

THE REGIONAL ECONOMIST

*A Quarterly Review
of Business and
Economic Conditions*

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January 2011

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During the financial crisis, an unprecedented amount of aid was extended to companies, agencies and individuals by the Treasury, the Fed and the FDIC. This assistance was necessary and, in many cases, will return a profit to taxpayers.

**THE REGIONAL ECONOMIST**

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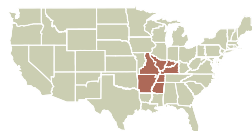
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The Eighth Federal Reserve District includes all of Arkansas, eastern Missouri, southern Illinois and Indiana, western Kentucky and Tennessee, and northern Mississippi. The Eighth District offices are in Little Rock, Louisville, Memphis and St. Louis.



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The Fed's Emergency Liquidity Facilities: Why They Were Necessary

As the lender of last resort, a central bank typically lends extensively—though at a penalty rate—during a crisis. The Federal Reserve took such actions to stabilize the financial system and avoid further stress during the financial crisis that began in early August 2007. The Fed created a number of temporary liquidity programs in 2007 and 2008 to provide sound institutions with necessary access to credit.¹

Initially, the Fed encouraged depository institutions to come to the discount window for funding. On Aug. 17, 2007, the Fed decided to reduce the spread between the primary credit rate and the target federal funds rate to 50 basis points. The loan maturity was also extended from overnight to a maximum of 30 days. Despite the narrower spread and longer maturity, relatively few institutions came to the discount window out of concern that borrowing from the discount window might be perceived as a sign of financial weakness.

With the financial crisis intensifying, the Fed created the Term Auction Facility (TAF) in December 2007 so that institutions could purchase funds in the open market without going to the discount window, thus circumventing the stigma. Under TAF, the Fed auctioned a fixed amount of term funds on a biweekly basis; these loans had a maximum maturity of 84 days. For the first auction, the total dollar amount of bids was more than triple the dollar amount of loans accepted. The overwhelming demand for the TAF loans provides evidence that stigma associated with discount-window borrowing mattered during the crisis.

U.S. financial markets were further stressed by problems in short-term dollar funding markets. In response the Fed established dollar liquidity swap lines with some foreign central banks. Under this program, a foreign central bank sold its currency to the U.S. in exchange for dollars and then lent the dollars to its own institutions. At most three months later, the currencies were swapped back, with the foreign central bank paying interest to the

Fed. The program helped ease strains in these dollar funding markets during the crisis and was reinstituted in May 2010 to help address renewed problems in European markets.


TAF and the currency swap program gave depository institutions a much-needed source of short-term liquidity. In addition, the Fed created programs in March 2008 to provide primary security dealers with short-term credit. Under the Primary Dealer Credit Facility, primary dealers obtained overnight collateralized loans at the primary credit rate. The Term Securities Lending Facility (TSLF) allowed primary dealers to borrow Treasury securities for 28 days in exchange for other eligible, less-liquid securities. A few months later, the Fed established the TSLF Options Program to offer extra liquidity (for up to two weeks) during periods of elevated financial stress, such as end-of-quarter periods. TSLF loans and TSLF options were both awarded through auctions.

Later in 2008, the Fed created programs to ease the liquidity problems of other markets and institutions. The Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility helped to stabilize money market mutual funds that held illiquid asset-backed commercial paper; without help, the money funds had difficulty meeting investors' demands for redemptions. The Commercial Paper Funding Facility was designed to increase liquidity in the commercial paper market—a primary source of funding for businesses—and to provide assurances that eligible commercial paper issuers would be able to repay their investors. Finally, the Term Asset-Backed Securities Loan Facility was created to stabilize the asset-backed securities market, thus addressing the credit needs of households and small businesses.

In implementing the above liquidity programs, the Fed followed standard risk-management practices to the extent possible. Only sound institutions with good collateral met the eligibility requirements to borrow under

these programs. In addition, the institutions could borrow only a fraction of their collateral, with the fraction depending on the particular collateral. As a result, the Fed did not lose any money on programs that have already closed.

During the financial crisis, the Fed also provided liquidity to systemically important financial institutions—those considered “too big to fail.” In March 2008, the New York Fed provided short-term credit to Bear Stearns through JPMorgan Chase Bank, which the company repaid. Shortly thereafter, the New York Fed provided credit to the newly created Maiden Lane LLC for purchasing a portion of Bear Stearns' mortgage assets; this loan enabled JPMorgan to acquire the remainder of Bear Stearns, avoiding bankruptcy of the latter. In September 2008, the New York Fed provided credit to the American International Group (AIG) to prevent its disorderly failure. A few months later, two newly created LLCs received loans from the New York Fed to purchase certain assets and debt obligations from AIG. These were some of the most controversial decisions made during the entire financial crisis.

Overall, the emergency liquidity programs proved to be successful at improving the functioning of financial markets. Most of the programs were closed naturally as the financial crisis subsided because the borrowers found better terms in the private sector. The Federal Reserve Board recently released detailed information regarding these emergency liquidity programs. Their size and variety demonstrate how flexible and powerful the lender-of-last-resort function can be during a crisis. 

¹ For information on the programs, see www.federalreserve.gov/monetarypolicy/bst.htm





A Closer Look

Assistance Programs in the Wake of the Crisis

By Richard G. Anderson and Charles S. Gascon

During the financial crisis of 2007-2009, the Treasury, the Federal Reserve and the Federal Deposit Insurance Corp. (FDIC) extended unprecedented amounts of assistance to banks, government housing agencies, auto manufacturers, individual homeowners and others. Controversy surrounds such assistance. Opponents pejoratively refer to the assistance as “bailouts,” arguing that billions of tax dollars were given to poorly managed but politically well-connected firms. They dismiss assertions that millions of jobs would have been lost for as long as a decade if certain large firms had ceased operation, believing that American entrepreneurs would have quickly started new businesses to employ such workers. Proponents argue the assistance was carefully structured, was provided primarily to viable firms whose principal sin was to be adversely affected by the financial crisis and, in cases of assistance to insolvent firms, was carefully collateralized so as to recover the maximum amounts after the crisis. Further, they argue, assistance in a panic (such as the autumn of 2008) is unquestionably the correct policy because a shallower recession and faster recovery benefit all American wage earners—and taxpayers. The truth, of course, is somewhere in between.

Are Bailouts Ever Wise?

A well-functioning (and well-regulated) financial system is essential in any economy that seeks to provide its citizens a high standard of living. Yet, inherent in financial systems is risk, including the risk of major financial panics. At such times, wisely administered government assistance is essential for both financial and nonfinancial firms.

Not all bailouts are wise. A firm that fails during *normal* economic times due to poor management, inadequate capital investment or excessive risk-taking should be allowed to fail (absent concerns regarding national security). To do otherwise is the equivalent of counseling managers and entrepreneurs that taxpayers stand ready to backstop their failures.

Not all bailouts are wise. A firm that fails during *normal* economic times due to poor management, inadequate capital investment or excessive risk-taking should be allowed to fail (absent concerns regarding national security). ... But failure during periods of *extreme* financial stress differs.

But failure during periods of *extreme* financial stress differs. The historical record suggests that judicious “bailouts” (we prefer the term “assistance”) during periods of financial stress are economically efficient and can benefit both employees and taxpayers.

Critics of assistance argue that prudent managers of both financial and nonfinancial firms should maintain adequate liquidity at all times so as to survive any adverse shock—if not, then failure is their proper Darwinian fate, and the economy is strengthened by their demise. For modern economies, this argument is naïve—and false. The simplest argument is the most powerful: Virtually all businesses depend on borrowing capital against collateral, but in times of financial stress it often is impossible to determine prices for such collateral. This observation underlies Walter Bagehot’s dictum in his 1873 book *Lombard Street* that in times of financial crisis a central bank must lend against any and all collateral, even if its value may be questionable.¹ Assistance is wise until such time as cooler heads, in less tumult, can sort through the problem.

Often overlooked by these same critics is the alternative: an even more-heavily regulated economy, so battened-down against all perils that it fails to provide the maximum standard of living for its citizens. Yes, assistance programs of the past couple of years have placed large sums of taxpayer money at risk—but it must be remembered that these firms employ taxpayers, buy products and services from other taxpayers, and are owned by taxpayers.

Assistance programs, even in financial crises, should be judicious, transparent and granted at arm’s length as much as possible. Legitimate questions can be asked whether terms of the 2007-2009 assistance were sufficiently onerous to ward off moral hazard. We believe they were. In many cases, firms’ owners (the shareholders) were wiped out and senior managers were replaced. Admittedly, in other cases (and especially cases where banks borrowed from the Federal Reserve), senior managers and stockholders remain whole, or nearly so.

How Costly Are Bailouts?

A person who receives his information primarily from news broadcasts might be forgiven for believing that “trillions of dollars” of taxpayer funds have been lost in bailouts. In fact, the assistance programs of the Federal Reserve and FDIC have earned significant profits, and the Treasury’s programs—except for those related directly to the housing markets—are projected to incur no more than small losses. Significant losses, as we discuss later, are confined to the federal housing government-sponsored enterprises (Fannie Mae and Freddie Mac) and to the efforts to assist individual mortgage holders threatened with foreclosure.

At their core, assistance programs are of value to firms (and the economy) because they buy risk (that is, bear risk) at prices that the free-market, during times of financial crisis, is unwilling to pay. (An assistance program that places no taxpayer funds at risk is useless to the economy.) Measured by the aggregate number of dollars initially set aside, Treasury, Federal Reserve and FDIC assistance programs risked nearly \$3 trillion. Federal Reserve short-term collateralized lending to banks comprised approximately half. The Treasury operated 13 programs of varying sizes, all funded by

the \$700 billion Troubled Asset Relief Program (TARP) funds authorized by Congress in late September 2008.

The Federal Reserve operated two broad categories of programs: lending to depository institutions and extraordinary lending to nondepository financial institutions. Fed lending to depository institutions was at market interest rates and fully collateralized. In a recent study, the Congressional Budget Office concluded that these programs provided no subsidy to banks because the interest rate was set in an open auction.² Some critics have argued that Fed lending “bailed out” imprudent banks, whose managers had over-invested in high-yielding but illiquid assets. It may be true for a few banks, but there is no evidence that it is true for many.

The FDIC initiated its principal program, the Temporary Liquidity Guarantee Program, on Oct. 14, 2008. One part of that program provided unlimited deposit insurance for certain noninterest-bearing accounts, usually held by businesses. Its intent was to calm fears that depositors might move deposits from smaller to larger banks (perceiving these as less likely to be allowed to fail) or might move deposits from banks into money market mutual funds after the regulators had provided de facto unlimited insurance to these funds. The second feature of the FDIC program was to allow banks that found debt markets inhospitable to roll maturing senior debt into new issues fully guaranteed by the FDIC.³

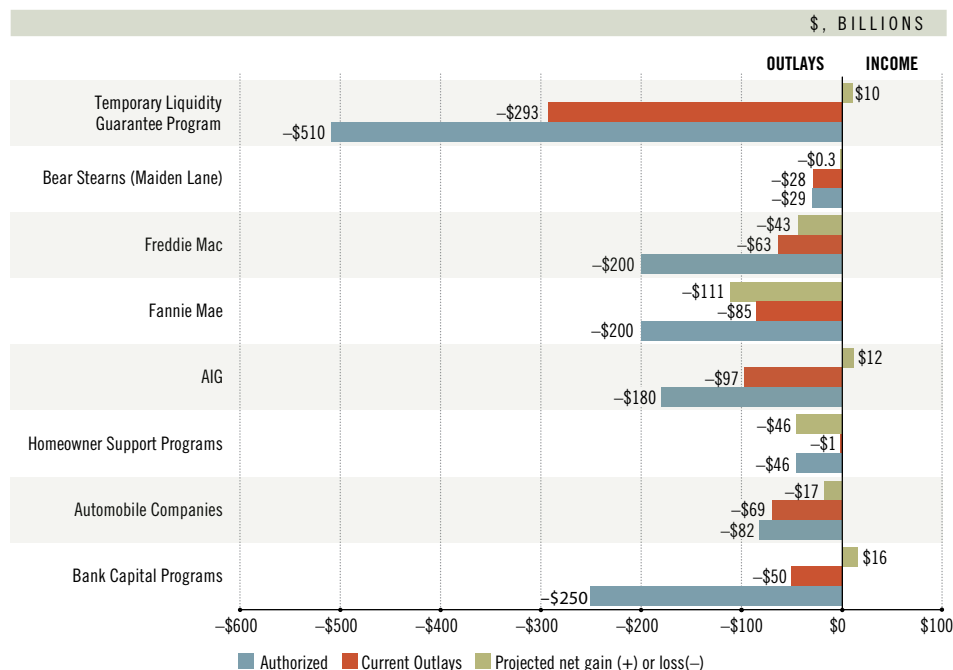
Figure 1 summarizes into eight categories the assistance programs of the Federal Reserve, Treasury and FDIC.⁴ For each category, the blue bar measures the total funds authorized, the red bar shows current outlays and the green bar shows the projected net gain (positive values) or loss (negative values). In most categories, the net outlay (taxpayer cost) is small relative to initial program size.

Assistance to Banks

Assistance to banks was in three parts. First, the Treasury advanced \$205 billion between October 2008 and December 2009 to 707 financial institutions in 48 states, in amounts ranging from \$300,000 to \$25 million, and at interest rates between 5 and 7.7 percent (increasing to 9 to 13.8 percent after five years). Each advance was secured by preferred stock or debt securities, plus

FIGURE 1

Outlays and Projected Gains or Losses on Selected Programs



NOTES AND SOURCES: Current outlays are cumulative outlays minus repayments, interest, fees and dividends. The values reported in the chart are from the following government reports: Temporary Liquidity Guarantee Program, Congressional Oversight Panel (2010, Figure 40); Bear Stearns (Maiden Lane), FRB H.4.1 Table 1; Freddie Mac/Fannie Mae, FHFA (2010, Figure 6); AIG, U.S. Treasury (2010b); Homeowner Support Programs, SIGTARP (2010, p. 49); Automobile Companies, SIGTARP (2010, Table 2.35) U.S. Treasury (2010a, Figure 2-B); Bank Capital Programs, U.S. Treasury (2010a, pp. 22-29).

warrants that permitted the Treasury to buy common shares. As of Sept. 30, 2010, three-quarters (\$152 billion) had been repaid, plus an additional \$21 billion had been received in dividends and interest and from the sale of warrants; \$3 billion had been written off due to failed companies.⁵

The second part of Treasury assistance came in January 2009, when the Treasury advanced \$20 billion each to Citibank and Bank of America. These loans were short-lived: Both were repaid in full by December 2009. (In addition, the Treasury received \$3 billion in interest.⁶)

In the third part, also in January 2009, the Treasury, Federal Reserve and FDIC jointly guaranteed losses on \$118 billion and \$301 billion of shaky assets held, respectively, by Bank of America and Citicorp. Again, the assistance was short-lived: Bank of America terminated the agreement six months later, paying the Treasury a \$425 million termination fee despite never having received any funds from the Treasury. Citicorp’s guarantee line remains open. At inception, to secure the guarantee, Citicorp paid the Treasury

\$7.1 billion in preferred stock (with an 8 percent dividend), plus warrants for 66.5 million common shares. Through Sept. 30, 2010, the Treasury had received \$440 million in stock dividends from Citicorp, despite Citicorp not requesting any funds from the Treasury, and the sale of the common shares is expected to bring a profit of \$12 billion.⁷

The Federal Reserve's largest lending program was the Term Auction Facility (TAF), which auctioned to banks each week the right to borrow funds from the Federal Reserve. All borrowing was fully collateralized, the Fed incurred no risk and suffered no losses, and there were no expenditures except administrative costs—hence, the TAF is not included in Figure 1. The TAF began December 2007 and ended April 2010.

Was assistance to AIG wise? Assistance shielded customers, including thousands of households and both large and small businesses (many U.S. taxpayers), from disruption and loss.

Perhaps the Fed's most controversial program was Maiden Lane I (ML I), created March 14, 2008, to assist the acquisition by J.P. Morgan Chase (JPMC) of the failed Bear Stearns and Co. Regulators believed that financial markets would be harmed grievously if Bear Stearns' primary businesses (collateral and market-clearing services, particularly for Far East customers) were unavailable on that Monday morning. Some \$30 billion of Bear Stearns' shakiest assets were placed into ML I, funded by a loan from the Federal Reserve Bank of New York. It was agreed that JPMC would absorb the first \$1 billion of losses on these assets, with the Fed absorbing the excess. Valued at market prices as of Nov. 17, the value of the assets is more than sufficient to repay 100 percent of its loan to the New York Fed and 94 percent to JPMC.

Assistance to Insurance Companies

The Treasury and the Federal Reserve assisted a number of insurance companies—most visibly AIG. Assistance to firms

other than AIG consisted largely of the Federal Reserve strengthening market confidence in the firms by approving their applications to become bank holding companies. For AIG, assistance began in September 2008 with a collateralized Federal Reserve loan of \$85 billion. On Nov. 25, 2008, the Treasury bought \$40 billion of newly issued AIG preferred stock, the proceeds used to repay a portion of the Federal Reserve loan. On April 17, 2009, the Treasury created a \$29.8 billion equity capital facility for AIG, of which the firm has drawn one-quarter. As of Sept. 30, 2010, the Treasury's assistance to AIG was \$69.8 billion. In exchange, Treasury held a 79 percent ownership stake and had announced its intention to increase its stake to 92 percent through a conversion of debt and preferred shares to common equity.

The Federal Reserve also assisted AIG during the autumn of 2008 via the creation of the special purpose firms Maiden Lane II and III. Using \$70 billion borrowed from the Federal Reserve Bank of New York, these firms strengthened AIG by buying certain shaky AIG liabilities. (ML II assumed the remainder of the September 2008 loan; ML III bought certain AIG liabilities in the open market.) As of November 2010, both Maiden Lane II and III showed *profits* on their investments due to increased market prices of the purchased assets.

Analysts differ widely regarding the Treasury's likely recovery of its assistance to AIG; how much is recovered depends on projections for AIG's earnings and stock price. If the Treasury sells eventually its common equity at the current market price of AIG common stock (approximately \$40 a share), the net loss might be as small as \$5 billion. More-pessimistic projections are a loss of \$25 billion.

Was assistance to AIG wise? Assistance shielded customers, including thousands of households and both large and small businesses (many U.S. taxpayers), from disruption and loss. Assuming the Treasury converts its debt to equity, AIG's extant shareholders will hold only 8 percent. Senior management has resigned. AIG's bondholders, however, certainly benefited from the firm's avoidance of bankruptcy.

Assistance to Fannie, Freddie

The Treasury's most expensive program to date is assistance to Fannie Mae and Freddie Mac, which were placed into conservatorship Sept. 7, 2008, after losses overwhelmed their small capital bases. The Treasury has injected capital by buying newly issued senior preferred stock. As of June 30, 2010, the Treasury had invested \$148 billion, roughly equal to the firms' losses.⁸ Recent best- and worst-case projections, respectively, are for *additional* Treasury purchases of between \$73 billion and \$215 billion, with a net loss to the Treasury through 2013 of between \$135 billion and \$259 billion.

Treasury's assistance did not bail out the firms' owners. Shareholders' \$36 billion in equity held at the time of conservatorship is now worthless; the primary losers are smaller commercial banks and retirement/pension funds. No losses were imposed, however, on holders of the firms' debt (\$1.8 billion) and guaranteed mortgage-backed securities (\$3.8 billion); these owners include households, state and local governments, banks, security brokers, insurance companies, and pension and mutual funds.

Assistance to the Auto Industry⁹

The Treasury assisted both General Motors and Chrysler during 2008. Critics of assistance argued that these firms were ill-managed and should cease operation. Supporters argued that up to 3 million jobs would be lost if the firms closed and that a decade might pass before these workers would become re-employed. For GM, the Treasury lent \$49.5 billion in exchange for \$6.7 billion in debt (now repaid), \$2.1 billion in preferred stock and a 61 percent common equity stake. For Chrysler, the Treasury lent \$12.5 billion and received a 9.9 percent common equity stake.

The Treasury also assisted auto-lending firms GMAC (now Ally Financial) and Chrysler Financial. The Treasury lent GMAC \$17.2 billion in exchange for a 56.3 percent common equity stake, \$2.7 billion in trust preferred securities and \$11.4 billion in preferred shares. The Treasury lent \$1.5 billion to Chrysler Financial, which

continued on Page 10

Recession **Could Have Been** Much Worse

Historical experience suggests that recessions associated with a financial crisis tend to be more severe and prolonged than other recessions.¹² Recoveries tend to be slow due to weak demand, tight credit conditions and sluggish growth in residential investment. When recessions around the world are highly synchronized, these problems are exacerbated.

According to the International Monetary Fund, both monetary and fiscal stimulus tend to shorten the duration of recessions, although the impact of “traditional” monetary policy (reductions in the fed funds rate) is insignificant. Historical case studies cannot give precise estimates of extraordinary measures taken to combat the recent financial crisis and recession. Economists can, however, use econometric techniques to obtain estimates of the impact of these programs. For example, economists Alan Blinder and Mark Zandi estimate that without any government intervention twice as many jobs (16 million versus 8 million) would have been lost during the recession and that real GDP would have declined for another year. Figure 2 plots Blinder and Zandi’s results for real GDP growth, the unemployment rate and consumer price inflation.

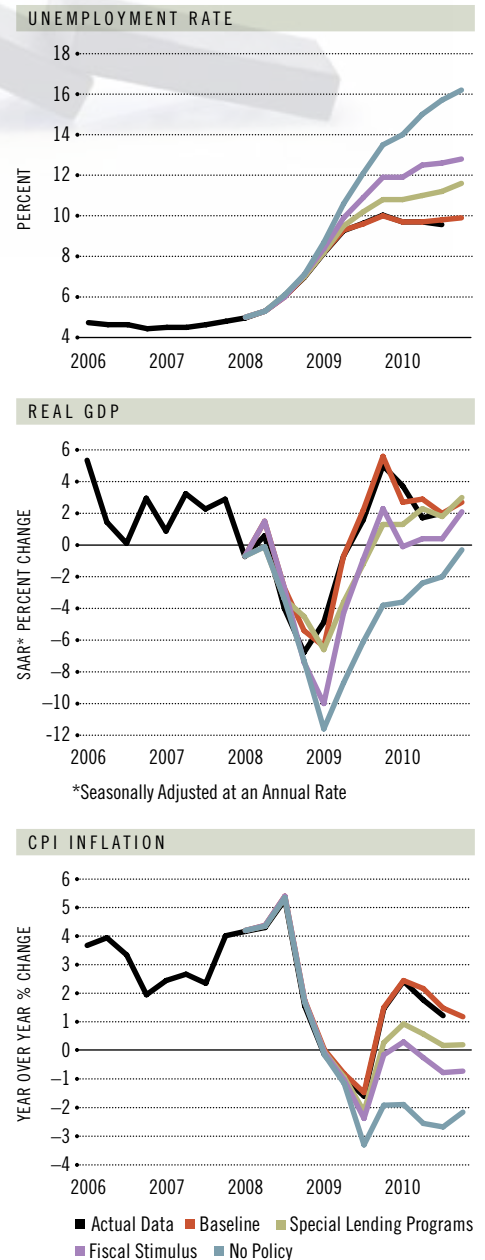
In each chart, the solid black line depicts the actual data, as reported by

the official sources (the Bureau of Economic Analysis and the Bureau of Labor Statistics). The red line is the baseline scenario from the model; this simulation is designed to reflect what actually occurred. The baseline scenario matches the trends in the actual data, verifying the model’s ability to simulate the real economy. The blue line in each chart depicts a scenario in which the government does nothing: no special lending programs focused on the financial markets, and no fiscal stimulus package. Under this scenario, real GDP growth remains negative through 2010, the unemployment rate tops 16 percent and the economy experiences prolonged deflation. The two other scenarios assume only one of the two government initiatives were taken: special lending programs and no stimulus (green line), or stimulus and no special lending programs (purple line).

The data in the charts indicate that the special lending programs had greater impact on the overall economy than the fiscal stimulus did. Blinder and Zandi note, however, that “the combined effects of the financial and fiscal policies exceed the sum [of the programs in isolation]” by reinforcing each other.¹³

FIGURE 2

Did the “Bailouts” Save the Economy? (ACTUAL AND MODEL SIMULATED DATA)



SOURCES: Bureau of Economic Analysis, Bureau of Labor Statistics, Blinder and Zandi (2010)

NOTE: Special lending programs include government programs not included in this article, such as the Federal Reserve’s purchase of government-sponsored enterprise (GSE) debt and mortgage-backed securities (MBS).

was fully repaid in July 2009.

The Treasury's assistance did not bail out the owners—all shareholders' equity in the old GM and Chrysler was extinguished in bankruptcy. Owners of bonds—individuals and institutions—also suffered losses in bankruptcy, averaging approximately 70 percent of their investments.

In total, the Treasury assisted the industry with \$81.7 billion, of which \$11.2 billion had been repaid and \$2.9 billion had been received in dividends, interest and fees as of Sept. 30. The Treasury recouped an additional \$14 billion from GM's public stock offering in November. The projected eventual loss on auto industry assistance is \$17 billion. Although a profit on GM is possible, this depends on the stock's price at the time of sale. The Treasury's break-even price, relative to the assistance provided, is roughly \$57 per share.

Assistance to Homeowners

Potentially the Treasury's second most expensive programs (after Fannie Mae and Freddie Mac) are the homeowner support programs, for which the Treasury has pledged \$45.6 billion to foreclosure mitigation.¹⁰ As of Sept. 30, 2010, some 207,000 permanent loan modifications had been completed at a cost of \$540 million. Although individual mortgage borrowers are the program's most visible beneficiaries, perhaps equally important are the holders of the related mortgage-backed securities: They risk losses as high as 70 percent if properties are foreclosed. Ironically, the largest single amount (more than \$7.5 billion) has been pledged to Countrywide Home Loans Servicing and to Bank of America, both previously large subprime lenders.¹¹ Because this program's funds assist borrowers to make permanent changes in their mortgages, the Treasury does not anticipate recovering the funds.

What Is the Bottom Line?

Both Federal Reserve and FDIC assistance programs have earned net profits. Small losses on some programs have been more than offset by earnings elsewhere, including Maiden Lane III and the interest received by the Fed on loans to banks. (We do not include Federal Reserve earnings beginning

March 2009 on its quantitative easing.)

The FDIC has received guarantee fees and increased insurance premiums on demand deposits, with minimal expenditures.

The Treasury anticipates small profits on some programs (see Figure 1), more than offset by losses on the government-sponsored enterprises (GSEs) and assistance to individual homeowners. Excluding housing-related programs, recent estimates are that the Treasury will likely recover 90 to 95 percent of assistance funds, the largest uncertainty being the sale price of its shares in GM and AIG.


Too Much or Too Little?

An evaluation of the role of government assistance must look beyond taxpayers' profits or losses. Large-scale assistance stirs debate regarding both moral hazard and the fundamental role of government, although at times, financial crisis seems forgotten. Disparate views are highlighted by U.S. Rep. Erik Paulsen, R-Minn., and former U.S. Sen. Robert Bennett, R-Utah. The first argued, "We would be much better-served if private institutions either fail or be successful on their own," while the senator argued, "[TARP] did save the world from a financial meltdown. ... Even if it did not all get paid back, it was still the [right] thing to do."

The ultimate judgment must come down to two factors:

1) Did the assistance prevent a 1930s-scale collapse (see sidebar on Page 9)? and

2) In complex financial markets, where taxpayers are employees, owners, customers and creditors of both firms and the GSEs, who is really being "bailed out"? Corporate "bailouts" benefited debt holders—for example, pension funds and 401(k)s; homeowner "bailouts" benefited investors who had bought risky mortgage-backed securities.

Although the jury is out on definitive answers to these questions, the consensus that emerges will determine the tools available to the government and Federal Reserve during the next financial crisis. 

Richard G. Anderson is an economist and Charles S. Gascon is the research support coordinator at the Federal Reserve Bank of St. Louis. See <http://research.stlouisfed.org/econ/anderson/> for more on Anderson's work.

ENDNOTES

- ¹ Bagehot often is misquoted as arguing the opposite. See Anderson.
- ² The exceptions are \$21 billion, primarily from the TALF program, that provided general support to auto, student and small-business loan securitization markets.
- ³ The two programs are the Transaction Account Guarantee Program and Debt Guarantee Program, respectively.
- ⁴ Due to changing economic conditions and the restructuring of existing programs, there is margin for error around these projections. Moreover, the complexities in each program have led to varying methodologies and different results. Details can be obtained from the publicly available reports cited.
- ⁵ This program is the Capital Purchase Program. See U.S. Treasury (2010a).
- ⁶ This program is the Targeted Investment Program. See U.S. Treasury (2010a).
- ⁷ This program is the Asset Guarantee Program. See U.S. Treasury (2010a).
- ⁸ This is the Senior Preferred Stock Purchase Agreement.
- ⁹ This is the Automotive Industry Financing Program, which includes the Auto Supplier Support Program and the Auto Warranty Commitment Program. See U.S. Treasury (2010a).
- ¹⁰ A number of separate initiatives lie under this banner, including the Home Affordable Modification Program, the Second-Lien Modification Program, the Home Affordable Foreclosure Alternatives, the Home Affordable Unemployment Program and the Principal Reduction Alternative program. See Office of the Special Inspector General.
- ¹¹ The predatory behavior of Countrywide Mortgage prior to June 2008 is well-documented. For example, on June 7, 2010, the Federal Trade Commission announced a \$108 million settlement with Countrywide with respect to excessive fees charged to struggling homeowners and mishandling of loan documents.
- ¹² See IMF.
- ¹³ See Blinder and Zandi.

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Forecasters Expect Solid Growth, Low Inflation in 2011

By Kevin L. Kliesen

The U.S. economy's recovery from the 2007-2009 recession is lethargic by historical standards. Job gains remain disappointingly weak, and most forecasters expect to see only a grudgingly slow decline in the unemployment rate over the next year or two. Moreover, many in the business and financial community have regularly cited uncertainty about the economic and political landscape as a reason for their reluctance to hire, invest and lend.

That said, business conditions are on the mend and economic activity is expanding at a modest pace. Eventually, uncertainty will ebb, paving the way for rising levels of employment and real incomes. This dynamic will be assisted importantly by the economy's natural recuperative forces, improvements in financial market conditions and an expansion of the global economy.

On balance, the U.S. economy should surpass its long-run growth rate sometime in 2011, with continued low and stable inflation. But there are risks. These include the possibility of spending cuts and higher taxes to reduce yawning budget deficits at the federal, state and local levels. In addition, because of the size of the Fed's balance sheet and rising commodity prices, there is an unusually large amount of disagreement among forecasters about the direction of inflation over the next few years.

Hurdles Become Lower

Construction remains the economy's soft spot. In a typical economic recovery, housing construction is a key driver of growth. Because of the housing bust and the large number of foreclosures, there is a sizable

inventory of houses for sale, limiting the need for new construction. This supply also helps put downward pressure on house prices. Recently, however, home sales and new housing starts have stabilized at a low level, which is the first step toward recovery.

Meanwhile, vacancy rates on commercial and industrial properties are quite high because there was also a boom and bust in commercial construction. There is, thus, no pressing need today for the speculative building in commercial real estate that typically occurs during a recovery.


Other aspects of the economy look markedly better. Consumer spending in the third quarter of 2010 advanced at about a 2.75 percent annual rate, and early indications suggest continued solid gains in the fourth quarter. Likewise, business spending on equipment and software was quite vibrant going into the end of 2010, providing a boost to the manufacturing sector. Business capital spending has been bolstered by continued solid growth in exports, healthy profits and a relatively low cost of capital.

Financial conditions have also improved significantly over the past year, according to the St. Louis Fed's financial stress index. Yields on long-term Treasury securities and mortgages are down appreciably from a year earlier, while stock prices have risen sharply. As yet, though, bank lending remains relatively weak. Part of the weakness in demand for consumer loans reflects a renewed preference among households for saving and debt retirement. Business lending remains weak, in part, because many nonfinancial firms remain flush with cash. Also, there appears to be a general unwillingness among

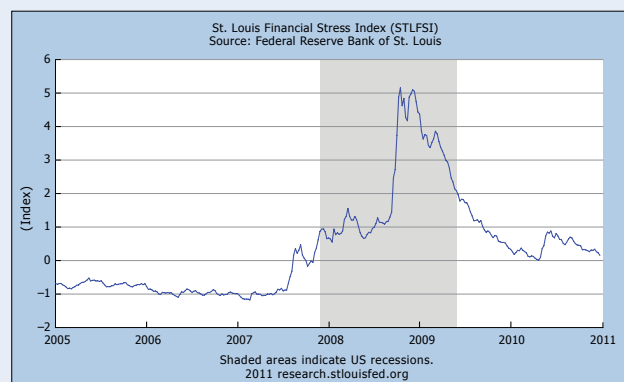
consumers and businesses to borrow aggressively in the face of a weak economy and lackluster employment growth.

Inflation Remains Tame

Inflation was on a downward track in 2010. For the 12 months ending in November 2010, the consumer price index (CPI) increased by about 1 percent; core CPI (excluding food and energy prices) increased by 0.7 percent. The pronounced slowing in the core inflation rate worries some Federal Reserve officials since it conjures up parallels with Japan's long bout with deflation. Accordingly, with the economy growing at a subpar rate, the Federal Open Market Committee announced Nov. 3 that it intends to buy up to \$600 billion of U.S. Treasury securities by June 30, 2011.

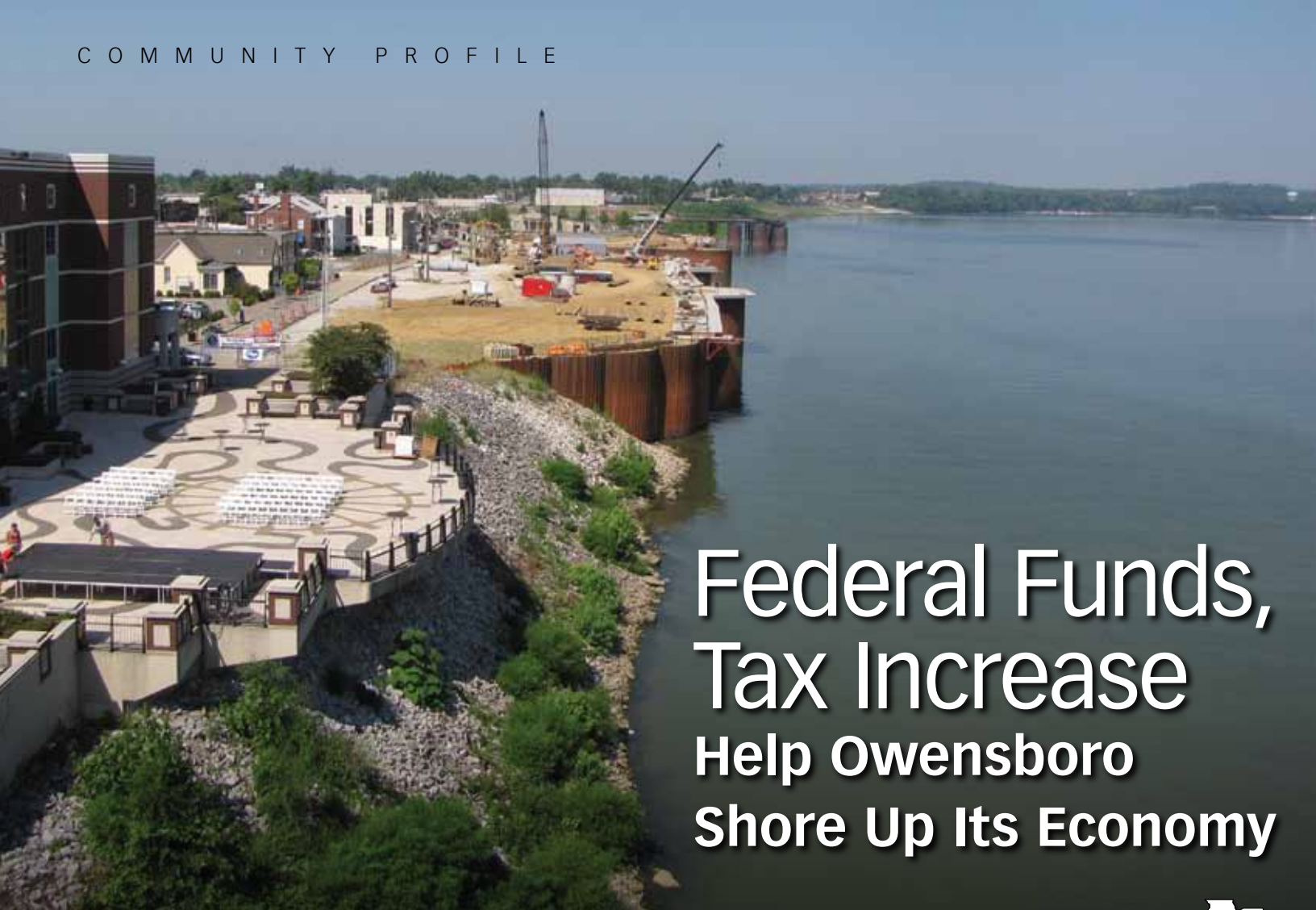
Most Fed officials believe that the potential growth-enhancing benefits of this decision outweigh the possibility of a rise in inflation and inflation expectations. In general, though, the consensus of most forecasters is that this new round of Treasury purchases will have, at best, only a modest effect on economic activity. The consensus of the forecasters is that CPI inflation will continue to be relatively low and stable (about 1.5 to 2 percent) this year. However, there is considerably more disagreement about the direction of inflation over the next 2-5 years. This is yet another layer of uncertainty that the U.S. economy must overcome. 

St. Louis Financial Stress Index



The St. Louis financial stress index, as of Dec. 24, 2010. Updates can be seen on the St. Louis Fed's FRED (Federal Reserve Economic Data) web site. See <http://research.stlouisfed.org/fred2/>

Kevin L. Kliesen is an economist at the Federal Reserve Bank of St. Louis. Go to <http://research.stlouisfed.org/econ/kliesen/> for more on his work.



Federal Funds, Tax Increase Help Owensboro Shore Up Its Economy

By Susan C. Thomson

For years, the Ohio River had been washing away the waterfront park in Owensboro, Ky., threatening to eventually submerge the downtown streets behind it. A \$40 million federal erosion-control project secured by U.S. Sen. Mitch McConnell, R-Ky., has stopped the destruction. A new steel containment wall has been sunk into the riverbed at the water's old edge. Tons of dirt have been hauled in and graded, restoring the wasted bank.

Inspired by the announcement in 2005 of the federal funds, civic leaders got serious about redeveloping the wider riverfront area, a subject of off-and-on discussion since World War II. In late 2008, a bold master plan for downtown was unveiled. Streets would be rerouted and a pedestrian-friendly plaza created, revitalizing dozens of blocks.

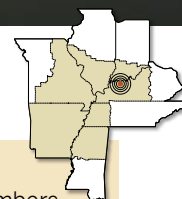
The park would be re-created with a plaza named for McConnell, plus fountains, play areas, a waterfall, a hotel and an indoor "events center."

With \$40 million in federal aid, the city put in a new retaining wall to halt erosion of downtown by the Ohio River. That project spurred redevelopment of much of downtown. PHOTO PROVIDED BY THE CITY OF OWENSBORO



Emblematic of the old economy is the now-shuttered Green River Steel Co. plant. It is being razed. PHOTO BY SUSAN C. THOMSON

The elected commissioners of the city and of Daviess County separately approved the plan in early 2009. They also raised taxes to ensure that it would be realized. A four-percentage-point increase in their assessments on premiums for all personal and business insurance other than health is projected to produce the needed \$79 million over 20 years.



Owensboro, Ky. by the numbers

Population	55,745*
Labor Force	28,003**
Unemployment Rate	9 percent**
Per Capita Personal Income.....	\$33,278***

* U.S. Bureau of the Census, estimate July 1, 2009

** BLS/HAVER, October 2010, seasonally adjusted

*** BEA/HAVER, 2008

TOP EMPLOYERS

Owensboro Medical Health System	3,200 †
Daviess County Public Schools	1,755 ††
U.S. Bank Home Mortgage	1,261 †
Owensboro Public Schools	778 ††
Specialty Food Group (meat processing).....	470 ††

† Self-reported

†† SOURCE: Greater Owensboro Economic Development Corp.

“This was a remarkable step forward, with the city and county governments, with their different constituencies, coming together for the common good of the community and overcoming the inertia of 65 years,” said Owensboro’s city manager, William Parrish.

Over those same years, the Owensboro economy has slowly shifted away from manufacturing. In 2001, Green River Steel Co., where hundreds once worked, closed a plant that is now being razed. General Electric Co., where 6,600 people made radio and television tubes in the mid-1960s, was down to 109 employees making motors when it closed in October. Now the economy is more mixed, consisting of “a little of several things,” said Jody Wassmer, president of the Greater Owensboro Chamber of Commerce. Among the mid-sized employers he cited are two natural-gas pipeline companies, a meat packer and makers of pasta sauce, auto parts and chewing tobacco.

Nicholas Brake, president of the Greater Owensboro Economic Development Corp., said the area has benefited from “a lot of success from the internal growth of existing companies.”

The Owensboro Medical Health System and U.S. Bank illustrate his point. Both are outgrowths of long-time local enterprises that have serendipitously evolved over the years into job-creating powerhouses.

In 2001, after 30 years of mergers and acquisitions, a one-time Owensboro start-up became U.S. Bank’s national mortgage-servicing center. By early 2010, it had run out of space for its burgeoning work force. The bank started planning for a new building, one that would accommodate an additional 500 workers. Owensboro was in competition for that building with unidentified larger cities in Kansas and Wisconsin.

Bob Smiley, executive vice president for the mortgage business, admits to rooting for Owensboro because of its “abundance of workers with the right work ethic.”

A combination of incentives, speedily arranged, won the day for Owensboro. In a package valued at \$1.7 million, the city offered to build an 81,000-square-foot building and lease it back to the bank for 20 years at below-market rates. The company also qualified for state tax credits worth up to \$4.5 million, depending on the exact number of jobs created. The building is under construction.



Across town, the Owensboro Medical Health System is building a \$385 million hospital, which it is financing itself. The system, the result of two local hospitals that combined in 1995, has grown into a regional enterprise serving 11 counties. In the process, it has taken on 1,200 more employees, including well-paid specialist physicians and other clinical professionals. The chief executive, Jeff Barber, estimated that the system will add 300 jobs before the new hospital opens in 2013 and then a “couple of hundred” new positions after that.

The new hospital will replace the system’s existing 360-bed one and provide space for it to operate its full complement of 447 licensed beds. The older building will stay open for, among other uses, outpatient diagnostic and lab services, cancer treatment and research, and degree-completion programs. The last are offered by the system in cooperation with the University of Louisville’s School of Nursing and the University of Kentucky’s College of Pharmacy.

In 2006, the health system bought the production facilities of then-bankrupt Large Scale Biology Corp. An offshoot of Owensboro’s once-thriving tobacco industry, the company developed a unique system using tobacco plants to make proteins for the production of vaccines and other drugs. The purchase was a move not just to secure technology of potential patient benefit but also “to bring employment and economic growth to the area,” Barber said.

The state of Kentucky, having identified biosciences as a key future industry, tapped its national tobacco settlement funds to lend the company half of the \$6.4 million purchase price.

The Owensboro Medical Health System is building a \$385 million hospital, which will have 447 beds, almost 100 more than in the current hospital.



At Kentucky BioProcessing, greenhouse manager Jennifer Poole harvests tobacco plants. The plants undergo an extensive process to purify and extract proteins for use in vaccines and other medicine.



A lab technician at Kentucky BioProcessing, Jill Atherton, prepares to test proteins.

PHOTOS BY CHARLES MAHLINGER



Not everything is new in downtown Owensboro. Many of the older buildings, some dating to the mid-19th century, have been renovated for second-level condos and street-level retail.



At Creme, a downtown coffee shop, Kelly Creed tends the counter. Creme is one of several properties developed by Larry and Rosemary Conder.

PHOTOS BY SUSAN C. THOMSON

Brake, the economic development official, forecasts that the company will position Owensboro to eventually become “a really key player in the emerging plant-made pharmaceutical industry as it develops, one of the centers in the world.”

Now called Kentucky BioProcessing, the company has signed a collaboration agreement with German pharmaceutical giant Bayer Innovation GmbH and received a \$17.9 million contract from the U.S. Department of Defense. In less than five years, it has grown from six employees to 32 and become profitable, said the chairman, Hugh Haydon.

In 2010, the company built a second, 55,000-square-foot building, increasing its plant-growing space more than tenfold and adding to the stunning amount of construction activity around town.

By Brake’s calculation, \$500 million worth of work is still under way and likely to generate 9,000 jobs over the next three to five years. That money includes \$37 million for the last 2.2-mile stretch of the four-lane U.S. Highway 60 bypass under way on the eastern edge of town. Financing is equal parts state and federal stimulus funds.

Gradually, the downtown master plan is being executed, with some tweaking. As an add-on, planners have conceived an international bluegrass museum and performance center. It would be housed in a vacant state office building, replacing a smaller museum. The new place would further capitalize on Kentucky’s musical heritage and Owensboro’s annual bluegrass festival.

Meanwhile, the master plan’s most expensive feature, the events center, has entered the design phase. In October, a Louisiana architectural firm was chosen, from among 26 bidders, to design the \$27 million project, which will have flexible spaces that can be used for everything from meetings to concerts to sporting events. The center is projected to open in 2013, as is a 150-bed Hampton Inn & Suites that a local developer has signed on to build next door. As specified in the master plan, the hotel will be built with private funds.

All along, one of the plan’s goals has been to leverage the public money involved to spur private investment, some of which had already begun to happen. In 2006, for

instance, husband-and-wife entrepreneurs Larry and Rosemary Conder began buying and fixing up downtown buildings, the oldest dating to the mid-19th century. The couple’s properties now include a gift shop, a coffee house and a row of four buildings renovated into second-floor condos and street-level retail space, all of it rented.

Among the ground-floor tenants is Gambirinus Libation Emporium, an upscale bar run by the Conders’ daughter and son-in-law, Adrienne and John Condray.

“Owensboro is fortunate to have city and county leaders that recognized the value of our historic core and riverfront” and were willing to risk their political careers for it, Rosemary Conder said.


The master plan raised doubts; the tax increase roused opposition.

But “after you saw initial success, people stopped listening to the naysayers,” said Michael Beckwith, chief financial officer of homegrown First Security Bank.

The bank is another Owensboro success story. After growing through acquisitions, it had run out of space in its downtown headquarters. Among possible solutions, it considered moving the operation to Evansville, Ind.

The bank’s ultimate decision was to spend \$4.5 million to buy and renovate much of a square block of downtown, including a building there that will be its new home. At 28,000 square feet, it will be twice the size of the current one just across the street and allow the bank to double its existing corporate staff of 25.

The deal, announced in September, was sealed by the state’s promise of \$250,000 in payroll tax credits for the 25 new jobs.

The chance to stay in the emerging new downtown iced the cake. “We thought it was important to be part of that,” Beckwith said. 

Susan C. Thomson is a freelancer.

Teacher Workshops Chip Away at Economic Illiteracy

By William Bosshardt, Paul Grimes and Mary Suiter

Numerous studies reveal that most Americans do not have a strong understanding of basic economic concepts and financial principles. The results of a 2010 survey indicate that fewer than 44 percent of adults can identify the Federal Reserve System as the institution responsible for the nation's monetary policy.¹

The potential costs of economic illiteracy in a market economy are great. For example, the recent financial crisis and ensuing recession are replete with stories of household and business decision-makers who did not fully understand how changing market forces would impact the agreements and contracts that they signed. A poor understanding of the marketplace results in poor choices, which, in turn, lead to poor outcomes not only for individuals but for society in general.

Members of the Federal Reserve's Board of Governors recognize the importance of an economic and financially literate citizenry, and each of the 12 regional Federal Reserve banks provides public outreach programs in economics and personal finance. The president of the Federal Reserve Bank of St. Louis, James Bullard, has pointed out, "Many people think economics is too complicated. But everyone lives with the consequences of supply and demand every day. We live in a market system, and people need to understand how the system works."²

Although each regional Federal Reserve bank offers economic education programming, the programs are different. The Federal Reserve banks of St. Louis and Atlanta have a similar focus, one in which teacher workshops are an important strategy. The two banks found that the resources they invest in these workshops yield results many times over.

Teachers who participate in professional development workshops reach students not only during the year in which the teachers attend a workshop, but they continue to reach additional students each subsequent year of their teaching career. The benefits, obviously, roll down to the students. Many research studies provide evidence that professional development for K-12 teachers increases

(all but Rhode Island) and the District of Columbia include economics as part of their public schools' curriculum but that only 40 states require local school districts to implement specific standards.⁵ In the Eighth District, Missouri and Illinois have a high school personal finance requirement, but no economics requirement. Tennessee has both a high school personal finance requirement



La Royce Gaines, a teacher at Sumner High School in St. Louis, participated in an economic education workshop for teachers at the Federal Reserve Bank of St. Louis.

FIGURE 1

Eighth District States' Economics and Personal Finance Requirements

	High School Economics Requirement	High School Personal Finance Requirement	K-8 Economics Standards in Social Studies	Social Studies Testing
Arkansas	Yes, Combined with Personal Finance	No	Yes	No
Illinois	No	Yes	Yes	No
Indiana	Yes	No	Yes	No
Kentucky	No	No	Yes	No
Mississippi	Yes	No	No	No
Missouri	No	Yes	Yes	No
Tennessee	Yes	Yes	Yes	No

student knowledge of economics and personal finance.³ For example, results from a 2006 study show that high school students whose teachers participated in economic education training programs and workshops scored better on required state assessments in economics.⁴

Because of the emphasis on these workshops by the St. Louis and Atlanta Feds, it made sense for the two banks to partner in an assessment of their programs.

Standards and Instruments

In a 2009 survey, the Council for Economic Education reported that 49 states

and an economics requirement. Mississippi and Indiana have a high school requirement for economics but not personal finance. Arkansas recently instituted a high school requirement for a semester of economics and personal finance combined. Kentucky does not have an economics or a personal finance requirement. Although these seven states have standards for infusion of economics content in the lower grades, this effort is part of social studies, and social studies is no longer tested by the states. Furthermore, most states, including those in the Eighth District, lack strong teacher training requirements for economics and personal finance. A typical



Mary Suiter, manager of economic education at the Federal Reserve Bank of St. Louis, leads a discussion on the Great Depression at a workshop for history teachers held at the Bank in 2009.

FIGURE 2

Mean Pre- and Post-Test Scores for Teachers Attending Federal Reserve Workshops

	Prescore	Postscore	Percent Who Taught Economics	Number of Observations
Teachers with No Prior Workshops	9.24 (3.53)	11.94 (3.55)	46	85
Teachers with Prior Non-Federal Reserve Workshop	10.40 (3.62)	13.23 (3.16)	72	47
Teachers with Prior Federal Reserve Workshop	12.43 (4.45)	14.01 (3.86)	80	84

NOTE: Prior workshops refer to workshops in economics or personal finance in the past three years. () - standard deviation
SOURCE: Authors' calculations.

high school teacher in the St. Louis and Atlanta districts completed only two courses in economics while in college. Thus, there is a need for teacher training and professional development that is not being fully met.

Given the importance of teacher workshops, the St. Louis and Atlanta banks recently undertook a comprehensive assessment of these outreach programs. This project examined 65 workshops across the two districts. Participating teachers completed a pre-workshop survey, a post-workshop evaluation form and a web-based follow-up survey, which was sent several weeks after their training. For some workshops, teachers were pre- and post-tested, using assessment instruments specifically developed for this project.

First, the two banks identified the content that was considered essential for meeting the Board of Governors' charge of delivering

Reserve System and personal finance. (These standards can be viewed at www.frbatlanta.org/edresources/assessment/) For general economics, the decision was made to use the *National Voluntary Standards in Economics*, as published by the Council for Economic Education. Two assessment instruments were then developed based on these standards: the Federal Reserve Education Test (FRET) and the Personal Finance Test (PFT). These were used to test teacher knowledge gains as a result of participation in the Fed workshops.

The pre-workshop survey included questions about the teachers' professional experiences and prior interactions with the Fed. The post-workshop survey contained a variety of evaluation items about the teachers' workshop experience; it also collected information about current teaching schedules and plans to use the information presented during the workshop. Finally, the follow-up survey, sent approximately four to six weeks after the workshop, was used to determine if teachers used the knowledge and materials received at the workshop in their classrooms.

Results

Participants from eight one-day teacher workshops on the Federal Reserve System were pre- and post-tested using the 20-question FRET. Each of these workshops was taught by Federal Reserve education outreach specialists and followed roughly the same outline. Figure 2 reports the results for the 216 teachers who took both the pre-test and post-test and provided background information on their prior workshop

A typical high school teacher in the St. Louis and Atlanta districts completed only two courses in economics while in college. Thus, there is a need for teacher training and professional development that is not being fully met.

educational outreach programs in economics and personal finance. A work group composed of research economists, economic educators, other Fed staff and a consulting team that was hired to oversee the assessment project identified three basic areas into which most of the banks' workshops could be categorized: 1) the Federal Reserve System, 2) personal finance and 3) general economics. Content standards were developed in two of these areas—the Federal

experience. The teachers were asked if they had participated in workshops on economics or personal finance during the previous three years. In addition, they were asked about prior attendance at workshops, on any topic, produced by the Fed.

The table clearly reveals that all teacher groups increased their knowledge of the Fed as a result of workshop participation. For teachers with no prior workshop experience, the increase was 2.70 points, which was close to the increase of 2.83 points for teachers who had not participated in a previous Federal Reserve workshop but who had been to other professional development workshops. For those teachers who had attended a previous Federal Reserve workshop, the increase was 1.58 points or nearly 13 percent over their pre-test mean. All of these gains are statistically significant.


Figure 2 also indicates that teachers benefit from attending multiple workshops over time. Teachers with no prior workshop experience scored 9.24 points on the pre-test and left their first workshop with a post-score of 11.94 points. A teacher returning after a prior workshop given by the Federal Reserve comes in with a pre-score of 12.43, which increases further to 14.01. Since a score of 15 points on the FRET is considered to be the level required for mastery of the material, two workshops seem to go a long way toward meeting that goal.

Of course, the data inherently reflect a self-selection process. Economics teachers, who possess relatively more knowledge about the Fed, are more likely to attend a Fed workshop. Teachers who voluntarily choose to attend a workshop are also more likely to make that choice again. It should be noted that while teachers with no prior workshop experience of any kind were generally not economics teachers, the two subgroups (prior non-Fed workshop versus a prior Fed workshop) of the teachers who had been to a prior workshop contained approximately the same (high) proportion of economics teachers. When comparing teachers with previous Fed workshop experience to those who had been to prior non-Fed workshops, the experienced group scored significantly higher on the FRET. Taken together, the results imply that the Fed workshops increase teacher learning about the Fed and that this learning

compounds over time through participation in additional workshops.

Although the testing revealed that teachers learn as a result of workshop participation, the extent to which they actually use that learning—and the curriculum material received at the workshops—in their classes is another question. The evaluation conducted after all Fed workshops asked teachers if they thought they would use their learning in the classroom. Overall, 83 percent indicated a specific course in which they planned to use the information learned. On average, teachers reported reaching about 80 students in the courses in which they planned to use the materials. With an average teacher attendance of about 25, each Fed workshop had an immediate impact on roughly 2,000 students. The follow-up survey sent to teachers asked them if they had indeed used their new knowledge in their classes. Overall, 73 percent of the respondents to the follow-up said they had.

Beyond Workshops

Teacher workshops are only one part of the Fed's educational outreach portfolio of activities. The St. Louis and Atlanta Feds also produce and distribute lesson plans and curriculum materials for K-12 teachers, conduct presentations and seminars at professional education conferences, publish newsletters for educators and produce various programs for specially targeted groups, such as college professors. The St. Louis Fed has recently expanded its educational outreach through online lessons that can be directly accessed by high school students, as well as the general public. (See www.stlouisfed.org/education_resources/online_learning.cfm) 

William Bosshardt is associate professor of economics and director of the Center for Economic Education at Florida Atlanta University. Paul Grimes is associate dean, professor of economics, and director of the Center for Economic Education at Mississippi State University. Mary Suiter is the manager of the Economic Education department at the Federal Reserve Bank of St. Louis.

ENDNOTES

- ¹ See Grimes et al.
- ² See Bullard.
- ³ See Allgood and Walstad; Buckles, et al.; and Sosin et al.
- ⁴ See Swinton et al.
- ⁵ See Council for Economic Education, 2009.

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Mortgage Delinquency Rates in District Are Not As Bad As National Average



By Subhayu Bandyopadhyay and Lowell R. Ricketts

The mortgage crisis has been milder in the Eighth District than in the nation. As shown in Figure 1, the nation's serious delinquency (SD) rate surpassed that of the District in October 2008. The SD rate is defined as the sum of mortgages with payments over 90 days delinquent and of mortgages in the process of foreclosure, divided by the total number of mortgages serviced.¹ The SD rate peaked at 8.2 percent for the nation during February 2010 and 6.5 percent for the District in January 2010.

These respective levels are about four times the average rate (2.1 percent) for the nation and close to 2.5 times the average (2.7 percent) for the District over the three years leading up to the start of the recession.

SD rates began to decrease for the nation in March 2010 and for the District in February 2010. Since then, that trend has remained steady, despite leveling off in August and July 2010 for the nation and District, respectively. While the trend reversal is an important first step on the road to recovery, SD rates are still hovering at 7.2 percent and 5.4 percent for the nation and District, respectively. These rates amount to 3.5 and two times the prerecession averages for the nation and District, respectively.

Within the District, there is significant variation of SD rates across geographic areas. The maps in Figure 2 show a county breakdown of SD rates for the portions of each state within the District. Clearly, Arkansas and Missouri are doing much better than the District portion of Mississippi, Illinois, Indiana, Kentucky and Tennessee. For example, Cleburne County, Ark. (1.8 percent SD rate, 6.4 percent unemployment), Osage County, Mo. (1.9 percent SD rate, 6.2 percent unemployment) and Schuyler County, Mo. (1.6 percent SD rate, 7.5 percent unemployment)

were doing very well relative to the District as of September 2010.

Some of the counties that were the worst off, as of September 2010, are Holmes County, Miss. (16.8 percent SD rate, 17.4 percent unemployment), Winston County, Miss. (13.5 percent SD rate, 16.8 percent unemployment) and Noxubee County, Miss. (10.6 percent SD rate, 19.9 percent unemployment). Interestingly, the 2008 map shows that northern Mississippi, western Tennessee and southern Indiana had relatively higher SD rates even before the recession began.

A comparison between the 2009 and 2010 maps reveals that, while the SD rates have improved overall, the improvement has not been uniform across counties. For example, Monroe County, Ark., saw its SD rate increase from 3.4 percent in 2009 to 7.4 percent in 2010, while the SD rate for Clay County, Ill., jumped from 5.1 percent to 8.7 percent in the same time period.

Factors Affecting SD Rate

One important question that is relevant to policymakers is what factors contribute to the SD rate. The academic literature suggests that homeowner equity plays an important role in determining mortgage default rates.² One widely used measure of homeowner equity is

the loan-to-value (LTV) ratio, which is defined as the total mortgage amount divided by the appraised value of the property.

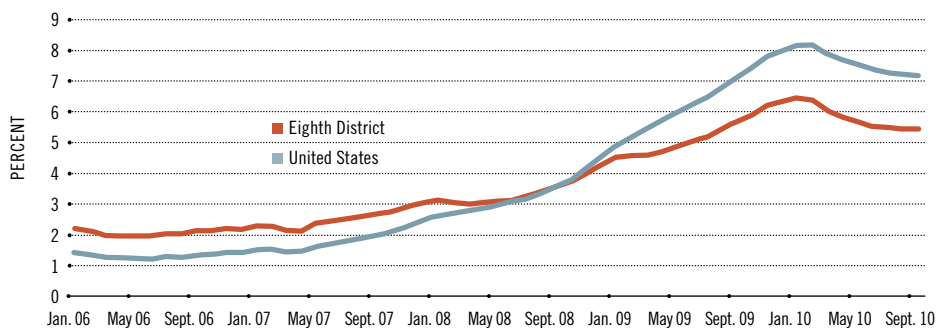
As the LTV ratio increases, borrowers might default on their mortgage for a number of reasons. For example, borrowers may have difficulty refinancing their mortgage or they may choose to default when the costs associated with defaulting plus the estimated value of the home are less than the mortgage amount. The mortgage crisis has been characterized by an 11.2 percent decline in national house prices from their peak in the first quarter of 2007. This decline translates to a considerably lower denominator in the LTV ratio, thus, increasing the probability of borrower default.

Fortunately, the District has fared better than the nation in the mortgage crisis, in part because the housing bubble was not as severe in the District from 2003-2006. Specifically, house prices in the District have declined by only 2.2 percent from their peak in the first quarter of 2008.³ This could be a factor that is contributing to the difference between aggregate SD rates for the nation and the District.

It is also reasonable to question whether macroeconomic effects, such as the unemployment situation, have a major impact on the SD rate. Without a steady income, homeowners find it increasingly difficult to make mortgage

FIGURE 1

Serious Delinquency Rate for U.S. and Eighth District

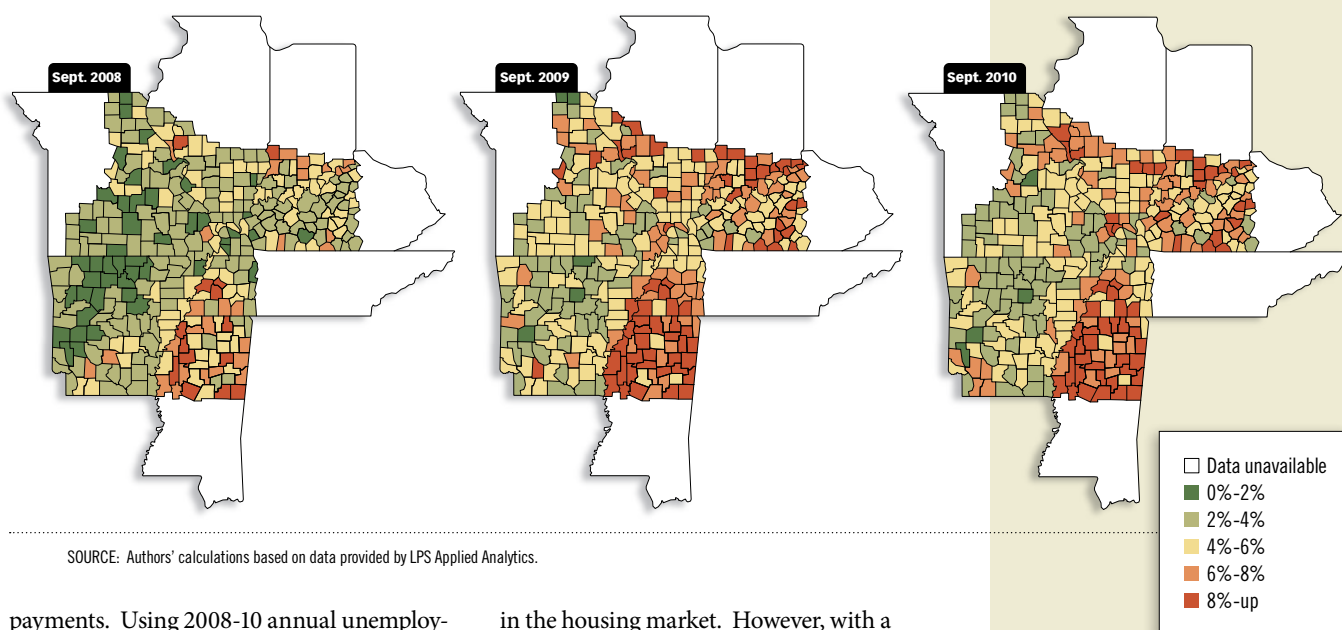


SOURCE: Authors' calculations based on data provided by LPS Applied Analytics.

NOTE: Aggregate rate for the Eighth District is calculated from the average of each county within the District's boundaries. The serious delinquency (SD) rate is equal to the sum of mortgages with payments over 90 days delinquent and mortgages in the process of foreclosure divided by the total number of mortgages serviced. Both figures include data for both prime and subprime first mortgages.

FIGURE 2

Serious Delinquency Rate by County



SOURCE: Authors' calculations based on data provided by LPS Applied Analytics.

payments. Using 2008-10 annual unemployment rate data for counties within the District (as found in the St. Louis Fed's GeoFRED database), we find a positive correlation between the unemployment rate and SD rate. However, when we analyze the year-over-year changes in the two rates for 2009-10 and 2008-09, we find that there is little correlation between the changes in these rates. These findings suggest careful econometric analysis is necessary before we can come to any definitive conclusion on the role that unemployment may play in affecting the SD rate in the District.

Will Recovery Continue?

Overall, the distribution of SD rates in the District shows signs of a nascent recovery

in the housing market. However, with a slowdown of the downward movement in SD rates for the District and the nation as a whole, there is cause for concern. Furthermore, the signs of recovery are not applicable to all locales; several counties in the District are experiencing increasing SD rates, while others have had relatively little change. Therefore, a sustained recovery in the District's housing market is, to borrow a parlance from politics, too close to call. ¹

Subhayu Bandyopadhyay is an economist and Lowell R. Ricketts is a research analyst, both at the Federal Reserve Bank of St. Louis. Go to <http://research.stlouisfed.org/econ/bandyopadhyay> for more on Bandyopadhyay's work.

ENDNOTES

- ¹ Figures are for both prime and subprime loans.
- ² See Krainer and LeRoy.
- ³ Based on the average of the quarterly Federal Housing Finance Agency (FHFA) house price index for all metropolitan statistical areas located entirely within the District.

REFERENCES

Krainer, John; and LeRoy, Stephen. "Underwater Mortgages." Federal Reserve Bank of San Francisco *Economic Letter*, Oct. 18, 2010, No. 31.

Have the Trends in Housing Bottomed Out?



PHOTO © LANCE IVERSEN/SAN FRANCISCO CHRONICLE/CORBIS

By Bryan Noeth and Rajdeep Sengupta

The housing market has been a drag on the economy since the real estate bubble burst a few years ago. As news continues to emerge from the housing market, it is important to look at the overall trends of different aspects of the U.S. market since the downturn.

Higher delinquencies and foreclosures have been a consistent feature of the mortgage market since 2005. Figure 1 shows the increasing foreclosure rates for the past two years. As of October 2010, the foreclosure rate stood at about 3.3 percent. In contrast, the percentage of mortgages in *serious delinquency* peaked in early 2010 and has been on the decline since, dropping to about 4.1 percent in October.

Of the total housing stock, roughly 18.77 million units—or 14.4 percent of the total—were vacant in the third quarter of 2010. These levels are down from the second quarter of the year, although relatively elevated compared with the vacancy rate of less than 13 percent in 2005.

(We define a mortgage as seriously delinquent if payments have been past due for over 90 days but the mortgage has not been foreclosed upon.) A decline in serious delinquencies would imply that foreclosure rates in the near future are likely to fall, absent any surge in new delinquencies. Of course, there is little doubt that these rates are significantly higher than normal and that mortgage markets in the U.S. are still under significant stress. To put things in perspective, seriously delinquent rates and foreclosure rates averaged 0.84 percent and 0.46 percent over the first half of the decade, respectively.

Another Sign of Hope

On a brighter note, inventories of vacant homes have begun to come down after increasing consistently over the past few years (Figure 2). According to the Census Bureau, the total number of housing units increased to 130.68 million in the third quarter of the year. Although the levels of housing units are always increasing, the upward trend has been dampened since the crisis. Of the total housing stock, roughly 18.77 million units—or 14.4 percent of the total—were vacant in the third quarter of 2010. These levels are down from the second quarter of the year, although relatively elevated compared with the vacancy rate of less than 13 percent in 2005. Naturally, the

increase in foreclosures has contributed to the high percentage of vacant homes.

At the same time, there has been a sharp decline in the demand for housing. Housing starts have been decreasing slightly over the past few months, although the overall trend has not seen a significant change since starts bottomed out in January 2009 at a bit less than 500,000 a month. (See Figure 3.) This October, there were 519,000 housing starts, about 69,000 fewer than in September.

The decrease in housing demand is best viewed in terms of loan application indices compiled by the Mortgage Bankers

Association.¹ Loan applications for purchases in recent years have remained significantly low and substantially below loan applications for refinances. Refinances typically occur in booms, usually at times of low rates (because households seek to reduce obligations by switching to a lower mortgage rate) or at times of high price appreciation (because homeowners tend to cash out the equity appreciation). As shown in Figure 4, applications for refinances have increased with decreases in the conventional mortgage rate.² There have been two refinance booms since mid-2008. The first occurred with a drop in the mortgage rates around the end of 2008 and the beginning of 2009. The second occurred with another drop in the mortgage rates around the second half of 2010. In early December, the conventional mortgage rate was roughly 4.46 percent, which was up from the low of 4.17 percent in mid-November.

Another summary indicator of the housing market is the home prices themselves. Figure 5 shows the Federal Housing Finance Agency house price index and the Case-Shiller Home Price Composite 20 index. In September, housing prices decreased between 0.68 percent and 0.80 percent, depending on the index. These indices are significantly down from their peak.

More recently, the mortgage market showed some signs of recovery. The National Association of Realtors Index tracks home contracts that have been signed but not closed. The index gained 10.4 percent in October, suggesting a jump in overall existing home sales at least for November.

continued on Page 22

FIGURE 1

U.S. Delinquency and Foreclosure Rates

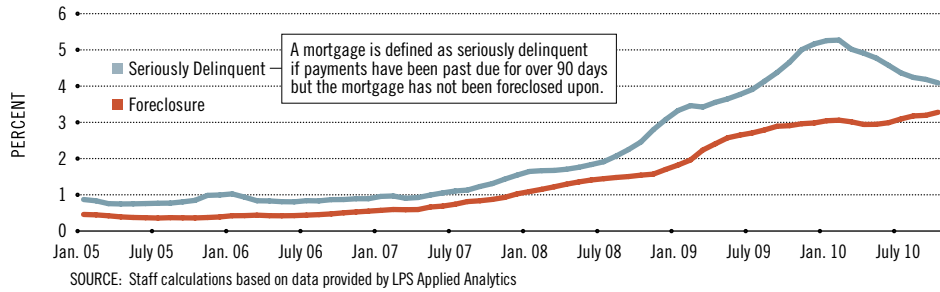


FIGURE 2

Percentage of Vacant Homes in U.S.

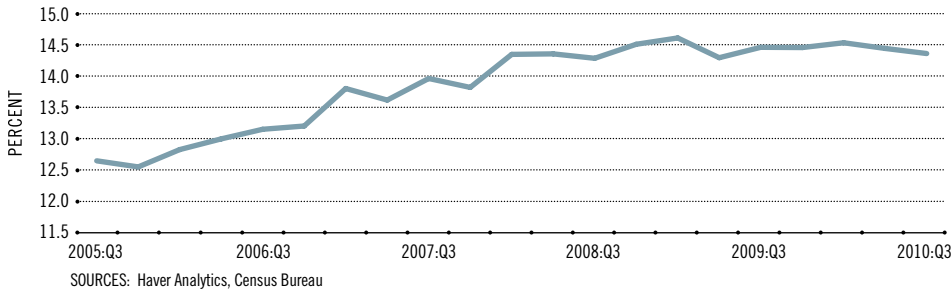


FIGURE 3

U.S. Housing Starts

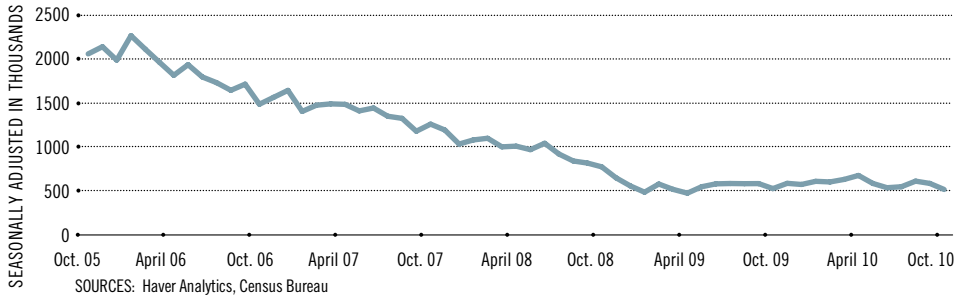


FIGURE 4

U.S. Mortgage Applications, Mortgage Rates

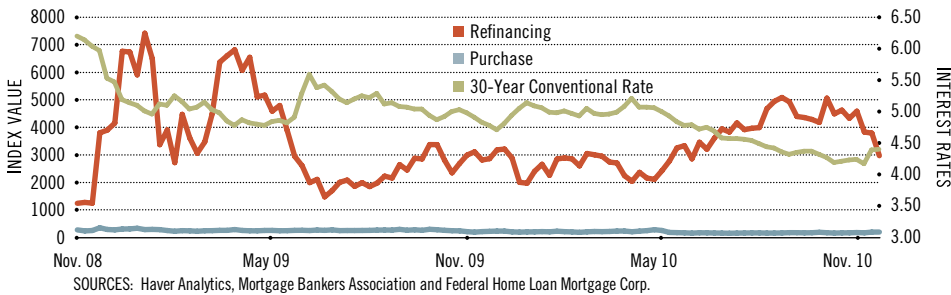
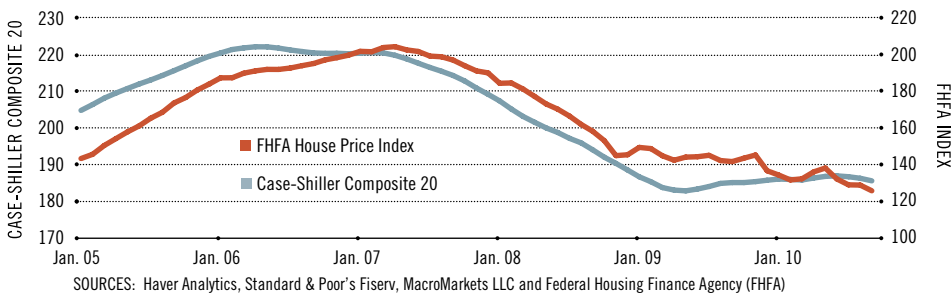


FIGURE 5

U.S. House Price Indices



ENDNOTES

- ¹ For details on the creation of the index, see Frumkin.
- ² The mortgage rate given here is for a 30-year, fixed-rate, prime, conventional, conforming mortgage. For details, see www.freddiemac.com/pmms/abtpmms.htm
- ³ See Elul et al.

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- Elul, Ronel; Souleles, Nicholas S.; Chomsisengphet, Souphala; Glennon, Dennis; and Hunt, Robert M. "What 'Triggers' Mortgage Default?" Working Paper No. 10-13, Federal Reserve Bank of Philadelphia, April 1, 2010. See <http://ssrn.com/abstract=1596707>
- Frumkin, Norman. *Guide to Economic Indicators*. Fourth edition. London: M. E. Sharpe, 2006, pp. 182-84.

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The Role of the Overall Economy

Needless to say, the future path of house prices will depend not only on the trends in housing but also the condition of the overall economy, including the unemployment rate. As of November, the national unemployment rate stood at 9.8 percent with continuing insipid growth in the economy overall. If the unemployment rate continues to increase and the economy suffers further job losses, higher default rates on mortgages could occur, leading to lower prices. A fall in house prices could imply that more mortgages are underwater—that is, the amount homeowners owe on their mortgages exceeds the current market price of their homes. As recent research has shown, this could lead, in turn, to further defaults, exacerbating the stress in mortgage markets.³

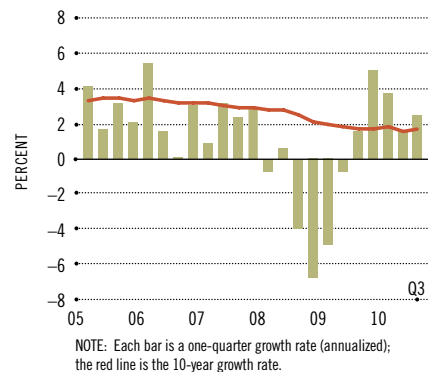
Expectations of economic conditions and future house prices also play a significant role, as do interest rates. If prospective buyers expect home prices to decline, they are more likely to postpone purchasing a home in favor of renting. Also, if long-term rates rise, the recent slide in mortgage rates could reverse; such a move, in turn, would dampen mortgage demand.

Weaker job growth and higher mortgage rates are unlikely to spur demand for housing. Until people feel the economy's prospects are definitely getting better, they will remain less likely to buy a home. **Q**

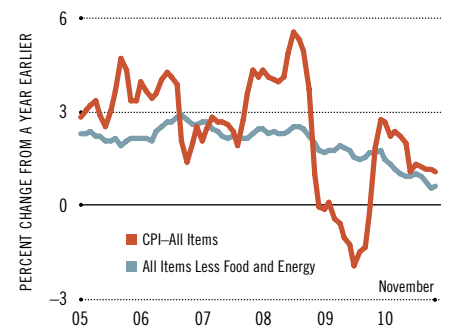
Rajdeep Sengupta is an economist and Bryan Noeth is a research analyst, both at the Federal Reserve Bank of St. Louis. For more on Sengupta's work, go to <http://research.stlouisfed.org/econ/sengupta/>

Eleven more charts are available on the web version of this issue. Among the areas they cover are agriculture, commercial banking, housing permits, income and jobs. Much of the data is specific to the Eighth District. To go directly to these charts, use this URL: www.stlouisfed.org/publications/pub_assets/pdf/re/2011/a/1-11data.pdf

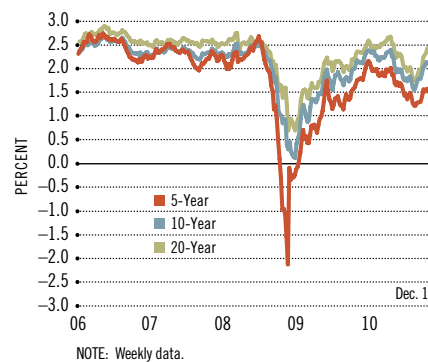
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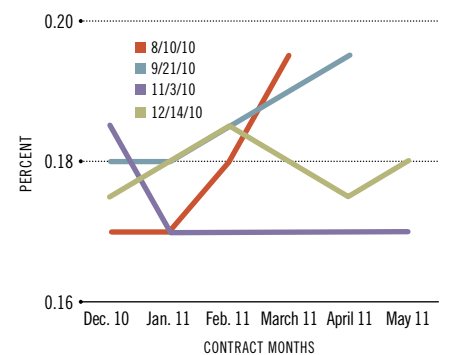
CONSUMER PRICE INDEX



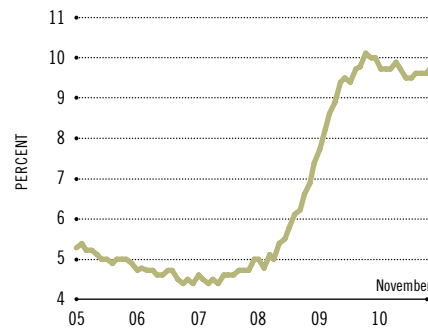
INFLATION-INDEXED TREASURY YIELD SPREADS



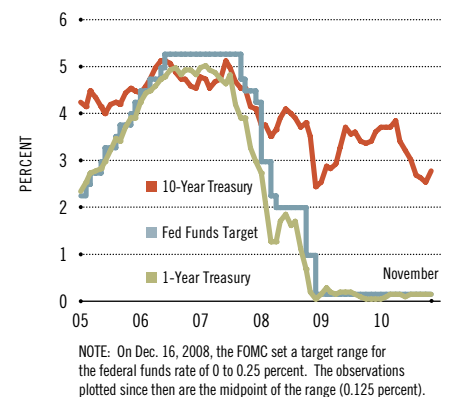
RATES ON FEDERAL FUNDS FUTURES ON SELECTED DATES



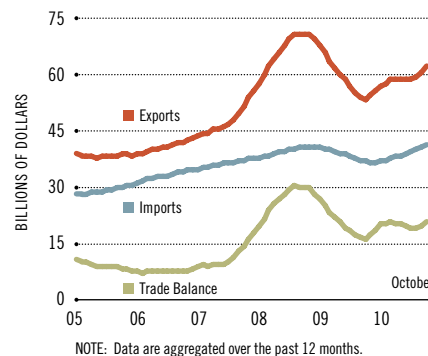
CIVILIAN UNEMPLOYMENT RATE



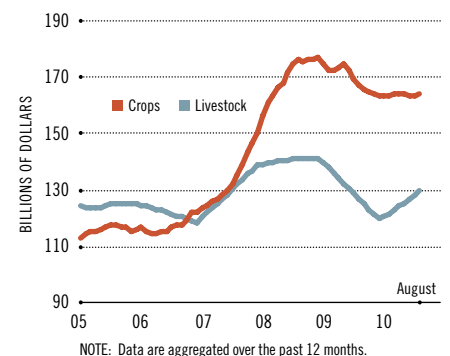
INTEREST RATES



U.S. AGRICULTURAL TRADE



FARMING CASH RECEIPTS



ASK AN ECONOMIST

Juan Sanchez is an economist in the Research Division at the Federal Reserve Bank of St. Louis. He joined the St. Louis Fed last August after earning his Ph.D. from the University of Rochester and working for two years at the Federal Reserve Bank of Richmond. His research focuses primarily on credit, default and economic development. He was born in Argentina, is married to Maria and has a 2-year-old son, Jose. Juan is a fan of watching and playing soccer



(now with his son) and enjoys grilling for family and friends. To read more of his work, see <http://research.stlouisfed.org/econ/sanchez/>

Q. What are the pros and cons of unemployment benefits?

A. In short, the answer is insurance and incentives.

Unemployment insurance benefits help individuals who have lost their job to sustain a desirable consumption level. An MIT economist, Jonathan Gruber, argues that private insurance or savings are not enough to prevent a large drop in the consumption of the unemployed. In particular, he estimated that in the absence of unemployment insurance, the consumption of the unemployed would fall by 22 percent. This drop would be more than three times the average fall in the presence of this program.¹

Perhaps the most important disadvantage is that unemployed individuals may be discouraged from searching for a job (or taking certain jobs) if unemployment benefits are too generous. In a recent paper, Alan Krueger from Princeton University and Andreas Mueller from the Institute for International Economic Studies at Stockholm University found that across the 50 states and District of Columbia, job searches are inversely related to the generosity of unemployment benefits. In particular, the time devoted to job search drops by about 16 percent when unemployment benefits increase by 10 percent. The two economists also found that job search intensity increases prior to the exhaustion of benefits.²

The current programs in the U.S. and in most of the developed countries involve two or three levels of benefits that often decrease over the unemployment spell; the benefits are provided for a restricted period of time. This design resembles prescriptions in the seminal work of the economists Hugo Hopenhayn from UCLA and Juan Pablo Nicolini from the Federal Reserve Bank of Minneapolis and Universidad Torcuato Di Tella in Buenos Aires. They found that the best way to design an unemployment insurance program involves payments that decrease throughout the unemployment spell. They also prescribe a tax on each individual after re-employment—a tax that increases with the length of the previous unemployment spell.³ The entire program can be implemented with unemployment insurance accounts for each individual. Individuals who use their benefits for a longer period of time would have to contribute more after re-employment to balance their account.

¹ Gruber, Jonathan. "The Consumption Smoothing Benefits of Unemployment Insurance," *The American Economic Review*, Vol. 87, No. 1, March 1997, pp. 192-205.

² Krueger, Alan; and Mueller, Andreas. "Job Search and Unemployment Insurance: New Evidence from Time Use Data," *Journal of Public Economics*, Vol. 94, No. 3-4, April 2010, pp. 298-307.

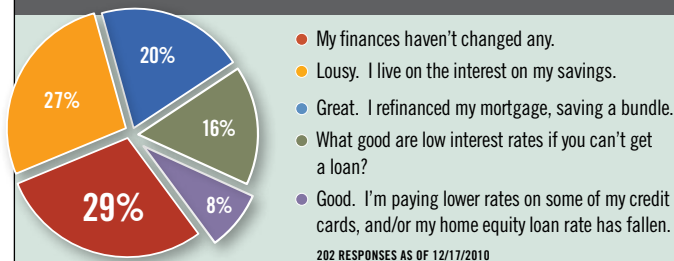
³ Hopenhayn, Hope A.; and Nicolini, Juan Pablo. "Optimal Unemployment Insurance," *Journal of Political Economy*, Vol. 105, No. 2, April 1997, pp. 412-38

Submit your question in a letter to the editor. (See Page 2.)
One question will be answered by the appropriate economist in each issue.

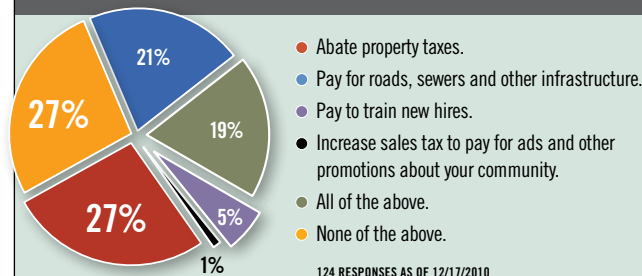
FED FLASH POLL RESULTS

When a new issue of *The Regional Economist* is published, at least one new poll is posted on our web site. The poll questions are always related to articles in that quarter's issue. Here are the results of the two polls that went with the October issue. The first stemmed from the article *Low Interest Rates Have Benefits ... and Costs*. The second stemmed from *Factory Closings Shock Community into Opening Wallets for Economic Development*.

WHAT IMPACT, IF ANY, HAVE THE UNUSUALLY LOW INTEREST RATES OF THE PAST COUPLE OF YEARS HAD ON YOU?



IF YOUR COMMUNITY IS STARVED FOR JOBS, HOW FAR WOULD YOU AND YOUR FELLOW TAXPAYERS GO TO ATTRACT NEW EMPLOYERS?



THIS ISSUE'S POLL QUESTION:

Was the assistance provided by the Treasury, Fed and FDIC during the financial crisis a good idea?

1. Yes, regardless of cost, the recession would have been much worse if not for the aid.
2. Yes, but only if taxpayers are paid back in full.
3. No, the assistance bailed out banks but didn't help ordinary citizens.
4. No, the assistance only encourages a repeat of the behavior that got us into this mess.

After reading *A Closer Look: Assistance Programs in the Wake of the Crisis* on pp. 4-10, go to www.stlouisfed.org/publications to vote.
(This is not a scientific poll.)

NEW VIDEOS PROVIDE INSIGHT ON KEY ECONOMIC TOPICS

Want to find out how the experts would fix Fannie, Freddie and the other government-sponsored enterprises? Interested in how the new Dodd-Frank rules will affect financial institutions, consumers and regulators? Our cameras recorded recent discussions at the St. Louis Fed on these topics, and you can watch the videos by going to the multimedia section of our web site: www.stlouisfed.org/newsroom/multimedia/video.cfm. The videos range in length from a few minutes to more than an hour. While there, check out the scores of other videos and audiocasts that feature St. Louis Fed President James Bullard and other key leaders from the Bank.



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NEXT ISSUE

A Look at Government Support of Banks During Crises

Although the U.S. Treasury's Capital Purchase Program appeared to some people to be an unprecedented government intervention, many other countries have used similar programs with various degrees of success. What are the experiences of other countries during the current global recession and in previous banking crises? How do U.S. capital injections fare when compared with those of other countries? Get answers to those questions in the April issue of *The Regional Economist*.



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New Site Focuses on Rule-Making for Dodd-Frank Act

If you want to track and comment on the rules being written to implement the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, go to stlouisfed.org/rrr. More than 200 regulatory reform rules are expected to be written, affecting numerous regulatory agencies. The web site is being updated on an almost daily basis.



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