THE REGIONAL
ECONOMIST

A Quarterly Review of Business and Economic Conditions

Vol. 17, No. 2
April 2009

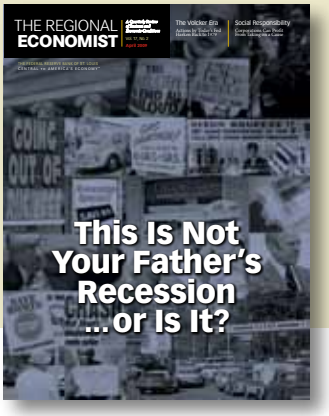
The Volcker Era
Actions by Today's Fed Harken Back to 1979

Social Responsibility
Corporations Can Profit From Taking on a Cause

THE FEDERAL RESERVE BANK OF ST. LOUIS
CENTRAL to AMERICA'S ECONOMY™

This Is Not Your Father's Recession ...or Is It?

CONTENTS



THE REGIONAL **ECONOMIST**

APRIL 2009 | VOL. 17, NO. 2

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.

Please direct your comments to Michael R. Pakko at 314-444-8564 or by e-mail at pakko@stls.frb.org. You can also write to him at the address below. Submission of a letter to the editor gives us the right to post it to our web site and/or publish it in *The Regional Economist* unless the writer states otherwise. We reserve the right to edit letters for clarity and length.

Director of Research
Robert H. Rasche

Deputy Director of Research
Cletus C. Coughlin

Director of Public Affairs
Robert J. Schenk

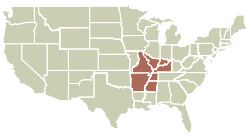
Editor
Michael R. Pakko

Managing Editor
Al Stamborski

Art Director
Joni Williams

Single-copy subscriptions are free. To subscribe, e-mail carol.a.musser@stls.frb.org or sign up via www.stlouisfed.org/publications. You can also write to *The Regional Economist*, Public Affairs Office, Federal Reserve Bank of St. Louis, Box 442, St. Louis, MO 63166.

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.



Jim Bullard, President and CEO
Federal Reserve Bank of St. Louis

Fed's Bold Actions Harken Back to Volcker Era

Elsewhere in this issue, you will find an article titled "This is not your father's recession ... or is it?" It compares today's recession with those of the past 40 years. In the same spirit, I would like to compare today's Fed, and the challenges we face, with the Volcker Fed of 1979.[1]

During the 1970s, monetary policy had followed a gradualist approach: fine-tuning interest rate moves in an effort to avert economic slowdowns. By 1979, it had become apparent that such a strategy was inadequate as inflation and inflation expectations continued to march upward and the real economy deteriorated. Inflation rose steadily from about 2 percent through much of the '60s to more than 13 percent in December 1979. The Federal Reserve was not seen by the public as credibly fighting inflation.

A drastic change in the approach to monetary policy was needed by the Fed in order to regain its credibility, tame inflation and restore confidence in financial markets. The plan had to allow for substantial increases in short-term interest rates while, at the same time, reassuring financial markets that this new policy approach would be effective and the cost of disinflation would be minimized.

On Oct. 6, 1979, the Fed, under Paul Volcker's leadership, shifted its focus from targeting nominal interest rates to targeting non-borrowed reserves to control the money supply. Volcker's "monetarist experiment" was ultimately successful in stabilizing inflation and anchoring inflation expectations. The economy experienced a sharp recession, but was then set for a long period of stable growth. For more than two-and-a-half decades following the monetarist experiment, the economy grew in long stretches, punctuated by just two relatively mild recessions.

The situation we face today is not that faced by the Volcker Fed in 1979. One important difference is that U.S. inflation and long-term interest rates are currently very low. In fact, market-based indicators of inflation expectations may be drifting toward deflation. Still, there is a clear atmosphere of crisis. Financial turmoil continues to impact a wide range of financial markets and institutions around the globe. The Fed has lost its usual ability to signal to the private sector via nominal interest rates as the policy rate has reached the zero bound.

As in October 1979, the Fed has reacted to the crisis situation with an aggressive change in policy. Like the Federal Reserve in Volcker's time, today's Fed has taken unprecedented actions, departing from its traditional approach to monetary policy—interest-rate targeting—and focusing on quantitative measures instead. Beginning in December of last year, the FOMC shifted its focus for future policy to the Fed's balance sheet.

"This is a very different mode of operation than what the Fed and the financial markets have been used to over the past two decades. By acting aggressively, the Fed may be able to replicate the success of Volcker's Fed 30 years ago."

In some ways, our current environment parallels the Japanese experience after 1990. The Japanese banking system encountered difficulties with "troubled assets," and the intermediation system broke down. Eventually, persistent year-over-year deflation was observed in core measures of inflation, and average economic growth stagnated. In Japan, policy rates have been below 1 percent for 14 years, and deflation was observed for more than a decade. An outcome of sustained deflation and extremely low nominal interest rates, as happened in Japan, is sometimes referred to as a deflationary trap.

To avoid the Japanese experience, the Fed will need to provide enough sustained growth in the monetary base to offset downward pressure on inflation coming from the very sharp recession. At the same time, the Fed cannot provide such a sustained high level of monetary growth that medium-run inflation takes hold. Either way, the signals that the Fed sends about its future intentions have to come from quantitative measures of policy and not from interest rate movements.

This is a very different mode of operation than what the Fed and the financial markets have been used to over the past two decades. By acting aggressively, the Fed may be able to replicate the success of Volcker's Fed 30 years ago. Ω

[1] See "Reflections on Monetary Policy: 25 Years After October 1979," Federal Reserve Bank of St. Louis *Review* March/April 2005, for a compilation of the conference proceedings as well as personal reflections commemorating Oct. 6, 1979. Go to http://research.stlouisfed.org/publications/review/05/03/part2/MarchApril2005Part2.pdf.

Corporate Social Responsibility Can Be Profitable

By Rubén Hernández-Murillo and Christopher J. Martinek

Corporate social responsibility (CSR) is a doctrine that promotes expanded social stewardship by businesses and organizations. CSR suggests that corporations embrace responsibilities toward a broader group of stakeholders (customers, employees and the community at large) in addition to their customary financial obligations to stockholders. A few examples of CSR include charitable giving to community programs, commitment to environmental sustainability projects, and efforts to nurture a diverse and safe workplace.[1]

As more attention is being paid by outsiders to the social impact of businesses, corporations have acknowledged the need for transparency regarding their social efforts. In a recent survey, 74 percent of the top 100 U.S. companies by revenue published CSR reports last year, up from 37 percent in 2005. Globally, 80 percent of the world's 250 largest companies issued CSR reports last year.[2]

Is CSR Socially Desirable?

Despite the apparent acceptance of CSR by businesses, many economists have taken a skeptical view of CSR and its viability in a competitive environment. Milton Friedman, in particular, doubted that CSR was socially desirable at all. He maintained that the only social responsibility of a business is to maximize profits (conducting business in open and free competition without fraud or deception).[3] He argued that the corporate executive is the agent of the owners of the firm and said that any action by the executive toward a general social purpose amounts to spending someone else's money, be it reducing returns to the stockholders, increasing the price to consumers or lowering the wages of some employees. Friedman pointed out that the stockholders, the customers or the employees could separately spend their own money on social activities if they wished to do so.

Friedman, however, also noted that there are many circumstances in which a firm's manager may engage in actions that serve the long-run interest of the firms' owners and that also have indirectly a positive social impact. Examples are: investments in the community that can improve the quality of potential employees, or contributions to charitable organizations to take advantage of tax deductions. Such actions are justified in terms of the firm's self-interest, but they happen to generate corporate goodwill as a byproduct. Furthermore, this goodwill can serve to differentiate a company from its competitors, providing an opportunity to generate additional economic profits.

Friedman's argument provoked economists to explore the conditions under which CSR can be economically justified. Economists Bryan Husted and José de Jesus Salazar, for example, recently examined an environment where it is possible for investment in CSR to be integrated into the operations of a profit-maximizing firm. The authors considered three types of motivation that firms consider before investing in social activities:

- *altruistic,* where the firm's objective is to produce a desired level of CSR with no regard for maximizing its social profits, i.e., the net private benefits captured by the firm as a consequence of its involvement in social activities;
- *egoistic,* where the firm is coerced into CSR by outside entities scrutinizing its social impact; and
- *strategic,* where the firm identifies social activities that consumers, employees or investors value and integrates those activities into its profit-maximizing objectives.

In agreement with Friedman, Husted and Salazar conclude that the potential benefits to both the firm and society are greater in the strategic case: when the firm's "socially responsible activities" are aligned with the firm's self-interest.

Strategic CSR

Similarly, economists Donald Siegel and Donald Vitaliano examined the theory that firms strategically engage in profit-maximizing CSR. Their analysis highlights the specific attributes of business and types of CSR activities that make it more likely that "socially responsible" actions actually contribute to profit maximization. They conclude that high-profile CSR activities (e.g., voluntary efforts to reduce pollution or to improve working conditions for employees) are more likely undertaken when such activities can be more easily integrated into a firm's differentiation strategy.

Siegel and Vitaliano studied a large sample of publicly traded firms and classified them using the North American Industry Classification System codes into five categories. The five categories were:

- *search goods,* whose quality can be readily evaluated before purchase, e.g., clothing, footwear and furniture;
- *nondurable experience goods,* whose quality is experienced over multiple uses and frequent purchases, e.g., food, health and beauty products;
- *durable experience goods,* which must be consumed before their true value can be determined, permit less learning from repeated purchases and require a longer period for the product's characteristics to

be fully known, e.g., automobiles and appliances; and finally

• *experience services* and *credence services,* which often involve strong information asymmetries between sellers and buyers, who may find it difficult to assess the service's value even over a long period, e.g., banking, financial counseling, auto repairs and weight-loss programs.

Siegel and Vitaliano found, using an aggregate measure of CSR involvement, that firms selling experience goods and experience and credence services are more likely to engage in CSR than those selling search goods. The difference in the intensity of CSR involvement across types of goods, they argued, is explained by the consumers' perception of a firm's involvement in CSR (even when the firm's product does not directly include a social component) as a valuable signal of the firm's reliability and its commitment to quality and honesty.

Using the same classification of firms as Siegel and Vitaliano did, the accompanying chart shows the proportion of firms in each classification that demonstrated relative strength in seven different social issues related to CSR as rated in 2007 by Kinder, Lyndenberg and Domini (KLD), an independent research firm that rates the social performance of corporations.[4] The chart reveals that the level of relative strength in the seven individual areas of CSR rated by KLD varies among the five classifications of firms.[5] In other words, firms choose to invest in different types of CSR when catering to different groups of stakeholders.

A greater proportion of goods-producing firms showed strength in the environment issue areas. This result is perhaps not surprising. Stakeholders in service firms are not likely to value CSR efforts related to the environment, since services probably have lower perceived environmental impact than manufacturing firms do.

In the community issue area—where strengths include giving programs, volunteer programs and support for local organizations—firms providing experience services performed quite well. Devoting resources to CSR activities in community relations can bolster reputation, on which firms that are classified in the experience services category typically rely as a form of brand differentiation. Banks, which constitute a large portion of the firms in the experience services category, can also excel in this area of CSR by committing a portion of their commercial loan portfolio to community development initiatives.

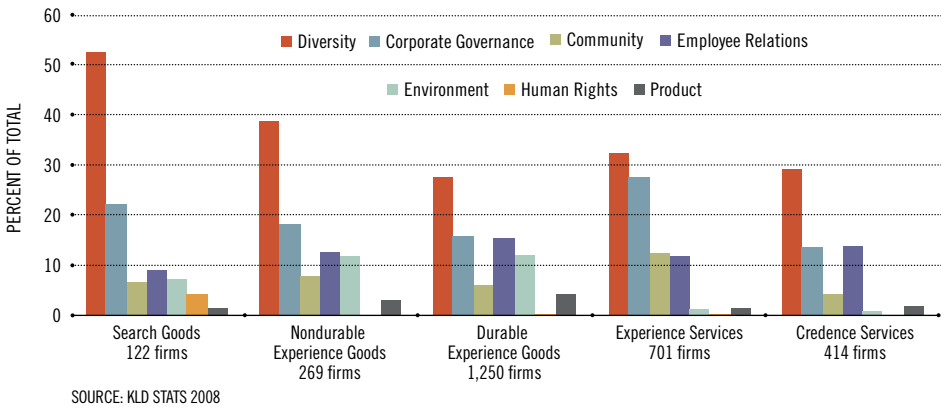
In the human rights issue area, the five categories of businesses have few, if any, firms that demonstrated relative strength. The only category with a sizeable proportion of firms was the search goods category. This is also understandable, as firms in this category face higher pressures from activists concerned about the working conditions of unskilled labor employed (usually in developing countries) in the production process.

Being Responsible...and Profitable

Modern theoretical and empirical analyses indicate that firms can strategically engage in socially responsible activities to increase private profits. Given that the firm's stakeholders may value the firm's social efforts, the firm can obtain additional benefits from these activities, including: enhancing the firm's reputation and the ability to generate profits by differentiating its product, the ability to attract more highly qualified personnel or the ability to extract a premium for its products. Ω

Rubén Hernández-Murillo is an economist at the Federal Reserve Bank of St. Louis. Christopher J. Martinek is a research associate there.

Proportion of the 3,000 Largest Publicly Traded U.S. Firms Demonstrating Strength in Social Issue Areas



SOURCE: KLD STATS 2008

ENDNOTES

1 See General Mills Inc. for detailed examples of corporate CSR efforts.
2 See KPMG.
3 See Friedman (1962, 1970).
4 A firm is considered to have a relative strength in an issue area when the fraction of strengths identified divided by the number of strengths considered exceeds the fraction of areas of concern identified divided by the number of concerns considered.
5 The ratings in the seven social issue areas are provided by Kinder, Lyndenberg and Domini (KLD) from the 2008 KLD STATS database. KLD rates the largest 3,000 publicly traded U.S. companies in several categories of strengths and concerns in each issue area. The classification of firms by product or service provided used a listing of primary industry (NAICS) codes provided by the Center for Research in Security Prices (CRSP) database. Since some firms received no ratings from KLD or did not have a primary NAICS code listed in the CRSP database, the total number of firms considered is slightly fewer than 3,000.

REFERENCES

Friedman, Milton. *Capitalism and Freedom.* Chicago: University of Chicago Press, 1962.

Friedman, Milton. "The Social Responsibility of Business Is To Increase Its Profits," *The New York Times Magazine,* Sept. 13, 1970, No. 33, pp. 122-26. See www.colorado.edu/studentgroups/libertarians/issues/friedman-soc-resp-business.html.

General Mills Inc. *Corporate Social Responsibility Report, 2008.* See www.generalmills.com/corporate/commitment/NEW_CSR_2008.pdf

Husted, Bryan W.; and Salazar, José de Jesus. "Taking Friedman Seriously: Maximizing Profits and Social Performance." *Journal of Management Studies,* January 2006, Vol. 43, No. 1, pp. 75-91.

KPMG, *International Survey of Corporate Responsibility Reporting of 2008,* October 2008. See www.kpmg.com/Global/IssuesAndInsights/ArticlesAndPublications/Pages/Sustainability-corporate-responsibility-reporting-2008.aspx.

Siegel, Donald S.; and Vitaliano, Donald F. "An Empirical Analysis of the Strategic Use of Corporate Social Responsibility." *Journal of Economics and Management Strategy,* Fall 2007, Vol. 16, No. 3, pp. 773-92.

This Is Not Your Father's Recession ...or Is It?

By Charles S. Gascon

Every recession and financial crisis has certain characteristics in common; at the same time, each event is unique.

Recessions are a common occurrence in any economy, part of the pattern of expansion and contraction known as the business cycle. For most Americans, the current recession is, by far, the worst recession in their adult lifetime. Not since 1981 has the economy contracted for more than a single year. Heightening economic insecurity, this particular recession is also associated with a financial crisis, as many news stories recall the turmoil of the Great Depression.

Although there is a strong correlation between financial crises and severe economic downturns, not all financial crises result in a depression or even a recession: The U.S. economy never slipped into recession after the 1987 financial crisis.

Every recession and financial crisis has certain characteristics in common; at the same time, each event is unique. Similarities across recessions are generally related to declines in employment, production and inflation. Financial crises tend to be associated with an increased demand for government-backed assets and a decline in demand for private assets—a feature known as "flight to quality."

The unique characteristics of the current recession are a significant decline in home prices and the resulting financial crisis. Surprising to many, the recent declines in employment and income, so far, have been consistent with past recessions. One feature of the current environment that stands out as a stark departure from past financial crises—particularly compared with the Japanese financial crisis or with the Great Depression—is a proactive response by policymakers.

Comparing U.S. Recessions

Since 1978, economists and policymakers have accepted the judgment of the National Bureau of Economic Research (NBER) Business Cycle Dating Committee on the start and end of a recession, or business cycle

turning points. The NBER is a nonprofit organization, and the committee consists of well-respected economists from around the country. This group defines a recession as "a significant decline in economic activity spread across the economy, lasting more than a few months." The committee does not use the popular definition of a recession as two consecutive quarters of negative growth in real gross domestic product (real GDP). Because of this, dating of recessions is sometimes confusing. The committee dated the start of the current recession as December 2007, even though real GDP actually increased by an average annual rate of 1.9 percent during the first two quarters of 2008.

According to the committee, the U.S. economy has experienced six periods of recession during the past 40 years.[1] On average, these past recessions have lasted 10.8 months. The longest recessions—beginning in November 1973 and July 1981—each lasted 16 months. The shortest recession—beginning in January 1980—lasted six months. Although the end of the current recession is unclear, some economists expect it to extend into mid-to-late 2009, a duration of about 18 to 24 months.

In its December 2007 report, the committee focused on four indicators: industrial production, total nonfarm employment, real personal income less transfer payments, and wholesale and retail sales. Many economists follow these indicators to gauge the state of the economy.[2] Surprising to many non-economists, the unemployment rate is not included. (See Figure 1.) The rate tends to reach its minimum after the recession has begun. This occurs because the unemployment rate measures the share of the population not employed but *actively seeking* work. As the economy moves into recession, many people stop looking for work and are omitted from the index. Cushioning the unemployment rate's decline, when the economy improves people will once again seek work.

Three popular leading economic indicators that tend to move prior to business cycles are stock price indices, housing starts and interest rate spreads.[3] In particular, stock price indices normally increase about three months prior to the end of a recession.

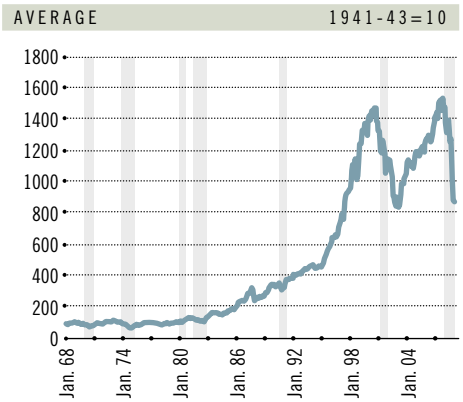
Figure 2 displays a broad collection of indicators used to assess the state of the economy. The series were selected because they exhibit trends generally unique to the current recession. Other important indicators have exhibited normal recessionary declines. The figure compares the declines throughout the current recession (red lines) to the average decline over the past six recessions (solid blue lines). Each series reports the percent change from the business cycle peak. The horizontal axis reports the months before and after the peak. For example, the datum on the red line at month one reports the percentage decline from December 2007 to January 2008, while the datum on the solid blue line at month one reports the average decline during the

FIGURE 1

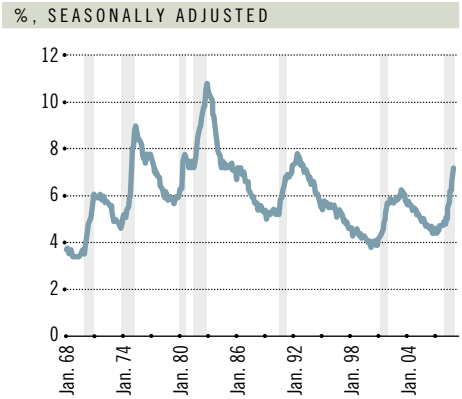
Business cycle indicators can be classified as leading, lagging or coincident based on their turning points relative to the business cycle. For example, the S&P 500 is a leading indicator because it generally turns down before the onset of a recession and up before the recession ends. (There are always exceptions.) While the unemployment rate is a lagging indicator, total employment is a coincident indicator—its peaks and troughs generally occur in the same month as business cycle peaks and troughs. The gray bars represent the current and past six recessions.

Leading, Lagging and Coincident Indicators

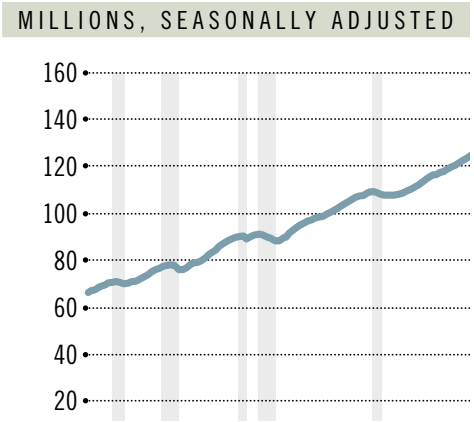
S&P 500 Stock Price Index



Civilian Unemployment Rate



Total Nonfarm Employment



first month of the past six recessions. The variability in each series is captured by the two dashed lines, which report the highest and lowest values recorded across the past six recessions.

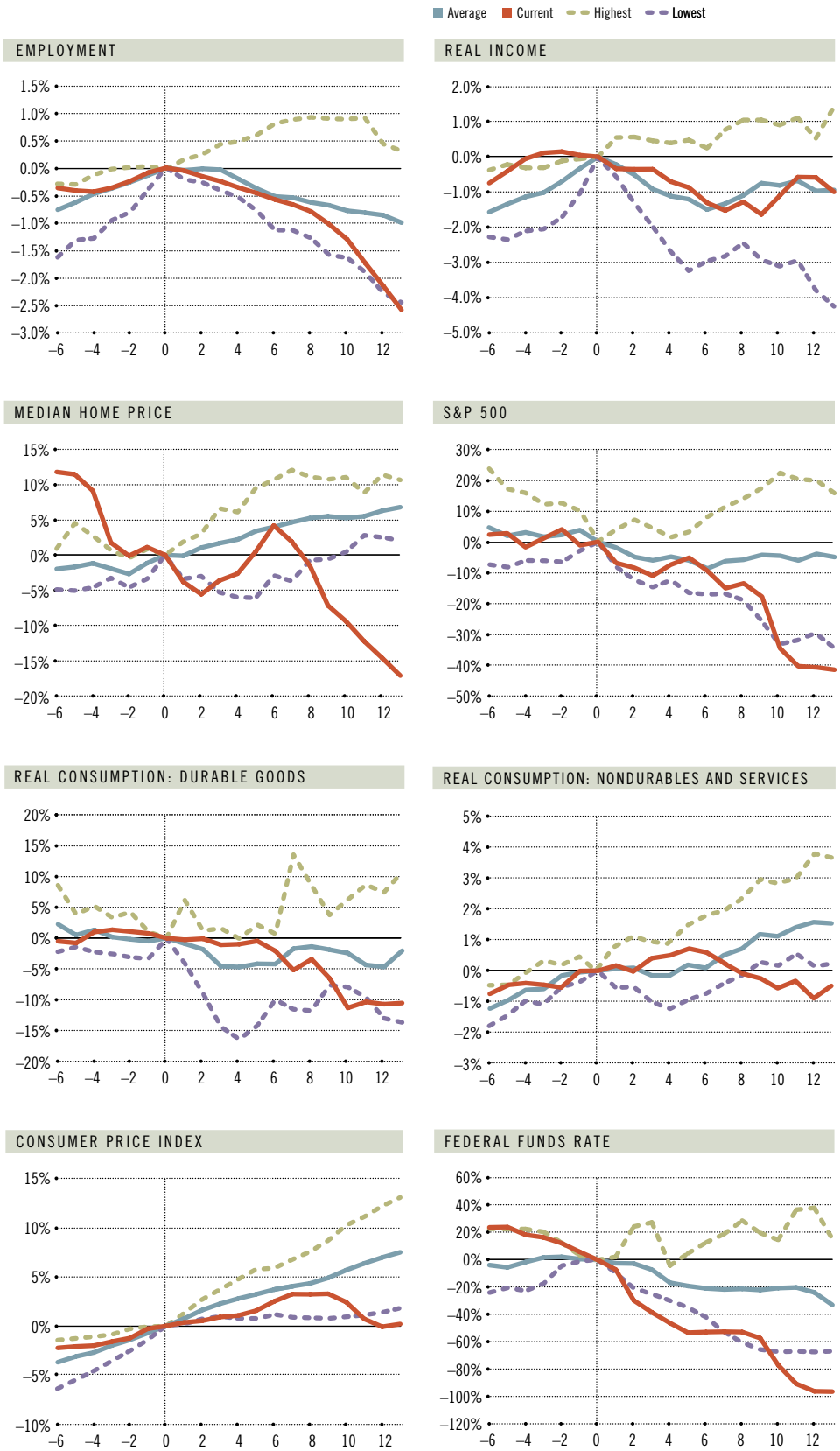
The two charts on the top row describe the general state of the economy through data on total nonfarm employment and real personal income less transfer payments. Percentage decreases in these series, thus far, have been within the range exhibited by past recessions. In December 2008 (month 12 on the chart), employment was 2.2 percent lower than a year ago, while real incomes declined by less than 1 percent. Although simple charts alone cannot suggest reasons for these declines, low inflation has likely assisted in stabilizing real incomes, and active monetary and fiscal policies have mitigated the spillover effects from turmoil in financial markets into these broad measures of economic well-being.

In the second row are two series that describe the current financial crisis: home prices, measured by the median sales price of existing family homes, and stock prices, measured by the S&P 500 index. The decrease in home prices started months before the current recession, dropping 12 percent in the six months before the recession and another 15 percent in the 12 months after the recession began. During past recessions, home prices tended to be relatively stable. Only during the 1990-1991 recession did home prices decline by more than 3 percent. Falling home prices erased over $3 trillion in home equity from the wealth of American households in 2008. The problems in the housing market have also taken a significant toll on equity prices, particularly the equities of financial institutions highly exposed to real-estate-related securities. Over the first 13 months of the recession, the S&P 500 lost over 40 percent of its value.

Trends in real consumption are reported in the third row of the figure. Consumption is separated into two components: consumption of durable goods and consumption of nondurable goods and services. Consumption of durable goods can be thought of as a type of household spending on "big ticket" items (e.g., refrigerators and automobiles), which are more likely dependent on financing. Consumption of nondurable goods and services tends to be smaller purchases that households buy with cash. The figure indicates that these two types of consumption have different cyclical properties. On the one hand, consumption of durables declined during past recessions; on the other hand, consumption of nondurables and services remained stable or even grew during past recessions. It is likely,

continued on Page 11

Comparison of Business Cycle Indicators



SOURCES: Employment and the Consumer Price Index are from the Bureau of Labor Statistics; real income and real consumption are from Bureau of Economic Analysis; S&P 500 is from *The Wall Street Journal*; federal funds rate is from the Federal Reserve Board H.15.

FIGURE 2

The current recession is different, but how different? The charts to the left put things into perspective. The red lines represent the percent change in each series from the start of the current recession, December 2007. As a benchmark, the blue lines report the average (solid line), highest (gold dotted lines) and lowest levels (purple dotted lines) experienced over the past six recessions. (They do not represent data for a particular recession.) If the red line remains close to the average, or at least above the lowest, the decline can be interpreted as a normal recessionary one. The numbers on the horizontal axes represent months before and after the business cycle peak.

Are Great Depression Fears Warranted?

The Great Depression (1929-1939) began about August 1929 with a severe recession, which lasted for 43 months. Between 1933 and 1937, the economy expanded, actually reaching its 1929 level of output. In May 1937, the economy again slipped into recession, although one that was much less severe and that lasted only through June 1938. Most historians agree that the Great Depression ended sometime in 1939, although the worst year of the Depression was probably 1933.

One popular phrase in recent months has been "the worst decline since the Great Depression." Fortunately, the difference between the "worst since" and "as worse as" the Great Depression is vast. Some events are similar: The failure of major investment banks and the largest commercial bank, as well as a sharp decline in consumer spending, have been the main points of comparison between these episodes. Contrary to the Depression-era references, institutions designed to prevent banking collapses and substantial action by policymakers make these two episodes very different.

RECESSION VS. DEPRESSION

	Percentage declines between dates		
	Dec. 2007 to Dec. 2008	1929 to 1930	1929 to 1933
Per capita personal income less transfer payments	–0.7	–11.7	–48.0
Total nonfarm employment	–2.2	–5.6	–15.8
S&P 500 stock price index*	–40.8	–30.9	–79.3

SOURCES: Author's calculations using data from: *Historical Statistics of the United States*, Bureau of Economic Analysis, and *The Wall Street Journal*. * Changes are from August 1929 to August 1930 and August 1929 to March 1933.

The current recession would have to last another 2.5 years before reaching the length of the 1929-33 recession. Investment banks have failed during the current crisis, but depositors' confidence in their banks has remained firm. Between 1930 and 1933, an average of 9.2 percent of all banks failed every year. The FDIC reported last year that only 30 of over 7,000 banks failed or received assistance. This is less than 0.5 percent.[10]

The accompanying table compares recent declines in income, employment and stock prices with those experienced during the 1929-33 recession. The column on the left reports the percentage declines during the first year of the current recession, the center column shows the percentage declines over the first year of the Great Depression and the column on the right shows the total declines over the entire 1929-33 recession.[11]

The S&P 500 lost more value in the first 12 months of the current recession than in the first 12 months of the Great Depression. But broader economic indicators have been much stronger of late. Per capita income declined by over 10 percent during the first year of the Depression, while current per capita incomes (before adjusting for inflation) have remained stable. Similarly, employment declined by 5.6 percent during the first year of the Great Depression, but declined by 2.2 percent in the first year of the current recession.

While it cannot be directly inferred from the chart, differences in government policy likely exacerbated the Depression-era's declines in income and employment while mitigating the current declines. During the Depression, the Revenue Act of 1932 raised taxes to meet budget shortfalls, and the Federal Reserve failed to sufficiently expand the money supply to offset the effect of the elevated demand for currency. In contrast, in 2008, the Federal Reserve greatly increased the money supply, and the federal government implemented increased spending and tax reductions.

A final point of interesting information: In the year after the 1929-33 recession, the stock market rallied, increasing 72 percent in one year. However, it took another 20 years until the S&P 500 reached its 1929 levels. In more recent times, stock prices fell 40 percent between 1999 and 2002, and only five years were needed to recover the losses.

continued from Page 8
because real incomes have remained stable, that recent declines in wealth and/or liquidity constraints have suppressed both forms of consumption. Consumption of durables declined 11 percent in the first 12 months of the recession. Consumption of nondurables and services, while remaining relatively stable, declined about 1 percent over the same time period.

Losses in wealth associated with home and stock prices have reduced consumer spending. Economic theory suggests that consumption is primarily driven by lifetime wealth. In response to short-term declines in income, households will smooth their consumption by borrowing. That means that consumption spending will fluctuate less over business cycles than household income or wealth will fluctuate. This theoretical result must be amended to account for liquidity constraints, that is, some households will find it difficult to borrow money as their income falls because lenders will be uncertain of future earnings and, hence, prospects for repayment. The current financial crisis has reportedly increased the difficulty of individuals and businesses to borrow. The result has been the largest recessionary decline in real consumption in the past 40 years.

The bottom row reports the trend in inflation, measured by the Consumer Price Index, and the trend in the effective federal funds rate. Slowing inflation has allowed the Federal Reserve to act in a proactive fashion when dealing with the current recession. Not only have reductions in the federal funds rate been larger than in past recessions, but the reductions actually started three months before the onset of the latest recession. The federal funds target decreased from 5.25 percent on Sept. 17, 2007, to 2 percent on April 30, 2008. By the spring of 2008, when the financial crisis was fairly certain, the Federal Reserve began to aggressively reduce its target, ultimately to between 0 and 0.25 percent on Dec. 16, 2008.

Comparing Financial Crises

Tightening of credit, declines in asset prices, and banking runs or failures tend to characterize financial crises.[4] Tightening of credit occurs because banks, institutions and individuals fear that borrowers will be unable to repay a loan or investment. The inability of investors to evaluate the creditworthiness of borrowers causes them to move away from private assets (i.e., stocks or corporate bonds) and toward government-issued (or guaranteed) debt (i.e., Treasuries, bank deposits or currency). The shift from private to government-issued debt may reduce the demand for private assets, such as houses or equities, which, in turn, pushes down their prices.

Prior to the creation of the Federal Deposit Insurance Corp. (FDIC), bank runs were a feature of crises. Depositors who were worried about their ability to access cash that was held at their bank would run to the bank to withdraw their money. As depositors withdrew funds, banks would be forced to quickly liquidate assets, possibly at a loss, resulting at times in the failure of the bank.

In the current recession, bank runs at FDIC-insured institutions have not occurred. Worried investors, however, did withdraw large amounts from money market mutual funds after a major fund "broke the buck" in September 2008.[5] In response, the Treasury and Federal Reserve instituted federal guarantees for all money market fund shares held as of Sept. 18, 2008. Similarly, some hedge funds have been forced to halt redemptions due to attempted runs.

The Japanese crisis, which lasted through the 1990s, is similar in many ways. In the decade preceding the crisis, deregulation allowed banks to transform their balance sheets, exposing them to more risk.

Many have studied the Japanese financial crisis for lessons on how to handle the current U.S. financial crisis. The Japanese crisis, which lasted through the 1990s, is similar in many ways.[6] In the decade preceding the crisis, deregulation allowed banks to transform their balance sheets, exposing them to more risk. Over this same period, the percentage of loans that banks extended to real estate doubled. During the financial crisis and subsequent recession, home prices in Japan declined over 35 percent and equity prices declined by roughly 60 percent. For many, the U.S. declines in home and equity prices are all too similar. (See Figure 2.) The Japanese crisis was unique, on the other

hand, because of its longevity (lasting over a decade), but with only modest declines in output (close to 1 percent) and low unemployment (under 5 percent).

Many economists have been quite critical of how Japanese policymakers handled the crisis. Economist Benjamin Friedman suggested in 2000 that the Japanese government incorrectly pursued a policy of forbearance, wherein weak supervision standards allowed banks to postpone the correct classification of nonperforming assets. Friedman also suggested that Japan should have applied more-expansionary monetary and fiscal policies. In response to the crisis, the Bank of Japan did, in fact, lower its key interest rate to virtually zero percent. Many have suggested, however, that the Bank of Japan could have gone further and was mistaken to assume that zero interest rates ended its ability to stimulate the economy through monetary policy.[7] U.S. policymakers have learned from this experience and pursued expansionary policy even with target interest rates close to zero percent.

In a recent study, economists Carmen Rienhart and Kenneth Rogoff compare the recent declines in major economic indicators with the declines experienced during 15 previous financial crises associated with recessions in the U.S. and elsewhere.[8] Three common features of the data are: (1) a collapse in asset prices, (2) profound declines in output and employment and (3) exploding government debt.

As expected, collapses in asset prices tend to be severe during financial crises. Reinhart and Rogoff report that, on average, real equity prices declined by 55.9 percent, while home prices declined by an average of 35.5 percent. The duration of these declines was particularly long: Equity declines lasted, on average, 3.4 years, and home prices slid for six years. While the durations are unknown, the declines reported in Figure 2 are generally consistent with these averages.

The reported declines in output and employment are smaller than decreases in asset prices. The average decline in real GDP per capita lasted just under two years, exhibiting a total decline of 9.3 percent, or an average quarterly decline of about 1 percent. In 2008, the average quarterly decline in real GDP per capita was 0.75 percent. At its highest, the unemployment rate across these countries averaged 7 percent, which is only about 1 percentage point above the 40-year average U.S. unemployment rate. A useful comparison is the Great Depression, during which the real GDP per capita declined by almost 30 percent and the unemployment rate increased to 23 percent. (See sidebar on Great Depression comparison.)

Exploding government debt is possibly the most astounding characteristic of financial crises. In the major post-WWII crises that Reinhart and Rogoff studied, the average increase in real government debt was 86 percent. The outlook for the U.S. national debt was ominous even before the current financial crisis, increasing roughly 60 percent between 2000 and 2007.[9] Nevertheless, the debt had increased another 8.5 percent between January and September 2008. Reinhardt and Rogoff note that while antirecessionary government spending surely increases the national debt, the primary factor tends to be declining tax revenue from a slowing economy. This finding is possibly at odds with some criticism that government stimulus programs may raise the debt burden. Absent of its effect, government spending will increase the debt burden, but successful government stimulus programs could actually reduce the debt by growing the economy and, thus, increasing tax revenue.

Look Beyond the Headlines

Much of the fear surrounding the current recession has stemmed from the collapse in home prices and subsequent turmoil in financial markets. The "historic" undertone in the reporting of most economic data has heightened economic insecurity. As unique as the current recession may be, the policy response has been very proactive. So far, this has mitigated the impact of the financial crisis on broader measures of economic health. By understanding the parallels among recessions, it is possible to disentangle the typical recession-period bad news from the truly unexpected bad news that might signal unusual problems. Ω

Charles S. Gascon is a research associate at the Federal Reserve Bank of St. Louis.

ENDNOTES

1 According to the NBER, the past six recessions began in December 1969 (lasting 11 months), November 1973 (16), January 1980 (6), July 1981 (16), July 1990 (8) and March 2001 (8).

2 See the Federal Reserve Bank of St. Louis' "Tracking the Recession" at http://research.stlouisfed.org/recession.

3 Interest rate spreads are the difference between a long-term interest rate (10-year Treasury bond) and a short-term interest rate (federal funds rate). Interest rate spreads have been negative before every recession in the past 40 years.

4 Tightening of credit is not necessarily unique to financial crises; it occurs during most, if not all, economic downturns.

5 "Breaking the buck" means that the fund's asset value falls below $1 per share.

6 Freidman provides parallels between Japan's financial crisis and the U.S. savings and loan crisis of the late 1980s and early 1990s. This section is based on Friedman's interpretation of the Japanese experience and data reported in Reinhart and Rogoff.

7 Bernanke (2000) is often credited for this critique.

8 The crises are: Norway (1899), U.S. (1929), Spain (1977), Norway (1987), Finland (1991), Sweden (1991), Japan (1992), Hong Kong (1997), Indonesia (1997), South Korea (1997), Thailand (1997), Malaysia (1997), Philippines (1997), Colombia (1998) and Argentina (2001).

9 See Pakko for a complete discussion.

10 Depression-era failures are reported in Bernanke (1983). Current failures are reported in FDIC table BF01, total institutions in FDIC table CB01.

11 According to the NBER, the business cycle peak occurred in August 1929. Only annual data are available during this time period; 1929 is used as the recession start. The magnitudes of the declines are modestly increased when using the 1930 to 1931 percent change.

REFERENCES

Bernanke, Ben S. "Nonmonetary Effects of the Financial Crisis in the Propagation of the Great Depression," *American Economic Review,* 1983, Vol. 73, No. 3, pp. 257-276.

Bernanke, Ben S. "Japanese Monetary Policy: A Case of Self-Induced Paralysis," in Ryoichi Mikitani and Adam S. Posen eds., *Japan's Banking Crisis and Its Parallels to U.S. Experience,* pp 149-166. Washington: Institute for International Economics, 2000.

Friedman, Benjamin M. "Japan Now and the United States Then: Lessons from the Parallels," in Ryoichi Mikitani and Adam S. Posen eds., *Japan's Banking Crisis and Its Parallels to U.S. Experience,* pp 37-56. Washington: Institute for International Economics, 2000.

Pakko, Michael. "Deficits, Debt and Looming Disaster." *The Regional Economist,* January 2009, Vol. 17. No. 1, pp. 4-9.

Reinhart, Carmen M.; and Rogoff, Kenneth S. "The Aftermath of Financial Crises," paper presented at the 2009 American Economic Association meetings. *American Economic Review,* forthcoming.

The Financial Crisis in S, M and L

Three Very Different Countries Respond Similarly

By Rajeev Bhaskar and Yadav Gopalan

Last September and October were critical for the United States in the ongoing financial crisis. Almost daily, there were announcements of mergers—and failures—of major financial institutions, and huge corporations across many industries pleaded for government help. In response, federal lending and other assistance programs popped up like mushrooms after a downpour, offering hundreds of billions of dollars in aid.

While many Americans were shaken by the problems in the private sector, they were just as anxious about the response from the federal government. Although the response was unprecedented in many ways, it's important to know that the U.S. wasn't taking such action in a vacuum. At the same time that the crisis was snowballing in the United States, it was spreading around the world. And government leaders in other countries were responding with similarly bold and unprecedented actions.

This article examines the crisis and response last fall in a sampling of countries —a small one (Iceland,) a medium one (the United Kingdom) and a large one (the United States). While each country had somewhat different problems and different institutions to deal with those problems, all responded with forceful action and major intervention to keep their financial systems from a complete collapse.

THE U.S. SITUATION

The U.S. economy is the largest in the world. In 2007, GDP was $13.8 trillion, approximately five times larger than that of the U.K. and 708 times larger than that of Iceland. The U.S. financial sector represented 8.9 percent of the total economy in 2007.

The turbulent financial market conditions in the fall of 2008, along with the ongoing financial crisis, have their roots in the subprime crisis dating back to mid-2007. When financial institutions suffered significant losses to their subprime mortgage portfolios, investor confidence in the credit markets was shaken. The ensuing year-long credit and liquidity crisis overflowed onto the global arena in September 2008. This period can be characterized by severe liquidity contraction in the credit markets, mounting losses and failures of financial institutions, as well as the threat of insolvency to many other financial institutions.

Fannie Mae and Freddie Mac, the two housing government-sponsored enterprises (GSEs), were among the first of the large troubled institutions that the government aided. Falling house prices and rising foreclosures led to significant losses. The two GSEs saw their stock prices plummet more than 90 percent over the year. More bad news came when Lehman Brothers filed for bankruptcy protection Sept. 15, rattling the markets across the globe. AIG (American International Group) was the next large financial services company in trouble. On Sept. 16, credit rating agencies downgraded AIG, requiring it to post collateral on its credit default swaps. This led to a liquidity crisis for AIG; it was unable to generate the billions of dollars in cash required to meet its obligations. Next was the failure on Sept. 26 of the largest thrift in the U.S., Washington Mutual, which had assets of more than $300 billion.

The U.S. has a complex and diverse financial regulatory structure, consisting of numerous federal and state agencies with different roles, jurisdictions and objectives. Though many government agencies have played some role in the response to the financial crisis, there have been four major players: the Federal Housing Finance Agency (FHFA), the Federal Deposit Insurance Corp. (FDIC), the Federal Reserve and the Treasury.

The Response

FHFA

The FHFA was created July 30, 2008, by the merger of the Federal Housing Finance Board (FHFB) and the Office of Federal Housing Enterprise Oversight (OFHEO). The new agency oversees the secondary mortgage markets. Soon after its formation, the FHFA nationalized the two housing giants Fannie Mae and Freddie Mac. The government, in effect, invested in them, took control of their boards and managements, and restricted their activities. These actions reassured market participants that Fannie and Freddie still had the necessary funds to buy mortgage loans and would continue to play an important role in providing liquidity to the U.S. mortgage market.

The FDIC

The FDIC is an independent agency of the federal government that has a mandate to maintain financial stability by insuring deposits, examining and supervising financial institutions, and managing receiverships. Through legislative action, the FDIC's deposit insurance limit was raised to $250,000 from $100,000 through December 2009 in order to provide security

A Timeline of the Events of Fall 2008 for U.S., U.K. and Iceland

Sept. 7

Fannie Mae and Freddie Mac nationalized.

(AP PHOTO/SUSAN WALSH)

Treasury Secretary Henry Paulson Jr. speaks during a news conference in Washington on Sept. 7 on the nationalization of mortgage giants Fannie Mae and Freddie Mac.

Sept. 14

Bank of America buys Merrill Lynch for $50 billion.

Bank of America

Merrill Lynch

Bank of America bought Merrill Lynch in a $50 billion deal that created a bank offering everything from fixed-income trading to credit-card lending.

Sept. 15

Lehman Brothers files for bankruptcy protection.

(AP PHOTO/MARY ALTAFFER)

Robin Radaetz holds a sign in front of the Lehman Brothers headquarters Sept. 15 in New York. Lehman Brothers, a 158-year-old investment bank choked by the credit crisis and falling real estate values, filed for Chapter 11 protection in the biggest bankruptcy filing ever and said it was trying to sell off key business units.

Sept. 16

Federal Reserve aids AIG with $85 billion loan.

AIG

In a bid to save financial markets and economy from further turmoil, the Federal Reserve said Sept. 16 it would provide up to $85 billion in an emergency, two-year loan to rescue the New York-based insurance corporation.

to depositors and small businesses during the financial crisis. The FDIC, through its rule-making powers, initiated a temporary liquidity guarantee program that guarantees newly issued senior unsecured debt of banks, thrifts and certain holding companies and that provides insurance coverage of noninterest bearing deposit transaction accounts.

The Fed

The Federal Reserve, the central bank of the United States, is independent from the fiscal authority (the Treasury). The role of the central bank is to foster a sound banking system and a healthy economy. The Fed is different from the central banks of Iceland and the U.K. in that the U.S. central bank is the only one that is also a regulator and supervisor of banks.

As early as August 2007, when the markets began showing financial strain, the Fed lowered its discount rate by 50 basis points. This was followed by a rapid easing of monetary policy. The target fed funds rate was lowered from 5.25 percent in September 2007 to a range of 0-0.25 percent in December 2008. The easing helped in lowering short-term lending rates, yet activity in the credit and securitization markets remained clogged.

The Fed has also provided an enormous amount of liquidity (close to $1 trillion) to private institutions to restore the normal functioning of credit. The Fed's actions have included direct lending to banks and primary security dealers, and have provided liquidity directly to borrowers and investors in key credit markets. At the height of the crisis, the Fed provided an initial loan of up to $85 billion to the beleaguered AIG to meet its short-term needs. To help maintain liquidity in worldwide financial markets—which are largely denominated in dollars—the Fed has initiated swap lines with several central banks around the world.

The Treasury

The Treasury Department is the executive agency of the government responsible for promoting economic prosperity and ensuring the financial security of the United States. Through its bureaus (the Office of the Comptroller of the Currency and the Office of Thrift Supervision), the Treasury regulates and supervises depository institutions.

Among the most far-reaching actions taken by the government last fall was the Treasury's $700 billion financial services stabilization package, formally known as TARP (Troubled Asset Relief Program).

Sept. 17

Britain's biggest mortgage lender, HBOS, is taken over by Lloyds TSB in a £12 billion deal.

(AP PHOTO / JOHN STILLWELL, POOL)

Halifax Bank of Scotland Chief Executive Andy Hornby, left, shakes hands with Lloyds TSB Chief Executive Eric Daniels, right, while Lloyds Chairman Victor Blank looks on after the merger was agreed to Sept. 17 in London. Blank said that the prime minister had told him the day before that competition rules would be set aside to make way for the merger.

Sept. 19

U.S. Treasury secretary announces $700 stabilization plan.

Senate Majority Leader Harry Reid, D-Nev., speaks to reporters after members of Congress met with SEC Chairman Chris Cox, second from left, and Treasury Secretary Henry Paulson, third from left, House Speaker Nancy Pelosi, and Federal Reserve Board Chairman Ben Bernanke, right, on Sept. 18 in Washington. Democrats began the week by blaming President Bush for the financial crisis and said it was his job to fix it. But as the disarray became a meltdown and the entire U.S. economy was at stake, they pledged to work with Republicans on a rescue that could cost taxpayers hundreds of billions of dollars.

(AP PHOTO/LAUREN VICTORIA BURKE)

Sept. 21

Morgan Stanley and Goldman Sachs become bank holding companies.

Morgan Stanley

Goldman Sachs

Late Sunday, Sept. 21, the Federal Reserve granted Goldman Sachs and Morgan Stanley, the country's last two major investment banks, approval to change their status to bank holding companies.

This package was designed to buy troubled assets, especially mortgage backed securities (MBS), and to provide capital to banks that had severe liquidity needs. Between the creation of TARP and its implementation, however, the thrust of the program morphed into one of recapitalizing financial institutions. As of Jan. 6, 2009, the Treasury had invested a total of $187.5 billion in senior preferred shares in 214 financial institutions; $40 billion to AIG under the Significant Failing Institutions Program; $19.4 billion to the auto industry; $20 billion to Citigroup as part of the Targeted Investment Program; and $20 billion for a Federal Reserve consumer-finance program. The grand total was $282.9 billion.

THE SITUATION IN ICELAND

Until fairly recently, Iceland's two major industries had been fishing and tourism. The government had tight control over many sectors, including banking. Earlier this decade, Iceland's government privatized many sectors of the economy by selling off state assets, including its banking institutions.

Following privatization between 2001 and 2003, Iceland's commercial banks grew tremendously. In addition, some banks used debt, primarily denominated in euros, to finance aggressive expansion overseas. Figure 1 (on the next page) shows the speed at which Iceland's banks issued credit and marketable securities; it also shows the growth in their deposits.

The sector was dominated by three main banks: Glitnir, Landsbanki and Kaupthing. All three institutions expanded internationally and had become savings havens for Europeans who wanted to take advantage of Iceland's high interest rates.

Right before the crisis, the sector's collective assets had ballooned to roughly eight times the country's overall GDP.[1] Furthermore, the banks' stocks had risen to comprise roughly 75 percent of Iceland's stock market value.[2]

Glitnir, the third largest financial institution in Iceland, had borrowed heavily for aggressive expansion abroad. On Oct. 15, the bank had roughly €600 million in maturing debt; in addition, it needed to pay out €150 million as part of a loan it arranged with Bayerische Landesbank, a German bank. Due to a precipitous drop in the value of the currency, as well as the central bank's insufficient foreign reserves, Glitnir did not have the cash necessary to pay down its debt, as well as to pay its loan to Bayerische Landesbank. (The German government eventually structured a rescue package for Bayerische Landesbank.)

Landsbanki, the second largest bank, was a particular magnet for foreign savers, especially for British savers. In the wake of Glitnir's collapse, British depositors withdrew roughly $272 million in deposits from Landsbanki over one weekend, causing severe liquidity problems for the bank.

For Kaupthing, Iceland's largest bank, problems arose when the Icelandic government guaranteed a higher level of deposits for Icelanders but not for foreigners. As a result, the U.K. government invoked anti-terror laws to freeze Kaupthing's foreign assets.

Institutional Structure and Policy Responses

The main organizations that orchestrated Iceland's response to its crisis were its central bank (Sedlabanki Islands), its fiscal authority (the Finance Ministry) and its financial regulatory body (the Financial Supervisory Authority, also known as FME, a derivation from its Icelandic name). Unlike in the United States, Iceland's banks, as well as its financial markets as a whole, are regulated by a single authority, the FME. Its authorities and responsibilities are

Sept. 26

Washington Mutual, with $307 billion in assets, becomes largest thrift failure.

(AP PHOTO/DOUGLAS C. PIZAC, FILE)

In this April 8, 2008, photo, a closure notice hangs in the window of a Washington Mutual home loan center in Salt Lake City. On Sept. 26, Washington Mutual, one of the nation's largest banks, was seized by the Federal Deposit Insurance Corp. and then sold to JPMorgan Chase & Co.

Sept. 29

Iceland takes control of Glitnir, the country's third largest bank.

GLITNIR

U.K. nationalizes mortgage lender Bradford & Bingley.

Bradford & Bingley

Oct. 1

Financial crisis spreads widely across Europe.

(AP PHOTO/VIRGINIA MAYO)

French President Nicolas Sarkozy, center, gestures while speaking during a media conference at an emergency financial summit at the Elysee Palace in Paris on Oct. 4. The global financial crisis is forcing the leaders of France, Britain, Germany and Italy to come together for an emergency summit in Paris. Seated at left is German Chancellor Angela Merkel, and at right is British Prime Minister Gordon Brown.

Oct. 3

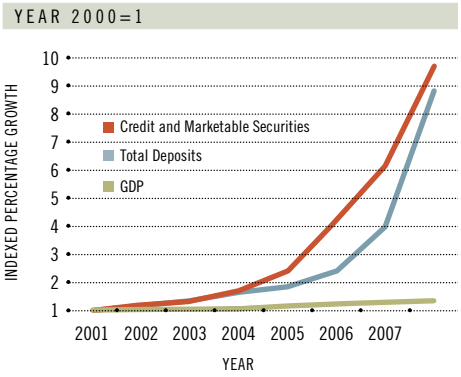
Congress passes stabilization package, called the Troubled Assets Relief Program (TARP).

In this video image from APTN, the final vote tally is displayed after the Senate passed the Economic Stabilization Act by a vote of 74-25 on Oct. 1. The House passed it on Oct. 3 and President Bush signed it within hours.

(AP PHOTO/APTN)

FIGURE 1

Icelandic Banking and GDP Growth, 2000-2007



much broader than any single agency in the United States.[3]

Iceland's central bank is primarily charged with price stability. It achieves this by controlling its interbank policy interest rate to affect the cost of borrowing. The central bank also promotes financial stability, maintains Iceland's foreign reserves, manages public debt, and serves as public repository of economic data and statistics.[4] Because of its small size and its isolated location, Iceland's central bank kept interest rates high in an effort to support the exchange value of its currency.

The Icelandic Finance Ministry is a department within the national government. The finance minister is usually an elected Member of Parliament. The ministry's objectives are to promote a stable economy, collect revenue on behalf of the government, administer the public debt and manage national finances. Unlike its analogous department in the United States, the Treasury, the Icelandic Finance Ministry is not involved with any supervisory tasks.

The central bank, the FME and the Finance Ministry were all central to stabilizing Iceland's banks. Iceland's currency lost tremendous value over the course of two months. From September through October, the krona lost 20 percent versus the U.S. dollar and 17 percent versus the euro. Thus, Glitnir's krona-denominated assets made it difficult for the institution to pay off its debt. To compound the issue, the central bank could not properly function as the lender of last resort because of insufficient foreign currency reserves. On Sept. 29, the FME helped resolve the issue with Glitnir Bank by acquiring a 75 percent stake in the bank, a stake valued at roughly $782 million.[5]

One week later, on Oct.6, the government passed emergency laws enabling the FME to take over banks. Through this legislation, Icelandic officials formally nationalized Landsbanki and Glitnir.

In the midst of the Landsbanki takeover, U.K. and Icelandic officials debated the fate of the British deposits at Icelandic banks. As a result of Iceland not being able to guarantee foreign deposits beyond set European limits, the U.K. invoked anti-terror legislation to freeze assets associated with Icelandic banks and transfer them to ING, a Dutch bank. Due to the exodus of these deposits, Kaupthing was forced to submit to government takeover as well.

The FME then created three "new banks" to continue regular banking operation, while the "old banks" were kept in existence

Oct. 7

Icelandic bank Landsbanki nationalized.

Oct. 8

U.S., U.K. and other countries cut interest rates.

(AP PHOTO/LEFTERIS PITARAKIS)

A journalist in London reporting on the financial crisis holds up a newspaper with the headline "Too little, too late and too much faffing, say the traders." ("Faffing" is slang in the U.K. for "wasting time.") On Oct. 8, six major central banks cut interest rates in a coordinated move to try to ease the effects of the global economic crisis. The banks were those of the U.K., U.S., European Union, Canada, Switzerland and Sweden.

Oct. 8

U.K. government announces £500 billion bank rescue package.

Demonstrators gather outside the Bank of England in London on Oct. 10 to protest against the government's bank rescue plan. Earlier in the week, the government announced it would provide debt guarantees of £250 billion, short- term loans of £200 billion and a Treasury injection of £50 billion.

(AP PHOTO/SANG TAN)

Oct. 10

Icelandic bank Kaupthing is nationalized.

(AP PHOTO/ARNI TORFASON)

A protester speaks to the crowd outside the Central Bank of Iceland in Reykjavik on Oct. 10 during a demonstration demanding the resignation of the chairman, David Oddsson. Iceland suspended trading on its stock exchange for two days and took control of the country's largest bank—the third to be placed under its protective custody as Iceland struggles to bring its economy back from the brink.

as a mechanism to handle foreign deposits and assets, as well as any complex securities. This marked the beginning of a period of recovery for Iceland's banking system. Iceland also secured $2.07 billion in loans from Denmark, Norway, the Faroe Islands and Poland. In addition, Iceland and the International Monetary Fund structured a $2.1 billion economic stabilization program, centered upon preventing further depreciation of the Icelandic krona, developing a plan to restructure its banks as well as putting the country back on sound fiscal footing in the medium term.

THE U.K. SITUATION

Like the quick rise of Iceland's banking sector, the United Kingdom had also experienced an unprecedented growth in its financial sector, to the point at which it rivaled New York and Tokyo as a major center for finance. By the time the U.K. economy started showing signs of weakness, in the summer of 2007, the financial services sector contributed roughly 32 percent toward the U.K. GDP.[6]

The U.K.'s financial institutions began to show signs of strain much earlier than such institutions in Iceland or even in the United States. In the fall of 2007, the U.K. experienced its first bank run in 141 years, with the flight of deposits from lender Northern Rock. Compounding the issue, U.K. authorities resolved to take care of another institution, Bradford & Bingley. The nationalization of Northern Rock in early 2008 and of Bradford & Bingley's mortgages in the fall of 2008 shook British markets. This was compounded by the weak market reaction to the takeover by U.K. bank Lloyds TSB of another bank, HBOS.

In addition, spillovers from the turmoil in the U.S. markets affected the financial sector in London. Many U.S. banks, brokerages and investment firms, including Bear Stearns and Lehman Brothers, had large operations in London.

Institutional Structure and Policy Responses

The United Kingdom's efforts to promote financial stability are anchored by three important institutions: the Bank of England, the Treasury and the Financial Services Authority (FSA). The U.K.'s institutional structure is similar to Iceland's. The Bank of England sets monetary policy by controlling its main interbank policy interest rate. In addition, it has a mandate to promote financial stability. The Bank of England also serves as a lender of last resort to the nation's financial institutions. The U.K. Treasury coordinates fiscal and economic policy on behalf of the government as a whole. It carries out its fiscal policy objectives by collecting tax revenue and managing government debt. Through its goal of coordinating economic policy, the Treasury helps support broad economic growth. Unlike in the United States, the U.K.'s Treasury is not involved in bank supervision.

Despite their differing functions within the financial sector, the U.K. Treasury and the Bank of England worked closely together in forging a policy response. On Oct. 8, the British government and the Bank of England unveiled a three-part plan estimated to cost £500 billion to help stabilize the financial system.[7] The first part of the plan called for a £50 billion recapitalization of Tier 1 capital in the country's financial institutions. An aggregated £25 billion would first be injected into the eight largest institutions, and an additional £25 billion would be used to recapitalize all other institutions. The government would buy preferred stock or preferred interest bearing shares (PIBS) in these entities. As a part of this package, the Treasury would assist in equity offerings

by these institutions. Institutions, on their part, have to submit to the government proposals on executive compensation and dividend payouts, as well as safeguards to ensure that the government investments would go toward lending.

The second part of this plan committed £250 billion to guarantee short- to medium-term debt issuance by financial institutions. For those institutions that do raise a sufficient amount of Tier 1 capital, the government would use this guarantee program to help refinance any prior debt or financing obligations that may be maturing. The aim of this part of the plan is to make funding costs cheaper to banks.

The third part of this plan involved the Bank of England's increase in funds available through its Special Liquidity Scheme (SLS) to £200 billion. Designed by the Bank of England, the SLS enables British financial institutions to swap illiquid assets in return for Treasury bills, which are generally more-liquid assets. Through the amended SLS program, the Bank of England would swap British pounds for three months and U.S. dollars for one week against the collateral that financial institutions put forward.

An additional element in the U.K.'s regulatory structure is the Financial Supervisory Authority (FSA). Set up in the late 1990s, the FSA is an independent agency in charge of regulating all financial services firms. Like Iceland's FME, the FSA has a mandate to supervise all financial services firms and financial markets as a whole. The Financial Services Compensation Scheme (FSCS) is an independent body set up by the British government in 2000 to cover deposits of an insolvent financial institution. Similar to the FDIC in the U.S., it guarantees consumers up to 100 percent of the first £50,000, as well as guarantees for some investments and insurance.

Despite handling claims from lost deposits in Icelandic banks, the FSCS did not create broad guarantees or funding instruments as did its American counterpart, the FDIC. Nor did legislators expand the scope of deposit guarantees, as was the case in the U.S.

Conclusion

In terms of size, scope and regulatory structure, the three countries described in this article are very different. Yet one common factor is the decentralized nature of financial regulation. A number of separate institutions exist to carry out specific functions. Yet in the face of crisis, these organizations were able to work together to form cohesive national responses. The financial crisis in each country, though disproportionate in size relatively speaking, was national in scope for all three. This required, and got, all significant government entities to work together to produce a swift and strong response. As policymakers around the world consider financial market reforms, these experiences should be kept in mind. Ω

Rajeev Bhaskar and Yadav Gopalan are research associates at the Federal Reserve Bank of St. Louis.

ENDNOTES

1 See *Iceland Review Magazine.*
2 See Forelle.
3 The FME oversees operations of banks, investment banks, securities companies, securities brokerages, insurance companies, insurance brokers, the stock exchange (and more broadly, capital markets), central securities depositories, as well as depository activities of any cooperative institution. See Financial Supervisory Authority—Iceland at www.fme.is/?PageID=157.
4 See Central Bank of Iceland.
5 See Federal Reserve Bank of St. Louis timeline for complete perspective on the chain of events.
6 OECD (Organization for Economic Cooperation and Development) country data. See http://stats.oecd.org/WBOS/index.aspx.
7 U.K. Treasury's rescue plan can be found at www.hm-treasury.gov.uk/press_100_08.htm. See, too, www.hm-treasury.gov.uk/fin_support_lending.htm.

REFERENCES

Bank of England information and that on the U.K.'s financial regulatory agency can be found at www.bankofengland.co.uk/index.htm and www.fsa.gov.uk/Pages/About/Aims/index.shtml.

Bernanke, Ben. "The Crisis and the Policy Response." Presented at the Stamp Lecture, London School of Economics, London, England, Jan. 13, 2009. See www.federalreserve.gov/newsevents/speech/bernanke20090113a.htm.

Central Bank of Iceland. Objectives and Roles. See www.sedlabanki.is/?PageID=188.

Central Bank of Iceland information and that on Iceland's Financial Regulatory Agency can be found at www.sedlabanki.is/?PageID=188, at www.fme.is/?PageID=157 and at www.fme.is/?PageID=867.

Federal Deposit Insurance Corp.'s information on "Temporary Liquidity Guarantee Program" can be found at www.fdic.gov/regulations/resources/tlgp/index.html.

Federal Reserve Bank of St. Louis' "The Financial Crisis: A Timeline of Events and Policy Actions." See www.stlouisfed.org/timeline.

Forelle, Charles. "The Isle That Rattled the World." *The Wall Street Journal,* Dec. 27, 2008, Page 1. See http://online.wsj.com/article/SB123032660060735767.html?mod=testMod#CX.

Iceland Review Magazine. Vol. 46, No. 1. March 2008. Interview with Prime Minister Geir Haarde. See www.icelandreview.com/icelandreview/search/news/Default.asp?ew_0_a_id=303247.

Treasury Department's "Emergency Economic Stabilization Act" can be found at www.treas.gov/initiatives/eesa/.

World Bank. Gross Domestic Product 2007. See http://siteresources.worldbank.org/DATASTATISTICS/Resources/GDP.pdf.

FORT KNOX

Helps Protect Economy of Elizabethtown, Ky.

A building boom at nearby Fort Knox is music to the ears of those who live in Elizabethtown and elsewhere in Hardin County. The fort employs more county residents than any other employer. Workers toil on the new human resources command center, a 900,000-square-foot building set for completion in June 2010.

Elizabethtown by the numbers

POPULATION	
City of Elizabethtown	23,777*
Hardin County	97,949*
LABOR FORCE	
County	46,639**
UNEMPLOYMENT RATE	
County	7.3 percent**
PER CAPITA INCOME	
County	$31,875***

* U.S. Bureau of the Census, estimate 2007
** HAVER/BLS, December 2008
*** BEA/HAVER, 2006

TOP FIVE EMPLOYERS

Hardin Memorial Hospital	1,600†
Akebono Brake Systems.	825†
Wal-Mart Stores Inc.	600†
Dana Corp.	500†
AGC Automotive Americas	350††

† Self-reported, February 2009
†† SOURCE: Elizabethtown/Hardin County Industrial Foundation, February 2009

By Susan C. Thomson

Through the fog of the current recession, Fort Knox looms golden to Elizabethtown, Ky.

The Army base, next to the U.S. bullion depository of the same name, came through the base realignment and closure exercise in 2005 with an enhanced mission. Over the next three years, it will bulk up into a bastion of 20,000 jobs, 5,500 of them new. The biggest share of the additions will come with the Army's human resources command, to be consolidated at the fort from sites around the country. By one estimate, allowing for slots taken by current soldiers or Army employees, 1,500 to 1,800 of those new jobs will remain for civilians either in the Fort Knox area or recruited to it. These will be permanent jobs of the corporate-headquarters sort—managerial and technical included, all white-collar.

Although 15 miles outside of Elizabethtown and only partly in Hardin County, Fort Knox has long been the economic elephant in the area. More county residents—2,166 civilians, by the Army's count—work at the post than for any other employer.

In addition, hundreds of local trades people have found temporary work on the fort's many expansion-related construction projects, says B. Keith Johnson, president of Elizabethtown's First Federal Savings Bank. Of these projects, the centerpiece is an office building of about 900,000 square feet—equal to the playing area of 15 football fields. In all, the Army's investment in the base's expansion is projected to approach $1 billion.

Larry Hayes, Kentucky's acting economic development secretary, describes the base's buildup as "one of the most significant

With 1,600 workers, Hardin Memorial Hospital (above) is the No. 1 employer in Elizabethtown. Bad debts are ballooning at the hospital as more uninsured and underinsured people seek services there.

economic development projects" in the state since the late 1980s, when Toyota opened its assembly plant in Georgetown, 85 miles from Elizabethtown.

Auto Plants Are Still Key

Toyota gave Elizabethtown its biggest shot of business adrenalin pre-Fort Knox. Over the following decade, parts makers Akebono Brake Corp. (auto brake systems), AGC Automotive Americas (automotive safety glass) and Dana Corp. (truck frames) built new plants in town. Tokyo-based Akebono took the extra step of moving its North American headquarters to Elizabethtown from Michigan in 2007.

Incentives helped attract the three plants. Elizabethtown Mayor David Willmoth says the city agreed to return to the plants, for five years, three-quarters of the 0.8 percent in taxes it collected on their employees' earnings. In some cases, the city also issued industrial revenue bonds.

"We are always willing to work with clients to make their project work in our area," especially in today's slack economy, says Rick Games, president of the Elizabeth/Hardin County Industrial Foundation.

The foundation markets Elizabethtown as something of an incentive in itself, given its location, where two four-lane Kentucky parkways meet up with Interstate 65, which itself connects the Gulf Coast and suburban Chicago. From Elizabethtown, the new parts plants could easily supply Toyota and numerous new auto plants eventually built close to that interstate between Alabama and Indiana.

Akebono's vice president and general manager, Carl Lay, says his company was won over by the city's logistical pluses, which also included service by two rail lines and proximity to the Louisville airport, 40 miles and minutes north on Interstate 65. Akebono has since come to value "the progressiveness of the community," exemplified, he says, in its openness to the Japanese managers who came with the plant.

Together over the years, Akebono and the other two parts plants created upward of 2,500 jobs, mostly nonunion, with good wages and benefits. Now, along with their automaker customers, all three have shifted into reverse. Akebono announced its first layoffs in January. Dana and AGC have been shedding jobs for several years and are down by half from their employment peaks, Games says.

Still, the three plants rank among the largest employers in the city, a roster topped by Hardin Memorial Hospital. For the past decade, the hospital has been adding services, facilities, medical specialties and jobs, extending its reach from Hardin into several surrounding counties and securing its standing as a regional medical center.

President David L. Gray says demand for the hospital's services continues to grow, especially among people either uninsured or underinsured. The hospital's bad debts ballooned 30 percent in the past year. Because the Army provides its people with excellent health benefits, he welcomes the new Fort Knox jobs, which will start arriving this summer.

Retailing Takes a Hit

For now, unemployment is ticking up. Mayor Willmoth sees the evidence in an expected $1 million shortfall in the $11.1 million in earnings taxes the city budgeted for this fiscal year. A downturn in retailing contributes to the gap, he says.

To the casual observer, the retailing sector looks healthy enough. On or near the four-lane Ring Road that draws a letter C just within the city limits, big-name stores like JCPenney, Lowe's, Home Depot, Target, Best Buy, Kohl's and Wal-Mart stand strong to all appearances, testifying to the regional shopping mecca Elizabethtown has become. A Sam's Club opened in January. But a number of smaller stores—including Waldenbooks, KB Toys and the local outlets of two bankrupt regional clothing stores—have closed. Willmoth calculates that as many as 500 retailing jobs have been lost.

In housing, too, Elizabethtown has taken a blow from the brutal recession. Johnson of First Federal Savings says permits for new single-family homes fell 54 percent in the city and 51 percent in unincorporated Hardin County from 2006 to 2008. Willmoth mostly blames the slowdown in residential development for an overall drop in construction in the city—from $80 million worth of projects in 2007 to $59 million last year.

Included in that lower total, though, were two new hotels, which brought the city's total to 21. Twelve of them cluster at the main Elizabethtown exit on Interstate 65, under a canopy of signs beckoning travelers in from the road.

Catering to Tourists

The hospitality industry serves the city well. Over the past 10 years, receipts from a longstanding 3-percent tax on hotel rooms—more than 1,500 of them now—have risen every year but one. Two years ago, the city added a 2-percent tax on restaurant meals. The take from the two taxes together this year is expected to add up to $2.7 million, earmarked for promoting tourism.

The city's lead effort in that area is a planned 100-acre outdoor recreational complex. Its football, soccer, softball and baseball fields will be designed not just for local leagues but also for team competitions from beyond the immediate area. Sherry Murphy, executive director of the Elizabethtown Tourism & Convention Bureau, describes this venture in "sports tourism" as a potential economic-development tool.

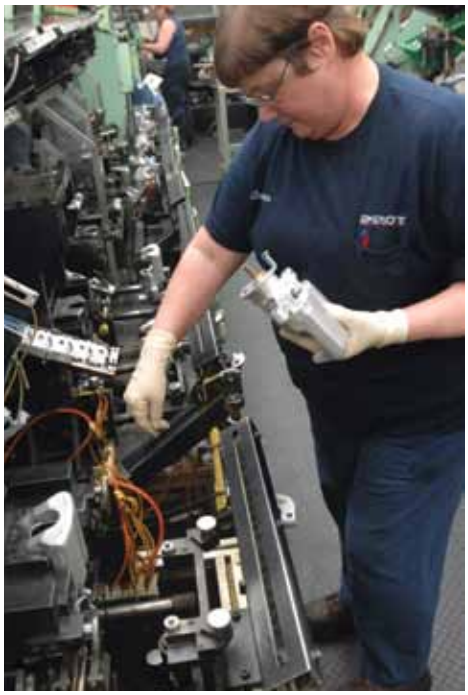
Timothy Asher, president of the Elizabethtown-Hardin County Chamber of Commerce, praises the effort as an example of the community "trying new things" and not just relying on the "same old economic development efforts." He also sees development potential for Elizabethtown in attracting retirees, especially military from Fort Knox, and in developing more homegrown entrepreneurs.

Both Asher and the foundation's Games cited Michael and Dana Bowers as leading examples of entrepreneurs. The husband-wife duo combined two small enterprises into iPay Technologies. Their company provides software and customer service for online bill paying to community banks and credit unions. Since its founding in 2001, iPay has grown to 225 employees.

"Significant Skills Gap"

The community's immediate and major focus is on Fort Knox, including the challenges of its explosive growth. To accommodate it, schools, roads and housing must be built. People must be hired, a task complicated by "a significant skills gap," says Sherry Johnson, associate director of the eight-county Lincoln Trail Area Development District, headquartered in Elizabethtown. She says candidates for the new "knowledge-based" Fort Knox jobs, especially those in information technology, are in thin supply in the basically rural, blue-collar area. An effort is under way to recruit workers, including recent college graduates, from across northern Kentucky and southern Indiana.

"Smaller cities like Elizabethtown typically do not have the mix of amenities—



At the Akebono Brake Corp. plant, Barbara Hardesty assembles disc brakes. The Tokyo-based company moved its North American headquarters to Elizabethtown from Michigan in 2007.

The H.B. Fife Courthouse is the heart of the public square downtown. Elizabethtown and county officials, along with the Chamber of Commerce, are looking at ways to bring businesses back to the downtown area. Motorists traveling through downtown must navigate around the courthouse as they travel on U.S. 31W.

Above, the 100-acre Field of Dreams isn't much more than a sign at this point, but civic leaders hope that it will eventually draw football, soccer, baseball and softball teams from near and far. The city already has a substantial hospitality industry.

air service, universities, restaurants, major sports, arts and cultural institutions—for luring high-paying office jobs of the kind Knox is providing," says Paul A. Coomes, professor of economics at the University of Louisville and a specialist in regional economics. In the new Army jobs, he says, the area's economy is "getting through the federal government what it would not likely get through the private sector."

For the long haul, he sees the area as best suited for "attracting companies that have to make complicated, heavy, expensive things that have to be shipped to consumer markets throughout the United States." Manufacturers, in other words.

Games is on the case. "There are a lot of manufacturing projects out there to be landed when this economy improves, especially those between five and 25 employees," he says.

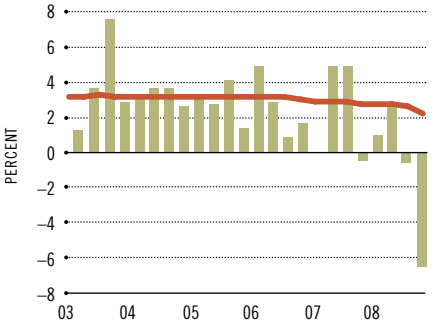
Even now, he says, he's hearing from prospects whose interest has been piqued by all of the activity around Fort Knox. Ω

Susan C. Thomson is a freelance writer.

ECONOMY AT A GLANCE

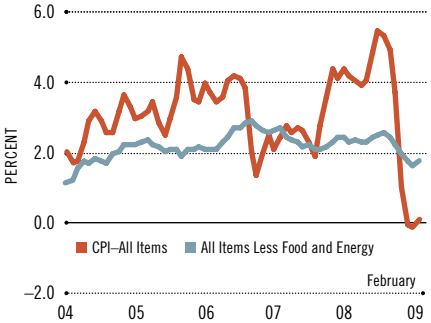
Eleven more charts are available on the web version of this issue. Among the topics they cover are agriculture, commercial banking, housing permits, income and jobs. Much of the data is specific to the Eighth District. To go directly to these charts, use this URL: www.stlouisfed.org/publications/re/2009/b/pdf/4-09-data.pdf.

REAL GDP GROWTH



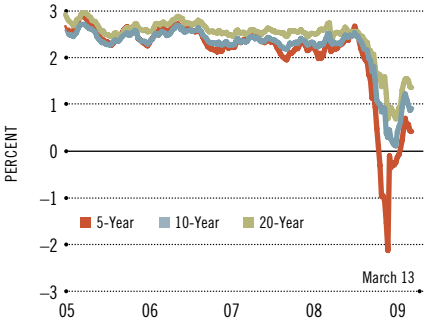
NOTE: Each bar is a one-quarter growth rate (annualized); the red line is the 10-year growth rate.

CONSUMER PRICE INDEX



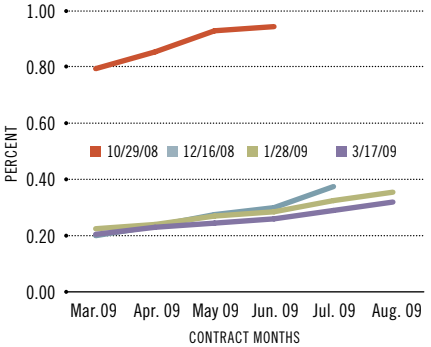
NOTE: Percent change from a year earlier.

INFLATION-INDEXED TREASURY YIELD SPREADS



NOTE: Weekly data.

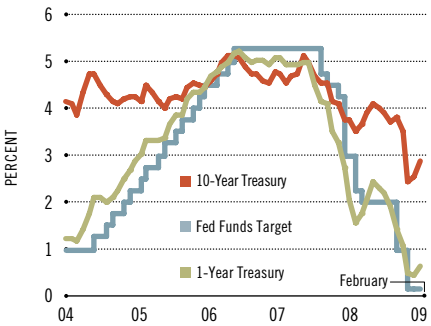
RATES ON FEDERAL FUNDS FUTURES ON SELECTED DATES



CIVILIAN UNEMPLOYMENT RATE

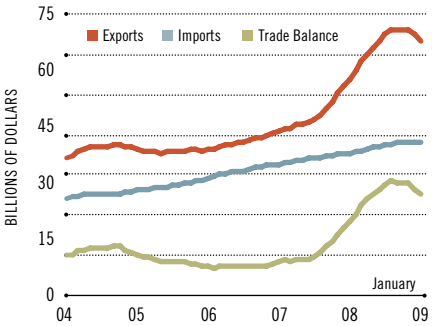
NOTE: Beginning in January 2003, household data reflect revised population controls used in the Current Population Survey.

INTEREST RATES



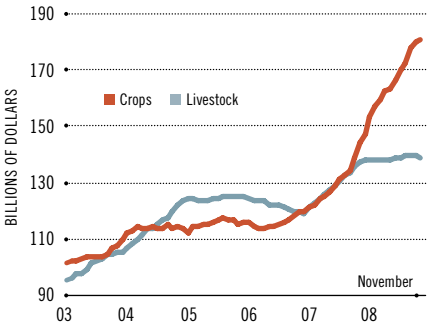
NOTE: On Dec. 16, 2008, the FOMC set a target range for the federal funds rate of 0 to 0.25 percent. The observations plotted since then are the midpoint of the range (0.125 percent).

U.S. AGRICULTURAL TRADE

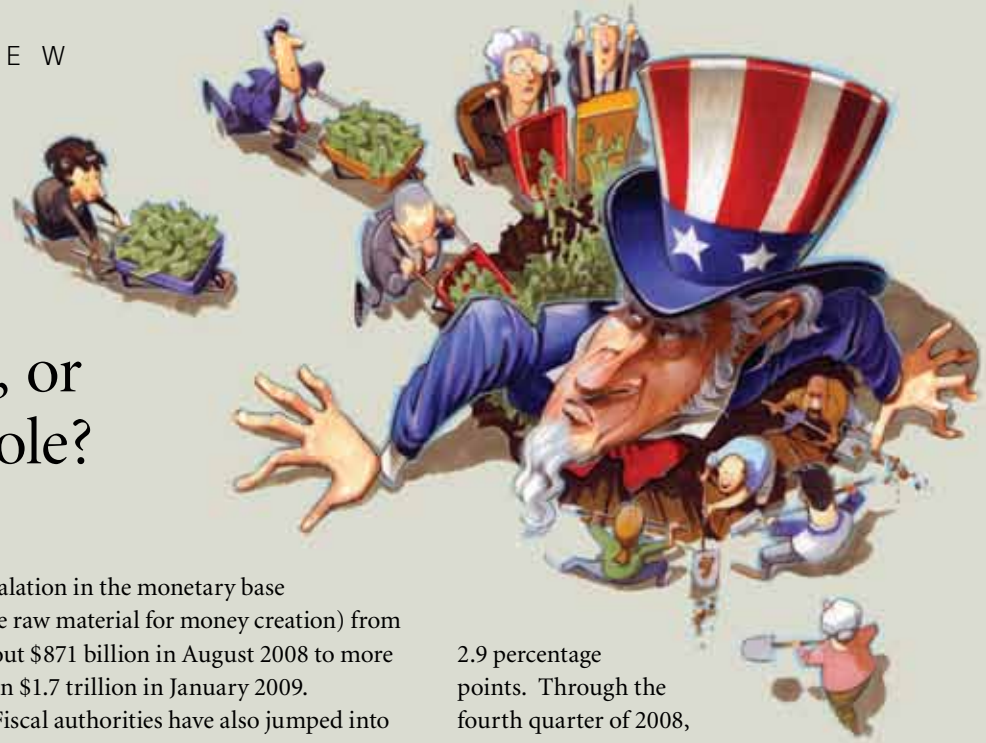


NOTE: Data are aggregated over the past 12 months.

FARMING CASH RECEIPTS



NOTE: Data are aggregated over the past 12 months.



Nearing the Bottom, or Digging a Deeper Hole?

By Kevin L. Kliesen

The recessionary headwinds that began in late 2007 show few signs of abating. In the United States, we have witnessed sizable declines in employment; a multitrillion dollar decline in household net wealth, which has shaken consumer confidence and eroded consumer spending; a record-smashing plunge in the single-family housing construction industry, coupled with historic declines in house prices; a domestic automotive industry fighting through the worst slump in decades; and, not least, spectacular fraud, failure and turmoil in the banking and financial investment sector. Not surprisingly, real GDP contracted at a 6.25 percent annual rate in the fourth quarter of 2008, its largest decline since 1982. Moreover, economic activity is likely to decline and the unemployment rate rise through the first half of 2009.

Otherwise, things are OK.

In response to these events, policymakers worldwide have scrambled to prop up their ailing economies. To begin with, central banks in the United States and most other major countries have significantly reduced their interest rate targets. In the United Kingdom, for example, the Bank of England has lowered its target to its lowest level in more than 300 years. In the United States, the Federal Open Market Committee reduced its federal funds target rate to zero, in effect, and communicated it would keep the target there for an extended period.

Many central banks have also implemented new, unconventional lending facilities designed to stabilize credit and financial markets. In early March, the Federal Reserve unveiled yet another new special lending program: the Term Asset-Backed Securities Loan Facility. As a result of this and previous actions, the Fed engineered a stunning escalation in the monetary base (the raw material for money creation) from about $871 billion in August 2008 to more than $1.7 trillion in January 2009.

Fiscal authorities have also jumped into the fray. In February, Congress passed, and President Barack Obama signed, a $787 billion package of expenditures and tax cuts designed to boost economic activity over a two-year period. Then, building upon the $700 billion Troubled Asset Relief Program (TARP), which was implemented in October 2008, the administration unveiled its Financial Stability Plan in February. In addition to offering more financial assistance for banking organizations, the plan seeks to stem the tide of home foreclosures.

Finally, in its budget that was released in late February, the Obama administration proposed to spend $3.9 trillion in fiscal year 2009, a 32 percent increase from a year earlier. This startling level of spending is projected to be about 28 percent of GDP and to produce a budget deficit of $1.7 trillion in the fiscal year that ends Sept. 30—easily the largest expansion of government spending since World War II.

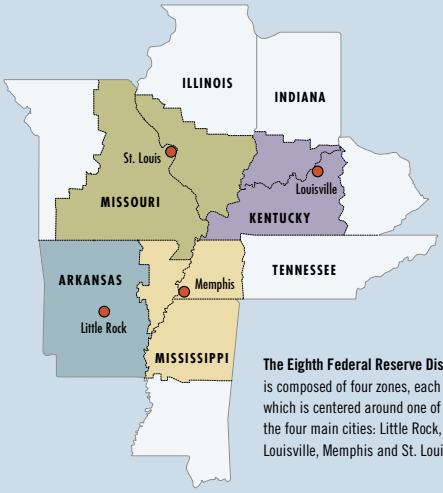
Weighing the Costs and Benefits

Does the depth of the current recession justify this level of intervention? In March 2009, the recession was into its 16th month, which is considerably longer than the post-WWII average duration of 10 months. However, it is not yet clear that the recession will be deeper than normal, though that looked increasingly likely as of March. For the 10 recessions that have occurred from 1945 to 2001, the average peak-to-trough decline in real GDP is 2.1 percent, while the unemployment rate increases by an average of 2.9 percentage points. Through the fourth quarter of 2008, real GDP had declined only 1.7 percent from its peak in 2008:Q2, while the unemployment rate had risen by 3.7 percentage points from its trough in the fourth quarter of 2007. These numbers, while likely to worsen further over the first half of 2009, still pale in comparison to the 27 percent decline in real GDP and the nearly 25-percentage-point increase in the unemployment rate that occurred from 1929 to 1933.

When the depth and duration of the current recession are put into a historical context, the economic justification for the massive monetary and fiscal stimulus actions becomes less clear. While these actions may indeed end the recession significantly sooner than if policymakers had adopted a more moderate course of action, this benefit might be more than offset over time by (1) higher future marginal tax rates to pay for the increase in public debt, (2) a more interventionist regulatory structure that diminishes the role of market incentives and (3) the possibility of higher inflation and inflation expectations from excessive money growth.

Policymakers must be exceedingly careful not to put in place policies that begin to erode the nation's growth rate of labor productivity, which is the building block for rising living standards over time. Ω

Kevin L. Kliesen is an economist at the Federal Reserve Bank of St. Louis. Douglas C. Smith provided research assistance.



The Eighth Federal Reserve District is composed of four zones, each of which is centered around one of the four main cities: Little Rock, Louisville, Memphis and St. Louis.

Annual Revision of Metro Jobs Data Shows Little Change from Earlier Reports

By Thomas A. Garrett and Michael R. Pakko

Statistics on metro-area employment are among the most timely and comprehensive source of information about economic conditions on a local and regional level. In fact, the monthly data from the Bureau of Labor Statistics (BLS) are often featured prominently on these pages. Based on a survey of employers, these data are compiled by the BLS as part of its Current Employment Statistics (CES) program.

Despite representing a broad sample of employment, the CES survey is incomplete. (See sidebar.) Each year, the BLS carries out a benchmark revision, in which it uses information from the more comprehensive Quarterly Census of Employment and Wages (QCEW) to revise the monthly payroll data. The quarterly report is a very comprehensive measure of employment, based on information about workers covered by state and federal unemployment insurance programs. Although comprehensive, the QCEW reports are available only after a lag of six to seven months. Consequently, they are of limited value for gauging current economic conditions.

To bridge the gap, economists are left with a two-step process for evaluating local labor markets. Each year, the BLS uses information from the QCEW to establish new benchmarks for the CES data, bringing the sample data more closely in line with the census data. Between benchmark revisions, monthly changes reflect the incomplete nature of the CES survey.

As a result, once per year (in early March), we are presented with an employment picture that is sometimes dramatically different than recent data had been indicating. This is particularly true around turning points in economic activity, when incomplete survey data are more likely to miss important developments in local labor markets.

This year, in the midst of a recession, data revisions for metro areas in the Eighth Federal Reserve District might be expected to be particularly dramatic. As it turns out, this year's revisions are relatively small.

Employment in District Metro Areas

Prior to this year's benchmark revisions, employment data for Eighth District metro areas were showing job losses across the board. More variation was evident among smaller metro areas, but most were showing employment declines for the year as a whole.

The revisions to payroll employment resulted in employment gains for some metro areas in the District and losses for other metro areas for December 2008. Despite the upward revision in December 2008 employment for some metro areas, all major metro areas in St. Louis experienced a decline in jobs between December 2007 and December 2008.

St. Louis

Employment in the St. Louis metro area for December 2008 is now estimated at 1,354,200, up from the previous estimate of 1,346,300 (an increase of 7,900 jobs). New estimates from December 2007 to December 2008 reveal that job growth in St. Louis fell 1.4 percent over this period. This revised estimate is less than the previous estimate of –1.7 percent, in part due to a relatively smaller upward revision in December 2007 employment (revised from 1,369,300 to 1,374,000, an upward revision of 4,700 jobs). This pattern of revisions has the effect of improving the job growth figures for 2007. It had been earlier estimated that employment in St. Louis increased by a meager 0.1 percent, whereas the new figures show an increase of 0.5 percent.

Louisville

For Louisville, revised payroll employment for December 2008 is 613,800, down 3,400 jobs from the previous estimate. Revised estimates from December 2007 to 2008 reveal that job growth in Louisville fell 2.7 percent over this period. This revised estimate of job growth is a bit larger than the initial estimate of –2.5 percent. The downward revision for 2007 data is also reflected in a slower estimate of growth for that year. The new data show growth of 0.7 percent, compared with 1.1 percent in the earlier estimates.

Memphis

In Memphis, employment growth for 2008 was unaffected by the revisions, but only because a dramatic downward revision affected both December 2008 and December 2007. For both months, the revised figures show 5,500 fewer jobs than did the unrevised data. The revised data show a total of 633,500 jobs in the Memphis area at the

METRO-AREA EMPLOYMENT CHANGES

Large Metro Areas	December 2007-December 2008				December 2006-December 2007			
	Original Estimate as of January 2009		Revised Estimate as of March 2009		Original Estimate as of January 2009		Revised Estimate as of March 2009	
	Thousands of Jobs Lost or Gained	Percent Change	Thousands of Jobs Lost or Gained	Percent Change	Thousands of Jobs Lost or Gained	Percent Change	Thousands of Jobs Lost or Gained	Percent Change
Little Rock-N. Little Rock, Ark.	–5.8	–1.7	–4.7	–1.3	5.2	1.5	5.0	1.5
Louisville, Ky.-Ind.	–16.1	–2.5	–16.9	–2.7	6.9	1.1	4.3	0.7
Memphis, Tenn.-Ark.-Miss.	–15.7	–2.4	–15.7	–2.4	5.4	0.8	–0.1	0.0
St. Louis, Mo.-Ill.	–23.0	–1.7	–19.8	–1.4	2.0	0.1	6.7	0.5
Small and Medium Metro Areas								
Fayetteville-Springdale-Rogers, Ark.	–2.5	–1.2	–2.6	–1.2	0.9	0.4	1.2	0.6
Fort Smith, Ark.-Okla.	–1.6	–1.3	–1.4	–1.1	1.7	1.4	2.1	1.7
Texarkana, Texas-Ark.	1.2	2.1	0.9	1.6	0.7	1.2	0.9	1.6
Bowling Green, Ky.	–0.8	–1.3	–1.5	–2.4	1.8	2.9	1.6	2.6
Evansville, Ind.-Ky.	–2.5	–1.4	–4.6	–2.6	1.4	0.8	–0.2	–0.1
Jackson, Tenn.	–0.9	–1.4	–1.7	–2.7	0.3	0.5	0.0	0.0
Columbia, Mo.	0.0	0.0	1.1	1.2	1.0	1.1	–0.1	–0.1
Jefferson City, Mo.	–1.0	–1.2	–0.7	–0.9	1.5	1.9	1.5	1.9
Springfield, Mo.	0.1	0.1	–4.6	–2.3	5.2	2.6	4.4	2.2

SOURCE: Bureau of Labor Statistics

The table shows how the estimates of jobs lost and gained changed between January and March 2009. For example, according to the estimate released in January 2009, the St. Louis MSA had lost 23,000 jobs between December 2007 and December 2008, and it had gained 2,000 jobs between December 2006 and December 2007. But, according to the revised estimate that was released in March 2009, the St. Louis MSA had lost 19,800 jobs between December 2007 and December 2008, and it had gained 6,700 jobs between December 2006 and December 2007.

end of 2008. The revisions had a substantial impact on job growth in 2007. Before the revision, the data showed an expansion of 5,400 jobs over the year, amounting to a growth rate of 0.8 percent. After the revision, 2007 employment appears to have been stagnant, with a net decline of about 100 jobs.

Little Rock

Of the four major metro areas in the District, Little Rock has fared the best over the past two years, and the revised data do little to change that perception. Revised data for December 2008 show total employment of 345,900 jobs in the metro area, an upward revision of 900 jobs. The revision for December 2007 represented only a slight decrease compared with the pre-revision levels. As a result, Little Rock employment growth for 2007 is essentially unchanged at 1.5 percent. For 2008, the new data show smaller job losses than previously estimated. Employment is now measured at –1.3 percent for the year, compared with –1.7 percent in the pre-revision estimates.

Small and Medium Metro Areas

Several of the smaller metro areas in the District experienced downward revisions for both years. Data for Bowling Green, Ky., Evansville, Ind., Jackson, Tenn., and Springfield, Mo., all show downward revisions for growth in 2007 and 2008. Data for Texarkana were revised downward for 2008, but job growth in that metro area remains positive for both years. The revisions also show positive job growth for Columbia, Mo., in 2008, but only because data for 2007 were revised sharply downward. Employment in Jefferson City, Mo., was unaffected by the revisions for 2007, but job losses were revised downward in 2008. In Fort Smith and the Fayetteville areas of Arkansas, small upward revisions for 2007 were balanced by downward revisions in 2008. Ω

Thomas A. Garrett and Michael R. Pakko are economists at the Federal Reserve Bank of St. Louis. Luke Shimek provided research assistance.

A Tale of Two Data Sets

Current Employment Statistics (CES) is a monthly survey that is compiled from information from about 160,000 businesses and government agencies, representing approximately 400,000 individual work sites around the United States. Although the survey covers hundreds of thousands of employers, these employers make up only a small percentage of all businesses and work sites in the country.

The Quarterly Census of Employment and Wages (QCEW) is a tabulation of employment information for workers covered by state and federal unemployment insurance programs. As its name suggests, the QCEW is a census that achieves nearly 100 percent sampling of the nation's employment and is, therefore, very accurate. Lags in the compilation of the data, however, mean that the QCEW is not a very good source for up-to-date information.

To bridge the gap, the Bureau of Labor Statistics (BLS) needs to augment the CES with an estimate of the number of establishments in the area. This can be difficult: When the economy is going into a recession, for example, old firms might be going out of business, while the formation of new firms might be slowing. The BLS doesn't find out about the changes until the unemployment insurance records are updated, which can take several months or more. This lag is compounded by the fact that small firms, which provide the bulk of jobs, might need to provide unemployment insurance information only once a year rather than monthly or quarterly, as is required of larger firms.

Because of the lags and revisions to the QCEW data, the annual benchmarking affects employment data from the CES going back 21 months. Consequently, the estimates that were released in March have affected the yearly employment changes for 2007 and 2008. Note also that the estimates for job growth in 2008 will change again in March 2010, when the data for 2008 will once again be revised in the annual benchmark revision process.

ASK AN ECONOMIST

Bill Emmons is an assistant vice president and economist at the St. Louis Fed. For more on him and his work, see www.stlouisfed.org/banking/PDFs/CVs/Emmons_vitae.pdf.

Warren Buffett described some derivatives as "financial weapons of mass destruction."[1] *In light of recent events on Wall Street, does* The Regional Economist *agree?*

—Christopher Schlie, accounting student at the University of Cincinnati

Yes, derivatives are financial weapons of mass destruction. Firms and individual investors can lose a lot of money very quickly. But you can also lose everything you invest in a single day in stocks and bonds. For that matter, any other kind of asset—including your house, car or a painting—can decline rapidly in value, too. Yet, the vast majority of derivatives traders and end-users do not complain, either because the contracts are useful in hedging risks or because they have consciously chosen to speculate using derivatives.

Why did Mr. Buffett make a special point about derivatives being financial weapons of mass destruction? Most likely, he meant to highlight at least three features of derivatives that distinguish them from other assets: 1) they contain a great deal of "implicit" leverage, 2) they often have very complex payoff patterns and 3) they lack transparency when they are traded over the counter (OTC), or away from an organized exchange.

Leverage. A futures contract or an option contract (two important types of derivatives) automatically leverages, or multiplies, an investor's exposure to the underlying risk. The price of an option on a share of stock, for example, can be much lower than the price of the stock itself, while the potential profit or loss per share is the same in dollar terms. Given the smaller initial investment, the option contract multiplies the gain or loss in percentage terms.

To illustrate, suppose there are three investors, A, B, and C, each with $30 in cash. Investors B and C each buy a share of a stock for $25. Investor A pays investor B $5 for a call option that gives A the right to buy a share of the stock currently worth $25 from B at that price either today or tomorrow.

Portfolios at end of first day	Cash	Stock	Options	Total
Investor A	$25		$5	$30
Investor B	$10	$25	–$5	$30
Investor C	$5	$25		$30

If the stock price goes up $10 tomorrow, to $35, A can acquire a share for $25 by exercising his option. A would make a net gain of $5 (after deducting the $5 cost of the option)—not bad for a $5 investment. Investors B and C had to invest $25 to earn net gains of $5 and $10, respectively.

Portfolios if stock goes up to $35	Cash	Stock	Options	Total
Investor A		$35		$35
Investor B	$35			$35
Investor C	$5	$35		$40

Complex payoffs. To see how complex payoff patterns can be on options, consider some other possible stock-price changes. If the stock price stays the same or falls, investor A will not exercise his call option, letting it expire worthless. Investor B will suffer any decline in stock price, but would get to keep the $5 option premium paid by Investor A. Investor C simply would suffer the stock-price decline.

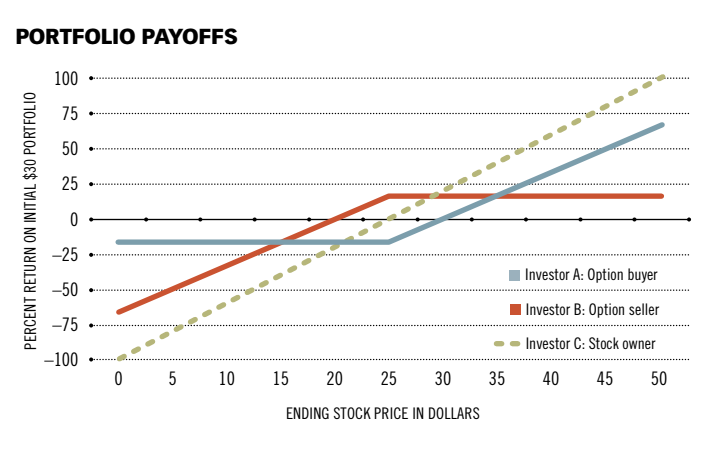
Portfolios if stock goes down to $15	Cash	Stock	Options	Total
Investor A	$25			$25
Investor B	$10	$15		$25
Investor C	$5	$15		$20

Portfolios if stock goes down to $5	Cash	Stock	Options	Total
Investor A	$25			$25
Investor B	$10	$5		$15
Investor C	$5	$5		$10

Because the stock price could go up quite a bit as well as down, consider a $20 stock-price increase.

Portfolios if stock goes up to $45	Cash	Stock	Options	Total
Investor A		$45		$45
Investor B	$30			$30
Investor C	$5	$45		$50

Investor C appears to have the riskiest portfolio while the option traded between Investors A and B appears to have damped down the volatility of their portfolios. Yet the option-trading investors have portfolios with complex relationships to the stock price itself, as the chart below illustrates. Investor C's portfolio returns rise and fall smoothly with increases and decreases in the stock price. Investors A and B experience portfolio returns that are much more difficult to describe—they are more like hockey sticks than straight lines.



Lack of transparency. The amount of derivatives trading that occurs on an organized exchange such as the Chicago Mercantile Exchange is public information. In OTC derivatives markets, there is no central counterparty and no reporting requirement. Therefore, there is no way to know how many contracts of a particular type actually are being traded at any given time. In some cases, the amount of derivatives trading may far exceed the amount of trading in an underlying asset. Because derivatives contracts are "zero-sum" (for every winner, there is a loser), they can be created without limit and, in some cases, without the consent of the issuer of a security on which the derivatives are based. The result is that the OTC derivatives markets are not very transparent and, therefore, can yield some nasty surprises.

So Warren Buffett is absolutely correct that derivatives are financial weapons of mass destruction. Like real weapons, they can be extremely damaging if used imprudently. Fortunately, most derivatives traders and end-users are fully aware of the danger.

[1] See pp. 13-15 of Berkshire Hathaway's 2002 Annual Report at www.berkshirehathaway.com/2002ar/2002ar.pdf.

LETTERS TO THE EDITOR

These are in response to January's article titled "Deficits, Debt and Looming Disaster."

Dear Editor:

The article seemed honest and sincere. My only comment, which is general, is that most of the conversation is not dealing with the dire straits we find ourselves in. The media is cheerleading and hoping that people in America suspend reality. Our markets are in turmoil, and no amount of bailouts for the banks is going to change this reality. We must either tell the truth or face the consequences. Unemployment of millions of our populace is neither a Democratic nor a Republican issue. It is a human issue. Let's tell America where we really stand and pull ourselves out of this hole.

—Leon Fainstadt, an insurance salesman and artist in Los Angeles

Dear Editor:

Thanks for your article in the January issue of *The Regional Economist*. It is nicely juxtaposed to Mr. Bullard's article on the "lender of last resort," the Federal Reserve Bank. We are told that the current economic crisis is the most dangerous since the '30s. It seems that a difference between then and now is the nature of the currency—then it was real money, now fiat money; then a store of value, now a medium of exchange. It is national policy to reduce the exchange value of the currency at an annual rate of 2 to 3 percent. How does this change in the nature of the currency alter possible policy options in managing the current crisis, what does it mean in assessing the severity of both national debt and national deficit at future dates and what does it imply about solutions to the future liabilities of Social Security, Medicare and other promises of the government to pay?

—John F. Lindeman, M.D., of Chesterfield, Mo.

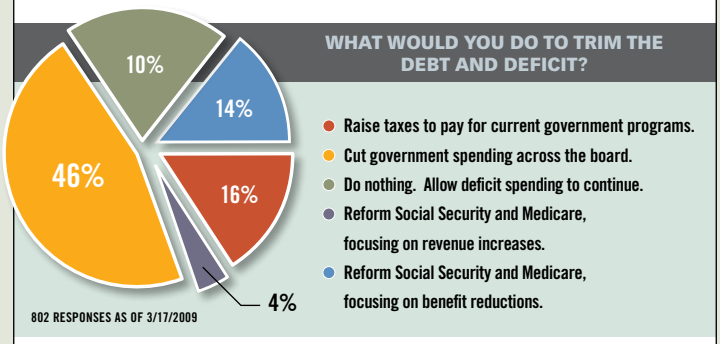
The following is related to the poll that went with the "Deficits, Debt and Looming Disaster" article. See poll results to the right.

Dear Editor:

I went to the web site to participate in the current issue poll. The choices were limited. What about these?

FED FLASH POLL RESULTS

Whenever a new issue of *The Regional Economist* is published, a new poll is posted on the Bank's home page, www.stlouisfed.org. 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 January issue. The question stemmed from the article "Deficits, Debt and Looming Disaster."



THIS ISSUE'S POLL QUESTION:

What motivates your company to be socially responsible?

1. **Altruism.** Doing the right thing is as important as profits.
2. **Pressure.** Our customer base is forcing us to do this.
3. **Profits.** If people feel good about our corporate image, they will buy more of our product.
4. **Huh?** Our only responsibility is to our stockholders

After reading "Corporate Social Responsibility Can Be Profitable," go to www.stlouisfed.org to vote. Anyone can vote, but please do so only once. (This is not a scientific poll.)

"There are numerous *monetary* ways the federal government can deal with the country's current economic maladies.

1. Do nothing.
2. Tax and lend and receive money and interest back, with no debt.
3. Tax and lend interest-free, receive money back, with no debt.
4. Tax and grant, receive no money back, with no debt.
5. Borrow and lend interest-free, receive money back, pay debt back plus interest.
6. Borrow and lend, receive interest and money back, pay debt back plus interest.
7. Borrow and grant, receive no money back, pay debt back plus interest.
8. Create money and grant, receive no money back, no debt, pay no interest.
9. Create money and lend interest-free, receive money back, no debt, pay no interest.
10. Create money and lend, receive interest, receive money and interest back, no debt, pay no interest.

Congress and the executive can do any of the above singularly or any combination. All of these alternatives are identified in OUR Constitution. See Article I, Section 8, Clauses 1,2 and 5."

Personally, I favor items 8 and 9, with item 8 for infrastructure and educational projects and item 9 for all other projects. To learn more, see http://createmoney-saveoureconomy-reducefederaldebt.net.

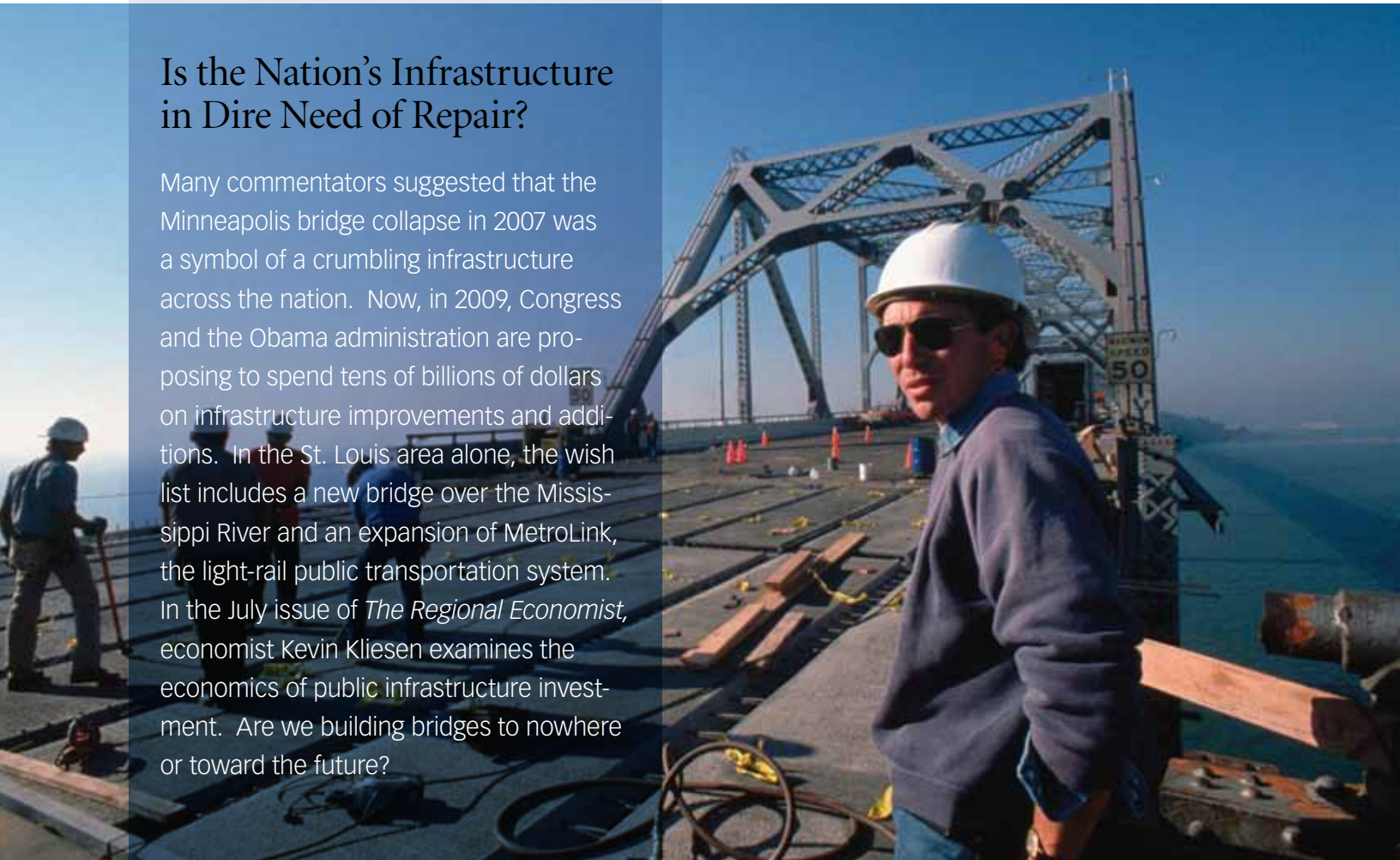
—Patsy Campbell of Murphysboro, Ill., retired from county health department as business manager

FEDERAL RESERVE BANK *of* ST. LOUIS
CENTRAL to AMERICA'S ECONOMY™
P.O. BOX 442 | ST. LOUIS, MO 63166

NEXT ISSUE

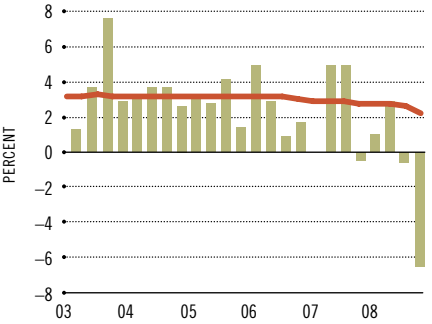
Is the Nation's Infrastructure in Dire Need of Repair?

Many commentators suggested that the Minneapolis bridge collapse in 2007 was a symbol of a crumbling infrastructure across the nation. Now, in 2009, Congress and the Obama administration are proposing to spend tens of billions of dollars on infrastructure improvements and additions. In the St. Louis area alone, the wish list includes a new bridge over the Mississippi River and an expansion of MetroLink, the light-rail public transportation system. In the July issue of *The Regional Economist,* economist Kevin Kliesen examines the economics of public infrastructure investment. Are we building bridges to nowhere or toward the future?



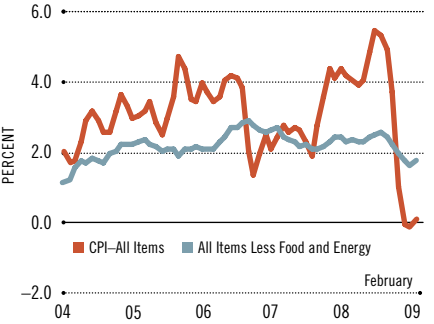
THE REGIONAL ECONOMIST
APRIL 2009 | VOL. 17, NO. 2

REAL GDP GROWTH



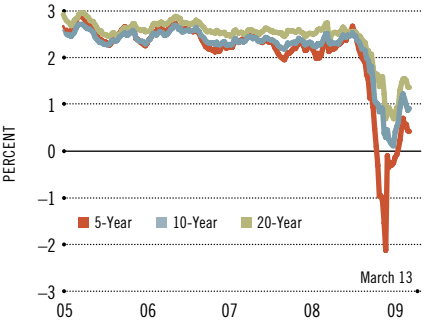
NOTE: Each bar is a one-quarter growth rate (annualized); the red line is the 10-year growth rate.

CONSUMER PRICE INDEX



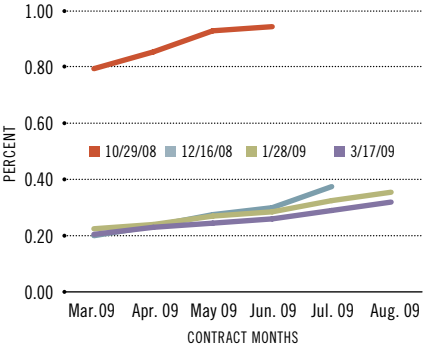
NOTE: Percent change from a year earlier.

INFLATION-INDEXED TREASURY YIELD SPREADS



NOTE: Weekly data.

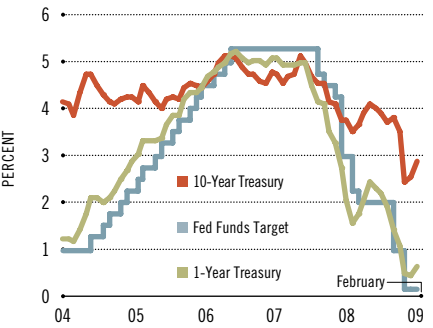
RATES ON FEDERAL FUNDS FUTURES ON SELECTED DATES



CIVILIAN UNEMPLOYMENT RATE

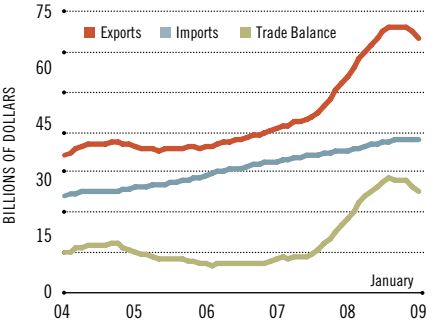
NOTE: Beginning in January 2003, household data reflect revised population controls used in the Current Population Survey.

INTEREST RATES



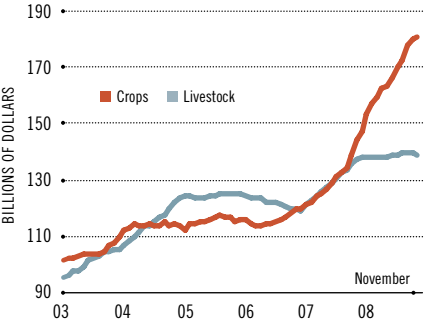
NOTE: On Dec. 16, 2008, the FOMC set a target range for the federal funds rate of 0 to 0.25 percent. The observations plotted since then are the midpoint of the range (0.125 percent).

U.S. AGRICULTURAL TRADE



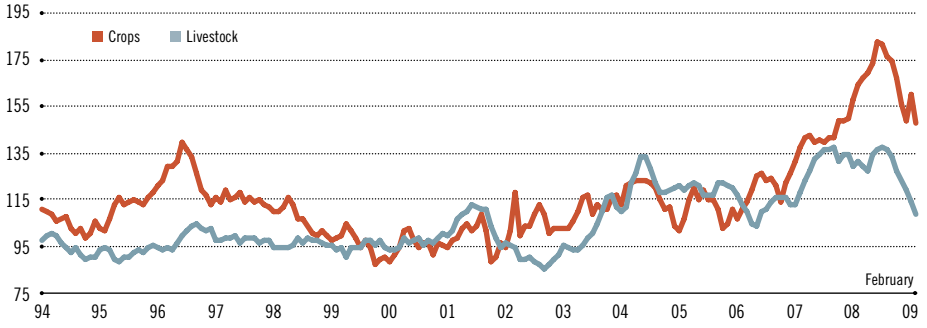
NOTE: Data are aggregated over the past 12 months.

FARMING CASH RECEIPTS



NOTE: Data are aggregated over the past 12 months.

U.S. CROP AND LIVESTOCK PRICES / INDEX 1990-92=100

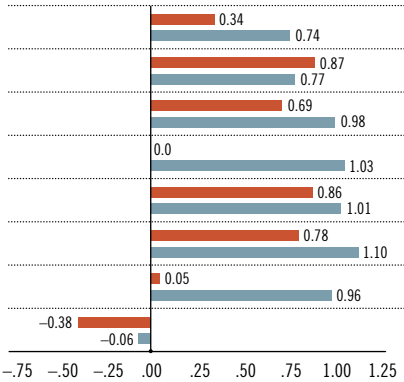


COMMERCIAL BANK PERFORMANCE RATIOS

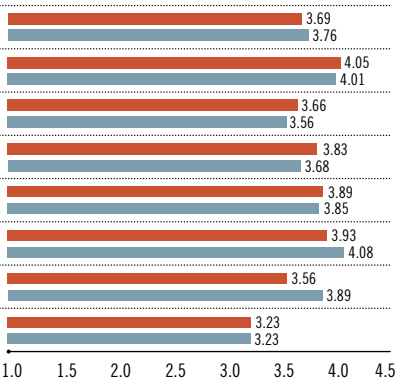
U.S. BANKS BY ASSET SIZE / FOURTH QUARTER 2008

	All	$100 million-$300 million	Less than $300 million	$300 million-$1 billion	Less than $1 billion	$1 billion-$15 billion	Less than $15 billion	More than $15 billion
Return on Average Assets*	0.22	0.50	0.44	0.31	0.38	-0.07	0.14	0.25
Net Interest Margin*	3.15	3.91	3.94	3.84	3.89	3.83	3.86	2.94
Nonperforming Loan Ratio	2.94	2.22	2.13	2.58	2.37	2.89	2.64	3.06
Loan Loss Reserve Ratio	2.30	1.39	1.40	1.51	1.45	1.89	1.69	2.53

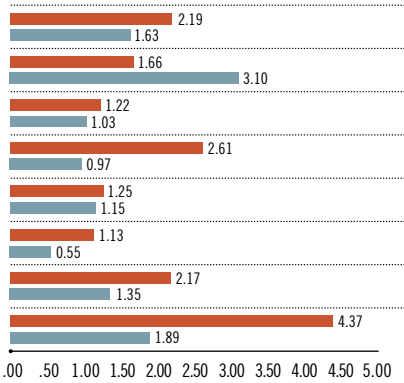
RETURN ON AVERAGE ASSETS*



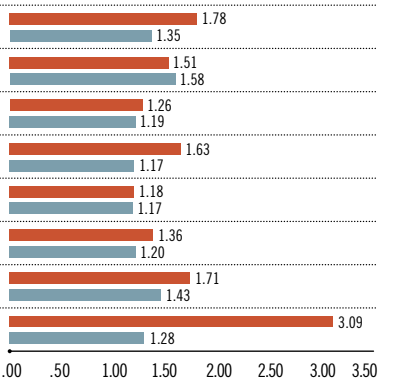
NET INTEREST MARGIN*



NONPERFORMING LOAN RATIO



LOAN LOSS RESERVE RATIO



Fourth Quarter 2008 Fourth Quarter 2007

NOTE: Data include only that portion of the state within Eighth District boundaries.
SOURCE: FFIEC Reports of Condition and Income for all Insured U.S. Commercial Banks
* Annualized data

For additional banking and regional data, visit our web site at: http://research.stlouisfed.org/fred2/categories/133.

REGIONAL ECONOMIC INDICATORS

NONFARM EMPLOYMENT GROWTH* / FOURTH QUARTER 2008

YEAR-OVER-YEAR PERCENT CHANGE

	United States	Eighth District †	Arkansas	Illinois	Indiana	Kentucky	Mississippi	Missouri	Tennessee
Total Nonagricultural	–1.6%	–1.7%	–0.6%	–1.7%	–2.1%	–1.9%	–2.1%	–0.7%	–2.3%
Natural Resources/Mining	7.9	6.0	12.9	3.3	0.5	14.0	–2.1	–11.9	NA†
Construction	–7.6	–6.3	0.9	–8.2	–9.2	–5.6	–2.9	–4.4	NA†
Manufacturing	–4.9	–5.7	–4.2	–3.3	–7.9	–6.8	–7.5	–5.3	–6.5
Trade/Transportation/Utilities	–2.6	–2.6	–3.2	–2.3	–2.2	–2.3	–3.2	–2.2	–3.8
Information	–2.2	–2.0	–5.7	–1.6	–1.8	–1.3	–1.0	–0.2	–4.2
Financial Activities	–2.4	–2.0	–2.8	–2.8	–2.9	0.3	–2.3	–1.3	–0.8
Professional & Business Services	–3.0	–2.8	–0.9	–3.6	–4.2	–3.5	–2.3	0.9	–3.5
Educational & Health Services	2.8	2.4	2.8	2.3	3.8	1.7	–0.3	2.3	2.8
Leisure & Hospitality	–1.3	–0.7	1.8	–2.0	1.3	0.2	–2.8	–0.4	–0.8
Other Services	0.1	–0.5	0.2	0.7	–1.1	–2.5	–0.9	0.4	–2.6
Government	1.0	0.9	1.9	0.5	1.4	–1.0	2.1	1.3	0.7

* NOTE: Nonfarm payroll employment series have been converted from the 1987 Standard Classification (SIC) system basis to a 2002 North American Industry Classification (NAICS) basis.

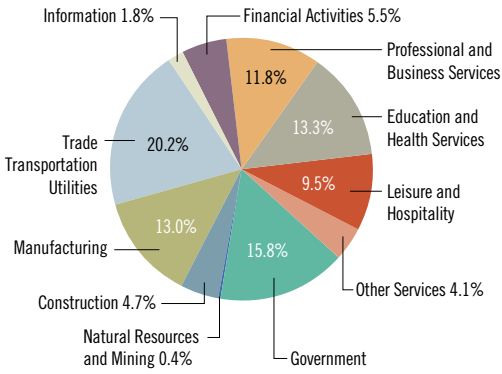
† Eighth District growth rates are calculated from the sums of the seven states. For Natural Resources/Mining and Construction categories, the data exclude Tennessee (for which data on these individual sectors is no longer available).

UNEMPLOYMENT RATES

	IV/2008	III/2008	IV/2007
United States	6.9%	6.1%	4.8%
Arkansas	5.5	5.1	5.0
Illinois	7.0	6.7	5.5
Indiana	7.1	6.0	4.6
Kentucky	7.2	6.7	5.4
Mississippi	7.5	7.3	6.2
Missouri	6.8	6.2	5.3
Tennessee	7.2	6.7	5.3

EIGHTH DISTRICT PAYROLL

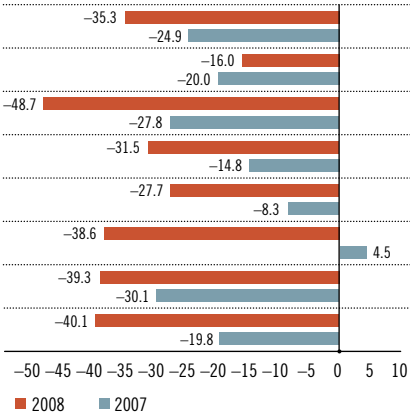
EMPLOYMENT BY INDUSTRY-2008



NOTE: The percentages are calculated from the sums of the seven district states. For Tennessee, construction is no longer reported separately from natural resources/mining; so, the total of the two is included here in the construction category.

HOUSING PERMITS / FOURTH QUARTER

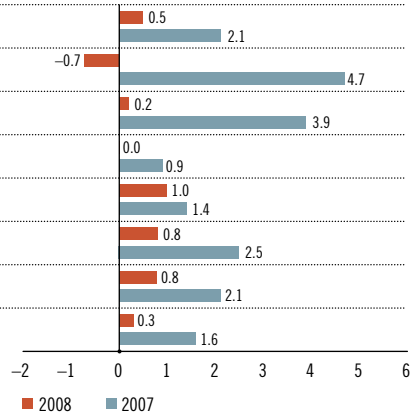
YEAR-OVER-YEAR PERCENT CHANGE IN YEAR-TO-DATE LEVELS



All data are seasonally adjusted unless otherwise noted.

REAL PERSONAL INCOME*/FOURTH QUARTER

YEAR-OVER-YEAR PERCENT CHANGE



*NOTE: Real personal income is personal income divided by the PCE chained price index.