Economic Trends

January 2012 (December 9, 2011-January 3, 2012)

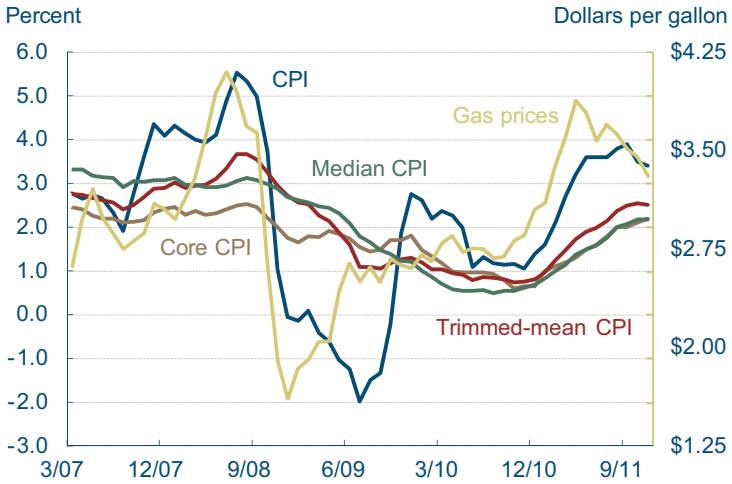
In This Issue:

FEDERAL RESERVE BANK
of CLEVELAND

Short- and Long-term Inflation Expectations

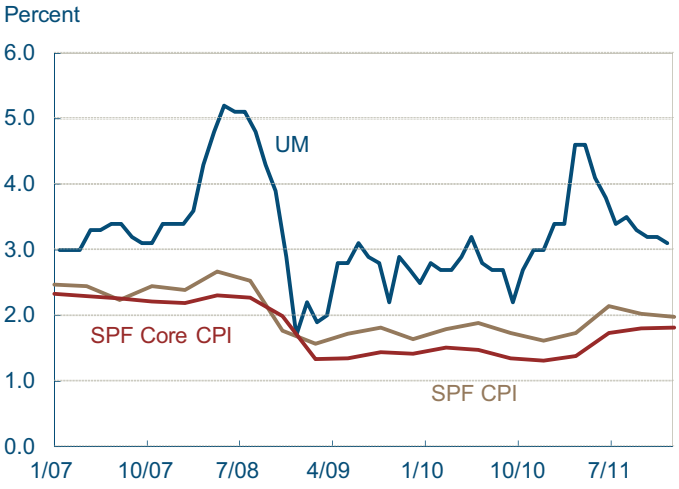
01.03.2012
by Mehmet Pasaogullari and Patricia Waiwood

Annual Inflation



Sources: Federal Reserve Bank of Cleveland, Bureau of Labor Statistics, Energy Information Administration.

Survey One-Year Inflation Expectations



Sources: Survey of Professional Forecasters; University of Michigan.

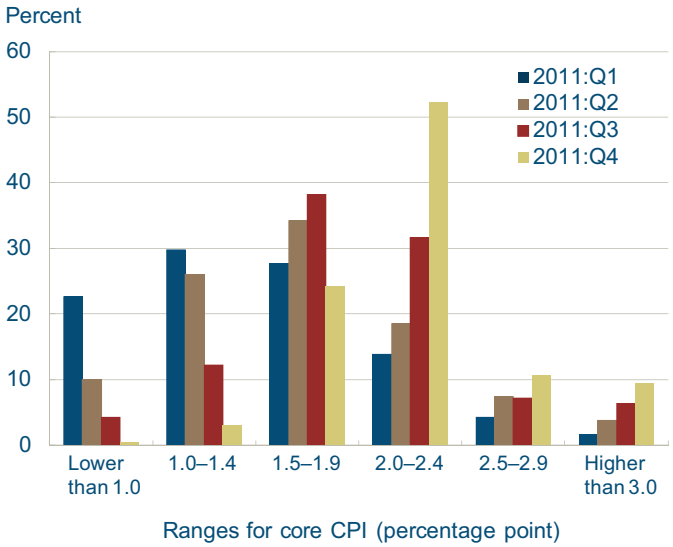
Annual inflation as measured by the Consumer price index (CPI) has declined in each month since September, following decreases in food and energy prices. As of November, the annual inflation rate is 3.4 percent. Despite this reassuring signal in the wake of the first half of the year, when the CPI was increasing, some households and market participants are still worried about an impending inflationary period. Those who are concerned point to the upward trend in underlying inflation measures, such as the core CPI (CPI excluding food and energy prices). For example, the annual core CPI inflation rate increased from 1.0 percent to 2.0 percent from January to August and then continued to climb, reaching 2.2 percent in December.

Here we review various measures of inflation expectations, because expectations about future inflation are both an important predictor and a factor in future inflation. We look at results from two surveys: the University of Michigan's Survey of Consumer Attitudes and Behavior (UM) and the Philadelphia Fed's Survey of Professional Forecasters (SPF). First, we look at near- and longer-term measures of inflation expectations from both surveys, focusing on the median responses. Then, we turn again to the SPF, looking this time at the likelihood that participants assign (on average) to various ranges of inflation rates for this year and 2012.

In general, near- and long-term inflation expectations appear contained. Both UM and SPF near-term headline CPI expectations started to decline in the second quarter of 2011 and continued to decline through the end of this year. During the second half of 2011, SPF long-term expectations have increased slightly and are now more in line with their historical levels. SPF respondents expect to see core CPI inflation between 1.5 percent and 2.0 percent in 2012.

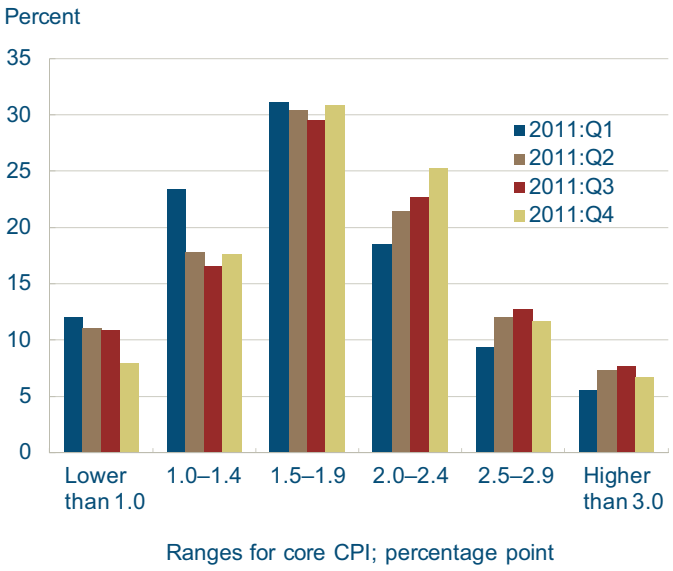
Inflation expectations from consumer surveys, like the UM 1-year expectations series, are sensitive

2011:Q4 Core CPI Probabilities



Source: Federal Reserve Bank of Philadelphia.

2012:Q4 Core CPI Probabilities



Source: Federal Reserve Bank of Philadelphia.

to energy prices. Starting in April of 2011, both gas prices and the UM 1-year measure of inflation expectations started to decline. They continued to decline through December, when the expectations measure bottomed out at 3.1 percent. While still slightly higher than its average since 2000 (3.0 percent), the UM 1-year expectation currently sits 0.3 percentage points lower than it did at the beginning of this year and 1.5 percentage points lower than its peak in April.

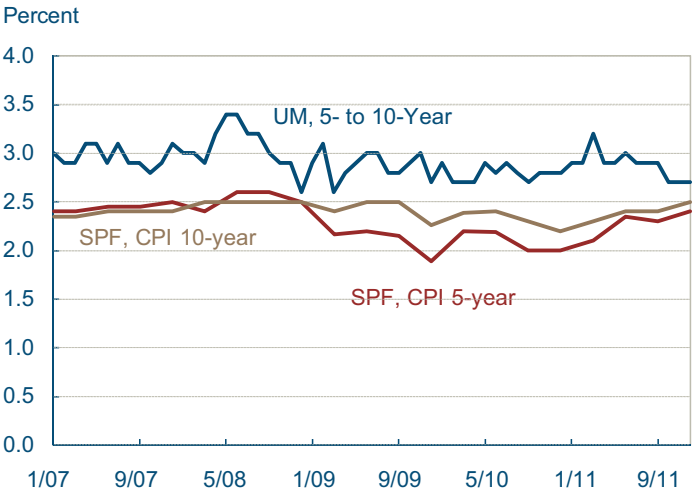
According to the SPF measures, short-term inflation expectations decreased from the third to the fourth quarters of 2011. Over this period, expectations for 1-year CPI inflation ticked down just slightly to 1.97 percent from 2.0 percent, while expectations for 1-year core CPI inflation stayed at 1.8 percent. Currently, these two measures of expected short-term inflation are more in line with each other than they were during previous quarters, when they followed roughly the same path but did so at different levels (the CPI stood about 0.3 percentage points above core CPI from 2011:Q1-2011:Q3).

The reason for this dispersion between SPF expectations for the CPI and the core CPI—and also for the second-quarter peak of the UM measure—was some forecasters' reaction to rising energy prices during the spring. As energy prices rose, short-term expectations for the CPI adjusted to a higher level. Expectations for the core CPI did not adjust in a like manner because the core CPI excludes energy prices. This also explains why expectations for the core CPI did not fall with energy prices through the second half of the year, like those for the CPI did.

In 2007, the SPF began to ask respondents to assign probabilities to the ranges of annual core CPI inflation rates they predict for the current and the following year. These probabilities are assigned anew each quarter.

We turn first to these predictions for 2011. As of November 2011, survey respondents thought strongly that core CPI inflation would most likely be in the 2.0-2.4 percent range at the end of this year, as they assigned a 52.3 percent probability to this outcome. This is the highest probability as-

Survey Long-Term Inflation Expectations



Sources: Survey of Professional Forecasters; University of Michigan.

signed to this range over the past four quarters. In the second and third quarters of 2011, the average survey response expected lower inflation—between 1.5 and 1.9 percent—assigning to this range probabilities of 34.2 percent and 38.2 percent, respectively. In the first quarter, the average survey response expected the lowest range of core CPI inflation rates, with a probability of 18.5 percent.

As for current expectations of inflation for 2012, inflation between 1.5 percent and 1.9 percent is seen as the most likely outcome for core CPI inflation, with a probability of 31 percent.

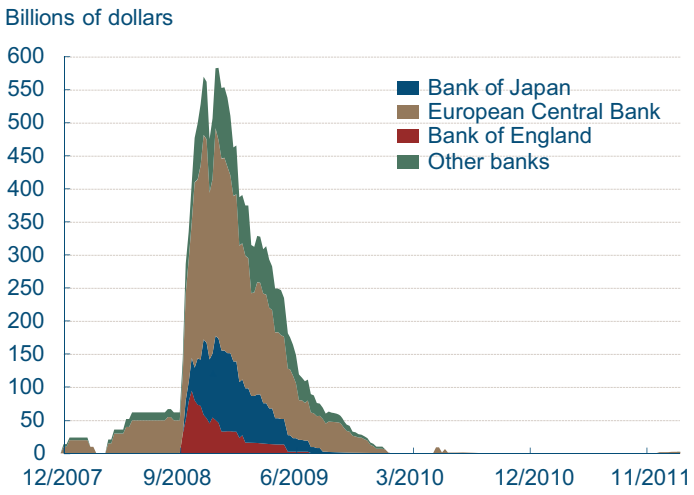
The UM expectation for long-term (5- to 10-year) inflation declined to 2.7 percent in October and held that level through December. The drop to 2.7 percent was a slight one from 2.9 percent, which was the level the measure had held firmly since July. In June, the UM expectation rose slightly to 3 percent from 2.9 percent in April. The UM expectation hit its 2011 peak, 3.2 percent, in March.

Meanwhile, SPF expectations for longer-term inflation have risen slightly. Since the August survey, the 5-year measure has risen to 2.4 percent from 2.3 percent. During the same period, the 10-year inflation expectation also increased—again, by 0.1 percentage points—to 2.5 percent. These increases since the August survey are bringing these two measures closer to their historical levels.

Central Bank Liquidity Swaps

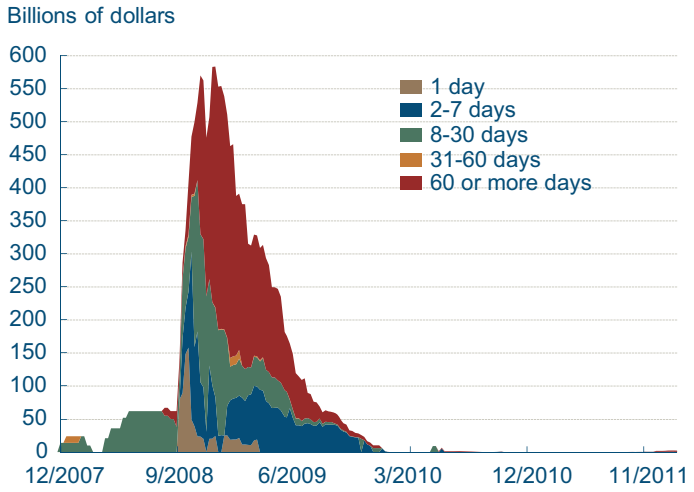
12.19.2012
by Todd Clark and John Lindner

Dollar Liquidity Swaps, by Counterparty



Note: Other banks include Bancode Mexico, Bank of Korea, Danmarks Nationalbank, Norges Bank, Reserve Bank of Australia, SverigesRiksbank, and Swiss National Bank.
Source: Federal Reserve Board.

Dollar Liquidity Swaps, by Tenor



Source: Federal Reserve Board.

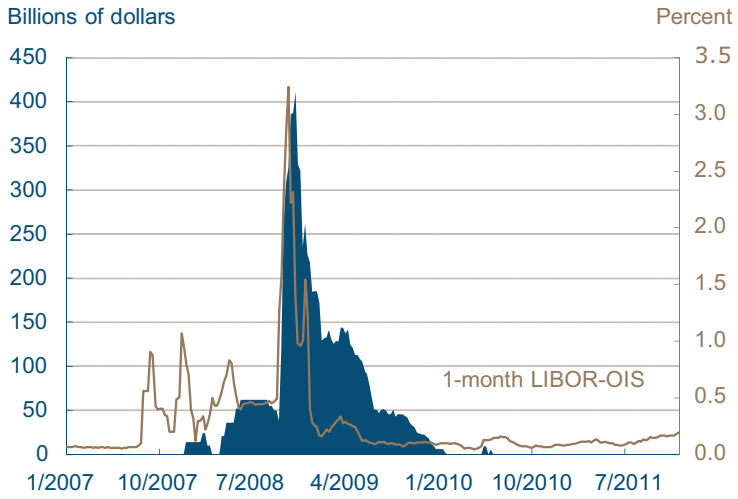
Two weeks ago, the Federal Reserve took action to expand the capabilities of its liquidity swap lines with other central banks. The Fed lowered the rate that it charges central banks on existing dollar liquidity swap lines, and it extended the authorization of those lines to February 1, 2013. In addition, the Fed reinstated reciprocal swap lines with other central banks, so that operations can be conducted using foreign currencies.

These central bank swap lines were originally put in place at the beginning of the financial crisis in 2007, and since then they have been used periodically. A look back at how they were used during the crisis can help to explain why these recent actions were taken.

For foreign banks, liquidity problems started in 2007 because of the proliferation of dollar-denominated assets in the global banking system. A large chunk of securities, such as the now-infamous mortgage-backed securities (MBS), ended up in the hands of foreign banks, and those banks had funded those assets in short-term, wholesale markets. More simply, the banks were borrowing dollars for periods of less than 3 months to buy these long-term securities. That strategy works when markets are liquid, but by the middle of 2007, that was no longer the case.

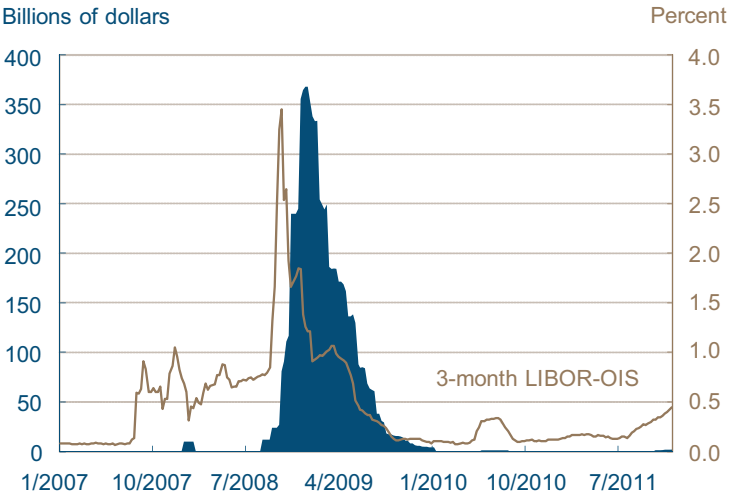
With the financial crisis sharply reducing liquidity in financial markets, foreign central banks used the swap lines to borrow large amounts of dollar liquidity in 2008 and 2009. By far, the biggest user was the European Central Bank, whose outstanding amounts peaked in late 2008 at over $300 billion. The Bank of England and the Bank of Japan also were heavy users, topping out at $95 billion and $125 billion, respectively. There were seven other central banks that all conducted operations as well, but they made up a minority of the outstanding balances at any one point in time.

Dollar Liquidity Swaps, 30 Days or Less



Sources: Federal Reserve Board; Bloomberg.

Dollar Liquidity Swaps, More Than 30 Days



Sources: Federal Reserve Board; Bloomberg.

At the very height of the crisis, the swaps were being drawn at shorter tenors. One-day draws peaked in October 2008, spiking up to over $150 billion, and tenors within one week topped $150 billion in early November 2008. The same was true with swap operations that lasted for one month, as they quickly hit their highest point in the last three months of 2008. However, by the first part of 2009, swaps of longer tenors easily started dominating the composition of the outstanding operations. Swaps with tenors of 60 or more days grew to over $360 billion.

Collectively, these programs helped to improve liquidity in the interbank lending market. One way to measure how effective the dollar lending was at easing conditions is to look at the 1-month and 3-month Libor-OIS spreads. The Libor is the London interbank offer rate, a floating rate that fluctuates depending on how risky the borrowers appear to the lenders. The overnight indexed swap (OIS) rate is a more stable rate, and it simply measures the cost of swapping a fixed interest rate for a floating interest rate.

Noticeably, the spreads on the 1-month and 3-month measures widened substantially during the fall of 2007, meaning lenders saw foreign banks as more risky than they had in the past. The spreads spiked from 10 basis points (bp) to 50 bp in a matter of days, putting strains on the balance sheets of foreign banks. Following the collapse of Lehman Brothers in September 2008, both 1-month and 3-month spreads increased from their already elevated levels to crisis peaks.

The interesting observation is that when swap operations began to be used heavily, the spreads fell below their previously elevated levels. Just two months after the surge in shorter-term swaps, the Libor-OIS spreads fell from their peaks to levels much closer to normal. For example, instead of falling to the elevated 50 bp threshold, the 1-month spread tumbled all the way to 30 bp and continued to soften in early 2009. Similarly, the longer-term Libor-OIS spread receded to more normal levels as large amounts of long-term swaps were drawn.

Even though these swaps had expired in February 2010, they were quickly reauthorized in May 2010 after the beginning of the Greek debt crisis. Evidence of the strains caused by this crisis can be seen in the Libor-OIS spreads, which rose to 15 bp and 33 bp in the 1- and 3-month periods, respectively. Helped in part by the swap lines, as liquidity in the interbank funding market improved, the spreads calmed during the summer of 2010.

More recently, with other European countries' finances under pressure, liquidity in the interbank market has again deteriorated. The 1-month spread recently hit 19 bp, and the 3-month spread is now nearing 50 bp. In response to these conditions, the Fed and other central banks took action to make more liquidity available.

Specifically, the Fed lowered the cost of dollar liquidity to the other central banks. Instead of charging 100 bp over the OIS rate, the Fed is now requiring a spread of 50 bp over OIS. By lowering this rate, the Fed has effectively put a ceiling on the cost of dollar liquidity. Terms for operations conducted using foreign currencies have not yet been determined, but those will be decided upon if U.S. banks start experiencing greater strains in their foreign currency funding.

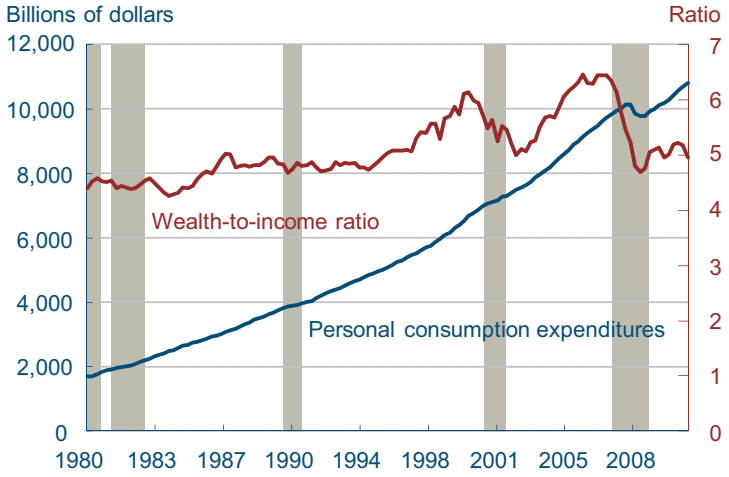
Already European banks have taken advantage of the extension of dollar liquidity. Last week, the European Central Bank reported that over $50 billion of 84-day swaps were drawn by banks in the euro zone. Although these quantities are very small compared to crisis-level amounts, the swap line actions taken by the Fed and other central banks should help support market liquidity.

Household Financial Position

12.19.2011

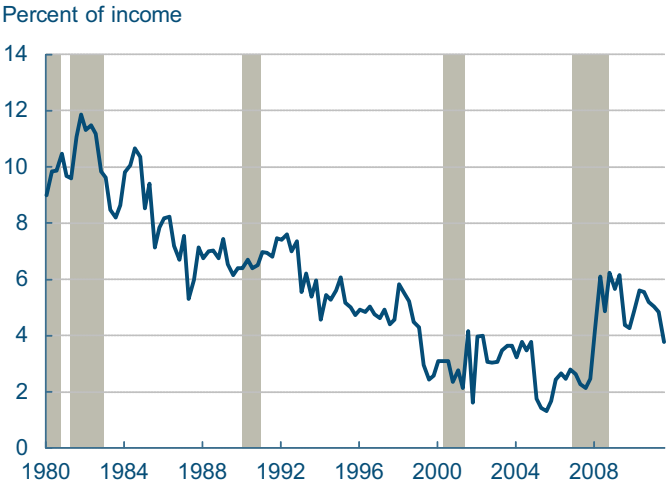
by O. Emre Ergungor and Patricia Waiwood

Household Wealth and Consumption



Notes: Shaded bars indicate recessions. Wealth is defined as household net worth. Income is defined as personal disposable income.
Sources: Bureau of Economic Analysis, Board of Governors of the Federal Reserve System.

Personal Savings Rate



Notes: Shaded bars indicate recessions. Quarterly Averages of Monthly Data.
Source: Bureau of Economic Analysis.

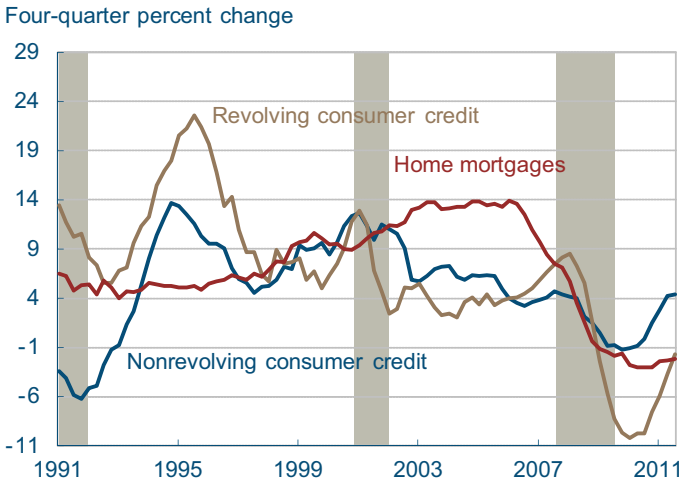
In the years preceding the stock market and housing bubbles, household wealth grew faster than incomes, leading Americans to believe that they were getting richer. As the bubbles burst, the wealth-to-income ratio took a dive and returned to its long-term trend. The adjustment took place as households constrained their spending and reduced their debt. After peaking in 2008, household consumption expenditures dropped slightly (1.69 percent), hitting a trough in 2009. Yet since then, the wealth ratio has stabilized, and consumption expenditures have resumed growth, already climbing 2.2 percent beyond the pre-recession peak.

While people often associate the word "savings" with money in the bank, an increase in the savings rate also means that people are paying down their debts. Before the downturn, in April 2005, the personal savings rate reached a record low of just 0.8 percent. Since then, however, the rate has steadily increased, peaking at 6.2 percent in 2008 and maintaining rates above 4.3 percent. Currently, the savings rate sits at 3.8 percent, which is roughly where it was in 2004.

Outstanding home mortgage debt is still contracting, reflecting record write-offs and reduced demand for homeownership. Revolving consumer credit, which primarily includes credit card balances, plummeted in 2008 and is currently 1.7 percent below year-ago (third-quarter 2010) levels. Nonrevolving consumer credit, which consists of the secured and unsecured credit for student loans, auto financing, durable goods, and other purposes, is actually 4.4 percent above year-ago levels.

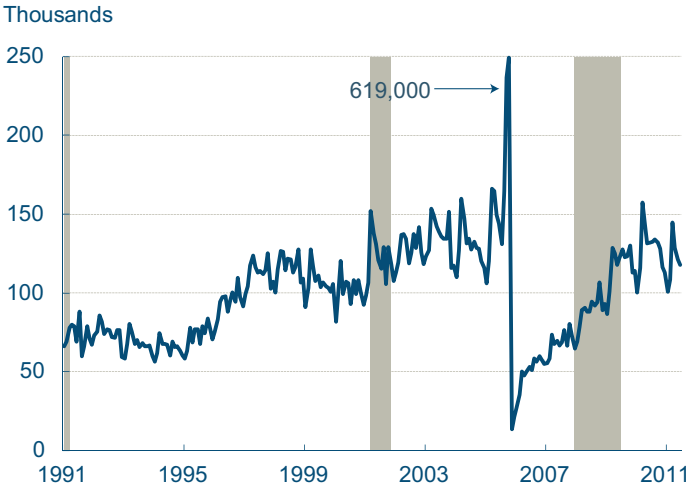
Part of the decline in outstanding debt is attributable to people defaulting on their obligations and reducing their debt in bankruptcy. Nonbusiness bankruptcy filings spiked dramatically in October 2005—before the federal government enacted the Bankruptcy Abuse Prevention and Consumer Protection Act, a sweeping reform of the U.S. bank-

Outstanding Debt



Notes: Seasonally-adjusted quarterly data. Shaded bars indicate recessions.
Sources: Board of Governors of the Federal Reserve System.

Nonbusiness Bankruptcy Filings



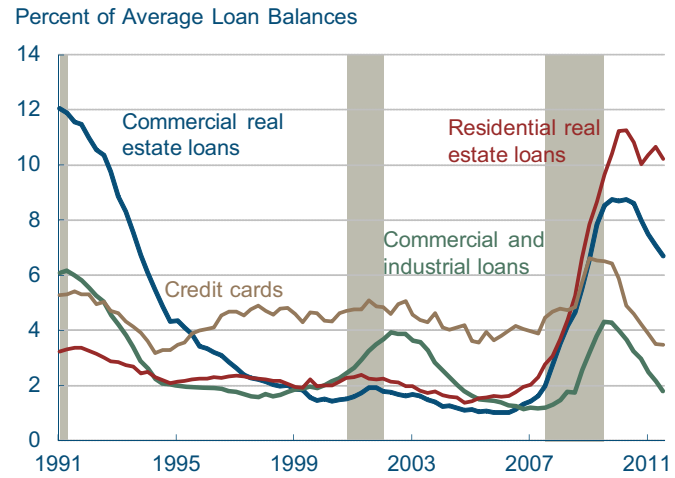
Note: Shaded bars indicate recessions.
Source: Administrative Office of the U.S. Courts.

ruptcy code designed to make it more difficult for debtors to file for Chapter 7 bankruptcy. Following an initial postreform decline, bankruptcy filings started to increase, and as of June 2011, the number of bankruptcies had reached 118,000.

Certain delinquency rates are not likely to return to their pre-crisis levels soon. As of the third quarter of 2011, delinquency rates for residential real-estate and commercial real-estate loans remain extremely elevated (10.2 and 6.7 percent respectively). On the other hand, credit card and commercial and industrial (C&I) loan delinquencies are at or below their respective pre-crisis levels. In the third quarter of 2011, these rates sat at 3.5 and 1.8 percent, respectively.

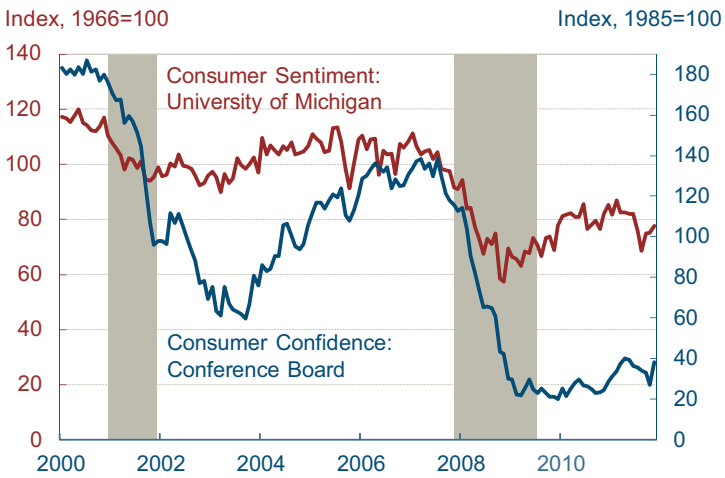
Indexes of consumer sentiment and confidence have gained traction since early 2009, likely due in part to recent small payroll gains, stabilizing (though still depressed) home sales, and stock market performance this past year. Be that as it may, the indexes still have a ways to go before returning to pre-recession levels.

Delinquency Rates



Note: Shaded bars indicate recessions.
Source: Board of Governors of the Federal Reserve System.

Consumer Attitudes



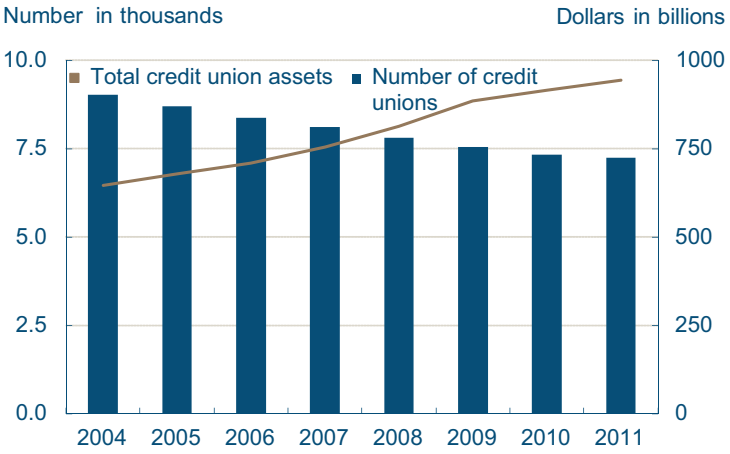
Note: Shaded bars indicate recessions.
Source: University of Michigan, The Conference Board.

The Health of Federally-Insured Credit Unions

12.20.2011

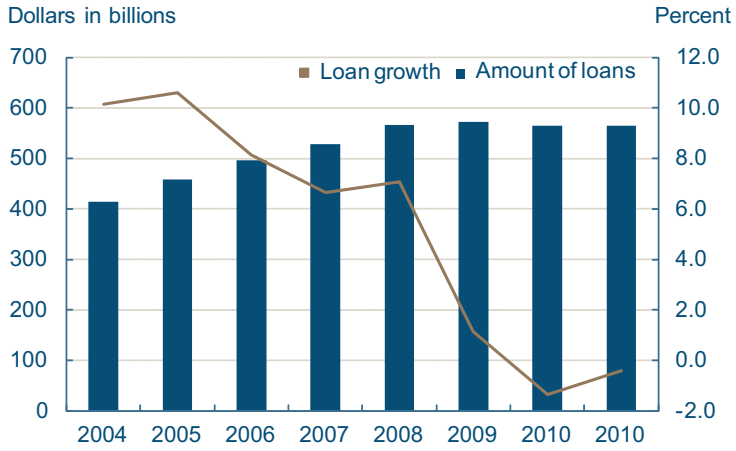
by Matthew Koepke and James Thomson

Credit Union Industry Structure



Source: National Credit Union Administration.

Credit Union Lending Trends



Source: National Credit Union Administration.

Credit unions are cooperatively owned depository institutions that provide financial services to their members. They serve as a viable alternative to commercial banks and savings associations for basic depository institution services such as consumer loans, checking accounts, and savings accounts. Like banks and savings associations, the credit union industry has followed a path of consolidation.

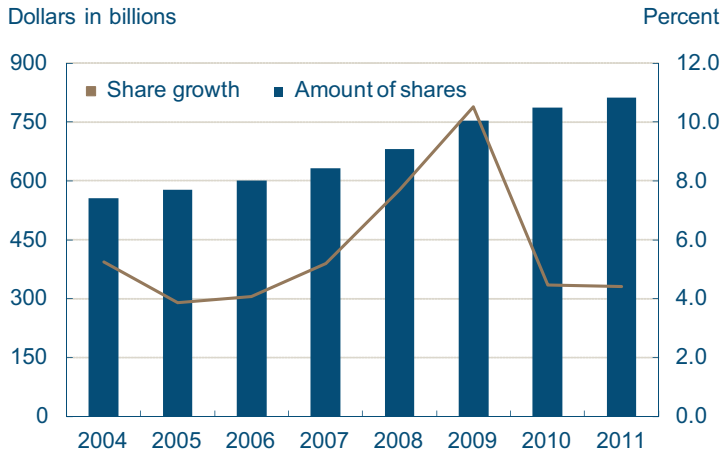
From 2004 to June 2011, the number of federally-insured credit unions has fallen from 9,014 institutions to 7,239 institutions. However, over the same time period, total credit union assets rose nearly 46 percent from $647.0 billion to $942.5 billion. Moreover, the number of credit union members has steadily increased, growing 8.9 percent from 83.6 million members at the end of 2004 to 91.0 million members at the end of June 2011.

Fueled by positive loan growth, credit union assets grew through the end of 2009, before turning negative in 2010 and 2011. From 2004 to 2009, loans issued by federally-insured credit unions grew 38.1 percent from $ 414.3 billion to $572.4 billion. However, like at banks and savings institutions, from 2010 to midyear 2011, loans at federally-insured credit unions fell 1.5 percent to $564.0 billion.

It is interesting to note that from 2004 to 2007, loans as a share of assets grew moderately, increasing from 64.0 percent to 70.0 and started to decline in 2008, falling 10 percentage points to 59.8 percent of assets by midyear 2011. Based on the decline in the amount of loans on credit unions' balance sheets as well as the reduction of the loans' total share of credit union assets, it appears that, like commercial banks and savings institutions, credit unions have not been immune to the ongoing deleveraging by households.

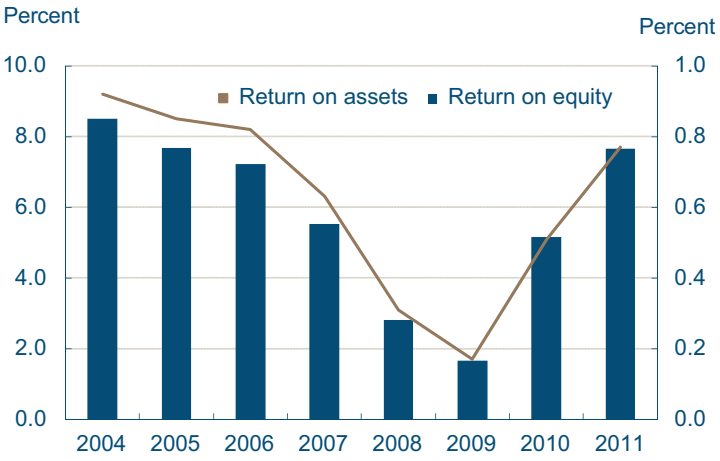
Federally-insured credit union shares have risen steadily since 2004. Shares, which are the equiva-

Credit Union Shares



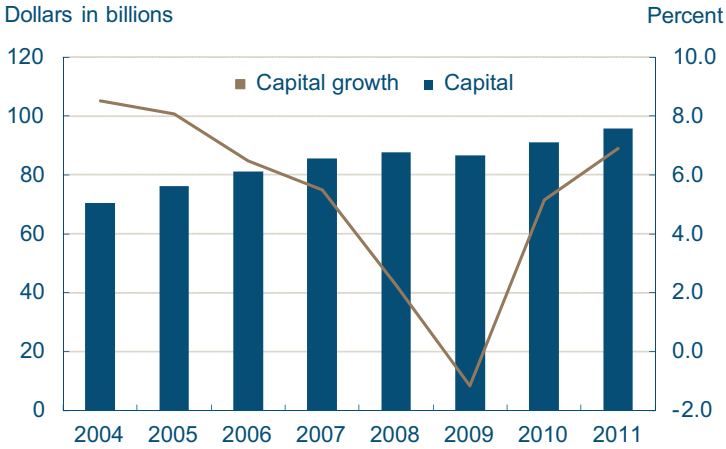
Source: National Credit Union Administration.

Credit Union Profitability



Source: National Credit Union Administration.

Credit Union Capital



Source: National Credit Union Administration.

lent of deposits in banks and savings associations, are the primary source of funds for credit unions, accounting for roughly 85 percent of total sources of funds. Like the growth in loans, the annual growth of credit union shares has fluctuated over the past 7.5 years, varying between 3.9 percent and 10.5 percent. Overall, shares grew at a robust 4.8 percent annual growth rate over this time period. From 2004 to June 2011, credit unions have continued to accumulate capital, with the exception of 2009 when capital fell 1.2 percent. Overall, credit union capital has increased from $70.6 billion the end of 2004 to $95.7 billion at the end of June 2011, an improvement of more than 35 percent.

Not surprisingly, since retained earnings are the only source of capital for credit unions, the pace of capital accumulation mirrors the general downward trend in the return on average assets (ROA) and the return on average equity (ROE) since 2004. The return on average assets fell from 0.92 percent in 2004 to 0.17 percent in 2009. In 2010, the return on average assets rebounded to 0.51 percent and continued to improve to an annualized rate of 0.71 percent for the first half of 2011. Not surprisingly, over the same time period, the return on equity followed a similar pattern. The decline in profitability for credit unions during the 2007-2009 recession is due in part to steadily increasing operating expenses per dollar of assets and the relatively high costs of funds.

Overall, the health of the credit union industry appears to be good. Capital as a percent of assets stands at 10.1 percent at midyear 2011. On the other hand, asset quality, while improving, continues to be a concern. Delinquent loans as a share of total loans has improved, falling from a peak of 1.84 percent in 2009 to 1.58 percent at midyear 2011—well above the pre-financial-crisis loan-delinquency rate of 0.68 percent at the end of 2006.

Domestic Migration and Its Impact on Ohio

12.21.2011
by Guhan Venkatu and Kyle Fee

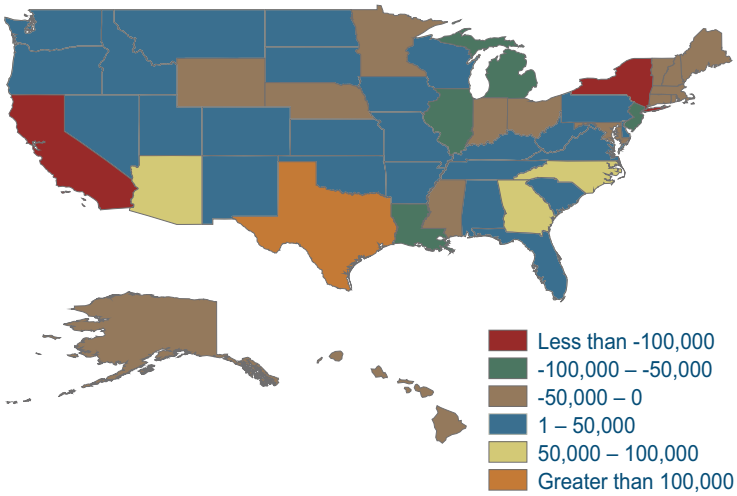
Americans tend to be more mobile than others in the industrialized world. According to a recent study*, the fraction of Americans who moved in 2005—roughly 12 percent—was about twice as high as the fraction that moved in most European countries outside of Northern Europe during the same time. While Americans' annual mobility rates remain high by international standards, they appear to have trended down since at least 1980, though the reasons for this remain unclear.

What has changed less over this period is where Americans are going. About 2.5 percent of Americans move from one state to another in a given year, and for several decades, these flows have tended to transfer population from the Midwest and Northeast toward the South and West. More recent data, from 2005 to 2009, suggest that this general movement of population is continuing to take place.

What accounts for this ongoing trend? Some explanations emphasize economic factors, such as less onerous land and labor regulations in the South, likely to be favored by businesses. Other explanations emphasize more desirable weather, as well as proximity to natural amenities, like mountains or oceans, likely to be favored by households. Which of these explanations turns out to be closer to the truth has important implications for states that have seen net outmigration on average over the last few decades. The former explanation suggests that different policy choices can reverse the observed trend.

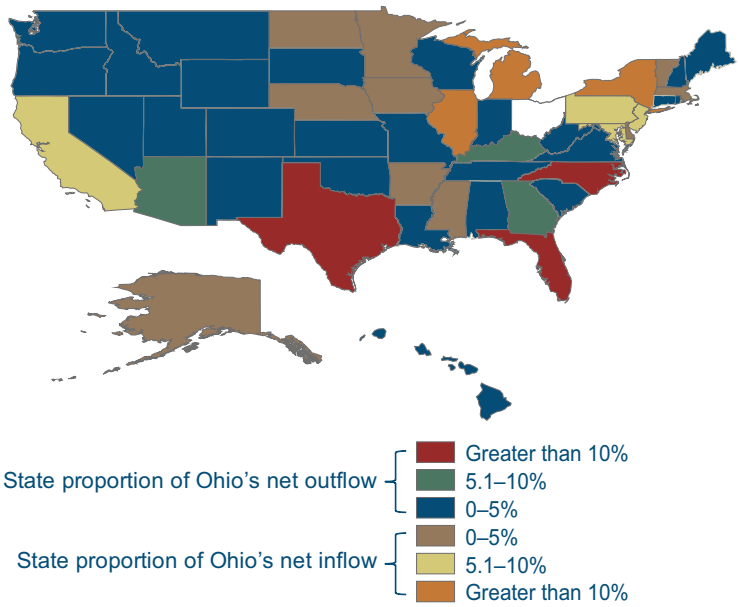
Ohio, like many Midwestern states, saw a net outmigration over the period from 2005 to 2009, taking in about 35,000 fewer individuals from other states than it transferred to them. It received individuals on net from the District of Columbia and 16 states which were largely concentrated in the northeast and upper Midwest, and it made net transfers to 33 states which were generally in the South and West.

U.S. Net Domestic Migration



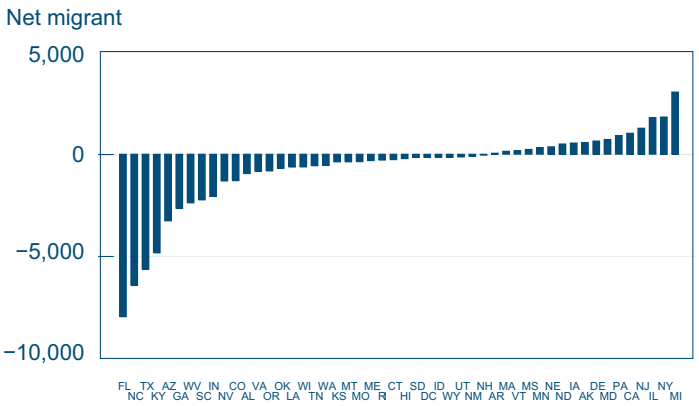
Source: American Community Survey, 2005-2009

Net Domestic Migration to/from Ohio



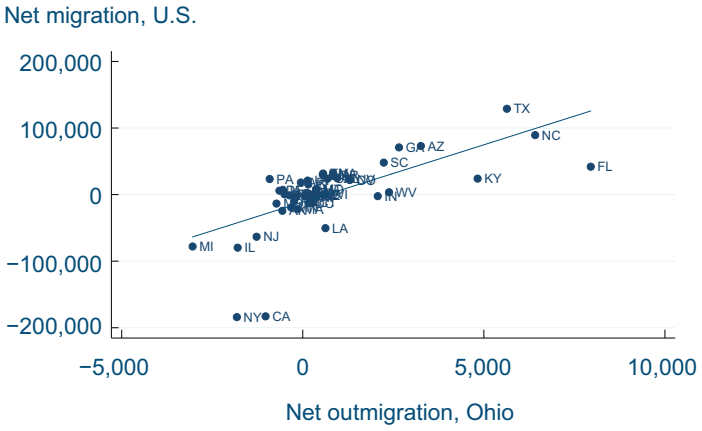
Source: American Community Survey, 2005-2009.

Net Domestic Migration to and from Ohio



Source: American Community Survey, 2005–2009.

Net Domestic Migration, United States and Ohio



Ohio gained the most net migrants from Michigan (+3,043), New York (+1,821), and Illinois (+1,797); and lost the most net migrants to Florida (–7,954), North Carolina (–6,417), and Texas (–5,635).

Net migration flows from Ohio to other states tended to be consistent with broader, national net migration flows.

Among these first three states, net inflows from Illinois and Michigan were weighted heavily toward those under 35. For New York, net inflows for individuals under 35 outpaced those of older individuals by about two-to-one. There were meaningful net inflows of individuals with advanced degrees, but these were outpaced by inflows of individuals without a college degree by at least three-to-one.

Among the states to which Ohio lost migrants on net, there were losses across all age and educational attainment categories. In North Carolina and Texas, these losses were weighted toward younger individuals (those under 34) by at least two-to-one. For Florida, this ratio was almost two-to-one in favor of older individuals. As far as educational attainment, net outflows to Texas and North Carolina were weighted toward those with at least a college degree; however, for Florida, net outflows were weighted modestly toward those without a college degree.

*"Internal Migration in the United States," by Raven Molloy, Christopher L. Smith, and Abigail Wozniak. 2011. Journal of Economic Perspectives, vol. 25, no. 3.

Migration Flows to and from Ohio by Age for Selected States

	2011			2011			2011			2011			2013			2016		
Education	**In**	**Out**	**Net**	**In**	**Out**	**Net**	**In**	**Out**	**Net**	**In**	**Out**	**Net**	**In**	**Out**	**Net**	**In**	**Out**	**Net**
<18	3,244	3,017	227	1,252	813	439	1,536	800	736	3,436	4,419	−983	1,462	2,662	−1,200	1,896	2,511	−615
18-24	5,144	4,024	1,120	2,671	2,544	127	3,227	2,755	472	2,173	3,455	−1,282	1,141	3,388	−2,247	1,182	2,987	−1,805
25-34	4,497	2,841	1,656	2,092	1,488	604	2,303	1,829	474	3,747	4,388	−641	1,851	3,118	−1,267	1,658	−1,333	2,991
35-44	1,569	1,753	−184	953	774	179	864	780	84	2,050	3,165	−1,115	918	1,499	−581	1,279	1,497	−218
45-54	1,304	1,047	257	684	472	212	528	552	−24	2,057	2,484	−427	305	718	−413	759	1,553	−794
55-64	812	597	215	431	343	88	328	397	−69	1,001	3,012	−2,011	259	630	−371	436	1,017	−581
>65	450	698	−248	414	242	172	199	75	124	2,140	3,635	−1,495	461	799	−338	273	562	−289
All	17,020	13,977	3,043	8,497	6,676	1,821	8,985	7,188	1,797	16,604	24,558	−7,954	6,397	12,814	−6,417	7,483	13,118	−5,635

Note: Individuals 25 and over only.
Source: American Community Survey, 2005-2009.

Migration Flows to and from Ohio by Age for Selected States

	2011			2011			2011			2011			2013			2016		
Education	**In**	**Out**	**Net**	**In**	**Out**	**Net**	**In**	**Out**	**Net**	**In**	**Out**	**Net**	**In**	**Out**	**Net**	**In**	**Out**	**Net**
High school diploma or less	3,476	2,546	930	1,620	1,234	386	1,505	879	626	6,077	8,188	−2,111	1,649	2,046	–397	1,889	2,698	−809
Some college	1,927	1,508	419	1,050	509	541	613	472	141	2,311	3,332	−1,021	895	1,682	−787	948	1,211	263
College degree	1,586	1,536	50	1,035	981	54	1,189	1,565	−376	1,729	3,197	−1,468	793	1,836	−1,043	783	2,204	−1,421
More than college degree	1,643	1,346	297	869	595	274	915	717	198	878	1,967	−1,089	457	1,200	−743	785	1,507	−722
All	8,632	6,936	1,696	4,574	3,319	1,255	4,222	3,633	589	10,995	16,684	−5,689	3,794	6,764	−2,970	4,405	7,620	−3,215

Note: Individuals 25 and over only.
Source: American Community Survey, 2005-2009.

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

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

ISSN 0748-2922