

THE REGIONAL ECONOMIST

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of Business and
Economic Conditions*

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January 2010

Commercial Real Estate

Problem Loans Threaten
Community Banks the Most

Job Losses

Eighth District Fares
Better than Nation

THE FEDERAL RESERVE BANK OF ST. LOUIS
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An illustration of Uncle Sam, depicted as an older man with a white beard and hair, wearing a top hat with stars and stripes, a blue jacket, and a red bow tie. He is holding the severed head of a dragon. In the background, a large dragon is breathing fire in a dark, gothic-style interior with a staircase and a balcony.

Inflation

May Be the Next
Dragon To Slay

4 Inflation May Be Next Dragon To Slay

By Kevin L. Kliesen

Although some think it's too soon to worry about high inflation, there are risks of such happening in the medium term. Besides the obvious, a new bubble might be brewing in asset prices as investors search for higher returns, and the gap between actual output and potential output might be smaller than most think.



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The *Regional Economist* is published quarterly by the Research and Public Affairs departments of the Federal Reserve Bank of St. Louis. It addresses the national, international and regional economic issues of the day, particularly as they apply to states in the Eighth Federal Reserve District. Views expressed are not necessarily those of the St. Louis Fed or of the Federal Reserve System.

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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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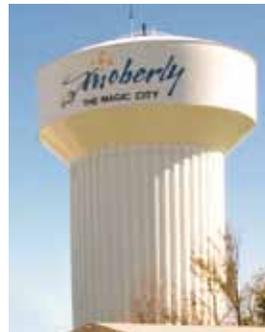
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James Bullard, President and CEO
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Quantitative Easing: Uncharted Waters for Monetary Policy

For the past year, the Federal Open Market Committee has maintained its target for the federal funds rate at a level only fractionally greater than zero. During the same year, it moved monetary policy into the uncharted waters of “quantitative easing.” Although definitions differ, quantitative easing most often is defined as a policy strategy of seeking to reduce long-term interest rates by buying large quantities of financial assets when the overnight rate is zero.

At the end of 2008, some analysts argued that the FOMC was “out of ammunition” when overnight interest rates reached zero because nominal interest rates, ordinarily, do not go below zero. (There were some exceptions during the Great Depression, and negative nominal rates occasionally are observed in financial markets when penalties are included.) This assertion, however, ignores one important fact: The Fed can continue to purchase assets so long as the public is willing to accept deposits at the Federal Reserve banks in payment. Central banks that engage in quantitative easing purchase only high-quality assets with suitable collateral margins; doing otherwise would be to dabble in fiscal rather than monetary policy. Economic theory suggests, however, that central banks need to purchase very large amounts of such assets (relative to the size of the economy) if quantitative easing policies are to affect economic activity.

From the beginning of 2009 until early December, the Federal Reserve under the auspices of its Large Scale Asset Purchase program had bought approximately \$300 billion in Treasury securities, \$150 billion in debt securities of Fannie Mae and Freddie Mac, and \$1.1 trillion of fixed-rate mortgage-backed securities (MBS) guaranteed by Ginnie Mae, Fannie Mae and Freddie Mac. Additional purchases of agency debt and MBS are in-process. When completed, the Federal Reserve’s total assets will likely reach

\$2.6 trillion, and the Federal Reserve will own between one-fifth and one-fourth of the total outstanding amounts of Treasury and agency-guaranteed MBS. The monetary base perhaps will reach \$2.4 trillion, of which \$1.5 trillion will be deposits of depository institutions at the Federal Reserve. Two years ago, in December 2007, the monetary base was approximately \$830 billion, with only \$10 to \$15 billion held by banks as deposits at the Fed.

“Although used infrequently, central banks worldwide during the past two decades have used major increases and decreases in their balance sheets as a policy instrument in a variety of circumstances.”



The United States is not the only country that has pursued such massive expansionary policy during 2009. The Bank of England, for comparison, initiated quantitative easing in March 2009 and has purchased more than £175 billion in British Treasuries; it also holds more than one-quarter of all such securities outstanding. Although used infrequently, central banks worldwide during the past two decades have used major increases and decreases in their balance sheets as a policy instrument in a variety of circumstances.

A forthcoming article by Richard Anderson and others in our Research division compares the experience of a number of countries, including the United States, the U.K., Sweden, Switzerland, Japan and Australia.¹ Their



study suggests two lessons for policymakers that contribute to the success of such policies. First, communication matters: It is important that the public be told why the increases are occurring and be assured that the increases are temporary, not permanent. Second, it is essential that the increases are reversed as soon as possible after the conditions that caused the adoption of a quantitative easing policy fade. Doing both appears to forestall increases in expected inflation that might otherwise cause increases in actual inflation, derailing the anticipated expansionary impact of the asset purchases.

Although final determination of the effects of quantitative easing awaits further research, it is likely that quantitative easing did assist economic recovery during 2009. Economists have yet to develop macroeconomic models with financial sectors adequately detailed to explore the channels through which quantitative easing boosts economic activity. But quantitative easing has a risk—if offsetting policy actions are not taken in a timely fashion, the increased monetary base will fuel an undesirably large acceleration of credit and, in turn, undesirably large increases in inflation. An important part of the mechanism must be stability of inflation expectations. Credible commitment to maintaining low future inflation provides a central-bank policymaker with the flexibility to double or triple the central bank’s balance sheet while not unhinging inflation expectations. [Q](#)

ENDNOTES

¹ Anderson, Richard; Gascon, Charles; and Liu, Yang. “Doubling Your Monetary Base and Surviving: Some International Evidence.” Forthcoming, Federal Reserve Bank of St. Louis *Review*.



Inflation

May Be the Next Dragon To Slay

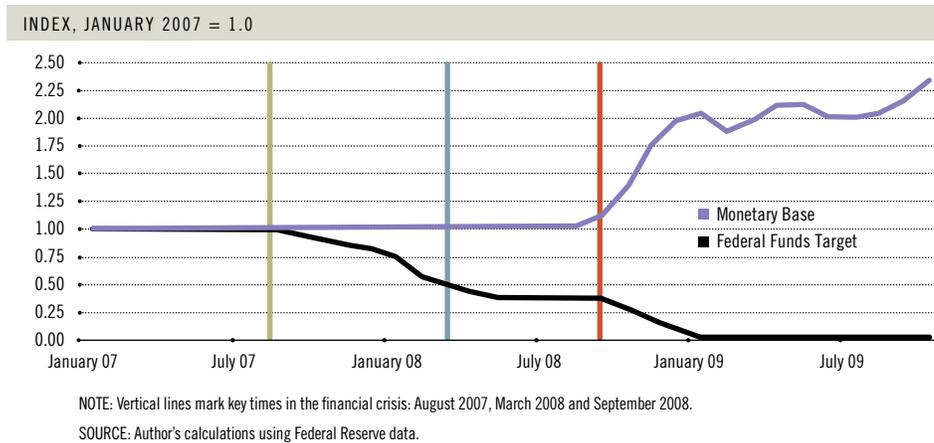
By Kevin L. Kliesen

By most metrics, the recent recession was the longest and deepest since the 1930s. Some analysts believe that the Federal Reserve's and the federal government's aggressive actions to assist and stabilize the economy and fragile credit markets prevented an even worse outcome than actually occurred. Now, with economic and financial conditions on the mend, many analysts are turning their attention to the legacy of these actions.

Foremost among the concerns of many is how to design a strategy that does not on the one hand raise interest rates prematurely, thereby prematurely nipping the economic recovery in the bud, while on the other hand does not keep rates too low for too long, thereby creating conditions that lead to a surge in inflation or inflation expectations. What's needed is an effective policy to prevent the unprecedented monetary stimulus from becoming a destabilizing influence on price stability. Another key is accurately predicting inflation over the next few years.

FIGURE 1

The FOMC'S Federal Funds Target Rate and the Monetary Base



Some analysts believe that inflation will remain low as long as the unemployment rate stays well above its natural rate of unemployment (a measure of slack). Others, by contrast, believe that the risk of higher inflation has risen sharply because of the Fed's large-scale asset purchase program and the advent of large, and possibly protracted, budget deficits.

Recent Policy Actions

In some ways, the 2007-09 recession was the most severe since the 1930s. The latest recession lasted probably a little less than two years, roughly double the length of the average post-World War II recession (10 months).¹ As yet, though, the unemployment rate remains below its post-World War II peak of 10.8 percent, which was reached in November and December 1982.

Given the severity of the latest recession, it was not surprising that government policymakers were aggressive and innovative in their response to it. Figure 1 shows two key measures of the response taken by Federal Reserve policymakers during this period.

In Figure 1, the path of the FOMC's federal funds interest rate target is plotted along with the monetary base. The monetary base, which is sometimes called "high-powered money," can be thought of as the raw material for creating money.² Since both series are denominated differently, the chart indexes the series to be 1.0 in January 2007. The chart also includes vertical lines at August 2007, March 2008 and September 2008, when key events occurred in the financial crises.

Two key points are worth noting. First, the Fed began reducing its federal funds rate in September 2007, about a month after conditions began to deteriorate in the short-term money markets. Although the FOMC continued to reduce its interest rate target before and shortly after the crisis of Bear Stearns in March 2008, the target then remained on hold from May to September, as rising oil and gasoline prices pushed up headline inflation to levels not seen since early 1991. In September 2008, though, economic and financial conditions deteriorated sharply, causing the Fed to quickly reduce its interest rate target to nearly 0 percent (technically, a range from 0 to 0.25 percent).

The second takeaway from Figure 1 is that the Federal Reserve did not begin to aggressively expand the monetary base until September 2008.³ Prior to then, the Federal Reserve was aggressively lending to domestic and foreign banks and financial institutions, but at the same time it was countering this expansion in bank reserves through offsetting sales of Treasury securities in its portfolio. This is known as sterilization because it prevents an increase in the monetary base.

The Fed's sterilization efforts ended in September 2008, when financial markets experienced considerable disruption associated with the government's takeover of Fannie Mae and Freddie Mac, the failure of Lehman Brothers and the near failure of American International Group (AIG). At that point, more than any other in the crisis, economic activity began to decline sharply and rapidly. By August 2009, the monetary base had risen to a level that was slightly more than double its level in January 2007, while the FOMC had reduced its federal funds target rate by nearly 100 percent. Despite a doubling in the stock of high-powered money, the M2 measure of the money supply increased by only 17 percent over the same period.⁴

The surge in the monetary base has not increased the money supply to the same extent both because the demand for loans has been weak and because some banks have been reluctant to extend credit. On the demand side, loan growth has been anemic because the demand for credit typically weakens during a recession—especially during a long and deep recession. On the supply side, many banks have become more circumspect in their lending practices in the

aftermath of the financial boom and bust. The latter could also reflect the concerns of bank regulators, who are charged with ensuring the safety and soundness of the banking system, and could stem from banking laws that require banks to meet minimum capital requirements.

The Best Way To Forecast Inflation?

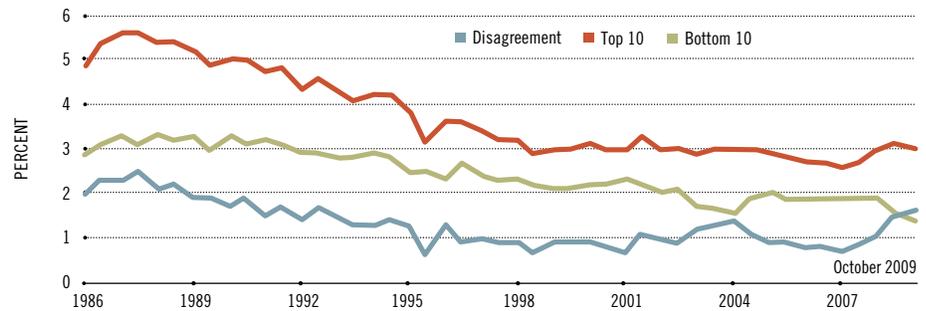
Figure 1 shows the primary reason why many economists and financial market participants worry about the potential for much higher inflation rates going forward: The monetary stimulus will eventually lead to a rebound in economic activity and an increase in the demand for bank loans and, thus, faster growth of the money supply. As price pressures begin to build during the recovery—in part because firms find it easier to raise prices and they must compete for labor, capital and materials—inflation and the inflation expectations of firms and households may begin to increase. These inflation expectations may be exacerbated if markets believe that the Fed is not withdrawing the monetary stimulus in a timely fashion, thereby leading to higher future inflation rates.

A considerable amount of disagreement seems to exist among economists about the inflation outlook over the next few years. Some economists are quite worried about the potential for much higher inflation, while others are more concerned about the potential risk of inflation falling to uncomfortably low levels—or even the possibility of deflation (a fall in the aggregate price level). Much of this disagreement reflects, on the one hand, the Federal Reserve’s aggressive response to the deep recession, the financial crisis and the exceptionally large federal budget deficits, and on the other hand, the downward pressure on wages and prices that typically occurs in the aftermath of a deep recession.

Figure 2 depicts one way to gauge this disagreement. In Figure 2, the history of the Blue Chip forecasts of the average Consumer Price Index (CPI) inflation rate over the next five years is presented. The chart shows the average of the least optimistic inflation forecasts and the most optimistic inflation forecasts, as well as their difference (disagreement). During periods when inflation tends to be relatively high and variable, such as the late-1980s and early 1990s, there tend to be some sizable differences among forecasters

FIGURE 2

Measuring Disagreement among Forecasters about the View of CPI Inflation over the Next Five Years



NOTE: Disagreement is measured as the difference between the least optimistic forecasters (top 10 average) and the most optimistic forecasters (bottom 10 average).

SOURCE: Blue Chip Economic Indicators, various issues

about the medium-term inflation outlook. By contrast, during periods when inflation tends to be relatively low and stable, such as the mid-1990s to mid-2000s, forecasters tend to disagree less about the inflation outlook. Since early 2007, though, the level of inflation disagreement among forecasters has increased.

Ultimately, one’s view of the inflation outlook over the next few years depends on one’s view of how best to forecast inflation over that horizon. Economists use numerous methods to forecast inflation. Some economists believe that the growth rate of the money supply is an accurate predictor of inflation. According to this view, popularized by monetarists, the inflation rate will ultimately be determined by the growth rate of the money supply relative to the growth rate of real GDP. When money growth exceeds real GDP growth—what Milton Friedman and others have commonly denoted as too much money chasing too few goods—the inflation rate will increase. To other economists, the inflation process is a random walk, which simply means that today’s inflation will be tomorrow’s inflation. Thus, if inflation is 1 percent in 2009, then the best forecast for inflation in 2010 is 1 percent. This view has been shown to produce fairly accurate forecasts.⁵

According to an August 2009 survey, nearly two-thirds of professional forecasters surveyed by the Federal Reserve Bank of Philadelphia use some variant of the Phillips Curve to forecast inflation. The Phillips Curve is now often known as the New Keynesian model. In this view, today’s

inflation rate depends on (i) the inflation rate expected over some horizon and (ii) the amount of slack in the economy. The amount of slack is also often measured as the difference between actual real GDP and an estimate of potential real GDP; this is termed the output gap. This view also seems to hold sway among several members of the Federal Open Market Committee.

As discussed by St. Louis Fed President James Bullard, the New Keynesian model has a few well-known problems as it relates to forecasting inflation.⁶ One problem is that the output gap is often subject to considerable measurement error, as well as being revised often because of revisions to real GDP and to estimates of the economy’s underlying rate of productivity growth. The latter affects estimates of potential real GDP and, thus, the output gap. As a result, policymakers are often confronted with considerable uncertainty about the size of the gap as they deliberate the stance of monetary policy.

Many New Keynesian economists assume that the output gap matters more than the expected inflation rate for determining today’s inflation. That assumption has been questioned by some economists, who instead believe that the public’s expectation of future inflation, in part determined by actions of the Federal Reserve, matter more than the degree of economic slack currently in the economy.⁷

Potential Inflation Risks

Despite some disagreement about the inflation outlook over the next few years, the

“... the size of the output gap might be smaller than conventional wisdom might believe. If so, those who foresee little risk to the near-term inflation outlook because of a large, persistent output gap may be too optimistic.”

inflation risks stemming from the government's policy responses to the financial crisis and the so-called Great Recession will probably not be immediately known because the economy is regularly hit by unforeseen shocks (such as large increases in oil prices), foreign economic developments and the legacy of past policy actions. Still, there are several potential risks to the medium-term inflation outlook that can be identified. Of course, these risks must be balanced against the Federal Reserve's commitment to maintaining a low and stable inflation rate. Indeed, the Fed can help anchor inflation expectations at a low level both through its words and deeds.

Is the Output Gap Smaller than We Think?

It is highly likely that this recession will induce considerable structural change in the economy. Indeed, this development already appears to be in train since many economic resources—labor and capital—that were employed in the automotive, housing and financial industries will need to migrate to industries that offer higher rates of return. One way to gauge the evolving structural change is by viewing the percentage of the labor force that is often characterized as the long-term unemployed (persons unemployed for 27 weeks or longer). As of November 2009, this percentage had risen to 3.8 percent, its highest rate in the post-World War II period.

Those who believe that the Phillips Curve framework can adequately capture the evolution of the inflation outlook over the near term must adequately account for structural changes that might have occurred in the boom and bust in asset prices. In its 2009 *Annual Report*, the Bank for International Settlements discussed these “bubble-induced distortions” to current estimates of trend output growth and, hence, potential real GDP. Thus, it is conceivable that estimates of potential real GDP at the start of the recession were too large and that the structural adjustments noted above may have subsequently reduced potential real GDP from its artificially high level.

While it is probably unlikely that the fall in actual real GDP during the recession has been matched by the fall in potential real GDP, the size of the output gap might be smaller than conventional wisdom might

believe. If so, those who foresee little risk to the near-term inflation outlook because of a large, persistent output gap may be too optimistic.

Reinflating Asset Prices

The period following the 2001 recession is an example of how the economy can evolve in ways not readily expected. Recall that during the economic recovery following the recession, job growth remained consistently negative until September 2003—nearly two years after the recession ended. At the same time, the core inflation rate was falling sharply. From December 2001 to December 2003, the year-to-year change in the core CPI fell from about 2.75 percent to about 1 percent. To confront the possibility of “the risk of inflation becoming undesirably low,” the FOMC announced at the conclusion of its Aug. 12, 2003, meeting that its low-interest rate policy would be “maintained for a considerable period.” In practice, this meant that the FOMC maintained its intended federal funds target rate at 1 percent until the June 30, 2004, meeting.

Although it is often easy to criticize policy after the fact, some economists subsequently concluded that the extended period of low interest rates created a credit boom that started—and prolonged—sharp increases in financial assets and commodity and house prices that put upward pressure on prices paid by consumers and businesses.⁸ The sharp increase in oil and commodity prices was especially acute. Following increases that averaged about 2.25 percent from 2001 to 2003, the CPI inflation rate averaged 3 percent from 2004 to 2007; the run-up in oil prices to more than \$130 per barrel then caused CPI inflation to accelerate sharply, averaging 5 percent over the first three quarters of 2008.

In some respects, the Fed faces a similar problem today: Policy is extraordinarily accommodative (see Figure 1), and the FOMC has said that “economic conditions are likely to warrant exceptionally low levels of the federal funds rate for an extended period.” Although low interest rates are a key part of the FOMC's strategy to boost economic growth and cement the health of the economic recovery, there might still be a danger of inflating asset prices by encouraging investors and speculators to shift out

of low-yield assets like Treasury securities into higher-yielding assets like commodity contracts or other tangible financial assets.

The Exploding Federal Budget Deficit

From fiscal year 2002 to 2008, the U.S. federal budget deficit averaged about \$305 billion per year, or 2.5 percent of GDP. In fiscal year 2009, though, the federal deficit totaled about \$1.5 trillion, or roughly 11.25 percent of GDP, according to estimates by the U.S. Congressional Budget Office (CBO). The large increase in the deficit reflected legislative policy actions such as the American Recovery and Reinvestment Act of 2009 (fiscal stimulus) and the Troubled Asset Relief Program (TARP), as well as an increase in mandatory government outlays associated with the deep recession. The CBO projects that the federal budget deficit will total nearly \$1.4 trillion in fiscal year 2010 and nearly \$925 billion in fiscal year 2011.⁹

Gauging the deficit's potential effect on inflation depends on how it is financed. To see this, consider the government's budget constraint. In its simplest form, the constraint stipulates that if the deficit is not financed by higher taxes, it must be financed in one of two ways: (i) by issuing debt to the public, which includes foreign holders of U.S. Treasury securities; or (ii) by selling government debt to the central bank, which is the Federal Reserve. The latter, also called monetization of the debt, increases the monetary base (high-powered money) and, thus, the money supply. For example, the Federal Reserve announced March 18, 2009, that it would buy up to \$300 billion of Treasury securities (beyond its existing holdings at the time). These purchases, which were designed to "help improve conditions in private credit markets," were not sterilized—that is, they were allowed to increase total bank reserves and, thus, the monetary base.

Many economists appear to be concerned about the inflationary implications of the huge increase in government deficit spending that is unfolding. According to a survey published in the June 2009 Blue Chip Economic Indicators, about 42 percent of forecasters see a relatively high risk that U.S. inflation will rise sharply within the next five years because of the government's and the Fed's response to the financial crisis and recession; another 34

percent see little or no risk; the remainder see only a moderate risk.¹⁰

The Fed's Strategy

A key difference between the 2003-04 episode—when the Fed held its federal funds interest rate target at 1 percent from June 2003 to June 2004—and today is that the FOMC has used innovative measures to dramatically expand the size of its balance sheet.¹¹ Because this expansion in the monetary base has the potential to greatly expand the nation's money supply when economic activity rebounds, policymakers are, thus, confronted with the potential problem of designing an effective policy to reduce the size of the Fed's balance sheet to prevent a rapid acceleration in money growth that may destabilize inflation expectations. Improving economic and financial conditions have lessened the use of the Fed's special lending facilities; so, some portion of these excess reserves will naturally contract on their own. Still, this process will not be sufficient to prevent a potentially destabilizing surge in money growth, which means that Fed policymakers will have to adopt other, more aggressive strategies. The officials have discussed several methods of doing this, including paying interest on bank reserves, using conventional open market operations and selling outright some of the securities and other assets held on the Fed's balance sheet.¹² Regardless of the method used, an improving economy means that the Fed must be prepared to raise its interest rate target to prevent an unwanted expansion in money growth by the banking sector.

Fed Chairman Ben Bernanke and other senior Fed officials are quite confident that they have the tools and the determination necessary to prevent an unwelcome acceleration in inflation or inflation expectations. Unlike previous episodes, though, the magnitude of the policy responses to the financial crisis and the Great Recession suggests that the FOMC's margin of error seems much smaller than at any time in the Fed's history. 

Kevin L. Kliesen is an economist at the Federal Reserve Bank of St. Louis. For more on his work, see <http://research.stlouisfed.org/econ/kliesen>. Douglas C. Smith provided research assistance.

END NOTES

- ¹ The National Bureau of Economic Research, which dates business cycle peaks and troughs, usually waits several months after the apparent end of the recession to declare the date of the trough.
- ² In essence, high-powered money (the sum of bank reserves and currency in circulation) is used to create bank loans, which expand the supply of money.
- ³ See Gavin for a detailed discussion of changes in the monetary base during this period.
- ⁴ Broadly, M2 is the sum of currency, checkable deposits, savings and small-time deposits, and retail money market funds. For a description and definition of the monetary and financial terms used throughout this article, see <http://research.stlouisfed.org/publications/mt/notes.pdf>.
- ⁵ See Atkeson and Ohanian.
- ⁶ See Bullard's presentation at <http://research.stlouisfed.org/econ/bullard/BullardNABE-FinalOct122009.pdf>.
- ⁷ See Piger and Rasche.
- ⁸ See Taylor and Frankel.
- ⁹ See Congressional Budget Office.
- ¹⁰ The Blue Chip Survey asked forecasters to gauge their risk of sharply higher inflation on a scale of one to five, with one being "no risk" and five signaling "great risk."
- ¹¹ See *United States Financial Data* to view updated charts of the asset and liability side of the Fed's balance sheet. These charts can be accessed at <http://research.stlouisfed.org/publications/usfd/page7.pdf>.
- ¹² See Bernanke.

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Commercial Real Estate: A Drag for Some Banks but Maybe Not for U.S. Economy

By Rajeev Bhaskar, Yadav Gopalan
and Kevin L. Kliesen



The U.S. economy appears to be on the road to recovery following the deepest and longest recession in the post-World War II period. Despite this improvement, some analysts and policymakers are increasingly concerned about deteriorating conditions in the commercial real estate (CRE) sector. Defaults on CRE loans have contributed to the recent upsurge in bank failures and a sharp increase in nonperforming loans of banks. The Federal Open Market Committee noted at its Sept. 23, 2009, meeting that “many regional and small banks were vulnerable to the deteriorating performance of commercial real estate loans.”¹

How large is the commercial real estate exposure of banks, and what is the likelihood that problems in this sector will be severe enough to derail the U.S. economic recovery?

CRE Exposure

The CRE sector has faced sharp contraction over the past year, paralleling the bust that unfolded in the housing sector two years ago. For example, the value of private commercial and office (hereafter commercial) construction totaled a little less than \$140 billion in 2008, about unchanged from the previous year.² By September 2009, the nominal value of commercial construction had declined by roughly 35 percent to \$90.2 billion.

Like residential housing, commercial construction depends heavily on mortgage financing—either directly from commercial banks and thrifts, indirectly through investors in commercial mortgage-backed securities (CMBS) or through other conduits, such as private equity funds or life insurance companies. As of June 30, 2009,

the size of the outstanding debt associated with the commercial real estate sector was \$3.5 trillion.³ About half of this amount (\$1.7 trillion) was held by banks and thrifts. Of the rest, half was held as collateral for CMBS, and the other half was held by investors.

When analyzing commercial banks’ exposure to the downturn in the CRE market, it is helpful to first consider how the valuation of these loans can change over time. Like any asset, the market value of a commercial property depends on its expected rate of return over time. This return depends on both macroeconomic factors, such as the health of the economy (both nationally and locally), expected inflation and the market interest rate over the life of the loan. But the return also depends on microeconomic factors, such as vacancy rates, property taxes, land use regulations and the price of land.

As economic conditions deteriorated during the latest recession, the CRE market affected commercial banks, investors and other financial institutions in a couple of key ways. First, sales at businesses slowed sharply and then began to decline, causing some firms to go out of business, vacancy rates to rise and property prices (and rents) to fall. The downturn in commercial property prices during this cycle was particularly severe. By one measure, commercial property prices have declined by nearly 41 percent since their peak in October 2007.⁴

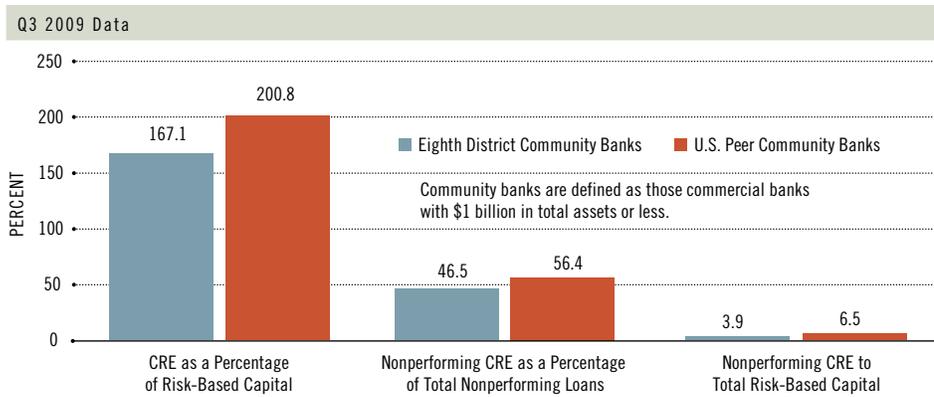
As CRE mortgage defaults and delinquency rates increased, banks naturally increased the level of their loan loss reserves, which adversely affected their earnings. Moreover, in this downturn, larger banks were also affected by a second

factor—the valuations of commercial mortgage-backed securities that are held on their balance sheets. As the value of the collateral that determines the price of the CMBS declined, commercial banks were forced to mark down the value of these assets on their balance sheets.⁵ To compensate, banks were forced to raise additional capital or suspend dividends.

Now, as the housing market appears to be stabilizing, the quality of banks’ CRE loans is deteriorating. In the past year, average nonperforming CRE loans (loans that are 90 or more days past due or loans not accruing interest) as a percentage of risk-based capital has grown considerably, from 4.47 percent in September 2008 to 7.4 percent in September 2009. Within the banking industry, community banks (banks with assets less than \$1 billion) have 30.7 percent of their loans in CRE compared with 12.1 percent for the largest banks (banks with assets greater than \$100 billion).

Although community banks are exposed to challenges in the CRE property markets, the accompanying chart indicates that community banks in the Eighth Federal Reserve District have relatively lower levels of CRE exposure than their national peers do. By nature of their business model, banks operate with relatively low levels of capital. As such, CRE loans often represent a multiple of capital. For Eighth District community banks, CRE comprises roughly 167 percent of risk-based capital, as opposed to 201 percent for peer banks. In addition, nonperforming CRE makes up roughly 47 percent of Eighth District community banks’ nonperforming portfolio, while it makes up nearly 56 percent of nonperforming loans for peer banks. Most important,

Eighth District Community Bank CRE Exposure versus National Peers



SOURCE: Consolidated Reports of Condition and Income for Banks (Call Reports)

nonperforming CRE loans make up only 4 percent of Eighth District banks' risk-based capital, meaning that, as a group, these banks have an adequate buffer to handle CRE-related losses.

Will CRE Derail the Economy?

The collapse in the CRE market during the late 1980s and early 1990s offers some guidance about the potential effects on the U.S. macroeconomy stemming from the current deterioration in CRE loan performance. During the economic boom that followed the deep recession in the early 1980s, many banking organizations weakened underwriting standards on CRE loans. By the late 1980s, the CRE market was experiencing tremendous stress, leading to a collapse in CRE market activity. The collapse in the CRE market caused considerable turmoil in the banking industry, leading to tremendous losses and a large number of bank failures. From 1987 to 1992, a little more than 1,900 banks and thrifts failed, which cost the FDIC deposit insurance funds roughly \$386 billion in real terms.⁶ And yet, while the economy experienced a recession from July 1990 to March 1991, it's not entirely clear that the CRE crisis was the major factor that caused the recession. However, the CRE collapse and its effect on construction activity and bank performance probably contributed to the relatively weak recovery.⁷

Today, similar concerns are being raised about the weakness in CRE. As the economy transitions from recession to recovery, the number of bank failures is rising: From

January 2009 through early December, 130 commercial banks and thrifts failed, the largest number since 1992. What is not yet known at this point, though, is whether the likelihood of further CRE losses will threaten to further weaken the banking system, which is beginning to recover from the housing bust and the financial crisis. According to one estimate, almost \$500 billion of CRE loans will be maturing over the next few years, a potentially significant default risk if these loans are not able to be refinanced.⁸ Despite these difficulties, most forecasters continue to see steady improvement in economic growth, rising employment and relatively low inflation in 2010 and 2011.

CRE loans may pose a significant risk for community banks in the year ahead. Just as in the late 1980s and early 1990s, it is possible that today's commercial real estate problems will produce adverse economic outcomes. However, the impact is most likely to be seen at the local level than at the national level. 

Kevin Kliesen is an economist at the Federal Reserve Bank of St. Louis. For more on his work, see <http://research.stlouisfed.org/econ/kliesen/>. Rajeev Bhaskar and Yadav Gopalan are research associates there. For more on Gopalan's work, see http://www.stlouisfed.org/banking/pdf/SPA/Yadav_vitae.pdf.

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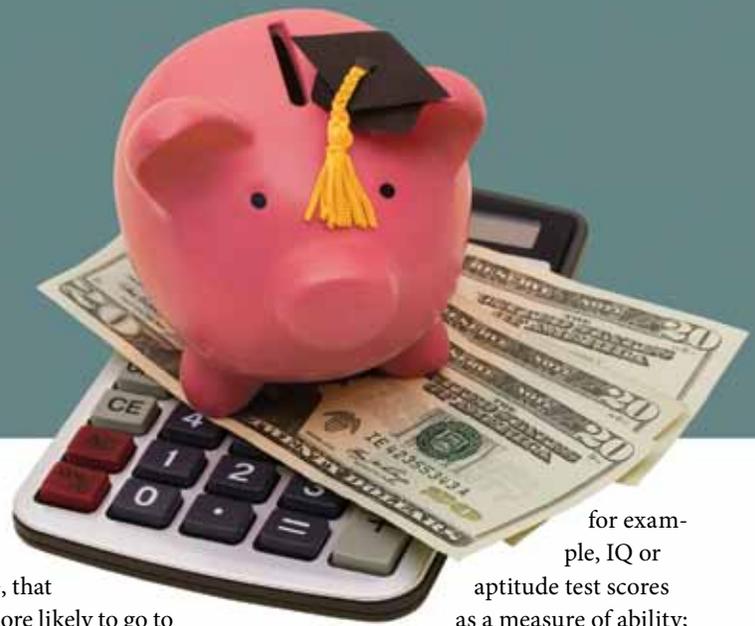
- ¹ For minutes of the Sept. 23, 2009, FOMC meeting, see www.federalreserve.gov/monetarypolicy/fomcminutes20090923.htm.
- ² Private nonresidential construction totaled about \$416 billion in 2008.
- ³ The commercial real estate total cited here includes outstanding debt on multifamily residential mortgages. In comparison, the outstanding debt associated with the residential sector totaled about \$11 trillion. These data are published in the Federal Reserve's Flow of Funds report (Z.9, Table L.217).
- ⁴ See the Moodys/REAL Commercial Property Index at <http://web.mit.edu/cre/research/credl/rca.html>.
- ⁵ In general, community banks and regional banks have little or no exposure to CMBS compared with large banks' exposure.
- ⁶ See FDIC.
- ⁷ See *American Economic Review*.
- ⁸ See Greenlee.

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The Return to Education Isn't Calculated Easily

By Natalia Kolesnikova



It is almost a given that people with more education make more money than those with less education. But how much more is that better education worth? The answer is more complicated than many would think.

The differential between the price of highly and poorly educated labor is given the suitably evocative label “the return to education.” The reference to the price differential as a “return” stems, of course, from an understanding that education is a choice; individuals can place themselves in a position to sell their labor services at the higher price by “investing” in their human capital.

The relationship between education and earnings is among the most widely studied topics in labor economics. One important goal is to uncover the *causal* impact of education on earnings. Just because a person with a college degree earns more than a person without such a degree does not necessarily mean that college education *causes* the difference in pay. Rather, the person who went to college might have some characteristics that make him or her more productive in the

labor market, resulting in higher earnings. It is possible, for example, that high-ability people are more likely to go to college *and* are more productive.

So, how can the effect of a college education on earnings be isolated? In an ideal world, researchers would make a copy of a person, sending only one of the two to college. After the one graduates from college, earnings of the two would be compared. Only in this case could it be said with some certainty that the difference in earnings was due to the college education.¹ Of course, this sort of comparison is not feasible. Instead, researchers try to compare people who are as similar as possible in everything but the level of education they have.

Studies usually try to control for demographic factors, such as age, gender and race, as well as work experience. Other factors that might affect the return to education are family background, school quality and ability. Quantifying any of these factors is a difficult task in itself. Researchers use,

for example, IQ or aptitude test scores as a measure of ability;

parental education is used as a measure of family background.

With so many factors to consider, studies take different approaches and use different estimation techniques. Although all studies find that more education is associated with higher earnings, the estimates of the return to education vary. Most studies estimate that the return to one year of schooling is, on average, between 8 and 13 percent.² In other words, each additional year of education is associated with an 8-13 percent increase in hourly earnings. For practical applications, 10 percent, on average, is a good estimate of the return. (It is worth pointing out that the returns are somewhat higher for women than for men.)

Additional Complications

Complicating these estimates is the fact that any returns on investment in human

An Individual's Education Benefits Others, Too

Estimates of the private returns to education do not account for all the benefits that society receives from an individual's investment in education. Economic theory predicts that an individual's education not only boosts his or her own productivity but also that of others. The presence of more educated workers leads to a “knowledge spillover,” making other workers more productive. Some recent studies have found empirical evidence in support of this prediction.⁶

Productivity spillovers also have a positive effect on wages. For example, “a percentage point increase in the supply of college graduates raises high school dropouts' wages by 1.9 percent, high school graduates' wages by 1.6 percent and college graduates' wages by 0.4 percent,” according to one study.⁷ Not surprisingly, there is also a positive impact of education on economic growth as people with more education were shown to be more likely to accept innovation and adopt new technologies.

Positive spillovers from education have been found in areas other than labor markets, too. One study has shown that “higher maternal education improves infant health, as measured by birth weight and gestational age. It also increases the probability that a new mother is married, reduces parity, increases use of prenatal care and reduces smoking, suggesting that these are important pathways for the ultimate effect on health.”⁸

Another study found a significant decrease in probability of criminal behavior and incarceration for people with more education.⁹ The researchers noted that “the externality of

capital must be realized in a specific labor market—usually a local labor market. These educational investments aren't like investments in stock, where a share of General Electric is worth the same in New York as it is in St. Louis.

One study, conducted in part by this author, found that the returns to college education are systematically lower in nicer, more expensive cities.³ It is not surprising that when a city has attractive amenities people “pay” for these amenities in the form of high property prices. However, people with low levels of education, and therefore low lifetime income, find these cities’ high property prices to be a greater deterrent than do individuals with high levels of education. Well-educated people (cardiologists, for example) might even accept a lower salary to work in these cities than they would in less-attractive cities. On the other end of the scale, less-educated people (janitors, for example) might have to be paid more to work in these nice cities than elsewhere because of the higher cost of living. Therefore, the discrepancy in pay between those with more education and less education is smaller than elsewhere. It is important to point out that even though measured “monetary returns to education” are lower in more-attractive cities, cardiologists are not at any disadvantage when they choose to locate there. They are simply “paying” for an access to amenities of a nice city by accepting lower returns to their education.

The study also estimated the returns to college education for white men living in major U.S. cities. In 2000, a white man with a college degree earned as much as 85 percent

more than a similar white man with a high school diploma in Dallas, but only 50 percent more in Seattle (but he enjoyed all the good things that Seattle has to offer).⁴ The cross-city differences in the returns to college education are even bigger if smaller cities are considered as well.

Nonmonetary Returns

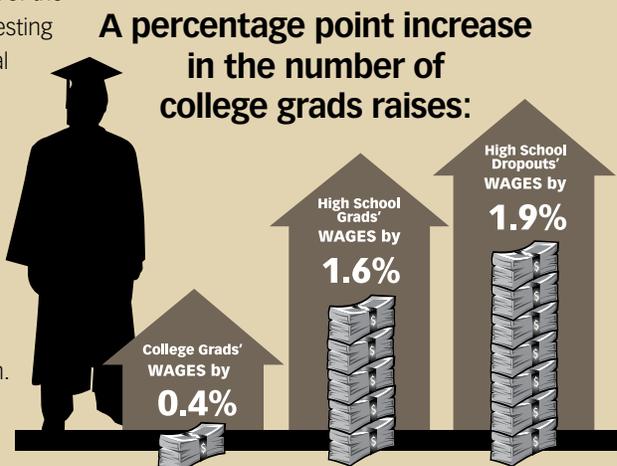
Although it is difficult to determine the monetary return to education, it is practically impossible to quantify the numerous non-monetary returns. Studies have shown that “experiences and skills acquired in school reverberate throughout life, not just through higher earnings. Schooling also affects the degree one enjoys work and the likelihood of being unemployed. It leads individuals to make better decisions about health, marriage and parenting. It also improves patience, making individuals more goal-oriented and less likely to engage in risky behavior. Schooling improves trust and social interaction, and may offer substantial consumption value to some students.”⁵

Despite the difficulty in assessing the returns to education, there is little doubt that the importance of education will not disappear from the public policy arena. As a result, continued economic research on the subject will hopefully guide effective public policy. 

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education is about 14-26 percent of the private return to schooling, suggesting that a significant part of the social return to education comes in the form of externalities from crime reduction.”

Research done to evaluate the social returns to education is extremely important for a variety of policy questions, such as assessing the efficiency of public investment in education. The issue remains one of the frontiers of labor economics.



ENDNOTES

- Even in this case, it is not clear if the labor market rewards skills a person learned in college or simply reacts to a “signal” of higher abilities. In fact, some researchers argue that there is a “sheepskin effect” in which diplomas and degrees matter more than actual number of years of education. See Hungerford and Solon, as well as Belman and Heywood, for more.
- Card provides an excellent overview of existing studies.
- See Black, Kolesnikova and Taylor.
- The reported numbers represent an increase in hourly earnings from obtaining college education (relative to having only a high school diploma), rather than a return to one year of schooling as before.
- See Oreopoulos and Salvanes.
- In particular, see the work of Acemoglu and Angrist and that of Moretti (2004a,b).
- See Moretti (2004b).
- See Currie and Moretti.
- See Lochner and Moretti.

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The Dismal Science Tackles Happiness Data

By Rubén Hernández-Murillo and Christopher J. Martinek



At the heart of economic research is how economic policy affects personal well-being. Traditional economic measures of well-being, such as income per capita, assume that individuals are well off to the extent that they can satisfy their wants and needs. Under this assumption, income is generally regarded as a useful proxy for well-being because greater income allows for greater consumption.¹ However, some critics point out that income does not fully capture the concept of well-being.

Nonmonetary factors, such as health, family and friends, also play a large role in determining individual welfare. Starting in the early 1970s, economists began studying broader notions of well-being by analyzing survey data that provide subjective individual assessments of happiness in place of conventional income or consumption-based measures of well-being. Subjective individual assessments of happiness have been used, for example, to study the link between income and well-being and to study the welfare effects of economic variables such as inflation and unemployment.

The Easterlin Paradox

Richard Easterlin was the first modern economist to examine the link between individual assessments of happiness and income. His 1974 study uncovered a puzzle that sparked further economic research on the link between income and well-being. Using happiness surveys from 19 countries, Easterlin observed that, within countries, an individual's income level closely matched self-reported happiness. Across countries and over time, however, there was little to no relationship between income per capita and average happiness. Additionally, Easterlin found that happiness in the United States had

remained stagnant despite large increases in average real personal income. This pattern, in which wealthier individuals report greater happiness at any given time but average happiness does not increase with average income over time, is often called the Easterlin paradox.

The figure shows that this puzzling observation persisted in the United States from 1972 to 2008. Real income per capita almost doubled over the period, while average happiness—as reported by respondents to the General Social Survey—changed very little.²

One of the most accepted explanations for this apparent puzzle is that individuals' happiness is not determined by their absolute level of income but by how their income compares with the income of others. According to this explanation, societies fail to get happier with economic progress because as economic conditions advance and average incomes rise, the reference standard that individuals use to judge their situation relative to others also rises.

At the time of Easterlin's study, the analysis of reported happiness was limited to developed countries because survey data from low-income countries was not available. More recently, the accumulation of reported happiness data across a lengthier time span and for a broader array of countries has allowed economists to more closely examine the link between income and well-being. One such study, conducted by economists Betsey Stevenson and Justin Wolfers, used data from several surveys—most notably the Gallup World Poll—to investigate more countries than the original Easterlin study did. Stevenson and Wolfers, in contrast with Easterlin, found a positive association between income and average reported happiness across countries. They wrote that the correlation is similar to the one found within countries between

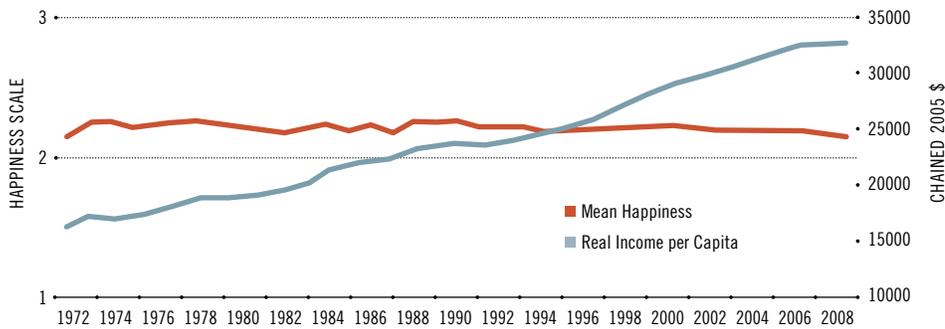
personal income and individual happiness reports—that is, wealthy countries report higher average levels of happiness than poor countries. The authors also found that in several countries where time series were available, people tend to report being happier as countries get richer, although the correlation is not as strong. (The United States, as noted in the Easterlin survey, remains a notable exception.) Their findings suggest that relative income plays a smaller role and that absolute income plays a larger role in shaping happiness than previously thought.

The Effects of Inflation and Unemployment

In contrast to policy research in other social sciences, economists traditionally have been reluctant to use self-reports of well-being because of the subjective nature of those reports. Instead, economists prefer to infer individual preferences from observed consumption patterns—an approach known as the revealed-preference principle. However, in some situations where revealed preferences are unable to fully assess the welfare impact of policies or institutional features of an economy, self-reports of happiness may be a useful tool in evaluating economic policy. One particular policy issue on which subjective reports of happiness have been used to shed light is the trade-off between inflation and unemployment in terms of personal well-being.

Economists Rafael Di Tella, Robert McCulloch and Andrew Oswald examined reported happiness data from the United States and Europe and found that inflation and unemployment both reduce happiness, but unemployment costs more than inflation in terms of happiness. What is notable about

Happiness and Real Income per Capita in the United States



NOTE: Mean happiness (left scale) is the average reply from respondents to the U.S. General Social Survey. The survey question asks: "Taken all together, how would you say things are these days? Would you say that you are not too happy, pretty happy or very happy?" These values were coded as 1, 2 and 3, respectively.

SOURCE: General Social Survey data available at <http://www.norc.org/GSS+Website>.

Real income per capita based on authors' calculation using data from the Bureau of Economic Analysis and the Census Bureau.

their research is that the authors account not only for the cost of unemployment on average well-being—what they call “fear of unemployment”—but also for the direct cost of individuals who actually become unemployed. According to these economists’ estimates, individuals would prefer to take on a 1.66-percentage-point increase in inflation rather than a one-percentage-point increase in unemployment.

Additional Studies of Happiness Data

A recent study by economists Néstor Gandelman and Rubén Hernández-Murillo that used data for 75 countries from the Gallup World Poll took a novel approach in analyzing reported happiness. The authors used the responses to several unique survey questions in the Gallup World Poll to construct measures of well-being that are more comprehensive.

In the Gallup survey, respondents were asked to provide a personal assessment of their own happiness as well as a personal assessment of their country’s well-being as a whole. The survey also asked respondents to evaluate not only current individual happiness and country well-being, but also assessments of happiness and national well-being five years ago and their expectations five years from now.

Gandelman and Hernández-Murillo used the responses to these questions to construct measures of past, present and future personal and country well-being. Their study revealed two interesting details in happiness

data. First, individuals tend to evaluate their personal well-being as being better than their country’s. Second, individuals tend to expect that their future well-being will improve.

Although Gandelman and Hernández-Murillo did not find any significant differences in the effects of inflation and unemployment on reported happiness, they found that both inflation and unemployment negatively affect past and present personal evaluations of individual and country well-being and also evaluations of present well-being relative to the future.

Comments

Research into the economics of happiness has come a long way since Easterlin’s study and has gained increasing acceptance among mainstream economists as a complement to standard utility theory. Easterlin’s paradox remains a controversial and unresolved issue, but the analysis of subjective well-being data continues to spread into various problems traditionally studied in economics, shedding new light on such issues as the determination of labor supply, the effects of taxation and democracy, and the degree of risk-aversion in individual preferences and its impact on savings behavior. ¹⁰

Rubén Hernández-Murillo is an economist at the Federal Reserve Bank of St. Louis. Christopher J. Martinek is a research associate there. For more on Hernández-Murillo’s work, see <http://research.stlouisfed.org/econ/hernandez>.

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- ¹ In standard utility theory, utility is derived from the consumption of goods and services.
- ² The General Social Survey is a national survey sponsored by the National Opinion Research Center at the University of Chicago. The survey gathers socio-demographic characteristics of respondents and polls them on a variety of social issues.

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IT'S NOT MAGIC, but Retention Emphasis Pays Off for Missouri Town

Article and photos by Susan C. Thomson

The bad news came in Corey J. Mehaffy's first week as president of the Moberly Area Economic Development Corp. Dura Automotive Systems announced the layoff of 200 workers at its auto parts plant in Moberly, Mo. As part of its parent company's bankruptcy reorganization, a bulwark of the local economy was losing half of its work force to Mexico.

Though the February 2007 decision was irrevocable and he was new to his job, Mehaffy was on the spot "to try to make the best" of the company's situation, recalls Regina Reid, who was then the human resources manager at the Dura plant in Moberly. He worked with the company and other local partners to help the excess employees get skills assessment, job search and retraining—federal benefits due them as autoworkers whose jobs left the country.

This sort of service has become Mehaffy's modus operandi: to deliberately spend more time working to retain local businesses—and, if possible, help them grow—than trying to woo new employers from out of town.

"We do formal visits with all of our large employers in the area, usually three times a year, sometimes more," he says. "We sit down with them and ask how they're doing, if there's anything that we can do for them, if they're having any issues. We talk about training opportunities and work force trends."

Mehaffy recalls one painful rebuff. Carrollton Specialty Products, which made and packaged Hallmark cards, spurned his repeated offers to approach Hallmark after the card company decided to outsource the work of Carrollton's Moberly plant. It closed in early 2009, with 200 jobs dispatched to China.

In contrast, Orscheln Products welcomed Mehaffy's services. The maker of vehicle controls announced in July that it would close a plant in Ohio and move production to its Moberly plant. President Robert Orscheln credited Mehaffy for helping to secure the incentives that made the move feasible. These included \$916,718 in state tax credits, plus exemptions for state sales taxes

Moberly, Mo., by the numbers

POPULATION	
City of Moberly	14,227*
Randolph County	25,723*
LABOR FORCE	
Randolph County	12,927**
UNEMPLOYMENT RATE	9.0 percent**
PER CAPITA PERSONAL INCOME	
Randolph County	\$25,230***

* U.S. Bureau of the Census, estimate July 1, 2008

** HAVER (BLS), October 2009

*** BEA/HAVER, 2007

TOP EMPLOYERS

Orscheln Industries	725 †
Moberly Correctional Center	520 ††
Moberly Regional Medical Center	410 ††
Wal-Mart Perishable Food Distribution Center	400
Moberly Public Schools	365 ††

† Includes Orscheln Products, Orscheln Farm and Home, a real estate development and property management unit and the group's headquarters.

SOURCES: Self-reported except Moberly Area Economic Development Corp. for Wal-Mart.

†† Includes part-timers





Corey Mehaffy, president of the Moberly Area Economic Development Corp., puts more time into business retention than he does recruitment, and the strategy has paid off. Behind him is one of the 22 shovels on the walls of the conference room where he works, each representing a groundbreaking since 1992.

on energy and new equipment purchases, all in exchange for the company's pledge to create 100 jobs over three years.

The company is part of Orscheln Industries, which includes a real estate development and management unit and 150 Orscheln Farm and Home stores in nine Midwestern states. All are based in Moberly and overseen by Robert's older brother, Barry.

The brothers are third-generation Moberly businessmen, whose paternal grandfather and his four brothers began branching out from farming into other enterprises in the 1920s. In their day, Moberly remained somewhat the "magic city," a sobriquet from years of explosive growth as a railroad hub halfway between St. Louis and Kansas City. Rob Cater, president of the Bank of Cairo & Moberly, says the city's good times rolled through the 1950s, when railroading declined and manufacturing began taking up the economic slack.

Manufacturing hit a bottom in the 1980s, when DuPont, Toastmaster and Wick Homes closed their Moberly plants, putting hundreds out of work, recalls Michael Barner, director of the Moberly Area Technical Center, a technical high school funded by area school districts and housed at Moberly Public Schools. "A good portion of the middle class was knocked out and had to relocate," he says.

The city's economic history from 1992 is represented by 22 shovels decking two walls

of the development corporation's conference room. Each shovel represents a groundbreaking, five of them for distribution centers, one since closed.

Including the four that remain and one from before 1992, Moberly counts five distribution centers today, for Scholastic Book Clubs, Goodyear Engineered Products, Orscheln Farm and Home stores, Mid-Am Building Supply and Wal-Mart, the newest and largest. By the development corporation's count, their combined work force of some 1,100 people makes distribution the city's second-largest employment sector after manufacturing, which employs about 1,400.

Cater says the distribution centers have diversified, stabilized and regionalized Moberly's economy, attracting workers from 40 miles around with good pay and benefits.

Although Mehaffy puts a priority on employer retention, he's not about to miss a chance to recruit a new company to town. Early in 2009, he landed a call center for Stark Bro's Fulfillment, a mail-order merchandiser based in Louisiana, Mo. The company plans to eventually employ 85.

And next? City Manager Andrew Morris envisions a "new wave of economic development" in retailing. His evidence: a Lowe's that opened in November, promising 120 jobs. No financial inducements were required or even requested.

And beyond that? A startup company, Producers Choice Soy Energy, promises to make up to 5 million gallons of biodiesel fuel annually from 3 million bushels of soybeans bought from local farmers. The city abated 10 years of property taxes for the company and issued \$16 million in bonds to improve roads, traffic signals and storm-water control around its new \$16.5 million plant. The company is to repay the bonds from its tax savings. It also stands to gain \$330,000 in state tax credits if it adds 21 jobs to the handful it began with.

In October, Shapiro Brothers Inc. signed a deal to expand its scrap metal processing business by buying roughly 10 acres from Randolph County Sheltered Industries. The purchase money will help sustain the workshop for the handicapped, which will continue to occupy a building on the site. Shapiro, for its part, expects to add 10 jobs, roughly tripling its Moberly numbers over the next three years.



Top: At Orscheln Products, Kay Nickerson checks lengths of parking brake cables.

Bottom: The Moberly Area Community College offers work-related certificate and associate degree programs, both of which help to keep the work force in the area up to date and employable. An unidentified student in the welding and metals technology degree program hunkers down on a project.



Top: The Orscheln Farm & Home store in Moberly is one of 150 in nine Midwestern states. The stores' parent, Orscheln Industries, is the largest employer in Moberly.

Right: One of the new businesses in town is Producers Choice Soy Energy. The startup promises to make up to 5 million gallons of biodiesel fuel a year from 3 million bushels of soybeans bought from local farmers. The city abated property taxes for 10 years and issued \$16 million in bonds for roads, traffic signals and stormwater control around the new \$16.5 million plant.



Employers like Shapiro Brothers and Producers Choice are small players in a community where the big employers number their workers by the hundreds. Among the biggest are significant, stable and noncommercial enterprises in education, health care and criminal justice.

The Moberly Correctional Center, a men's medium-security prison with about 1,800 inmates about five miles from the center of town, provides "good, steady, reliable income" to its employees, according to Cater.

The Moberly Regional Medical Center in 2009 invested \$700,000 in an expansion of its senior mental-health unit—to 21 beds from 10.

Moberly Public Schools is a major source of jobs and a force for economic development through its technical center. There, high school students learn high-demand trades like welding, drafting, machine tooling, automotive repair and computer-assisted design. Local businesses use the center's students for occasional projects and train employees on its high-tech equipment.

Moberly Area Community College complements the technical center by offering many work-related certificate and associate

degree programs. These college programs are designed to "provide training for individuals in the local area to help them be employable or become more employable and to bring up the level of the work force here, which is a strong factor in job retention," says Greg Mosier, the college's dean of career and technical education.

Separately, the college offers employee assessment and customized training for businesses and counsel for would-be entrepreneurs. Both Dura Automotive and Orscheln Products have used the services of both the college and the center.

Both companies are today adapting their manufacturing methods to new products, which Orscheln Products gained from its expansion and which Dura Automotive was assigned as its corporate parent in Michigan closed other plants. In Mehaffy's ongoing efforts to bind the Moberly plant to Moberly, he recently helped Dura Automotive secure \$25,000 in state money to retrain its remaining 170 employees to do the plant's new work.

Mehaffy also worked with the college to land a state-training grant for Pepco, a maker of laboratory tables and other furniture for high school and college science classrooms. It will use the money to bring its 13 employees up to speed on new manufacturing software.

Pepco moved to the city from a family farm in the countryside, where it began in 1989. President David Patton says the city's initial attractions included faster broadband, more reliable electric power, a larger facility and the city's offer to abate 50 percent of real estate taxes for 10 years.

Mehaffy, who came along as Pepco was settling into its new facilities, linked up early on with Patton, introducing him around, floating him ideas by phone and e-mail and directing him to potentially useful programs and services. Mehaffy continues to keep the small, newcomer business as much in his sights as he does the city's larger, older ones.

His efforts have gained the city a loyal corporate citizen. Pepco is committed "to not only stay in Moberly, but to expand our business as soon as our business and the economy allow," Patton says. 

Susan C. Thomson is a freelancer.

The Recovery Might Be a 98-Pound Weakling

By Kevin L. Kliesen

During the third quarter of 2009, real GDP rose at a healthy 2.8 percent annual rate. This increase, the first in a year, and the likelihood of continued moderate growth in the fourth quarter signaled the end of the Great Recession, which started in December 2007. However, a majority of the public probably has a different opinion because most people often view the state of the economy through the lens of labor market conditions, which remain quite weak. Regardless, the discussion among economists and forecasters is turning to the contours of the recovery in 2010 and to whether inflation will remain quiescent. Many economists and key policymakers expect real GDP to continue to grow this year, by about 3 percent, with CPI inflation to be about 1.75 percent. Still, there is some concern that the recovery may weaken as the temporary measures that were designed to boost growth come to an end.

An Unusual Recession and Recovery

Typically, deep recessions are followed by strong economic recoveries. Following the 1973-75 and 1981-82 recessions, real GDP growth averaged 7 percent during the first four quarters of the recovery. By comparison, the recoveries that followed the relatively shallow 1990-91 and 2001 recessions produced only modest real GDP growth, and the unemployment rate continued to rise well after the recession ended. Thus, if the past is any guide for the future, forecasters should have projected rapid real GDP growth and a sharp decline in the unemployment rate for 2010. Yet, that is not the case: The consensus of forecasters surveyed in November 2009 for the Philadelphia Fed's Survey of Professional Forecasters was that real GDP growth would average about 2.5 percent in 2010 and that the unemployment rate would remain above 10 percent for most of the year.

This forecast is even more unusually low in light of the exceptionally robust

countercyclical policies put in place to jump-start the economy. On the fiscal side, these temporary measures included fiscal stimulus packages in 2008 and 2009, a tax credit for first-time home buyers and the so-called Cash for Clunkers program. On the monetary side, Federal Reserve policymakers initiated several innovative lending programs designed to improve conditions in financial and mortgage markets. Fed policymakers also stated their intention to maintain their federal funds interest rate target at an exceptionally low level for "an extended period."

The Recovery's Potholes

When attempting to project the pace of economic activity over the next several quarters, forecasters often look closely at factors that influence spending by households (consumption and housing investment) and businesses (fixed investment). Together, these components comprised a little less than 85 percent of GDP in 2009. The following are likely to be key developments influencing the pace of household and business expenditures, and thus the shape of the recovery, in 2010.

First, job gains are expected to average about 11,000 per month over the first half of 2010 and then average about 150,000 per month over the second half. With weak job growth likely moderating the pace of consumer spending, businesses are going to be reluctant to boost outlays for structures, equipment and software.

Second, households continue to boost their saving rates and pay down the sizable levels of debt that were taken on over the past 20 years or so.

Finally, the U.S. economy appears to be undergoing some significant structural changes in the aftermath of the financial crisis and Great Recession. As labor and capital leave these industries (for example, autos



and housing), time is needed for these economic resources to become fully employed again. For all of these reasons and more, the recovery is expected to be relatively tepid compared with the snap-back that typically follows deep recessions.

Disagreement about the Inflation Threat

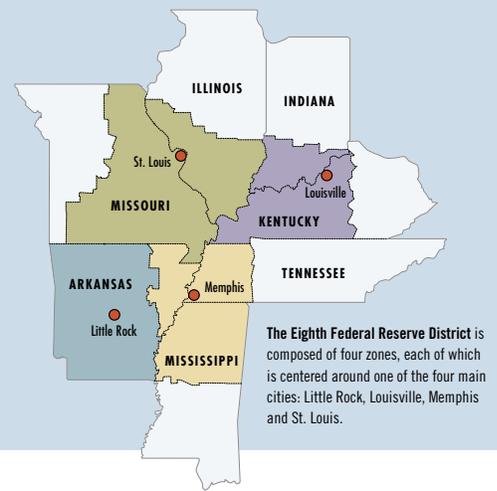
Much disagreement seems to exist about the outlook for inflation over the next two to three years. Some economists believe that a high unemployment rate, subdued inflation trends and well-anchored inflation expectations will keep inflation low and stable over this period—and maybe beyond. Other economists, while perhaps not sensing an imminent threat this year, point to the potentially inflationary consequences of doubling the monetary base, large protracted fiscal budget deficits and further declines in the dollar.

Despite these concerns, financial market indicators and surveys of households and businesses generally suggest little fear of deterioration in the inflation outlook over the next few years. As long as inflation expectations remain low and stable, long-term interest rates should also remain relatively low and stable. Long-term price stability will help the economy as it evolves in the face of structural change and in the labor market dislocation that this change produces. 

Kevin L. Kliesen is an economist at the Federal Reserve Bank of St. Louis. For more on his work, see <http://research.stlouisfed.org/econ/kliesen/>. Douglas C. Smith provided research assistance.

Eighth District Fares Better than Nation in Job Losses

By Craig P. Aubuchon, Subhayu Bandyopadhyay,
Rubén Hernández-Murillo and Christopher J. Martinek



It is no secret that the recent recession has hit labor markets hard. From December 2007 to October 2009, the U.S. economy lost more than 7 million jobs, a decline of 5.3 percent in total employment. In contrast, during the 2001 recession, the U.S. economy lost 1.5 million jobs, or 1.2 percent of total employment. Furthermore, the U.S. labor market has yet, perhaps, to hit the bottom. After the five previous recessions, it took an average of about 25 months to return to full employment, with the shortest return following the 1980 recession (10 months) and the longest return to full employment following the 2001 recession (46 months). On the plus side, in this latest recession, the four largest Metropolitan Statistical Areas (MSAs) of the Eighth District—St. Louis, Little Rock, Louisville and Memphis—performed somewhat better than the nation.

Between December 2007 and October 2009, each of the four MSAs in the Eighth District experienced a lower decline in total employment than the nation as a whole.¹ Little Rock, with a 1.5 percent decline, lost the fewest jobs as a percent of total employment, followed by St. Louis (-3.9 percent), Memphis (-3.9 percent) and Louisville (-4.3 percent). These cities represent just 1.6 percent of total jobs lost during the current recession, or just over 100,000 jobs.²

More surprising was the mix of job losses. While the latest recession fueled the long-term trend in the loss of manufacturing jobs, it also increased job losses in sectors that are typically considered recession-proof, such as information and financial services.³ A sector-by-sector comparison between the four largest Eighth District MSAs and the U.S. reveals that each MSA performed better than the nation in percentage of jobs lost between December 2007 and

October 2009 for the following categories: resources, mining and construction; manufacturing; financial services; and professional and business services. Furthermore, each MSA experienced higher growth than the U.S. for government services during this same time period. In contrast, each MSA also performed worse than the U.S. in certain industries. Both Louisville and Little Rock experienced a greater decline than the nation in trade, transportation and utilities, while Memphis experienced a sharper decline in information services. Finally, both Memphis and St. Louis experienced a greater decline in leisure and hospitality services than the U.S. for the December 2007 to October 2009 period.

The accompanying chart presents changes in employment for the period October 2008 to October 2009. Similar to the experience since the start of the recession, each MSA was below the nation in percentage of jobs lost for most categories during this time period. Furthermore, each MSA began to see stronger job performance (determined by fewer jobs lost relative to the nation and other Eighth District MSAs, or by job growth) than the U.S. for those industries with the highest relative share of employment.

Little Rock Zone

Little Rock fared the best among Eighth District MSAs during the recent recession. It was the last to lose jobs over previous year's levels. November 2008 marked the first month since November 2002 that the Little Rock metropolitan area experienced a decrease in year-over-year payroll employment. Furthermore, between October 2008 and October 2009, Little Rock experienced the smallest decrease in year-over-year

job losses of the four metro areas. Payroll employment fell 1.6 percent in the Little Rock area from October 2008 to October 2009—well below the national experience.

Little Rock experienced the largest year-over-year job declines in the trade/transportation/utilities (-6.9 percent), manufacturing (-5.7 percent), professional and business services (-4.4 percent) and other services (-3.8 percent) sectors. These losses were partly offset by gains in the leisure/hospitality (4.6 percent), education/health (2.2 percent), information (1.1 percent) and government (1.4 percent) sectors.

In October 2009, Little Rock had the highest concentration of employment, as compared with the other three District MSAs, in the aforementioned industries of growth, with the exception of leisure/hospitality. Government services made up 20.5 percent of the total employment in Little Rock, information services made up 2.6 percent, and education and health services represented 14.6 percent, second only to St. Louis, a city with 16.5 percent employment in this sector.

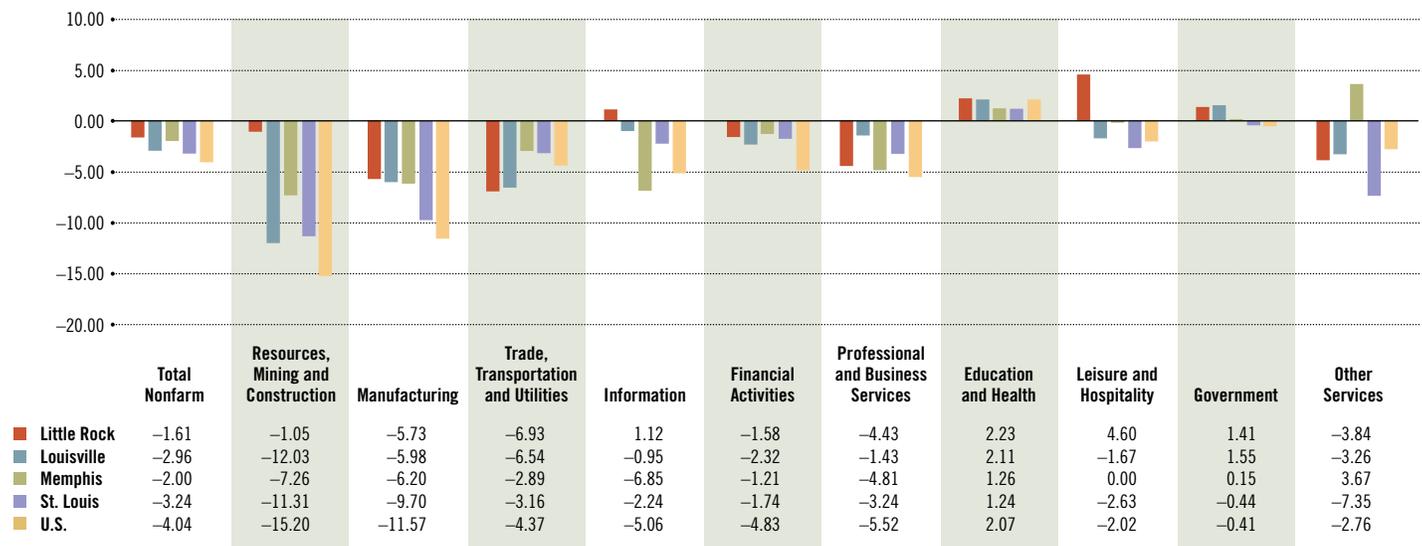
Within the Little Rock Zone (a Fed demarcation), Fort Smith, Ark., and Texarkana, Ark., posted year-over-year job declines of -1.7 and -2.1, respectively, both in excess of Little Rock's. In Fayetteville, Ark., the decline was 1.5 percent.

Louisville Zone

From October 2008 to October 2009, payroll employment in the Louisville area dropped 3 percent. Many of these lost jobs were in goods-producing industries. More than 16 percent of the Louisville work force is employed in goods-producing industries, the highest proportion among the four major metro areas in the District. In these

Employment Growth

OCTOBER 2008 TO OCTOBER 2009—YEAR-OVER-YEAR PERCENT CHANGE



SOURCE: Bureau of Labor Statistics and authors' calculations

industries, the Louisville area shed 8 percent of the jobs over the past year, largely due to a 12 percent decline in resources/mining/construction jobs.

Louisville also experienced significant job loss in the trade/transportation/utilities (-6.5 percent), professional/business services (-1.4 percent) and the other services (-3.3 percent) sectors. Of the four metro areas, Louisville posted the largest year-over-year decline in the finance sector, losing 2.3 percent of total jobs. Louisville experienced job growth in both the government and education/health sectors, consistent with other areas in the District.

Evansville, Ind., and Clarksville, Tenn., two smaller metro areas in the Louisville Zone, experienced slightly smaller year-over-year job losses (-3.2 percent and -2.9 percent, respectively) than the Louisville area did. Job growth declined 5.7 percent in Bowling Green, Ky.

Memphis Zone

Unlike the other three major metro areas, where employment did not start to decrease over previous year's levels until several months into the recession, Memphis experienced year-over-year payroll employment decreases throughout most of 2008 and 2009. More recently, the year-over-year job loss was subdued in the Memphis area

compared with other MSAs. From October 2008 to October 2009, nonfarm employment decreased 2 percent in the Memphis area.

Memphis employs a relatively large share of its work force in the trade/transportation/utilities sector. With greater than 26 percent of the Memphis work force in this industry, the 2.9 percent year-over-year decrease in payroll employment within this sector from October 2008 to October 2009 contributed significantly to the overall payroll employment decline. Job losses in excess of the U.S. experience occurred in the information sector (-6.9 percent). Memphis also experienced significant job loss in the professional/business services sector (-4.8 percent). In contrast, the Memphis region experienced job growth in the education/health services sector (1.3 percent) and the other services sector (3.7 percent). Memphis was the only one of the four major MSAs in the District to add jobs in the other services sector.

Jackson, Miss., a smaller MSA in the Memphis Zone, experienced a 3.7 percent decrease in year-over-year employment.

St. Louis Zone

Over the past year, St. Louis experienced the largest year-over-year decline in nonfarm employment among the four big cities at 3.2 percent. As the District's largest MSA,

St. Louis' economy most closely resembles the national economy. In both the St. Louis economy and the national economy, 14 percent of the work force is employed in goods-producing industries, while 86 percent is employed in service-providing industries. Similar to the U.S. experience, job losses in the St. Louis area were most heavily concentrated in goods-producing industries, in which more than 20,000 jobs were lost since the previous year. While other large metro areas in the District lost manufacturing jobs at roughly half of the 11.6 percent rate of decrease for the nation, St. Louis lost 9.7 percent of its manufacturing jobs since October 2008.

Job losses in the St. Louis region were not isolated to goods-producing industries. In the year ending October 2009, the St. Louis metro area lost jobs in every industry category except education and health services, in which the number of jobs increased by 1.2 percent. St. Louis lost a significant percent of total jobs in the other services (-7.4 percent), business services (-3.2 percent), trade/transportation/utilities (-3.2 percent) and leisure/hospitality services (-2.6 percent) sectors.

Columbia, Mo., and Springfield, Mo., two smaller MSAs in the St. Louis Zone,

continued on Page 22

continued from Page 21

experienced smaller year-over-year percentage job loss (-1.3 percent and -0.9 percent, respectively) than the St. Louis area did. In Jefferson City, Mo., year-over-year employment fell at roughly the same pace as in the St. Louis area.

Conclusion

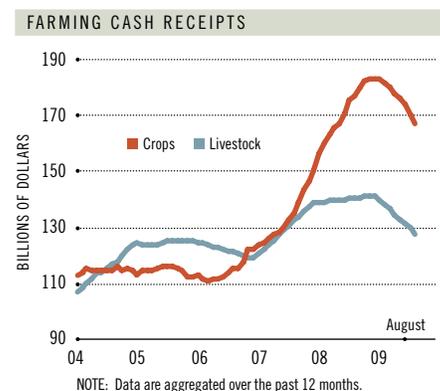
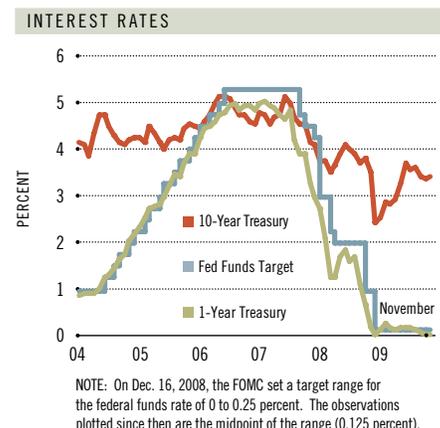
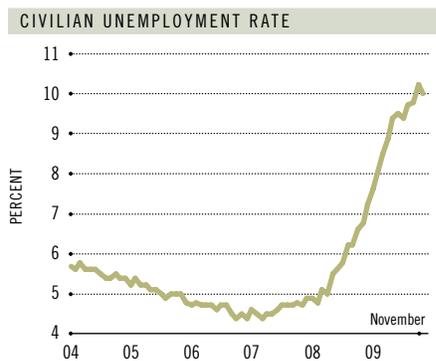
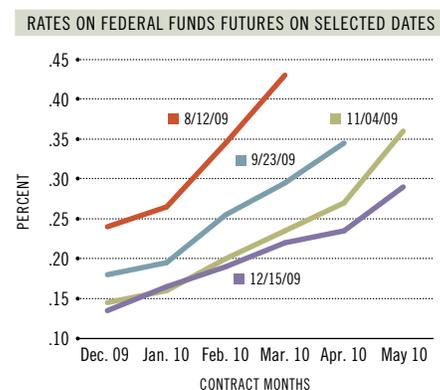
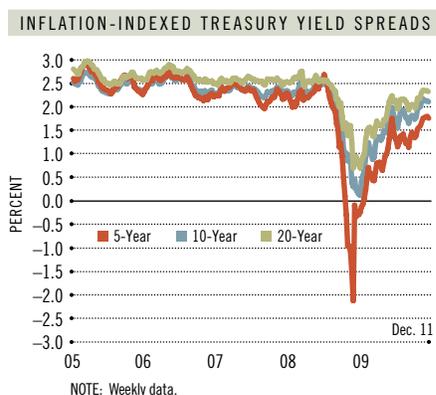
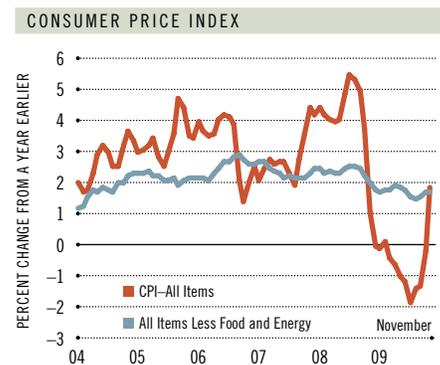
Across the Eighth District, the latest recession impacted each of the four major MSAs in a different manner. While the first half of the recession marked sharp job losses in a broad number of categories, particularly in sectors with the largest share of employment, the past year saw each MSA return to its core strength, as defined by employment share.⁴ Within each sector, the MSA with the highest employment share performed the best, or near the best, in terms of percent of jobs lost. As the nation moves toward recovery, these sectors will probably assume a major role in leading each MSA back to full employment. 

Subhayu Bandyopadhyay and Rubén Hernández-Murillo are economists at the Federal Reserve Bank of St. Louis. Craig P. Aubuchon and Christopher J. Martinek are research associates there. For more on Bandyopadhyay's work, see <http://research.stlouisfed.org/econ/bandyopadhyay/>. For more on Hernández-Murillo's work, see <http://research.stlouisfed.org/econ/hernandez/>.

ENDNOTES

- ¹ October 2009's data were the most current data available as of mid-December.
- ² As of the 2008 population census, St. Louis, Memphis, Little Rock and Louisville represented 1.98 percent of the total U.S. population.
- ³ As of mid-December, the NBER had yet to officially declare the end of the 2007-recession.
- ⁴ By MSA: Little Rock has the highest employment share and strongest year-over-year employment change in resources/mining and construction, and information services. Louisville has the highest employment share and second strongest year-over-year employment change in manufacturing. Memphis has the highest employment share and strongest year-over-year employment change in trade/transportation and utilities. St. Louis has the highest employment share and the second strongest year-over-year employment change in professional and business services.

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/re/2010/a/pdf/01-10data.pdf.





ASK AN ECONOMIST

Luciana Juvenal has been an economist in the Research division of the Federal Reserve Bank of St. Louis since 2008. Her research interests are international economics and finance. In her free time, she enjoys scuba diving, kayaking, dancing the tango and taking photographs.

Why do consumer prices differ among NAFTA members?

In perfectly integrated markets, prices of similar goods should be equalized once expressed in a common currency, according to theory. If the price in one location were higher than in another, people could make a riskless profit by shipping the goods from locations where the price is low to locations where the price is high. This would tend to move prices back to equality. In practice, prices of similar goods fail to equalize across countries. Why does this happen?

The idea of perfect market integration is more a benchmark used for economic analysis than something that we can see in practice. A market is said to be perfectly integrated if there are no barriers to trade flows. If barriers to trade are very high, we will observe that prices are essentially disconnected across countries. The failure of prices to equalize between countries is a sign that markets are not completely integrated.

Although North America Free Trade Agreement (NAFTA) members are highly integrated, they still face barriers. These frictions generate a departure from perfect market integration and, consequently, give rise to the possibility of price differences across countries.

Among the barriers is the cost of transporting goods from one location to another. Shipping goods from locations where the price is low to locations where the price is high generates profits only if the price difference is sufficient to compensate for the transport cost. If the price difference is small, arbitrage may not be profitable. The result is price differentials across locations.

Another barrier to trade is tariffs, which are likely to create a wedge between prices in two locations. Although NAFTA has certainly reduced impediments to trade and has dismantled tariffs for most goods, tariffs are still levied on some commodities.

Finally, it is important to note that final goods go through a series of steps before they are available to the end consumer. These steps involve, for example, marketing and distribution, which add a nontradable component to the final goods' prices. This component certainly may differ across locations—distribution costs are not the same in Guanajuato, Mexico, as they are in Manhattan. This differential will be reflected in the final price of a good.

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, a new poll is posted on our web site. The poll question is always pegged to an article in that quarter's issue. Here are the results of the poll that went with the October issue. The question stemmed from the article "Increasing Political Freedom May Be Key To Reducing Threats."



THIS ISSUE'S POLL QUESTION:

Which do you think is the top risk for reigniting inflation over the next several years?

1. There turns out to be less slack (smaller output gap) in the economy than many experts believe.
2. Commodity prices balloon again as investors tire of low-yielding Treasury securities and shift their money into higher-yielding commodity contracts and other assets.
3. The Fed waits too long to return the monetary supply to a pre-crisis level.
4. The federal budget deficit continues to mushroom.
5. There is no inflation risk—it's dead and buried.

After reading "Inflation May Be the Next Dragon To Slay," go to www.stlouisfed.org/publications/re to vote. Anyone can vote, but please do so only once. (This is not a scientific poll.)

A DAY DEVOTED TO STATE AND LOCAL GOVERNMENT FINANCE IN TOUGH TIMES

A daylong program about state and local government finance in these turbulent economic times will be held April 9 at Washington University in St. Louis. The program is being co-sponsored by that university's Weidenbaum Center on the Economy, Government and Public Policy and by the Federal Reserve Bank of St. Louis. The public is invited.

Professors from universities across the country will discuss such topics as the pros and cons of higher taxes, of borrowing and of cuts that local governments are making to cope with the recession; short-term viability versus long-run growth of various revenue sources; the role of state governments in the implementation of fiscal policy; and the increasing reliance on such nontraditional revenue sources as gambling and smoking.

Also on the agenda will be representatives of the Cato Institute, the National Council of State Legislatures, the Federal Trade Commission and the Center on Budget and Policy Priorities.

Details on the program are available at <http://research.stlouisfed.org/conferences/turbulence>.



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N E X T I S S U E

The Future Economy

Although we won't know for sure until the recovery plays out, most signs today point toward a bumpy, multiyear transition toward a U.S. economy that is less consumer-oriented. This new economy may be less exciting than the old one, but it also might be more sustainable for the long term. Read about the evolution in the economy in the April issue of *The Regional Economist*.

