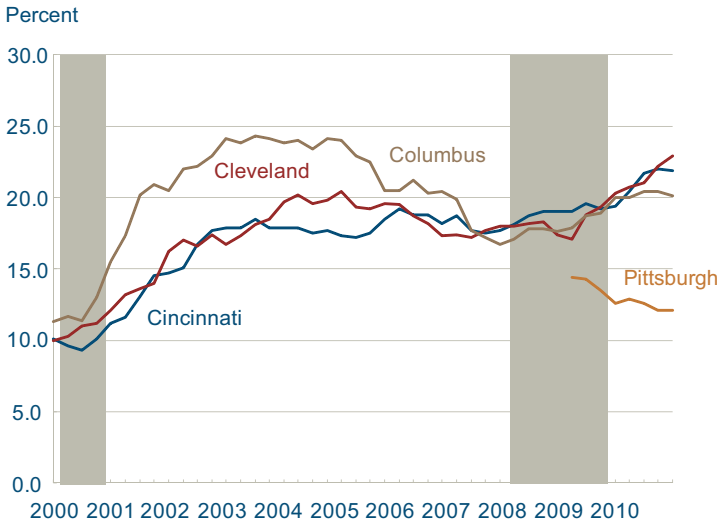
Note: Shaded bars indicate recessions.
Sources: CB Richard Ellis and Haver Analytics.

Year-over-year Changes in Office Vacancy and Payroll Employment for Metropolitan Areas



Sources: CB Richard Ellis, Bureau of Labor Statistics, Haver Analytics, and author's calculations.

Office Vacancy Trends in Fourth District MSAs



Note: Shaded bars indicate recessions.
Sources: CB Richard Ellis and Haver Analytics.

same extent. The trends in central business district (downtown) office vacancy and suburban office vacancy follow the same pattern, with downtown vacancy consistently lower.

In addition to the long-term relationship between economic activity and office vacancy, there is a short-term connection between office vacancy and job growth. To illustrate this, we can plot the year-over-year changes by metropolitan area. In general, areas where vacancy has fallen between the fourth quarters of 2009 and 2010 have seen greater increases in payroll employment over that same period. However, counter examples exist, such as Honolulu and Riverside.

Vacancy data are available for the three largest metro areas in Ohio. Data for Pittsburgh is only available for the last two years. Over the past decade, the vacancy trends for Cincinnati and Cleveland have been very similar. Both started with around 10 percent of available space vacant in the first quarter of 2000. Vacancy rose through 2003 and then varied in a narrow band, between 17 and 20 percent, for six years. The last three quarters of data suggest vacancy has stopped rising in the Cincinnati area, but continues to rise in the Cleveland area. The Columbus data reflect a steeper increase in vacancy in the first three years of the decade, followed by a gradual decline. As of the most recent four quarters, Columbus's vacancy rate has dropped below that of Cincinnati and Cleveland. At 20 percent, the Columbus vacancy rate remains around 3 points higher than the national average. The Pittsburgh data reflect office vacancy that is well below the national average and that was falling a full year before the national trend turned.

How do vacancy rates across Ohio compare to those of similarly sized metro areas in other regions? Vacancy levels in Ohio cities were approximately 17-19 percent at the most recent trough (2007) and 20-22 percent at the recent peak (2010). Office vacancy in Indianapolis was at similar levels in both in 2007 and 2010. The St. Louis and Denver metro areas experienced modest increases and are currently at or below 17 percent vacancy. Several Southern and Western metro areas had vacancy rates below

Annual Averages for Similar Sized Metros: Trough (2007) to Most Recent Price Statistics

		2007	2010	Increase
East	Baltimore	12.3	7.1	4.8
Midwest	St. Louis	14.4	16.1	1.7
	Kansas City	17.6	17.2	−0.4
	Indianapolis	16.2	21.1	5.0
South	Tampa	12.5	21.8	9.4
	Orlando	9.2	20.5	11.4
	Charlotte	12.2	19.2	7.0
West	Denver	14.0	17.0	3.0
	Portland	11.6	15.8	4.2
	Sacramento	12.7	22.1	9.4
	Las Vegas	11.8	24.7	12.9
	San Jose	10.6	20.4	9.8

Sources: CB Richard Ellis, Haver Analytics and author's calculations.

13 percent in 2007 but have had increases between 7 percentage points and 13 percentage points.

Holders of geographically diversified office real estate portfolios should be encouraged to see the nationwide increase in office vacancy has stopped. The possible peak vacancy for this cycle is only modestly above the last peak. However, investors need to watch these trends in depth if their holdings are concentrated in certain markets such as Las Vegas and Sacramento. In cities with vacancy above the national and historical averages, we can anticipate weaker demand for new office construction and possibly falling values of office properties in the near term.

China's Inflation

05.02.11

by Owen F. Humpage and Margaret Jacobson

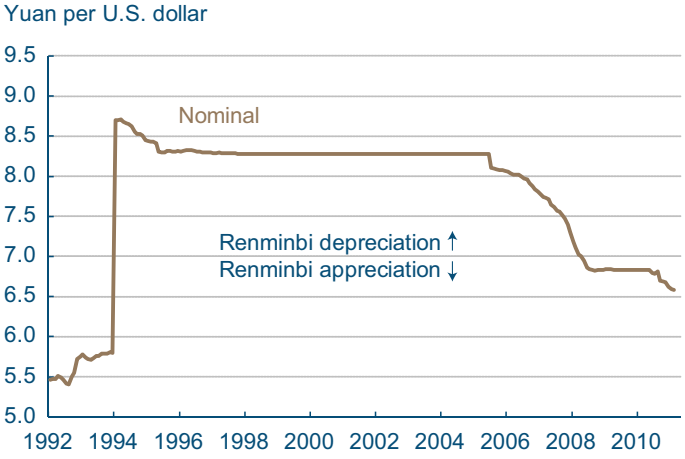
China's inflation, which reached 5.4 percent on a year-over-year basis in March, is largely a product of that country's desire to closely manage the renminbi-dollar exchange rate. Over the past decade and a half, China has alternated between exchange-rate pegs or controlled renminbi appreciations, and foreign-exchange reserves have poured into the country. Despite allowing the renminbi to appreciate 23 percent on balance since 2005, the flood of reserves has only accelerated, which suggests that the renminbi remains substantially undervalued. While the exact currency composition of these reserves is unknown, economists guess that China holds roughly 65 percent in dollar-denominated assets.

This inflow of reserves connects China's exchange-rate policies with its inflation problem. When companies in China acquire dollars through their exports or through inward investments, they exchange them with commercial banks in China for renminbi. The People's Bank of China (PBoC), in turn, requires the banks to cash in the lion's share of these dollars with the PBoC. In payment, the PBoC credits the banks with newly created renminbi reserves. The monetary base—the tinder from which inflation ignites—expands.

Between 2003 and 2009, the PBoC neutralized nearly 40 percent of the impact of these reserve inflows on the monetary base by selling so-called "sterilization bonds" to banks. The monetary base, nevertheless, expanded sharply over these years. In the absence of this monetary offset, the situation would probably have been worse. The monetary base would have grown more closely in step with the foreign-exchange reserves on the PBoC's books.

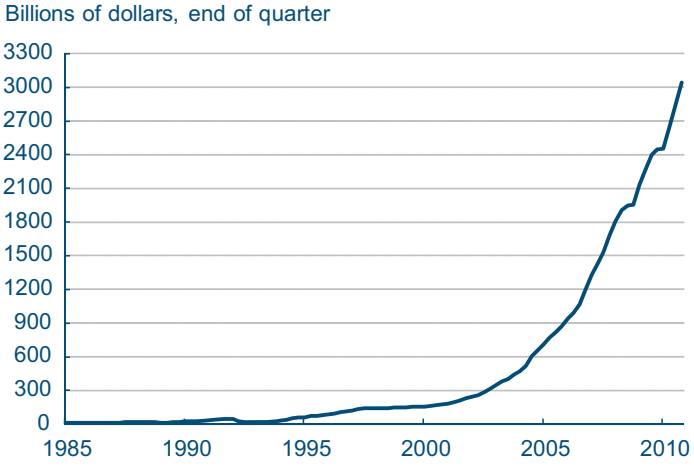
Last year the situation was a little different, but still disconcerting. The PBoC's accumulation of foreign-exchange reserves was again enormous, but it only accounted for 73 percent of the expansion in the monetary base, according to IMF data (In-

Renminbi Dollar Exchange Rates



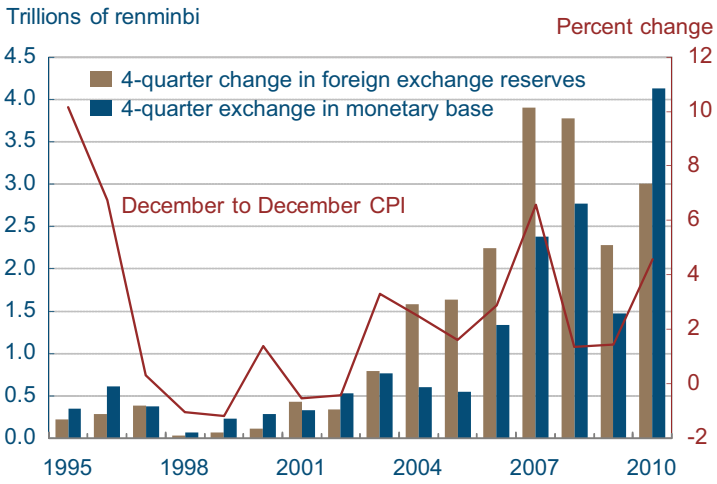
Source: International Monetary Fund, International Financial Statistics.

China's Official Reserves



Source: International Monetary Fund, International Financial Statistics.

Sterilization of Reserve Flow



Source: International Monetary Fund, International Financial Statistics.

ternational Financial Statistics April 2011, lines 11 through 17r). The bank's acquisition of domestic assets accounted for a small part (4 percent) of the base expansion, and a reduction in other central-bank liabilities—including outstanding central-bank bonds—accounted for the rest.

To damp inflationary pressures, the monetary authorities have raised reserve requirements and mandated bank interest rates, and they have encouraged banks to limit their lending. These actions do not affect the monetary base directly, but they limit the extent to which the monetary base can support a bigger money stock—the stuff people in China actually spend. Still, with the base growing sharply, this seems a little like blowing on a house fire.

China and many other countries that closely manage their exchange rates blame commodity prices—typically expressed in dollars—and an easy U.S. monetary policy for fanning global inflation. A renminbi appreciation, as economist Dave Altig recently reminded us, would lower the renminbi prices of dollar-denominated imports to China. Even better, a renminbi float would allow China to adopt a monetary policy focused on domestic price stability. Europe implemented floating dollar exchange rates in early 1973 specifically for that purpose. That's what floating exchange rates do.

Just an Oily Patch on the Road to Recovery?

05.03.11
by Pedro Amaral and Margaret Jacobson

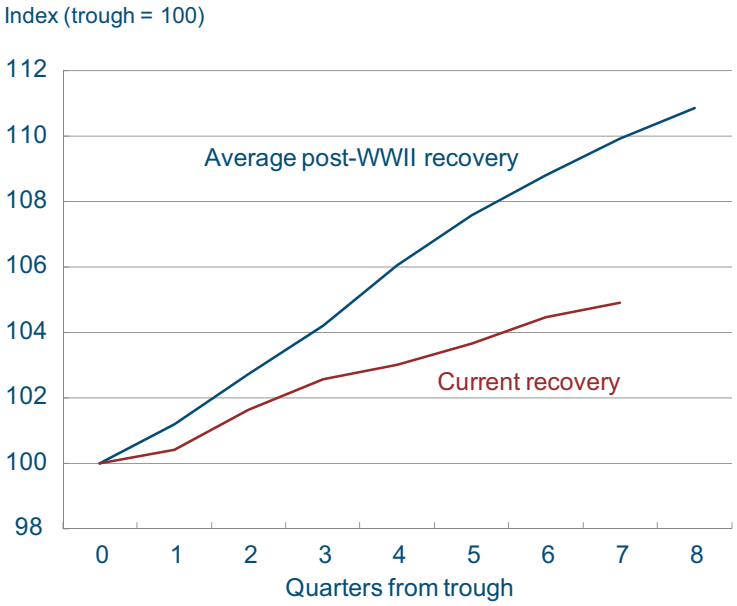
The Bureau of Economic Analysis estimates that real GDP grew at an annual equivalent rate of 1.8 percent in the first quarter of 2011, down from a pace of 3.1 percent in the fourth quarter of 2010. On the surface, this substantial deceleration owes much to reductions in defense spending, nonresidential structures, as well as to increases in imports.

The question we explore here is whether this slowdown is likely to be temporary. From a purely statistical perspective the answer is yes. During the average post-WWII recovery, output has grown 5.5 percent annually (from the trough) in terms of GDP, but in the latest recovery the growth rate has been a comparatively paltry 2.8 percent. If you place your faith in statistical regularities, you would say the current recovery is overdue for a little pick-me-up.

One problem with that conclusion is the fact that there have not been a lot of recessions, at least not enough to make a meaningful statistical inference. The economic contexts under which the "average post-WWII recovery" occurred are likely to be very different from the one we find ourselves in right now, not to mention the fact that the average recession was not as large as the latest one.

The slowdown would also certainly seem temporary if one focused on the components that constituted the drag on GDP growth in the first quarter of 2011. National defense spending tends to be very erratic on a quarter-to-quarter basis, but eventually we would expect it to increase to levels that are consistent with the appropriation spending outlined in the budget. The increase in imports is also likely to be short-lived, given the continued weakness in the U.S. dollar. The problem with nonresidential structures might be more, well... structural, but even there one can point to short-term factors like the expiration of the renewable-energy tax incentive

Comparing Recoveries



Source: Bureau of Economic Analysis, National Income and Product Accounts

at the end of last year, which caused a substantial pullback in power-generating structure construction.

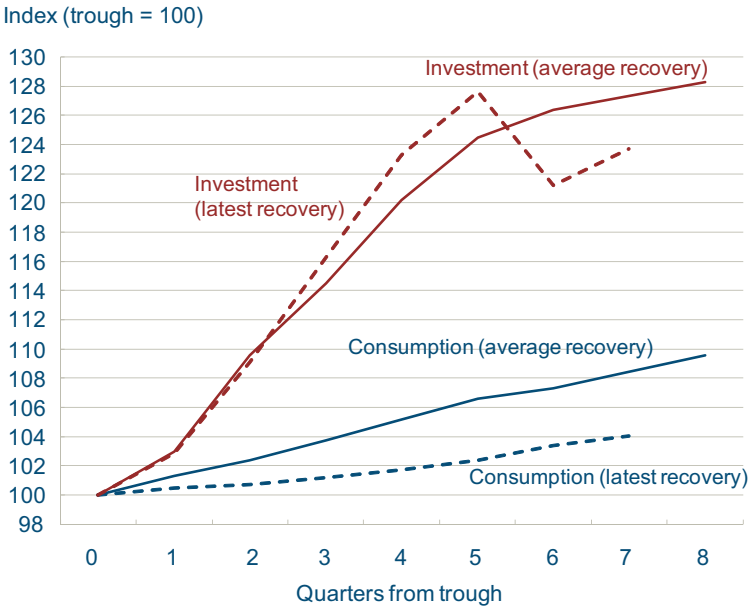
The problem with this type of analysis is that it ignores categories that were not a drag on GDP growth but could have grown more had economic circumstances been different. Here we are thinking of the effect of high energy and commodity prices on private consumption and investment. Such prices have direct effects on production, as they are an important component of the cost of intermediate products and services.

There are also discretionary income effects that come about because disposable incomes have fallen across many households (after accounting for low elasticity spending like transportation and heating costs). Moreover, there are other, perhaps less obvious, indirect effects. Associated with energy price increases is usually an increase in their volatility, which typically leads households and businesses to postpone purchases of durables and investment goods, respectively. Finally, there is something economists refer to as resource temporary unemployment from sectoral shifts: as resources get reallocated from more to less energy-intensive activities over time, a fraction of these resources will go unemployed if there are frictions impeding the reallocation.

Private consumption and private investment—the two main components of GDP—are both underperforming relative to the average recovery. However, investment's underperformance only started in the fourth quarter of 2010. While there is no way to prove that it was an increase in the cost of energy that derailed investment, oil prices did go up from an average of $76 a barrel in the third quarter of 2010 to an average $86 in the fourth. They have not looked back since and currently stand at $114.

To the extent that energy and commodity price increases are temporary, the drag they put on the recovery will be, too. To know whether the increases are temporary, one needs to investigate why these prices are increasing. In a 2009 paper Lutz Killian proposed modeling the behavior of oil prices as a function of real world economic activity (a measure of oil demand), world oil production (a measure

Decomposing the Recovery



Source: Bureau of Economic Analysis, National Income and Product Accounts

of oil supply), and the past behavior of the average oil price itself. His results allow him to distinguish between changes in the price of oil that come about because of oil supply shocks, demand shocks that are specific to the oil market, and demand shocks that occur because of changes in aggregate economic activity. Although his study only runs until the end of 2007, we have updated his results to the end of 2010 here at the Cleveland Fed and found that the vast majority of the increase that Killian found in his analysis was due to positive innovations in aggregate economic activity. This suggests that unless increases in aggregate demand abate, energy prices will continue to be elevated and will constitute yet another headwind this recovery will have to face.

Further reading:

Killian, Lutz. (2009) "Not All Oil Price Shocks Are Alike: Disentangling Demand and Supply Shocks in the Crude Oil Market," American Economic Review 99:3, 1053–1069.

What's Up with the Unemployment Rate?

05.10.11

by Murat Tasci and Mary Zenker

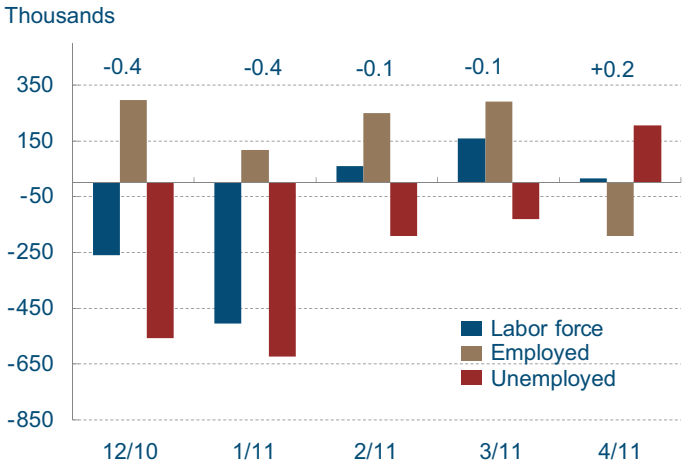
The unemployment rate jumped back to 9 percent in April, after declining a full 1 percentage point between November 2010 and March. Both the decline and the increase came as a surprise to many. Though signs of a recovery had appeared in the aggregate economy as early as the second quarter of 2009, the unemployment rate had stayed persistently high, above 9 percent, for more than 20 months. Then over the course of four months, the rate unexpectedly fell 1 percentage point, reflecting both an increase in household employment and a reduction in labor force participation. Most recently, the rate jumped up by 0.2 percentage point in April. Hence, over the past five months employment (as measured in the Bureau of Labor Statistics household survey) has increased by close to 800,000, while the number of unemployed workers has declined by about 1.3 million.

In some ways, these ups and downs should not be surprising even this far into the recovery. We would expect unemployment to go down as the economy recovers and firms start to create jobs. On the other hand, the number of unemployed workers looking for a job might also grow, if previously discouraged workers or those not looking for work start coming back to the labor force as the prospect of finding a job improves. These two channels can play against each other in determining the unemployment rate, and they certainly have in this recovery. Which channel will dominate over the next few months is an open question.

In this article we focus on some of the dynamics acting on those channels. Specifically, we consider the behavior of workers who have been unemployed for a long time and more generally, the gross flows of the entire pool of unemployed workers.

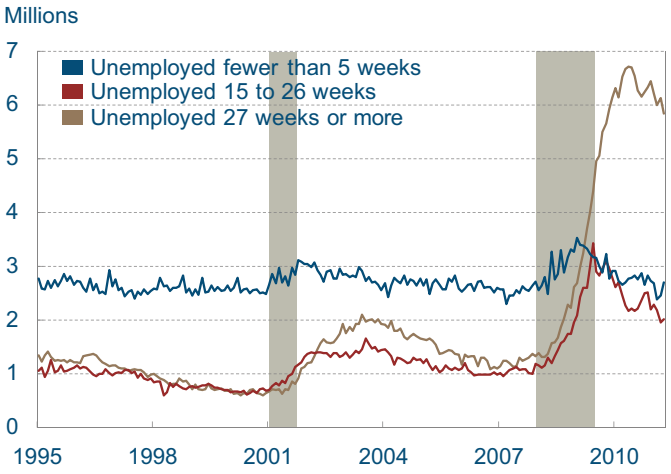
What is unique about this recession is that we have a very large pool of long-term unemployed workers. We would expect that workers who are unemployed for longer periods might lose their contacts (maybe

Unemployment Rate Decomposition



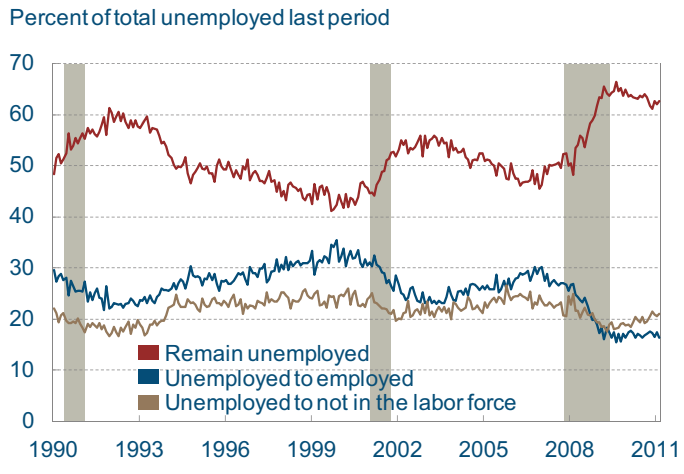
Source: Bureau of Labor Statistics.

Unemployed by Duration



Sources: Bureau of Labor Statistics and Haver Analytics.

Movements of the Unemployed



Sources: Bureau of Labor Statistics and Haver Analytics.

even skills) and might have a harder time finding a job than those who go through shorter spells of unemployment.

The number of workers unemployed for fewer than 5 weeks has essentially returned to pre-recession levels. While this group has been successful in finding employment (or choosing to move out of the labor force) as the recovery continues, the same can't be said for those unemployed for longer periods. The pool of individuals unemployed for 15 to 26 weeks has made some progress in returning to pre-recession levels, but if this expansion is like the last one, this pool could retain a larger number of individuals throughout the recovery.

The number of long-term unemployed workers (27 weeks or more) is exceptionally large right now; 22 months into the recovery, it has more than tripled from pre-recession levels. This group tends to have the most persistent unemployment and take the longest to return to trend levels. In the previous expansion, the number of long-term unemployed workers, like the number of those unemployed 15 to 26 weeks, never returned to pre-recession levels.

Gross flows data can show us the frequency with which workers are transitioning from unemployment to other states, such as employment or inactivity; that is, we see the fraction of workers unemployed in the previous month who found jobs in the current month (moved into employment), stay unemployed, or moved out of the labor force. On average, a little more than half of all unemployed workers have stayed unemployed month to month since the early 1990s. During recessions, unemployment becomes a persistent problem, and we see this fraction rise. Obviously, as the demand for labor declines, a smaller number of the unemployed can find jobs, and transitions into employment decline at these times.

One interesting feature of the current recovery is that we are observing for the first time that greater numbers of unemployed workers are transitioning out of the labor force rather than to employment. Some economists believe that expiring Emergency Unemployment Compensation (EUC) could be contributing to the higher number of transitions out of the labor force. If EUC is responsible for

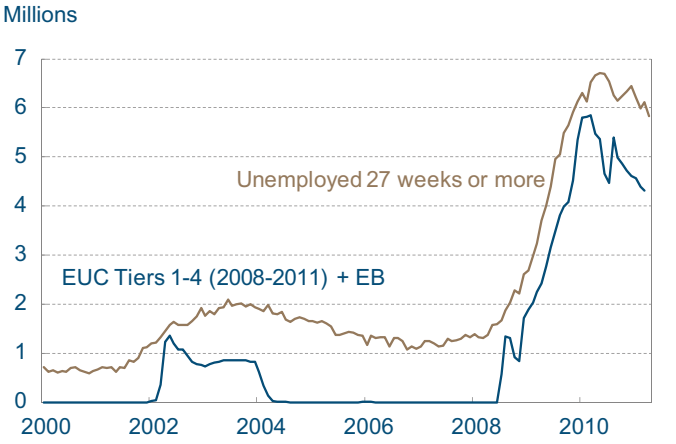
some part of the increase, the number of individuals transitioning out of the labor force from unemployment should increase as the number receiving extended benefits decreases (for example, as benefits expire). The underlying assumption is that some individuals have been remaining in the labor force, despite being only marginally attached to it, in order to collect unemployment benefits. This sequence of events would have a tendency to lower the unemployment rate as well as measures of labor force participation going forward, which is what we have seen in the data.

However, the transition of long-term unemployed workers out of the labor force did not account for the totality of the decline in the unemployment rate we've seen in the past five months. There is no direct way of measuring this per se, but we can see it is pretty likely to be the case by looking at the relationship between the number of those unemployed 27 weeks or more and the number of those receiving EUC. Since the number of long-term unemployed workers peaked in May 2010, it has decreased by about 870,000. Over the same period, the number of people receiving extended benefits has decreased by slightly more than 1 million. Thus, some workers whose benefits are expiring are moving out of the labor force and some are staying in.

Still, we should not assume that all of those leaving the labor force after their benefits expire would have left sooner had it not been for EUC. We can get a little insight into this question by comparing the types of people who left the labor force before and after there was EUC. If EUC is playing a big role, we'd expect the pool of people who are now outside the labor force to consist of the types of people who are typically marginally attached to the workforce—mothers, retirees, etc.

But the characteristics of workers who were not in the labor force in 2007 are not drastically different from those who were not in the labor force in 2010. The age distribution has changed only slightly; young workers (age 20 to 24) represent a slightly larger share now (7.4 percent in 2010 compared to 6.8 percent in 2007), workers aged 35 to 54 have decreased their share (from 18.3 percent

Long-term Unemployed and Emergency Unemployment Compensation



Sources: Department of Labor, Burea of Labor Statistics, authors' calculations.

in 2007 to 17.7 percent in 2010), and the share of workers aged 55 and older is virtually unchanged (53.5 percent in 2007 to 53.0 percent in 2010). This small shift in shares partly reflects the pursuit of more education by young workers, which is typical when prospects of finding a job decline.

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