

THE REGIONAL ECONOMIST

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Trade

“Fixing” China’s Currency
Would Be No Quick Fix

Jobs

Are Small Businesses
the Biggest Jobs Producers?

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Different Responses

10 Banking Crises around the World

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Over the past 40 years, there have been more than 120 banking crises around the world. Different governments have responded in different ways. The gross and net costs as a percentage of GDP range wildly, anywhere from less than 1 percent to well beyond 30 percent.



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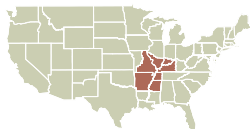
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Headline vs. Core Inflation: A Look at Some Issues

Monetary policymakers are responsible for maintaining overall price stability, which is usually interpreted as low and stable inflation. In order to decide on appropriate policy actions given their objective, policymakers need to know the current rate of inflation and where it is headed. What makes for a reliable predictor of future inflation has been debated throughout the years and continues to be the subject of economic analyses today. One debate that has received attention recently is whether the focus should be on headline or core inflation. The former is calculated from an all-item index, whereas the latter is commonly calculated from a price index that excludes the highly volatile food and energy components.

Central bankers around the world have taken both sides of the debate. For instance, the inflation goals of the European Central Bank and the Bank of England are explicitly stated in terms of headline measures, and their policymakers pay less attention to core measures. In contrast, the Federal Open Market Committee (FOMC) focuses on inflation that is derived from the personal consumption expenditures price index excluding food and energy (“core PCE”). This does not mean, however, that the FOMC ignores headline PCE. In fact, since 2008 the FOMC has reported its forecasts for both core and headline inflation in the semiannual *Monetary Policy Report to the Congress*. At the end of the day, the Fed’s main concern is long-run headline inflation and the prices people actually pay.

A natural question to ask, then, is: If the Fed ultimately cares about overall prices, why would it ever look at core inflation, thereby excluding items on which Americans spend a nontrivial portion of their income? The reason is because, historically, the food and energy components were highly variable (for example, due to temporary supply disruptions), and their large price fluctuations were

usually expected to correct themselves within a relatively short period of time. Consequently, the FOMC focuses on core PCE as a measure of underlying inflation trends and, thus, a predictor of future headline PCE inflation. Assuming core PCE is an appropriate measure to use, we would expect to see headline inflation fluctuate above and below core inflation over the short run.


As I discussed in a 2007 commentary, the relationship seemed to break down in the mid-2000s when there was persistent divergence in headline and core inflation

“At the end of the day, the Fed’s main concern is long-run headline inflation and the prices people actually pay.”

rates.¹ Measured on a year-over-year basis, headline PCE remained higher than core PCE from 2002:Q4 to 2006:Q3. During that period, the divergence was largely driven by rapid economic growth in Asia; the rising global demand for commodities caused their prices to rise faster than other prices, putting upward pressure on headline inflation.

During the financial crisis and recession, the expected patterns re-emerged—headline PCE inflation fluctuated around core PCE inflation. But now that the economy is recovering again, do we see the mid-2000s trend reasserting itself? Since June 2010, the two measures have been diverging slowly, with core inflation below headline. It is too early to tell if the divergence reflects another persistent increase in the relative prices of global commodities or if the divergence is more temporary. Given the strong growth rates of emerging economies during the global recovery, though, the divergence in the two inflation measures deserves close attention.

What would it mean for monetary policy analysis if the FOMC does expect headline and core inflation to continue diverging in 2011 and 2012? As I asserted in my previous commentary, one interpretation is that, during times of continuous increases in the relative price of energy, perhaps core PCE is a misleading indicator of underlying inflation trends. This implies that core PCE may not be a good predictor of future headline inflation after all. Under these circumstances, headline PCE inflation should probably have more weight in policymaking decisions than core PCE inflation.

Of course, if the evidence shows that core PCE is not the best measure to focus on for policy purposes, exploring other options may make sense. One alternative measure could include all components but put less weight on those that have highly volatile prices. Such a measure would avoid systematically excluding certain prices and would more accurately reflect consumers’ expenditures. Additionally, studies have shown that other existing “core” measures, such as PCE trimmed-mean or PCE weighted-median inflation, may be better predictors of headline PCE inflation than core PCE.² In the end, the policymakers’ goal is to use the inflation measure that helps them achieve low and stable headline inflation in the long run. 

¹ Bullard, James B.; and Pande, Geetanjali. “Energy Prices: In the Mix or Swept Under the Rug?” Federal Reserve Bank of St. Louis *National Economic Trends*, April 2007.

² For example, see Smith, Julie K. “PCE Inflation and Core Inflation.” Unpublished manuscript, Department of Economics, Lafayette College, Easton, Pa., January 2010.

Why “Fixing” China’s Currency Is No Quick Fix

By Brett Fawley and Luciana Juvenal

On net, the U.S. economy added zero jobs over the past decade: Eight million jobs gained from 2003-07 were countered with eight million jobs lost from 2008-09. The recent recession, despite its severity, cannot shoulder all blame for this outcome. Average job growth during the 2003-07 expansion was 60 percent slower than average job growth over previous economic expansions following World War II.

The sluggish growth was likely driven by a combination of internal factors (increased productivity) and external factors (job outsourcing and large sustained trade imbalances). For example, Figure 1 shows that from 1994 to 2006 the U.S. multilateral trade deficit in goods grew from 2.5 to 6.5 percent of GDP. To the extent that this trend reflects diminished U.S. competitiveness in international goods markets, some U.S. manufacturing jobs may have been lost to foreign competitors.

Meanwhile, the U.S. Treasury is threatening to label China as a “currency manipulator” for allegedly using foreign exchange intervention and currency controls to fix the value of its currency (the renminbi) to the dollar in order to prevent appreciation of its currency and to gain a trade advantage through lower international prices for its exports. As revealed in Figure 1, the U.S. bilateral trade deficit with China accounts for a nontrivial (and growing) share of the U.S. total trade deficit. Does this mean that an increase in the value of the renminbi would reverse declines in U.S. trade competitiveness due to biased terms of trade and, in turn, create jobs in the United States? Unfortunately, the answer is “probably not to any meaningful degree.”

It’s Not Just U.S. vs. China

Assuming that the renminbi is undervalued,¹ any effect its revaluation would have on U.S. labor markets depends entirely on its impact on the U.S. multilateral trade deficit with all countries, not on the bilateral trade deficit with China taken in isolation. Smaller U.S. trade deficits with China, offset by larger bilateral deficits with other countries, cannot be expected to provide material job growth.

A renminbi revaluation is unlikely to seriously impact the multilateral trade deficit for two reasons. First, multilateral trade balances are in part determined by domestic preferences that may not hinge on the exchange rate. For example, a country importing more than it exports must fund this spending with inflows of foreign capital. The magnitude of capital inflows is primarily determined by the gap between gross domestic investment and gross domestic savings. Revaluing the renminbi is unlikely to fundamentally shift U.S. domestic preferences for saving and investment. Second, regional specialization patterns in Asia suggest that a major component of the U.S. bilateral trade deficit with China is a persistent trade deficit with Asia. The price, and hence quantity, of Chinese exports may be surprisingly resilient to changes in the value of the renminbi.

In 2003, tension was equally high with respect to China’s dollar peg, and the U.S. Congress was also considering retaliatory measures. The Congressional Budget Office (CBO), however, concluded that a revaluation of the renminbi would have little effect on U.S. manufacturing employment. In particular, China, owing to cheap labor costs, functioned primarily as a place of assembly for the Asian region. Intermediate goods were exported to China from other

Asian countries; these goods were then assembled and exported to the United States. As evidence of this emerging specialization pattern, the CBO reported that from 2000-02 a large portion of the increase in imports from China was offset by declining imports from Japan. Among developing Asian countries (outside of China), nearly all showed declining exports to the United States during this period.

Accurately estimating the size of this regional trade effect over a longer period of time is essential for U.S. trade policy, but such estimation is not without obstacles. In particular, the CBO analysis benefited from looking at a period of U.S. recession. During times of economic expansion, imports from nearly all trading partners increase, making it hard to distinguish between the effects of increasing globalization and the potential redirection of exports within trading partners.

To help disentangle the two effects, consider what bilateral exports would be, had countries’ export growth been evenly distributed across all trading partners. Specifically, we compute for 174 countries what exports to the United States and China would have been in 2007, had each shipped the same fraction of its total exports to the United States and China as it did in 1994. We then compare this hypothetical number to actual exports and plot the differences in Figure 2. Interestingly, the countries that stick out with the largest unpredicted increases in exports to China (and correspondingly largest unpredicted decreases in exports to the United States) are, in fact, the Asian countries implicated by the CBO as moving their assembly to China. This is in stark contrast to the high density of



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points centered at zero-zero, revealing that most countries' trade shares with the United States and China remained roughly constant. Incidentally, a simple linear regression reveals that the relationship between greater-than-predicted exports to China and less-than-predicted exports to the United States is strongly statistically significant.

To the extent that Chinese exports to the United States originate beyond China's borders, such trade flows are generally insensitive to the value of the renminbi: Most of the value of the goods is added in other countries and denominated in other currencies. Specifically, the 2003 CBO report cites estimates that only 20-30 percent of the total value added of Chinese exports occurs in China. Hence, only 20-30 percent of the value of Chinese exports is subject to the effects of a renminbi revaluation. The dollar value of the remaining 70-80 percent of the goods would remain unaffected. Chinese manufacturers could import intermediate inputs for less money following a renminbi revaluation and pass the cost savings directly through to the final price, largely offsetting any increase in the price due to the higher value of the renminbi. Such results confirm that persistent global trade imbalances will require multilateral solutions.

Revaluation May Be Inevitable

China will probably have to revalue its currency in the near future even without the threat of U.S. retaliation. The true relative purchasing power of two countries is determined not by the nominal exchange rate (the price of one currency in terms of another as reported on a currency exchange), but by the real exchange rate, which takes into account relative changes in domestic price levels. When China sells renminbi for U.S. dollars in order to affect the exchange rate, it adds currency to its domestic money supply. All else equal, the increase in the currency base increases domestic prices, canceling out any change in the real exchange rate due to nominal depreciation of the renminbi.² Countries can absorb some of the additional liquidity through "sterilization," i.e., buying back the currency by selling bonds, but only to a point. The dependence between monetary and foreign exchange policy will ultimately force China's hand, but the United States

cannot expect any quick labor market fixes due to Chinese currency revaluation. Instead, the United States would be best advised to follow China's suit in identifying and exploiting its own comparative advantages. [Ω](#)

Luciana Juvenal is an economist and Brett Fawley is a research associate at the Federal Reserve Bank of St. Louis. See <http://research.stlouisfed.org/econ/juvenal/> for more on Juvenal's work.

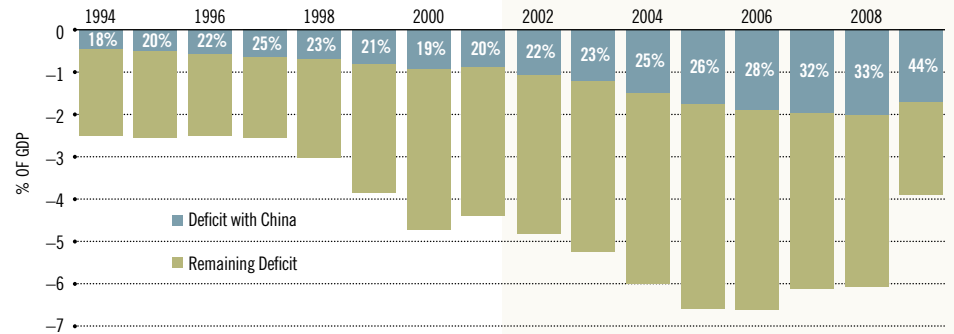
ENDNOTES

- Consensus estimates are that the renminbi is undervalued by 25-40 percent, but there are reasons (like a still developing Chinese banking sector) why even if allowed to float, the renminbi could depreciate, rather than appreciate.
- If the renminbi loses half of its value against the dollar, but domestic prices in China double, the cost of a Chinese good, in U.S. dollars, remains the same. No effect on trade would be expected from the nominal depreciation.

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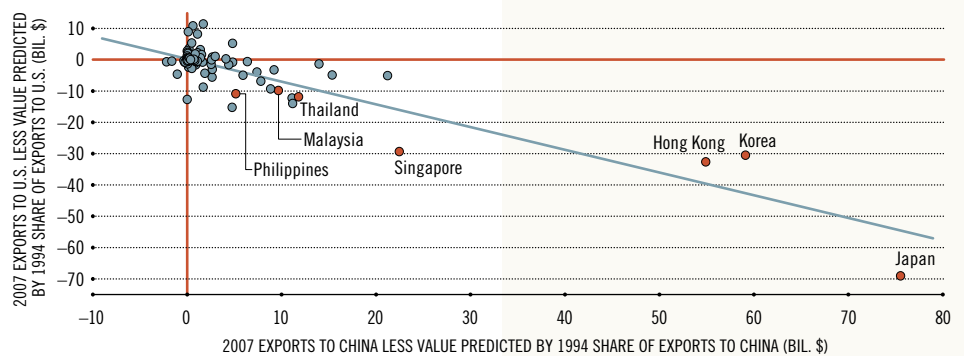
Holtz-Eakin, Douglas. "The Chinese Exchange Rate and U.S. Manufacturing Employment." Congressional Budget Office testimony before the Committee on Ways and Means, U.S. House of Representatives, October 2003.

FIGURE 1
U.S. Balance of Trade in Goods



SOURCE: IMF Direction of Trade Statistics (DOTS) and Bureau of Economic Analysis.

FIGURE 2
Asian Exports Have Shifted Toward China, Away from U.S.



SOURCE: IMF Direction of Trade Statistics (DOTS) and authors' calculations.

NOTE: This figure compares reported 2007 bilateral exports to the United States and China with what they would have been had countries maintained their 1994 export shares with each trading partner. Asian countries stand out as increasing their share of exports to China while decreasing their shares of exports to the United States. One plausible explanation is that these countries moved final assembly of their domestically produced intermediate goods to China.

Which Came First— Better Education or Better Health?



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By Rubén Hernández-Murillo and Christopher J. Martinek

The more you learn, the more you earn! This phrase has been used by education proponents to encourage young students to stay in school or pursue higher education. But higher lifetime earnings are not the only positive outcome from increased schooling. As it turns out, the more you learn, the more you live in good health. For example, in 2007, the age-adjusted mortality rate (measured in deaths per 100,000 people) among American males between 25 and 64 years was 665.2 for individuals without a high school diploma, 600.9 for individuals who completed high school and 238.9 for individuals with some college or higher.¹ In terms of healthy behaviors, the estimated incidence of smoking among American males over the

In 2007, the age-adjusted mortality rate (measured in deaths per 100,000 people) among American males ... was 665.2 for individuals without a high school diploma, 600.9 for individuals who completed high school and 238.9 for individuals with some college or higher.

age of 25 with a bachelor's degree or higher was 10.4 percent, while this figure among males with a high school degree or less was about 30 percent.² Similar differences exist for obesity and for alcohol use.³

If more education can lead to better health, addressing the processes by which differences in education translate into differences in health can be useful to public policymakers. Identifying a causal relationship is of crucial importance in the design of policy. For example, if more education causes better health, then policies to increase education might also be effective at improving health in the population.

However, if the association (often called *correlation*) between education and health exists because better health allows individuals to attain a better education (reverse causation) or because the correlation between education and health results from the correlation of education with other factors that also improve health (such as income of the parents), then education-improving policies might not be effective at improving health.

Better Education=Better Behaviors

Economists David Cutler and Adriana Lleras-Muney are among those analyzing the education-related health disparities.⁴ The authors examine responses to the National Health Interview Survey in the United States

and find a statistically significant effect of education on various measures of health, including mortality (measured as death within five years of the survey) and incidence of common acute and chronic diseases (such as heart condition, stroke, hypertension, high cholesterol, diabetes, asthma and so on). The authors report that more-educated people are less likely to suffer from these diseases. Interestingly, some common diseases, such as cancer, do not seem to exhibit an effect from education (which indicates that incidence does not vary with education).⁵

A major reason for the differences in health outcomes is, not surprisingly, differences in

healthy behaviors. For example, in the United States, the incidence of smoking, obesity and heavy drinking is lower among the better educated.⁶ More-educated people are more likely to exercise and obtain preventive care (flu shots, vaccines, mammograms). More-educated people are also more likely to use seat belts and have smoke detectors in the house.

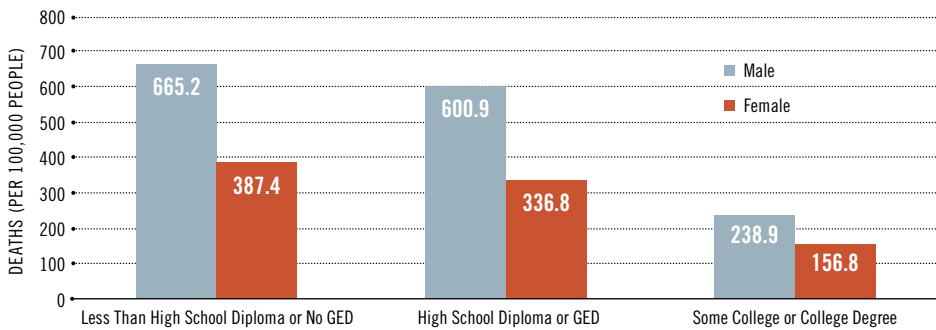
Differences in behavior, however, do not explain all the differences in health outcomes by education, but they do explain a significant proportion: Cutler and Lleras-Muney find that the effect of education on mortality is reduced by 30 percent when they control for exercise, smoking, drinking, seat belt use and use of preventive care.

Income, Information

Cutler and Lleras-Muney consider several alternative mechanisms for why education affects health. Perhaps the most obvious factor to explain difference in health outcomes would be differences in income. More education generally leads to higher income, which, in turn, allows for better access to better health care. However, they argue that it is unlikely that income and health care can account entirely for the association between education and health as many of the behaviors they analyze occur independent of health-care access. The authors estimate that differences in income account for about 20 percent of the impact of higher education on health behaviors. Price differences are also unlikely to be an important determinant, considering that unhealthy behaviors such as smoking, drinking and overeating are costly but are, nevertheless, more prevalent among less-educated individuals.

An interesting theory developed by Cutler and Lleras-Muney is that education provides

Mortality Rates for People Ages 25 to 64, by Sex and Level of Education, 2007



SOURCE: National Vital Statistics Report, 2007

NOTE: Data are for 22 reporting states and the District of Columbia that use the 2003 version of the U.S. Standard Certificate of Death. Data for states that use the 1989 version of the U.S. Standard Certificate of Death, which classifies educational attainment by years of schooling instead of level, exhibit the same trend.

individuals with better access to information and improves critical thinking skills.⁷ What this means is that people with more education tend to be better-informed and make better use of the information they acquire when making health-related decisions. These attributes of education are, in turn, reflected in health-related choices. For example, people with more education seem to understand more clearly the dangers of smoking, are more likely to be informed about new drugs or complex medical procedures and seem to better understand discharge instructions after emergency room visits. The authors estimate that cognitive skills account for up to 30 percent of the education effect on health behaviors.

Passing Good Health on to Children

On top of its association with adult health, greater educational attainment also promotes the transmission of health from parents to children. Economist Janet Currie provides a recent overview of the economics literature addressing two ways this occurs. First, she finds evidence that parental socio-economic status (measured by income or education) has a strong relationship with childhood health. The reasons for this are very intuitive. Wealthier families can afford better quality health care and general consumption that promotes better health (better food, safer toys and so on). Children of poorer families, in contrast, tend to suffer more adverse health shocks than children of richer families; the former also recover more slowly. In the case of chronic diseases, such as asthma, poorer children are less likely than richer children to manage their condition properly.

Second, she finds strong evidence that childhood health plays an important role in future outcomes. In fact, some economists believe the observed relationship between income and health in adulthood may have its roots in childhood.⁸ Currie reports that in developing countries there is a lot of evidence indicating that individuals with poor health during childhood also tend to achieve lower education levels later in life. A similar relationship is found in developed countries; in particular, low weight at birth (a strong predictor of childhood health) has been associated with lower future test scores, educational attainment levels, wages and probabilities of being employed.

Understanding the role of health in the intergenerational transmission of socio-economic status is a promising avenue for policy. Currie notes that the evidence supporting a causal relationship between parental socio-economic status and child health and a causal relationship between child health and future outcomes is for now still limited. As noted earlier, distinguishing between simple correlation and causality is important for designing effective public policy. If parental socio-economic status does not impact child health, then public policies aimed at improving socio-economic status of the parents will not necessarily improve their children's health. ^Ω

Rubén Hernández-Murillo is an economist and Christopher J. Martinek is a research associate at the Federal Reserve Bank of St. Louis. See <http://research.stlouisfed.org/econ/hernandez/> for more on Hernández-Murillo's work.

ENDNOTES

- 1 See National Center for Health Statistics, 2010a.
- 2 See National Center for Health Statistics, 2010b.
- 3 See Cutler and Lleras-Muney, 2010.
- 4 See Cutler and Lleras-Muney, 2006, 2010.
- 5 The authors use self-reports of the incidence of disease as opposed to objective measures (doctor diagnosis). For some of the more serious diseases considered, such as heart conditions and cancer, self-reports would indicate that individuals have been already diagnosed, however.
- 6 Cutler and Lleras-Muney report that each additional year of education is associated with a reduction in the probability of smoking of 3 percentage points, a reduction in the probability of being obese of 1.4 percentage points and a reduction in the probability of being a heavy drinker (defined as drinking an average of five or more drinks when a person drinks) of 1.8 percentage points.
- 7 The most common of these cognitive skills the authors consider is reading.
- 8 Economists Anne Case, Darren Lubotsky and Christina Paxson find that gap in childhood health status between children of low socio-economic status and high socio-economic status grows with age. Children from lower income families enter adulthood with both lower socio-economic status and poorer health.

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Are Small Businesses the Biggest Producers of Jobs?



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By Kevin L. Kliesen and Julia S. Maués

It is often claimed that small firms are responsible for a disproportionately large share of new jobs that are created in the U.S. economy. If true, this speaks well of the entrepreneurial spirit of the U.S. economy, whereby newcomers introduce new ideas or production processes that lead to new and improved products or services. The rise of global companies like Wal-Mart, Microsoft and Google from small beginnings is a testament to the importance of small businesses and the economic forces they sometimes unleash. However, the claim that small businesses generate a large percentage of new jobs must be evaluated carefully. First, there

two-thirds of all new jobs created between 1969 and 1976; firms with 100 or fewer employees accounted for 82 percent of all new jobs created. Conversely, he found that large firms (500 or more employees) accounted for only 15 percent of net job growth. Birch's finding challenged the conventional wisdom about job creation at the time and, accordingly, had enormous influence on policymakers and researchers.¹

Some economists soon began to challenge Birch's findings. Using the same data as Birch, Catherine Armington and Marjorie Odle found in 1982 that businesses with 100 or fewer employees accounted for only

these businesses suggested that their net job creation was much lower.

Earlier this year, a study designed to look at the entire economy was published.³ The researchers found that small firms create more net jobs than do large firms, which is consistent with the conventional wisdom but generally not the thrust of past research. However, they concede that Birch overestimated the importance of small business in job creation and found that there is a much smaller difference between the net number of new jobs created by large firms and small firms than Birch originally suggested.

Business Employment Dynamics

Researchers who want to assess the claim that small businesses account for a disproportionate percentage of new jobs must first confront several issues. First, what is the best data source for the hypothesis to be tested? Second, how should a small business be defined? (The Small Business Administration says a business is small if it employs fewer than 500 people. However, it may not be wise to lump together a Silicon Valley startup with a relatively large, established manufacturer.) Third, should the focus be on the gross number of jobs created or the net number of jobs created? The research suggests the latter. Why? Because even during the depths of the 2007-09 recession, businesses were still adding an average of nearly 800,000 new jobs a month. But they were shedding an even larger number of jobs per month—about 971,000.

In this article, we use the Business Employment Dynamics (BED) dataset from the Bureau of Labor Statistics.⁴ One drawback of the BED is that it has less than 20 years of history, which may limit the ability to draw firm conclusions. The analysis in this article

The failure rates of small businesses are quite high. According to the Bureau of Labor Statistics, only about half of the businesses that opened in 1994 were still operating five years later.

isn't a universal agreement on the definition of a small business. Furthermore, the failure rates of small business are quite high. According to the Bureau of Labor Statistics, only about half of the businesses that opened in 1994 were still operating five years later. Thus, when one accounts for job destruction, small businesses appear to account for a significantly smaller share of net new jobs created in the private sector than many people might believe.

What Do Past Studies Reveal?

The importance of small businesses to job creation has been part of the economic policy narrative for some time. In 1979, then-Massachusetts Institute of Technology Professor David Birch claimed that firms with 20 or fewer employees accounted for

39 percent of net new jobs. Several years later, Charles Brown, James Hamilton and James Meddoff pointed out that 40 percent of jobs created in small businesses in 1980 no longer existed in 1986. A more up-to-date assessment of the job-creation characteristic of small businesses can be found in work published by Stephen Davis, John Haltiwanger and Scott Schuh in 1996. These authors noted that "a common confusion between net and gross job creation distorts the overall job creation picture and hides the enormous number of new jobs created by large employers."² The authors found that although gross job creation is high for smaller firms (100 or fewer employees), so is job destruction. Slowly, researchers were coming to the conclusion that small businesses did create a lot of new jobs, but the high failure rate of

Gross and Net Job Gains by Firm Size

Average job gains (in thousands) per quarter, 1992:Q3 to 2010:Q1				
Size	Gross Job Gains		Net Job Gains	
	Total Sample Period	Excluding 2007-09 Recession	Total Sample Period	Excluding 2007-09 Recession
1 to 19	821	828	16	28
20 to 99	747	758	25	40
100 to 499	496	505	25	37
500 or more	722	739	40	68
TOTAL	2,787	2,831	105	173
Percent of Total				
1 to 19	29.5%	29.3%	15.0%	16.1%
20 to 99	26.8%	26.8%	23.6%	23.1%
100 to 499	17.8%	17.8%	23.4%	21.3%
500 or more	25.9%	26.1%	37.9%	39.4%
TOTAL	100.0%	100.0%	100.0%	100.0%

SOURCE: Authors' calculations based on Bureau of Labor Statistics' Business Employment Dynamics dataset. Some percentages do not total 100 due to rounding.

uses the following breakdown of firm size: 1-19 employees; 20-99 employees; 100-499 employees; and 500 or more employees.

Job Gains by Firm Size

The table shows average gross and net job gains at all private business establishments from the third quarter of 1992 through the first quarter of 2010.⁵ Over this roughly 18-year period, gross job gains per quarter averaged a little less than 2.8 million, or about 929,000 per month. Since the 2007-2009 recession was extremely severe, the table includes a separate column that excludes the data from that period. The lower half of the table shows that businesses with fewer than 20 employees provided the largest percentage of gross job gains (about 30 percent). Businesses with between 20 and 99 employees accounted for the next largest share (about 27 percent), with the largest firms (500 or more) accounting for a somewhat smaller percentage (about 26 percent). The remaining category—businesses with between 100 and 499 employees—accounted for a smaller percentage of gross job gains. All of these percentages are little-changed if we exclude the recession period.

The analysis in the table seems consistent with the conventional wisdom that small businesses are the largest source of job creation in the economy. However, as suggested by previous studies, the conclusion tends to change when the focus switches to *net* job creation.

The two right-hand columns in the table examine net job gains. Net job gains are defined as job gains minus job losses. Three findings are apparent from the table. First, net job gains were significantly smaller than gross job gains. The net gains per quarter averaged only 105,000, or 35,000 per month. Second, the table shows that the recession dramatically reduced the rate of net job creation. Once net job losses during the recession are removed from the calculation, the number of net jobs rose to 173,000 per quarter (about 58,000 per month). Finally, and perhaps most importantly, the BED data show that since 1992, net job creation tended to be largest among the largest firms: These firms accounted for about 38 percent of the total. The smallest firms showed the smallest percentage of net jobs created. This result does not change if the past recession is excluded from the sample.

In short, small businesses showed higher rates of gross job creation, but they also exhibited high rates of job destruction. Looked at from this standpoint, net job creation matters most. [9](#)

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ENDNOTES

- ¹ Birch followed up his original study with several subsequent studies (not cited herein).
- ² One drawback of this study is that it focused on the manufacturing sector, which is a relatively small share of the economy and, thus, probably not a good representation of total job creation.
- ³ See Neumark, Wall and Zhang.
- ⁴ The BED is a quarterly series that is based on the Quarterly Census of Employment and Wages, which uses state unemployment insurance records. See Spletzer et al. for more information about the BED.
- ⁵ Changes in employment can arise from opening or expanding businesses, or closing or contracting businesses. Gross job gains include the sum of all jobs added at both opening and at expanding establishments. Gross job losses, then, include the sum of all jobs lost at both closing establishments or contracting establishments.

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Banking Crises around the World

Different Governments, Different Responses

By Silvio Contessi and Hoda El-Ghazaly

The latest U.S. financial crisis is one of many in the recent economic history of both advanced and emerging economies. Each crisis is somewhat unique and is triggered by different processes and events. However, some common elements can be identified in the way different governments intervene to help financial sectors return to health and to soften the economy-wide impact of the crisis.

Central banks tend to adopt measures that provide liquidity to the system and that can be considered as part of a broader mandate to carry out monetary policy. In contrast, governments and parliaments tend to design and implement programs that provide more direct support to specific industries and occasionally to specific institutions; these programs are more properly associated with fiscal policy intervention. This article will focus on the latter: direct support to commercial banks and savings institutions. The article will compare the United States' Capital Purchase Program (part of the Troubled Asset Relief Program) with capital-injection programs enacted by other countries around the world during banking crises.

Governments intervened with some form of recapitalization or capital injection in 32 of the 42 banking crises identified by the IMF economists between 1970 and 2007. ...

Most of these programs are often justified politically by the objective of preventing or reducing lending declines and recapitalizing financial institutions, with the ultimate goal of alleviating strains in financial markets and restoring their functioning. But instead of providing general liquidity to the financial system, they target specific financial institutions. Perhaps this is one of the reasons why—even when they are necessary and eventually prove useful—they frequently face vocal opposition from the public. Taxpayers worry that the costs of the support programs may outweigh their benefits and may eventually lead to higher taxes. Economists worry that government intervention may plant the seed of future crisis by exacerbating moral hazard problems.¹

It is fair to say that there is no consensus among economists and policymakers on the optimal resolution mechanisms of banking crises.

How To Define a Banking Crisis

Thanks to its expertise in monitoring and analyzing a large number of countries, the International Monetary Fund (IMF) is particularly well-positioned to collect, study and disseminate information about banking crises in a comparative perspective. IMF economists Luc Laeven and Fabian Valencia analyzed crises between 1970 and 2007 among a large set of countries, and much of what follows derives from their work.

Banking crises can occur either independently or concurrently with a currency crisis (a so-called twin crisis) or with a sovereign debt crisis, or both.

How are these crises defined? In a **systemic banking crisis**, a country's financial and banking industry experiences a significant number of defaults while financial entities face vast problems fulfilling financial contracts on time. As a consequence, a country experiences a large increase in nonperforming loans, and a large part of the capital in the banking system is reduced. Sometimes, these events follow a fall in asset prices (for example, in the real estate market) and sometimes overlap with runs on banks, but in order to be defined as "systemic," such crises must involve a large number of institutions or cover a large portion of the banking system. Sweden and Latvia experienced such crises

in the 1990s. (A more detailed account of the mechanisms involved is provided later in this article.)

A **currency crisis** is often defined as a situation in which a country experiences a nominal depreciation of its currency of at least 30 percent, while at the same time the rate of depreciation increases by at least 10 percent compared with one year earlier. The collapse of the Thai baht during the Asian Crisis of 1997-98 is a prime example of a large currency crisis: The currency had depreciated by more than 30 percent less than two months after the fixed exchange rate was abandoned in the summer of 1997.

In a **sovereign debt crisis**, a government fails to pay its own debt, either in part or in full. For example, in 1998 Russia defaulted on its Soviet-era debt and began restructuring the components of its sovereign debt. Notice that at least partial default is required to meet the definition of "sovereign debt crisis" used by the IMF. That means the current difficulties experienced by some European countries would not qualify as a "sovereign debt crisis."

During the recent financial crisis, no twin or triple crisis (as just defined) has occurred so far. Some European countries have experienced difficulties in managing and refinancing their debt, but so far none has defaulted.

Many countries have experienced combinations of these types of crises in recent history. Economists Laeven and Valencia identified 124 systemic banking crises, 208 currency crises and 63 sovereign debt crises; the two economists observed that some countries were repeatedly affected by these events between 1970 and 2007. One such country is Argentina. Its prosperity rivaled that of the United States in the beginning of the 20th century. Yet in the past 30 years, Argentina has experienced four banking crises (1980, 1989, 1995 and 2001). All but the 1995 crisis were also currency crises, and one (2001) was contemporaneous to a sovereign debt crisis.

Argentina is not an isolated case. The IMF study identifies 26 twin crises (banking and currency) and eight triple crises. Overall, banking and currency crises were more frequent in the 1990s, while sovereign debt crises were more frequent in the 1980s.

The recent global financial crisis witnessed many countries experiencing

banking crises. After 2007, there were 13 cases of systemic banking crises in which all countries experienced extensive liquidity support, increases in guarantees on liabilities and significant nationalizations. In some cases, the countries also experienced significant asset purchases (as in the United Kingdom and United States) and sizable restructuring costs.² During the same period, a smaller group of 10 countries experienced serious problems in its banking sectors that entailed extensive liquidity support and increases in guarantees on liabilities; in these 10 countries, there was only one case of asset purchases (Switzerland) and there were no cases of significant nationalization.³

Luckily, none of these countries has experienced either a currency crisis or a sovereign debt default since 2007.

Options for Direct Support in Banking Crises

Commonly adopted resolution policies include various types of large-scale government intervention, such as bank closures, nationalizations, mergers, sales to foreigners, the creation of a bank restructuring agency and/or an asset-management company, and recapitalization. Sometimes, these actions are accompanied by forbearance that allows the suspension or reduction of loan payments under certain circumstances and for specified lengths of time; sometimes, changes in loan classification and loan-loss provisioning are also allowed.

Often, direct government support to ailing financial institutions takes the form of recapitalization, a process in which the amount of debt and assets of a particular entity are reorganized in order to meet a financial goal. The goal may be an attempt to limit the amount of tax owed on assets in hand or, as part of a reorganization, to avoid bankruptcy.

Financial institutions can be recapitalized using a variety of measures: cash transfer, government bonds, issuance of subordinated debt, issuance of preferred shares, government purchase of bad loans, assumption of bank liabilities or the purchase of ordinary shares by the government.

Governments intervened with some form of recapitalization or capital injection in 32 of the 42 banking crises identified by the IMF

economists between 1970 and 2007 for which detailed comparable information could be gathered. Recovery programs during the global financial and banking crisis of 2007-09 were no different: 16 countries opted for outright recapitalization, with some combining a wide variety of asset guarantees and liquidity programs similar to some of the programs implemented in the United States.

A Sample of Past Crises Abroad

Sweden

Various economic policies adopted by Sweden in the 1970s and 1980s encouraged a sizable credit and real estate boom, in which house prices more than doubled between 1981 and 1991. At the same time, the economy was becoming much more exposed to exchange rate risk.

Because of Sweden's exchange rate tie with Germany, when interest rates in Germany increased in 1990 as a result of unification, Sweden's interest rates also experienced a rapid increase. This tipped Sweden's economy into crisis. Real estate prices dropped dramatically, with commercial real estate prices dropping 42 percent in five years and nonperforming loans increasing to as high as 11 percent of GDP in 1993.⁴

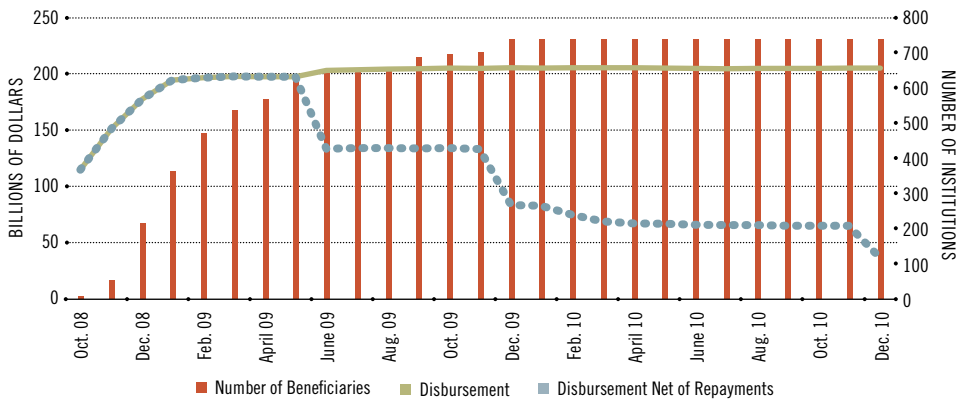
Sweden's largest banks were unable to meet capital requirements and required assistance from the state. Instead of maintaining private large banks and injecting capital through a direct support program, the Swedish government nationalized two of Sweden's largest banks and supported a third by providing it with a loan guarantee. The ownership of these banks allowed the government to provide equity to ailing borrowers and restructure defaulting companies. Liquidating bad assets took the government less than six years and ended up costing Sweden less than 2 percent of its GDP (with some estimates close to zero).

Latvia

In 1991, Latvia gained independence from the Soviet Union and transitioned from a centrally planned economy to a market economy. Within four years of its independence, Latvia had more than 60 licensed banks for a population of 2.3 million.⁵ As government policy established the right for any person or entity to establish a bank, the motivation for founding a bank quickly became the ability

FIGURE 1

TARP-CPP Disbursement



SOURCE: Authors' own calculation based on data from the Treasury's transaction reports. The Capital Purchase Program (CPP) fell under the umbrella of the Troubled Asset Relief Program (TARP).

to access cheaper funding rather than go through more-established channels. These private banks continued to grow with little supervision from the Central Bank of Latvia and, as a result, much bad lending took place.

The precipitating factor of the crisis occurred in early 1995 when the Central Bank of Latvia requested that all banks present their audited financial statements. The largest Latvian bank in terms of assets and deposits—Bank Baltija—failed to present its statements, revealing its potential insolvency. The central bank took control of Bank Baltija in July 1995, and a liquidator took control in 1996. Other mid-size and smaller banks also faced difficulties during this time, and several were categorized as insolvent. About 40 percent of the banking system's assets and liabilities were impacted.⁶

During the transition period, nonperforming loans increased throughout the banking sector as banks granted loans even to high-risk borrowers, and collections were made difficult by a lack of laws governing loan collateral. However, a swift stabilization policy helped restore viability to the banking system with the liquidation of certain banks, foreign help from the European Bank for Reconstruction and Development, and a new banking law strengthening the central bank's regulatory powers. The country also established a deposit insurance system, and the government decided to refund lost deposits to depositors up to a certain

amount and conditioned on the existence of proceeds from the bank liquidation process.

Argentina

Argentina has experienced four banking crises since the 1980s, with one triple crisis in 2001. During the 1990s, the government transformed the banking sector through privatization and consolidation and allowed for increased entry by foreign institutions, all of which improved the banking system's efficiency. However, bank profitability remained low, and more than 20 percent of total assets in 2000 were represented by government debt, which left banks vulnerable in the case of government default.⁷

The triple crisis broke in 2001 when, out of fear from the deteriorating economic climate, people rushed to withdraw their pesos from the banks in order to convert them into dollars and ship them abroad. The already ailing banks were further devastated when the government defaulted on its debt in December 2001.

As a result of the financial distress, the country was forced to exit its currency board regime, a convertibility program that tied the peso to the dollar at parity. At the same time, the government responded to the bank runs by restricting withdrawals, essentially freezing all accounts. In addition, private deposits and credit to the private sector declined dramatically, which further weakened the ailing economy. The resolution of the banking crisis was part of a larger set of policies that had to deal with the economy-wide crisis. The government ended the currency board regime in early 2002 (allowing a massive devaluation of the peso) and eventually restructured its debt.

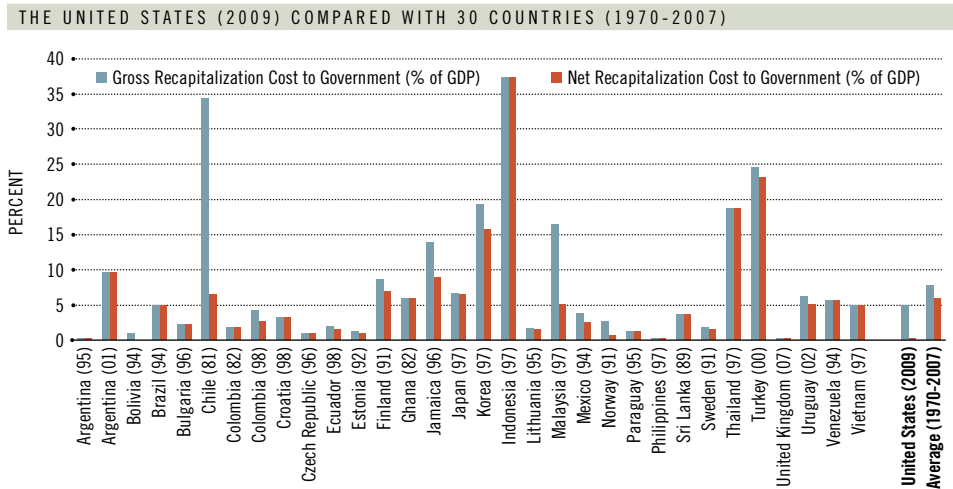
Besides freezing bank accounts, the government intervention took several additional forms, including converting dollar-denominated loans and deposits from dollars to pesos at different rates, authorizing regulatory forbearance and a temporary decrease in banks' capital, and nationalizing three banks and closing another.

The U.S. Experience

In the United States, the main instrument of direct support to banks by the U.S. Treasury is within the Troubled Asset Relief Program. TARP was established at the peak of the crisis in the fall of 2008, a bit more

FIGURE 2

Governments' Gross and Net Costs of Restructuring the Financial Sector



SOURCE: Laeven, Luc; and Valencia, Fabian. "Systemic Banking Crises: A New Database." International Monetary Fund (IMF) Working Paper 08/224, November 2008.

than one year after the initial problems in the financial system had emerged. For the first year of the crisis (which began in August 2007), there were no significant legislative changes, perhaps because the risk of a major crisis seemed minimal or because sufficient institutional flexibility seemed to guarantee the ability to intervene with existing instruments.

However, the existing toolkit of support programs was substantially expanded soon enough. By October 2008, in the midst of the panic that ensued after the failure of Lehman Bros., the Treasury proposed to Congress the idea of purchasing troubled assets to stabilize the financial system, through TARP, an essential component of the Emergency Economic Stabilization Act. Within a week of approving the legislation, the core support was refocused toward buying equity in financial institutions, using a new instrument of support, the Capital Purchase Program (CPP), which fell under the big umbrella provided by TARP. Within weeks, nine major banks received a capital injection of \$145 billion, and the idea of purchasing troubled assets was temporarily set aside in favor of buying equity.

In November 2008, one of the beneficiaries of the CPP, Citigroup, received a second round of government assistance, under another program of the TARP, and in January 2009, Bank of America also was given additional government support. The new administration defined a set of criteria for

“stress tests” aimed at determining the capital adequacy of the largest banks and presented a new program aimed at purchasing assets (the Public-Private Investment Program), which makes up a small percentage of TARP funds.

Similar to other countries, U.S. authorities adopted a complex strategy to support the economy during the financial crisis; almost all of the policy options deployed in the U.S. were attempted in Japan during the 1990-2003 period.⁸

TARP eventually included 13 programs implemented by the U.S. Treasury. The Treasury allocated \$250 billion for CPP, which represents a large part of the total allocation of government funds under TARP (\$700 billion). Of the \$250 billion allocated, approximately \$205 billion was distributed to 707 institutions, largely toward the end of 2008 and the beginning of 2009, with the last disbursements occurring Dec. 29, 2009. Figure 1 plots the monthly number of beneficiaries (red bar), the total amount of gross disbursements (gold line) and the value of outstanding disbursements (gross payment net of repayment, blue dots) until the end of 2010. It should be noted that some financial institutions—Citigroup, Bank of America, GMAC and Chrysler Financial—were supported with other TARP programs, as well.

The pool of eligible institutions that could apply for CPP funds included more than 8,000 commercial banks, savings and loan institutions, and some other financial

intermediaries. However, only *qualified financial institutions*, those deemed strong enough to survive the crisis, were considered for direct support. As later events showed, very few of the CPP beneficiaries failed in the period between 2008 and 2010.⁹

The application process for the CPP involved several stages, which involved consultations with primary regulators, analysis of their regulatory ratings and final approval by the Treasury. Investment amounts initially varied from 1 percent to 3 percent of the institution's risk-weighted assets (up to a maximum of \$25 billion).

After May 2009, some financial institutions volunteered to return their capital injections earlier than expected. The position of repayments is clear in Figure 1. By the end of 2010, only one-fifth of the original pledged funds had yet to be returned by the beneficiaries.

Comparing U.S., Other Countries


In the 42 aforementioned banking crises between 1970 and 2007, the estimated cost of direct support recapitalization varies substantially, with gross costs (not accounting for repayments) ranging from an estimated 0.28 percent of GDP in Argentina during the 1995 crisis to 37 percent in Indonesia during the 1997-98 crisis.

Initial estimates for the 2007-09 financial crises, available in another study by economists Laeven and Valencia, place gross disbursements of fiscal outlays in a range between 0.7 percent of GDP (Sweden) to 13 percent of GDP (Iceland). As some of these crises are still unfolding, it is possible that these figures will be revised upward in the future.¹⁰

The study also provides interesting details about the median costs of a banking crisis to governments. While pre-2007 crises entailed a smaller median fiscal cost in advanced economies relative to emerging markets (3.7 percent of GDP compared with 11.5 percent of GDP), they also increased the ratio of public debt to GDP more in advanced economies (36.2 percent versus 12.7 percent of GDP). Output losses—the percentage deviation of actual output from its trend—associated to crises in advanced economies were also larger than in emerging economies (32.9 percent of GDP versus 29.4 percent of GDP), although output losses are notoriously difficult to measure.

The gross direct fiscal cost of financial sector restructuring during the recent financial crisis has been estimated at roughly 5 percent of GDP for the U.S. (counting the \$700 billion that was the total budget for TARP), close to the median across advanced countries that implemented similar programs during this crisis. While countries like the Netherlands and Iceland had sizable direct fiscal costs (reaching between 12 and 13 percent of GDP), some other advanced economies had substantially smaller outlays because they had fewer troubles in their banking systems. France, Germany and Sweden, for example, had direct fiscal costs of less than 2 percent of their GDP. If only the CPP were considered for the U.S., the ratio for the U.S. would fall to approximately 1.4 percent of 2009 GDP.

A more-informative measure of the cost of direct support programs looks at the net costs, calculated as the difference between the amount of funds disbursed and those repaid to the government. The median net cost across 42 banking crises between 1970 and 2007 was 3.4 percent of GDP. Its distribution across some of these countries for which data are available is plotted in Figure 2. In the U.S., in the unlikely case that no more funds are returned, the net cost of the CPP will remain at most 0.266 percent of 2009 GDP, substantially lower than in previous banking crises.¹¹

Compared with Japan (the only other large economy that has experienced a widespread banking crisis following a housing crisis), the United States appears to be transitioning out of the crisis relatively quickly. Although the U.S. has had more bank failures (mostly small institutions), banks have more swiftly repaid the majority of their CPP funds than have banks in Japan and other countries affected by banking crises. 

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ENDNOTES

- 1 Moral hazard is when an individual or a company does not entirely bear the consequences of its decisions and, therefore, acts less carefully than it otherwise would, leaving another party (e.g., the government) to bear part or all of the cost of the effects of those decisions.
- 2 The 13 countries are Austria, Belgium, Denmark, Germany, Iceland, Ireland, Latvia, Luxembourg, Mongolia, Netherlands, Ukraine, United Kingdom and the United States.
- 3 The 10 countries are France, Greece, Hungary, Kazakhstan, Portugal, Russia, Slovenia, Spain, Sweden and Switzerland.
- 4 See Ergungor.
- 5 See Bank of Latvia.
- 6 See Fleming and Talley.
- 7 See IMF.
- 8 See Hoshi and Kashyap.
- 9 See Aubuchon and Wheelock.
- 10 See the 2010 study by Laeven and Valencia.
- 11 This figure is computed using the 1-4-11 Transaction Report for the period ending Dec. 31, 2010, which we accessed on Jan. 18, 2011. The report computes the total purchase amount (\$204.9 billion), the total repaid (\$167.9 billion), the losses (\$2.6 billion) and the total outstanding CPP investment (\$34.4 billion).

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The Economy Continues To Strengthen, but Risks Remain

By Kevin L. Kliesen

During the first year and a half of the business expansion, the U.S. recovery was characterized by below-average growth of real GDP, anemic job creation and a high unemployment rate. It was fairly weak by historical standards. Early this year, however, the U.S. economy seemed poised to grow by more than the roughly 2.75 percent growth of real GDP registered last year. This strengthening, which is consistent with the projections of the Federal Open Market Committee and the consensus of private-sector professional forecasters, likely reflects a few key factors. These include the economy's natural built-in corrective forces and the expansionary monetary and fiscal policies put in place to jump-start the economy. In addition, financial markets have healed, and the worst of the housing crisis appears to be behind us.

Key Trends Remain Positive

Last year, real GDP increased by about 2.75 percent. This increase was significantly larger than in the previous year (0.2 percent), but still only about equal to the economy's estimated growth of potential real GDP. When actual real GDP and potential real GDP are growing at about the same rate, there is not much scope for improving labor market conditions—particularly after a deep recession. Indeed, job gains were decidedly lackluster last year, as nonfarm payroll employment rose by an average of 76,000 per month. Likewise, the unemployment rate averaged 9.6 percent in the fourth quarter of last year, down only modestly from a year earlier (10 percent).

Growth of real GDP was strengthening over the second half of last year after a springtime lull that saw the nation's output growth slip to about 1.75 percent in the second quarter. Broadly speaking, the

economy's momentum at the end of 2010 appears to have carried over into 2011, as many of the nation's key indicators are pointing to a quickening in the pace of economic activity this year. First, the Conference Board's Index of Leading Economic Indicators increased by nearly 8 percent in 2010, which was the largest annual increase since 1983. Second, productivity growth remains quite strong. One immediate manifestation of this is reflected in strong growth of corporate profits, which then helps to increase stock prices. Rising stock prices against the backdrop of an improving outlook provide firms with an incentive to expand their capital stock. Rising stock prices also increase household wealth, which may provide a boost to consumption spending.

At some point, strong productivity growth should lead to faster growth of real income and, thus, rising employment. Indeed, according to the February 2011 Survey of Professional Forecasters, nonfarm payrolls are projected to increase by an average of 200,000 per month over the final nine months of this year.

Despite this robust job growth, forecasters expect that the nation's unemployment rate will remain quite high this year (9.1 percent) and next year (8.5 percent). Larger declines in the unemployment rate are possible, but probably only if real GDP increases by more than the roughly 3.25 percent growth that forecasters expect for this year and next.


Risks to the Outlook

Financial crises tend to have long-lasting effects. One notable legacy of a financial crisis is a large increase in government debt to GDP. The Congressional Budget Office (CBO) now projects that the federal budget deficit will average about 8.5 percent



of GDP for fiscal years 2010 to 2012. This compares unfavorably with an average of 2.1 percent from 1960 to 2007. Typically, as the economy strengthens, the deficit naturally lessens as tax revenues increase because of rising real incomes, and government outlays decline as fewer individuals require unemployment benefits or other forms of assistance. However, the CBO estimates that the lion's share of the deficit in 2010 was not due to these cyclical factors. Thus, something more than a strengthening of the economy is required to reduce the budget deficit to its longer-term levels.

Unless addressed promptly, these outsized budget deficits present several risks to the economy. First, large deficits tend to put upward pressure on interest rates, as the government absorbs more of the funds available for private-sector investment. Second, the threat of rising interest rates may cause investors to either sell their existing holdings of government securities or refrain from purchasing newly issued securities. Finally, the prospect of large future budget deficits may cause households to save more in the present in anticipation of higher future taxes. The prospect of higher future corporate tax rates might also cause businesses to cancel or delay capital investment projects.

The sooner that governments at all levels return their finances to sustainable levels, the better off the economy will be for the long haul. 

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Jobless Recoveries: Causes and Consequences



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By Natalia Kolesnikova and Yang Liu

Although the Great Recession ended in June 2009 and overall economic activity has exhibited signs of recovery, labor market conditions remain disappointing. Payroll employment has been recovering slowly; the average duration of unemployment remains at a historical high; and the unemployment rate is projected to remain above 7.8 percent until 2013.¹ Economists are concerned that the U.S. economy is mired in another jobless recovery—when economic activity experiences growth but the unemployment rate remains high.

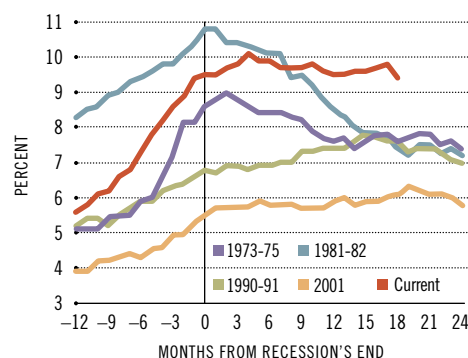
To determine the severity of current joblessness, it is useful to compare the current state of the labor market with that during previous economic recoveries. The figure shows the U.S. unemployment rate during the past four recoveries alongside the current recovery. In the first two cases, shortly after the 1973-75 and 1981-82 recessions ended, the unemployment rate started to decline; 15 months after the end of these two recessions, the unemployment rate had dropped to significantly lower levels. These were not considered jobless recoveries. In contrast, in the wake of the two recessions in the 1990s and early 2000s, the unemployment rate continued to increase 15 months after the end of the recessions. These were jobless recoveries.

Current developments in the labor market are similar to the jobless recovery cases. Since the Great Recession ended in June 2009, the unemployment rate has remained high. It topped 10 percent in late 2009, remained above 9.4 percent in 2010 and was still at 8.9 percent in February 2011—much higher than during any other recovery since the 1970s. Persistent and unusually high unemployment suggests that this jobless recovery might be more painful than the previous two.

Potential Causes of a Jobless Recovery

Many researchers have pointed to a labor market mismatch as one of the reasons for persistently high unemployment. Job growth polarization, industrial reallocation and organizational restructuring create a severe mismatch between available workers and appropriate job opportunities. Unemployed workers are forced to look for jobs in different occupations, industries and locations.

Unemployment Rates after Recent Recessions



SOURCE: U.S. Bureau of Labor Statistics

MIT Professor David Autor examined U.S. employment opportunities over the past three decades. He found that the U.S. employment growth has polarized into relatively high-skill, high-wage jobs and low-skill, low-wage jobs while middle-skill routine jobs have diminished. Some routine jobs, such as administrative and operative positions, have been replaced by computer automation. Other routine jobs, such as bill-processing and manufacturing positions, have been moved overseas to take advantage of lower wages. The Great Recession accelerated this trend: Employment in middle-skill and middle-wage occupations declined 7-17 percent during the recession.²

Job opportunities were also significantly reallocated between industries, suggests a study by economists Erica Groshen and Simon Potter. The 2007-09 financial turmoil and housing crisis had severe impacts on industrial structure: During the recession, employment in the construction industry dropped 20 percent, and job opportunities in the financial industry declined 6 percent. These industries continued to shrink after the recovery began. By December 2010, payroll employment dropped an additional 7 percent in construction and 2 percent in the financial industry. Manufacturing and information service industries were also badly affected. Demand in these industries may never return to prerecession levels; a portion of their job losses are likely to be permanent.

Organizational restructuring, which leads to an elimination of unneeded labor, especially by small firms, also creates structural change in job opportunities. During the Great Recession, small firms lost proportionately more jobs than larger firms: The small firms accounted for about 10 percent of total net job loss despite their 5.3 percent employment share.³ Small firms also take longer than large firms to rehire. Moreover, small firms are more likely to close during economic contraction; some of their job losses might be considered permanent. Re-creating these jobs takes more time than rehiring.

Consequences of a Jobless Recovery

Long periods of high unemployment are without a doubt detrimental to unemployed workers and to the health of the economy. However, there are other, less-known consequences.

Yale economist Lisa Khan found that college graduates entering the job market during

economic downturns experience a large, negative and persistent effect to their lifetime opportunities. Young workers who enter the job market during a jobless recovery may experience temporary unemployment and are more likely to accept less-attractive and lower-skill jobs due to limited opportunities. On average, their initial wage is significantly lower than the initial wage of their counterparts who graduate when the job market is strong. This disadvantage persists; even 15 years after graduation, their wages and career attainment remain lower than those of their luckier counterparts.

The social consequences of a prolonged jobless period may be as significant as the economic consequences. For example, the majority of studies on unemployment and crime suggest that a high unemployment rate is positively linked to increases in property crime.⁴ What is more, economists Naci Mocan and Turan Bali found that the connection between joblessness and property crime is asymmetric: An increase in the unemployment rate is accompanied by soaring property crime, while a decline in the unemployment rate is followed by only a gradual drop in property crime. Serious property crimes may further damage the economic development and social welfare in urban areas, especially in inner-city neighborhoods.

A recent study by economists Dhaval Dave and Inas Rashad Kelly found that an increase in the unemployment rate results in negative changes in eating habits among a studied group of people with a high risk of unemployment. A 1 percent increase in the unemployment rate is associated with a 2-4 percent reduction in the consumption of fruit and vegetables. Such a reduction in healthy food potentially affects workers' health in the long run. In low-income families, inadequate nutrition could affect the physical and mental development of children; the stress that affects the jobless parents also affects their children.

The welfare of children in some communities could be further undermined because a high unemployment rate may affect family stability by reinforcing the retreat from marriage.⁵ In less-affluent communities, economic status has been a requirement for marriage. Less-educated people are even less likely to have a job when the unemployment rate is high. Because of that, they find it harder to meet the material threshold for

marrying. Persistent joblessness may result in a permanent cultural change in some communities if marriage becomes a luxury good.

A Long Road Ahead

Federal Reserve Chairman Ben Bernanke said last fall that job creation is probably the most important problem facing the U.S. economy.⁶ As of January 2011, the U.S. economy needed roughly 6.8 million jobs to return to a 5 percent natural unemployment rate.⁷ This estimate is more complicated if population growth, the *discouraged worker* effect and the extension of unemployment benefits are taken into account.

Unemployed individuals who stop looking for a job are called discouraged workers and are not considered part of the labor force. Discouraged workers may re-enter the labor market when the economic activity bounces back. A massive re-entry would temporarily raise the number of unemployed workers so that the unemployment rate could remain unchanged or rise even as payroll employment increases.

An extension of unemployment insurance would probably produce mixed effects on the job market.⁸ Such an extension could improve the efficiency of matching workers with appropriate jobs. On the other hand, extended benefits could discourage jobless workers from accepting unattractive jobs, thus keeping the unemployment rate relatively high.

Taking these additional factors into account, if the economy immediately generates 350,000 jobs a month—the pace of the late 1990s—four years would be needed to reach an unemployment rate of 5 percent, whereas at a rate of 210,000 jobs a month—the 2005 pace—11 years would be needed to achieve a 5 percent unemployment rate.⁹ Regardless, the current recovery may be remembered as the third consecutive, and likely the most severe, jobless recovery. The social consequences may be as painful as economic consequences. A generation of childhoods, career paths, eating habits and marriage culture may be permanently altered. **□**

Natalia Kolesnikova is an economist and Yang Liu is a research associate at the Federal Reserve Bank of St. Louis. See <http://research.stlouisfed.org/econ/kolesnikova/> for more on Kolesnikova's work.

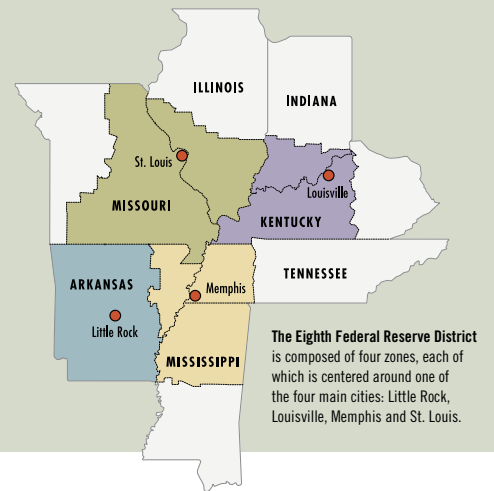
ENDNOTES

- ¹ The predicted unemployment rate is from the Survey of Professional Forecasters of the Federal Reserve Bank of Philadelphia.
- ² The statistics are adapted from Autor.
- ³ Relevant data are from Business Employment Dynamics of the Bureau of Labor Statistics.
- ⁴ A good summary can be found in Garrett and Ott.
- ⁵ See Edin and Kefalas for details.
- ⁶ See Di Leo.
- ⁷ The Congressional Budget Office estimates that natural rate of unemployment in the U.S. is 5 percent. It defines the natural rate of unemployment as “the rate of unemployment arising from all sources except fluctuations in aggregate demand.” See Congressional Budget Office.
- ⁸ See El-Ghazaly.
- ⁹ The calculation is performed based on the assumptions that population grows at a 1 percent annual rate and labor force participation rate returns to 66 percent (November 2007 level). More information is available upon request.

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Employment in Major Cities in the District Slumps Relative to the Rest of the Country



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.

By Michelle Armesto and Maria E. Canon

The most recent recession was deep and long, the longest recession since the Great Depression. Economic growth has been positive since the fourth quarter of 2009, but the labor market recovery remains slow. From the business cycle peak in December 2007 to the trough in June 2009, the U.S. economy lost over 7.5 million jobs, a decline of 5.4 percent of total employment.

Over the same period, the Eighth District lost 306,412 jobs (4.6 percent of total employment). In contrast, during the 2001 recession, the U.S. economy lost 1.6 million jobs (1.2 percent of total employment) and the District lost 107,547 jobs (1.6 percent of total employment).

The 2007-09 recession is very similar to the 2001 recession in one way. Each was followed by a “jobless recovery.” In such recoveries, employment climbs back at a much slower rate than economic activity.

After each of the past five recessions ended, it took an average of 18 months after the trough for the employment level to reach its pre-recession level. The longest return to “full” employment, 39 months, followed the 2001 recession. Although this eight-month recession technically ended in November 2001, employment did not consistently increase until August 2003, the trough for employment after the recession. The nation’s economy shed an additional 1.1 million jobs between November 2001 and August 2003. Similarly, over 600,000 jobs were lost between June 2009 and September 2010, which was the trough for employment after the latest recession.

Figure 1 illustrates the number of jobs lost relative to the peak in each recession. By March 2004, three years after the 2001 recession started, the economy recovered 34 percent of its jobs. Three years after the

most recent recession started, the economy recovered only 4.7 percent of its jobs.

During the 2001 recession, the four major metropolitan statistical areas (MSAs) in the Eighth District—except for Memphis—outperformed the nation. During the 2008-09 recession, however, both Memphis and St. Louis fared worse than the U.S. In 2010, the U.S. performed markedly better in employment gains than the four major Eighth District MSAs—St. Louis, Little Rock, Louisville and Memphis. (See Figure 2.)

Little Rock Zone

During 2009, Little Rock had the best performance in terms of payroll employment among the four major Eighth District MSAs. However, in 2010, Little Rock fared poorly relative to its counterparts, with an employment decline of 1.2 percent. Only Louisville fared worse.

The decline in Little Rock’s professional/business services sector was the greatest among the four MSAs, at 4.8 percent. The next greatest decline in this sector was St. Louis’ 0.9 percent. Other sectors in Little Rock that experienced large declines were manufacturing (–4.6 percent) and information (–3.6 percent). Sectors in Little Rock that experienced positive growth were education/health (2.0 percent), other services (2.0 percent) and leisure/hospitality (1.1 percent).

Louisville Zone

From December 2009 to December 2010, payroll employment in Louisville dropped 1.3 percent, the most severe drop among the four MSAs. Louisville experienced the greatest decline in six of the 10 sectors: resources/mining/construction (–7.3 percent), manufacturing (–5.6 percent), other services (–5.1 percent), financial activities (–3.5 percent), government (–2.2 percent), and trade/transportation/utilities (–1.7 percent). However, it had the greatest growth among the four major MSAs and the nation in leisure/hospitality (3.4 percent) and information (2.1 percent). The professional/business services sector in Louisville also experienced an employment growth of 2.2 percent, best among the four major MSAs but not as good as the nation as a whole (2.5 percent).

Other MSAs in the Louisville Zone had greater employment growth than Louisville. Clarksville, on the Tennessee-Kentucky border, and Bowling Green, Ky., had a positive employment growth of 1.0 percent and 1.5 percent, respectively. Evansville, Ind., saw its payroll employment decline by 0.6 percent.

Memphis Zone

Within the last year, although eight out of 10 sectors in Memphis experienced declines in employment, Memphis’ payroll employment declined a modest 0.9 percent,

which was in the middle of the pack among the U.S. and the major MSAs in the Eighth District. Memphis employed a relatively large share of its workforce in sectors that had positive growth or relatively small declines. With 26.6 percent of the Memphis workforce in trade/transportation/utilities, the 0.9 percent employment decline in this sector helped to mitigate the larger declines in sectors with a smaller share of the workforce. For example, even though Memphis saw employment declines of 4.5 percent in information, 3.9 percent in manufacturing and 3.0 percent in resources/mining/construction, the employment in these sectors was only 1.1 percent, 7.4 percent and 3.5 percent of the workforce, respectively. Moreover, employment in the government sector and in the education/health sector grew 0.4 percent and 0.9 percent; these two sectors had the second-largest (15.0 percent) and the third-largest (14.0 percent) share of the workforce in Memphis.

St. Louis Zone

St. Louis is the District's largest MSA, and its labor market most closely resembles the national labor market. From December 2009 to December 2010, St. Louis experienced a positive employment growth of 0.2 percent while U.S. employment grew 0.7 percent. In both the St. Louis economy and the national economy, about 13 percent of employment was in goods-producing industries, and about 87 percent of employment was in service-producing industries.

In 2009, the four major MSAs and the U.S. all shed manufacturing jobs at about 10.0 percent. Last year, an entirely different picture was painted: While the other District MSAs continued to shed manufacturing jobs at a rate of about 4.5 percent, St. Louis' and the nation's manufacturing employment increased. The resources/mining/construction sector in St. Louis continued to shed jobs in 2010 and had the most severe job loss at 2.5 percent. Nevertheless, this rate is significantly less than the 2008-09 decline of 14.9 percent. Growing sectors in St. Louis last year included education/health (2.6 percent), leisure/hospitality (0.5 percent), trade/transportation/utilities (0.5 percent) and government (0.1 percent).

Among other MSAs in the St. Louis Zone, Jefferson City and Columbia saw employment

FIGURE 1

2001 Recession vs. Most Recent Recession

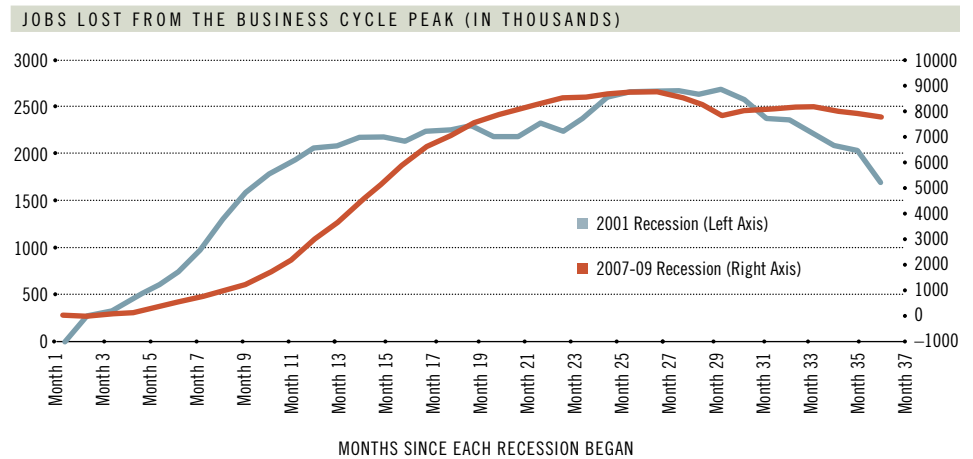
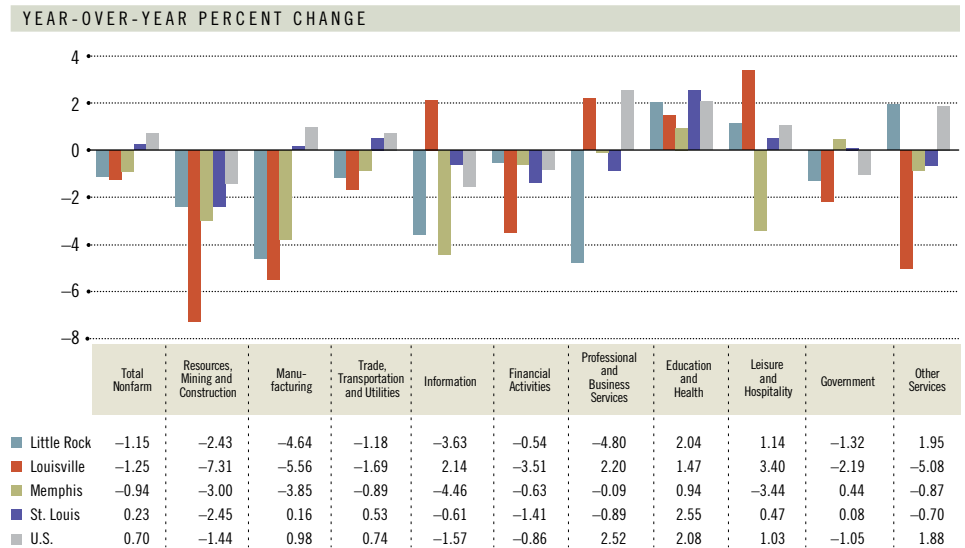


FIGURE 2

Employment Growth: December 2009 to December 2010



grow by 0.5 percent and 0.3 percent, respectively. Springfield saw a decline of 0.7 percent. All three cities are in Missouri.

Conclusion

The most recent recession was followed by a much more severe employment decline than the 2001 recession in terms of jobs lost and recovery time. During 2010, the four largest MSAs of the Eighth District lagged behind the nation in employment growth. St. Louis was the only major MSA experiencing positive employment growth. Louisville had the greatest decline in employment.

Employment growth varied markedly across different sectors. For instance,

Louisville had an employment decline of 7.3 percent in resources/mining/construction from December 2009 to December 2010, while it had a 3.4 percent employment increase in leisure/hospitality. This huge gap in the employment growth rates across sectors may cause a skill mismatch between laid-off workers in one sector with job vacancies in other sectors. This skill mismatch and its relation to the slow recovery in employment have been of increasing concern to economists. ¹

Maria E. Canon is an economist at the Federal Reserve Bank of St. Louis. See <http://research.stlouisfed.org/econ/canon/> for more of her work. Michelle Armesto is a former research analyst at the Bank.



Town Hangs Even as It

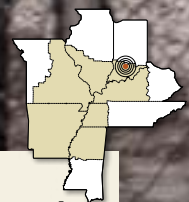


At Bedford's GM plant (clockwise from upper left): Skilled maintenance worker Justin Wells performs an inspection on one of the plant's new state-of-the-art die-casting machines. Dave Hunt (left), a skilled maintenance worker, confers on the floor with the plant's finance manager, Glenn Sampson. A robot removes a die-cast transmission housing from one of those machines. For quality control, a special device measures a new housing down to 0.01 millimeter. Two of the 17 new machines planned for the plant as part of its \$111 million renovation.

PHOTOS BY SUSAN C. THOMSON



On to Old Economy Embraces the New



By Susan C. Thomson

The Great Recession came early and hard to Bedford, Ind. Visteon Corp. closed its plant in 2008, a year after Dana Corp. shut down its operations in nearby Mitchell. The departures wiped out 1,300 jobs and left the General Motors aluminum die-casting plant as Bedford's only major survivor of the once-thriving local auto-parts industry.

The 915,000-square-foot GM complex has been a community fixture since the early 1940s. But by the time of the latest recession, its impact had already been greatly diminished. Though highly automated, it was down to making only transmission cases and housings. Employment had dwindled by more than two-thirds from its peak about 30 years ago. Further clouding the plant's future, its parent company was restructuring after emerging from bankruptcy.

Bedford/Lawrence County, Ind.

by the numbers

Population	13,413/46,134 *
Labor Force	NA/21,896 **
Unemployment Rate	NA/10.7 percent **
Per Capita Personal Income.....	NA/\$29,626 ***

* U.S. Bureau of the Census, 2010 census
 ** BLS/HAVER, December 2010, seasonally adjusted
 *** BEA/HAVER, 2008

LARGEST EMPLOYERS

North Lawrence Community Schools.....	800 †
Indiana University Health-Bedford Hospital.....	550 †
General Motors	400
Wal-Mart.....	334 †
Scientific Applications International Corp.	300

SOURCES: General Motors, East Gate Business & Technology Center, Lawrence County Economic Growth Council

† includes part-time employees



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PHOTOS BY SUSAN C. THOMSON

At Elliott Stone Co. (top), Lucas Nikirk uses airbags to detach limestone blocks weighing as much as 15 tons each from the company's underground quarry. The company machines them into building stones and various specialty products.

A former public school (left), built in Romanesque style of Indiana limestone in 1899, sits in a residential Bedford neighborhood. Downtown (right) is being eyed by the city for updates, including new lighting, signs and plants. The city had hoped to win a state grant to convert the school and the two-story building on the downtown corner to housing. The city didn't get the grant and is now pursuing other sources of funds to accomplish those goals; meanwhile, the private owners of the two buildings have listed them for sale.

To head off a possible closing, the plant's management and representatives of the local unit of the United Auto Workers "worked very closely and together" to streamline the plant's work rules, said plant manager Eric Gonzales. By making the plant more efficient, they hoped to ensure its survival.

Their strategy paid off. A year ago, GM picked Bedford over other plants contending to make all of the cylinder heads for a new engine going into the company's next generation of lighter trucks and sport utility vehicles. To that end, the plant is now undergoing what Gonzales described as "an extreme manufacturing makeover." Walls are coming down, ceilings are being raised and floors are being cleared to prepare the way for new casting robots. The company

has promised to create 245 new jobs over the next couple of years.

In return for GM's \$111 million investment, the Indiana Economic Development Corp. promised the company up to \$2.5 million in income tax credits over 10 years. The city of Bedford pitched in, agreeing to a 10-year phase-in of local taxes on the new machinery.

Tax Breaks

The city has granted the same kind of tax breaks to two promising newer businesses as they, too, have invested in new equipment. They were started by Tom Miller in one case and by Doug Conrad and Larry Parsons in the other. All three are former GM engineers.

Miller developed a pump system used in geo-thermal heating and cooling applications for homes and businesses. In 1986, he started Geo-Flo Products Corp. to make his product, and in 2000 he moved his company from Bloomington, Ind., to Bedford. It has since expanded there twice, most recently more than doubling the plant's footprint to more than 50,000 square feet.

Conrad and Parsons co-own Bedford Machine & Tool Inc. In the beginning, 23 years ago, GM and various auto-related customers accounted for about 80 percent of the specialty manufacturer's sales, Conrad said. As the company has grown, it has diversified into other lines of work, including the machining of iron housings for wind turbines. The company turns out four or five a week, each weighing 18.5 tons.

These remain small companies, Bedford Machine & Tool with 70 employees, Geo-Flo with only 13. Nevertheless, they show Bedford "revamping our old way of doing things and entering new markets," notably green energy, said Gene McCracken, executive director of the Lawrence County Economic Growth Council.

For immediate impact, the city's stand-out new market has been defense. The Crane naval base, one county away with 6,000 employees, is said to have been a magnet for the new business. Doug Kellams, head of a Bedford construction company, gets credit for being the catalyst. Fearing that the 285,000-square-foot Visteon plant would "just sit idle and then deteriorate" and wanting to do "something for the community," he took "a leap of faith" and



PHOTOS BY SUSAN C. THOMSON



bought the property for \$3 million as Visteon was clearing out.

He renamed it the East Gate Business & Technology Center and then managed over just the past 2½ years to lease 80 percent of it. There are two major tenants. Bedford-based Tri-Star Engineering, which provides engineering and other management services for defense and other clients, moved in with 40 employees and has since expanded to 200. Science Applications International Corp. of San Diego, Calif., came new to Bedford with 60 employees; today, there are 300 workers. They install communications equipment in military vehicles. This has all happened without benefit of any economic incentives, either for Kellams' building purchase or his tenants' moves.

Limestone Capital

The community is "alive with entrepreneurial spirit" these days, said Kenneth H. Frye, a Bedford-based regional executive vice president with German American Bancorp. It's the same spirit that gave birth to the local limestone industry in the early 1800s, he said.

Bedford lies amid a three-county region of southern Indiana that boasts some of the world's richest deposits of dimensional limestone, the sort that can be fabricated into building material. With dozens of quarriers and fabricators employing thousands of employees altogether, limestone remained the area's leading industry until the mid-20th century, according to Jim Owens, executive director of the

Bedford-based Indiana Limestone Institute of America. He estimates that, due mostly to automation, the regional industry is down now to approximately 20 companies and a total of 1,000 workers.

The city still bills itself as the Limestone Capital of the World. The Lawrence County Tourism Commission promotes the idea with its web site (www.limestonecountry.com) and a self-guided "limestone trail" tour of buildings, museums, stone works and views of abandoned quarries.

In a 30-year plan done for the city last year, a consulting firm recommended that Bedford put the 13 abandoned quarries within the city limits to some sort of recreational use and consider developing an outdoor limestone museum. The plan also noted opportunities for civic improvement in the city's dated downtown, aging housing stock and infrastructure, and lack of affordable housing.

The city wrapped some of those suggestions into its own plan calling for, among other initiatives, creating miles of walking trails, converting some buildings into low-income housing, enhancing waste-water treatment, improving flood control, restoring an obsolete rail spur to the GM plant and dressing up downtown with new signs, plants and lights.

Bedford entered its plan in Indiana's first competition for two special development grants to small communities, hoping for about \$15 million over the next three years.

At Bedford Machine & Tool Inc., Richard Hawkins (left) polishes steel inserts for a die. The machining of iron housings (right) for wind turbines is one of the new services that the company offers. Traditionally, most of its business came from GM and other auto-related businesses.

continued on Page 26

continued from Page 25

Though one of 12 finalists, the city didn't win. Mayor Shawna Girgis said the city was exploring alternative sources of funds, including other state grants, to finance some of the projects. Increases in GM's property taxes could possibly be set aside to restore the rail spur, she said.

McCracken described the spur as key to industrial development in general and, specifically, to any possible further expansion of the GM plant, which will still have space to spare when the current renovation is completed. Even as technology makes it possible for plants to do more work with fewer people, manufacturing remains crucial to Bedford's economy, he said.


"A Step Ahead"

The city's planning consultants foresaw proportionately fewer future jobs in manufacturing and more in the professions, sciences, technical fields, social services, real estate and health care in the coming years.

Health care is already a conspicuous growth industry. Bedford has two hospitals, both "critical access," a special category of rural hospitals qualifying for extra Medicare reimbursement and limited to 25 beds each. St. Vincent Dunn Hospital has about half the employees of Bedford Hospital, which is affiliated with Indiana University Health. President Brad Dykes said it has increased its staff by 10 percent over the past 10 years.

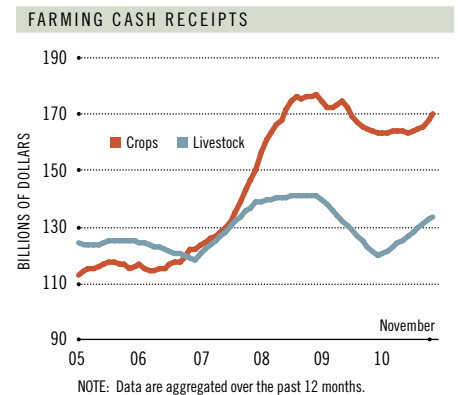
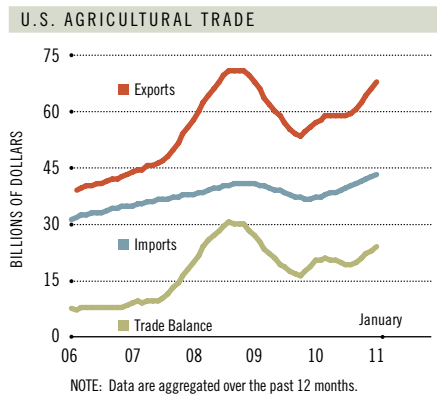
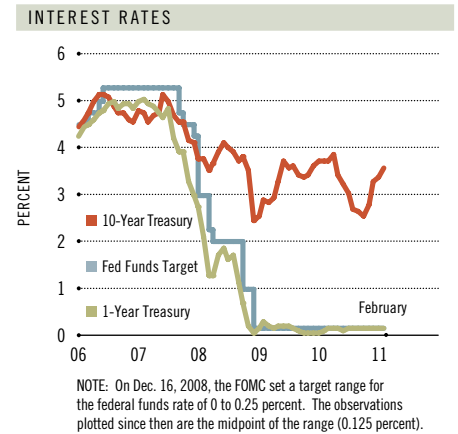
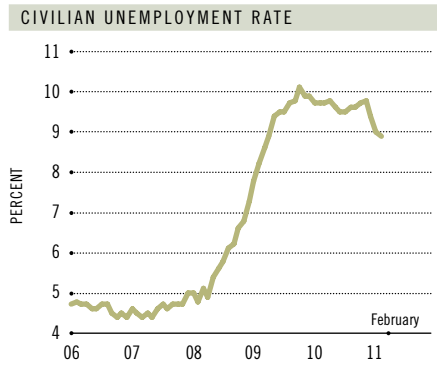
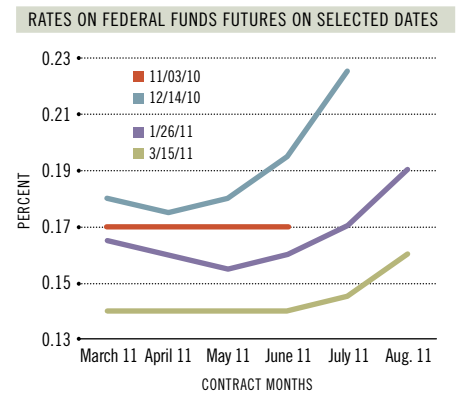
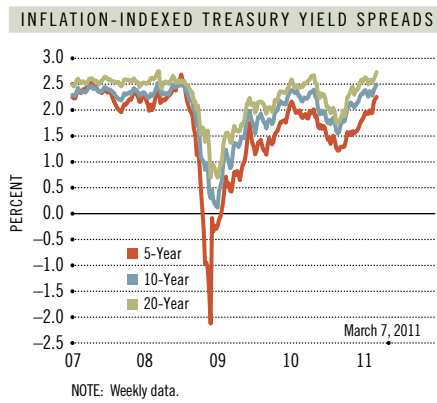
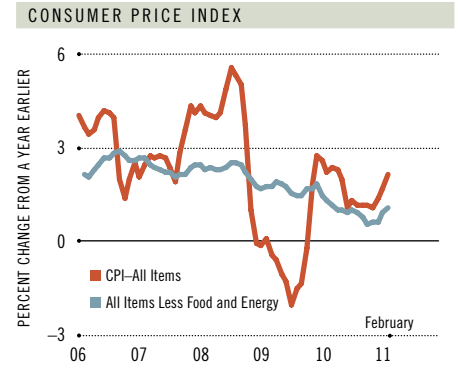
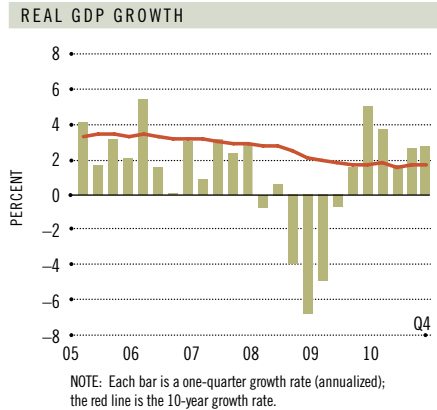
Bedford's unemployment rate hovers a point or so above the national average. But Jack A. Kenworthy, president of Bedford Federal Savings Bank, noted that it dropped by 1.3 points over the past year. That decline, along with the new jobs at the East Gate Business & Technology Center and the promise of more still at the GM plant, shows that the local economy is improving, he said.

McCracken acknowledged challenges ahead. "We've got to replace what we've lost and grow with the new and emerging," he said.

At the same time, he saw an advantage in the area's early and rough experience with the recession. "We're a step ahead because we started facing challenges before everybody else," he said. 

Susan C. Thomson is a freelancer.

Eleven more charts are available on the web version of this issue. Among the areas they cover are agriculture, commercial banking, housing permits, income and jobs. Much of the data is specific to the Eighth District. To go directly to these charts, use this URL: www.stlouisfed.org/publications/pub_assets/pdf/re/2011/b/4-11data.pdf



ASK AN ECONOMIST

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Q. Why do vacancies and unemployment coexist in the current recovery?

A. In short, there is a mismatch between the skills employers need and the skills of unemployed workers.

There are at least three views as to why economic growth is positive but unemployment remains persistently high. The first view is that the aggregate demand for labor is still low. An alternative view is that extensions of unemployment insurance benefits reduce the incentives of unemployed workers to find a job (or accept a job with lower pay). Others, including myself, view the high unemployment rate as a result of a mismatch between unemployed workers and vacant jobs.

Economist Robert Shimer argues that vacancies and unemployment coexist when the skills and geographical location of unemployed workers are poorly matched with job requirements and location of job openings.¹ Shimer found that the rate at which unemployed workers find jobs depends on three factors: (i) the rate at which they move to locations with available jobs; (ii) the rate at which jobs open in locations with available workers; (iii) the rate at which employed workers vacate jobs in locations with suitable unemployed workers.

In a recent paper, economist Ayşegül Şahin and co-authors found that, while most of the jobs lost during the latest recession occurred in the construction sector, most of the newly created jobs have been in the health care and education sectors.² Additionally, the authors point out that the crisis in the housing market left many mortgage holders with negative home equity, a condition that may slow down geographical mobility as homeowners are less likely to sell their house. These factors suggest that the component of mismatch in the latest recession is significantly larger than in previous recessions. In fact, economists Justin Weidner and John Williams estimate that mismatch (along with other factors) has pushed the “normal” unemployment rate from 5 percent up near 7 percent.³

¹ Shimer, Robert. “Mismatch.” *The American Economic Review*, Vol. 97, No. 4, pp. 1,074-1,101, September 2007.

² Şahin, Ayşegül; Song, Joseph; Topa, Giorgio; and Violante, Giovanni L. “Mismatch in the Labor Market: Evidence from the U.K. and the U.S.” Manuscript, revised November 2010.

³ Weidner, Justin; and Williams, John C. “What Is the New Normal Unemployment Rate?” Federal Reserve Bank of San Francisco *Economic Letter*, Feb. 14, 2011. See www.frbsf.org/publications/economics/letter/2011/el2011-05.htm

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The St. Louis Fed’s Community Development department will host its biennial conference on community development finance May 9-11 at the Chase Park Plaza hotel in St. Louis. The “Exploring Innovation” conference is recommended for bank CEOs, bank Community Reinvestment Act officers, philanthropic leaders, government leaders, community economic developers, leaders of nonprofits and of Community Development Financial Institutions, and students who are studying business, government or sociology.

Among the major speakers will be Elizabeth Duke, a member of the Federal Reserve’s Board of Governors; Jessica Jackley, co-founder of Kiva, the world’s first peer-to-peer microlending service; and AC Wharton Jr., mayor of Memphis, Tenn.

This year’s conference is being presented in partnership with the Federal Reserve banks of Atlanta, Dallas and Minneapolis.

For more information, see <http://2011.exploringinnovation.org>



Video Conferencing
podcasts
PERSONAL FINANCE
ONLINE COURSES
workshops
CREDIT
MONEY
WEBINARS
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ECON ED LIVE!
Interactive

LISTEN TO PODCASTS ON ECONOMICS AND RELATED SUBJECTS

The St. Louis Fed’s Economic Education department is producing a series of short podcasts about topics in economics, personal finance, banking and monetary policy. Although aimed at high school students, the podcasts would be beneficial to many others who either have little knowledge of these topics or want a refresher on them.

So far, there are seven episodes in the “Economic Lowdown” series. The first seven cover opportunity cost, factors of production, the role of self-interest and competition in a market economy, inflation, unemployment, demand and supply. More episodes are in the works, and videos will soon supplement some of the audiocasts.

To listen to these short podcasts, go to www.stlouisfed.org/education_resources/podcasts.cfm

CORRECTION

In the January issue, an article on housing trends stated that housing starts had bottomed out in January 2009 at a bit less than 500,000 a month and had risen to 519,000 in October 2010. Both figures were on an annualized basis. An accompanying chart also should have made clear that the starts were on an annualized basis and were not per month.



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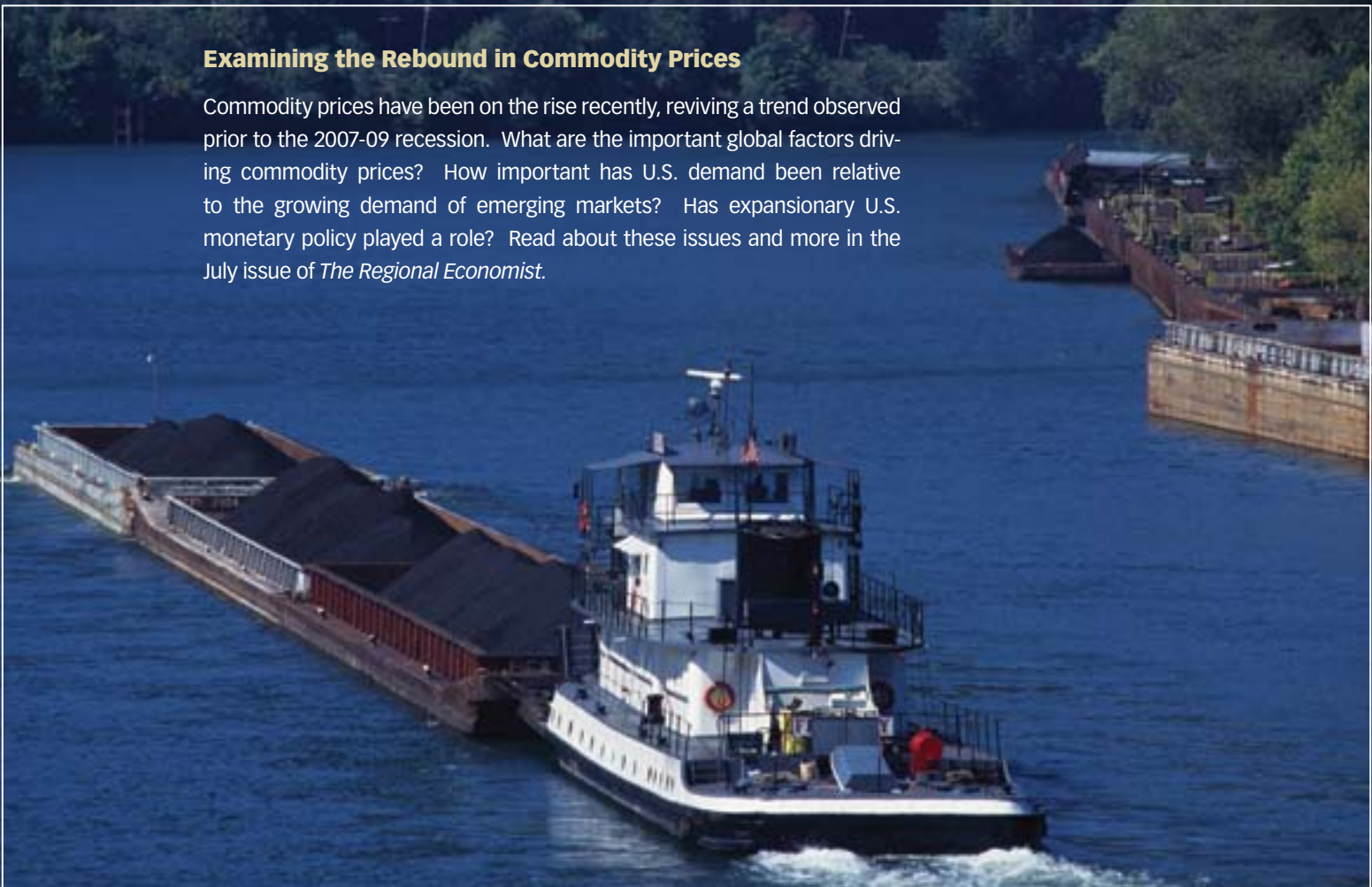


N E X T I S S U E

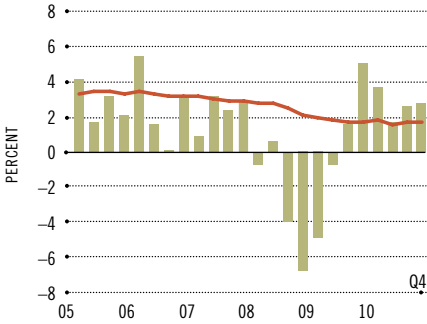
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Examining the Rebound in Commodity Prices

Commodity prices have been on the rise recently, reviving a trend observed prior to the 2007-09 recession. What are the important global factors driving commodity prices? How important has U.S. demand been relative to the growing demand of emerging markets? Has expansionary U.S. monetary policy played a role? Read about these issues and more in the July issue of *The Regional Economist*.

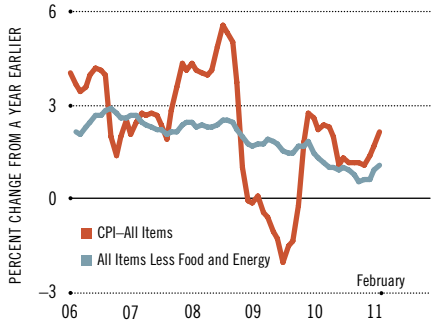


REAL GDP GROWTH

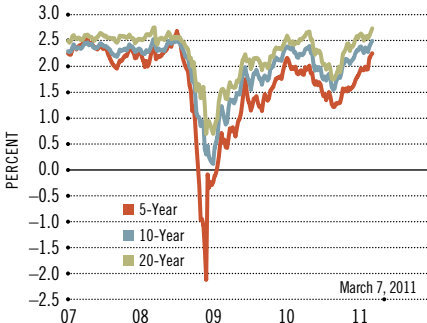


NOTE: Each bar is a one-quarter growth rate (annualized); the red line is the 10-year growth rate.

CONSUMER PRICE INDEX

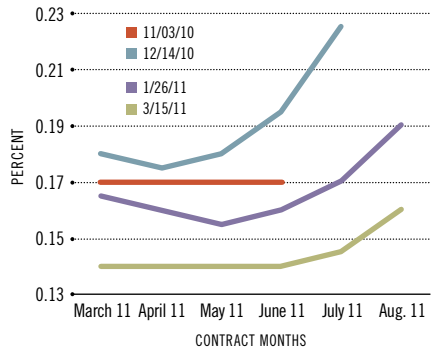


INFLATION-INDEXED TREASURY YIELD SPREADS

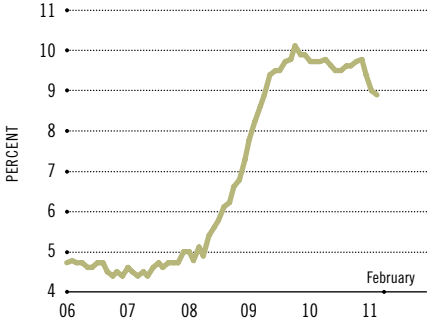


NOTE: Weekly data.

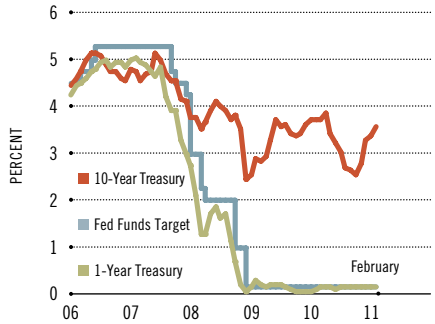
RATES ON FEDERAL FUNDS FUTURES ON SELECTED DATES



CIVILIAN UNEMPLOYMENT RATE

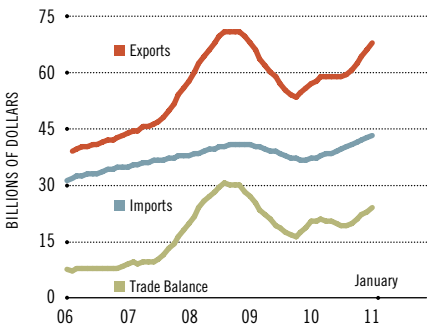


INTEREST RATES



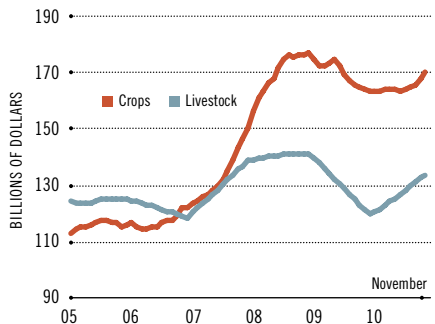
NOTE: On Dec. 16, 2008, the FOMC set a target range for the federal funds rate of 0 to 0.25 percent. The observations plotted since then are the midpoint of the range (0.125 percent).

U.S. AGRICULTURAL TRADE



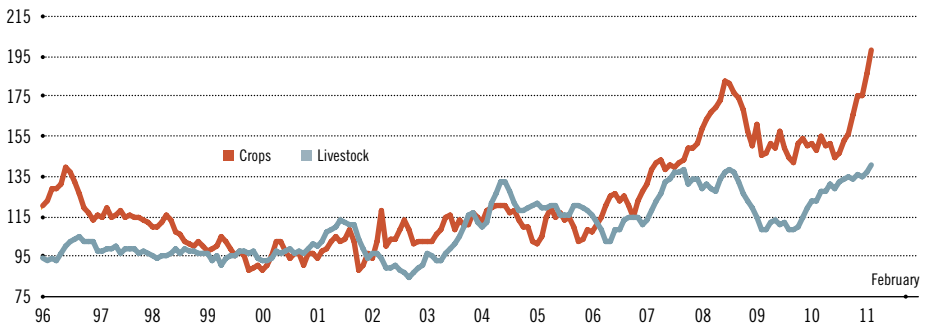
NOTE: Data are aggregated over the past 12 months.

FARMING CASH RECEIPTS



NOTE: Data are aggregated over the past 12 months.

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

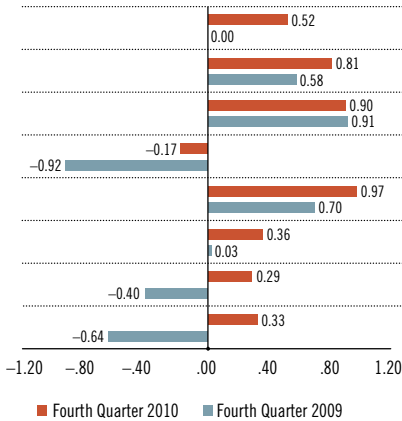


COMMERCIAL BANK PERFORMANCE RATIOS

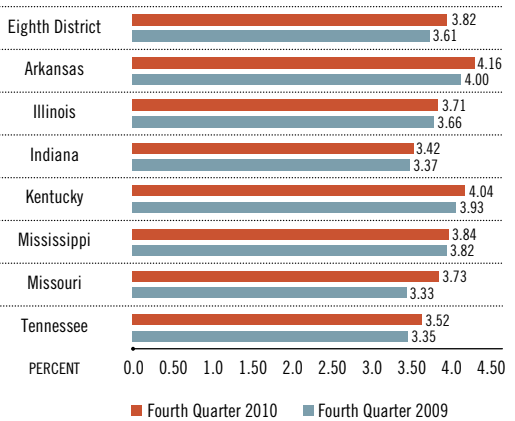
U.S. BANKS BY ASSET SIZE / THIRD QUARTER 2010

	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*	0.63	0.36	0.37	0.35	0.36	0.21	0.28	0.72
Net Interest Margin*	3.70	3.95	3.97	3.85	3.91	3.89	3.90	3.64
Nonperforming Loan Ratio	5.02	3.23	3.05	3.94	3.52	4.22	3.89	5.41
Loan Loss Reserve Ratio	3.33	1.88	1.84	2.02	1.94	2.40	2.18	3.73

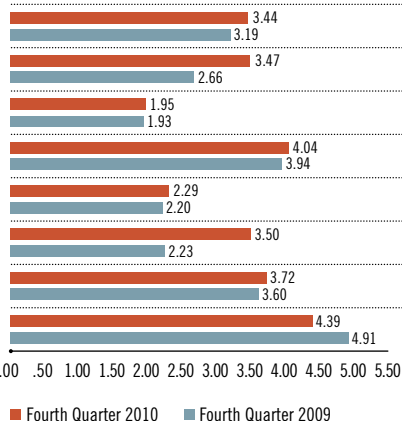
RETURN ON AVERAGE ASSETS*



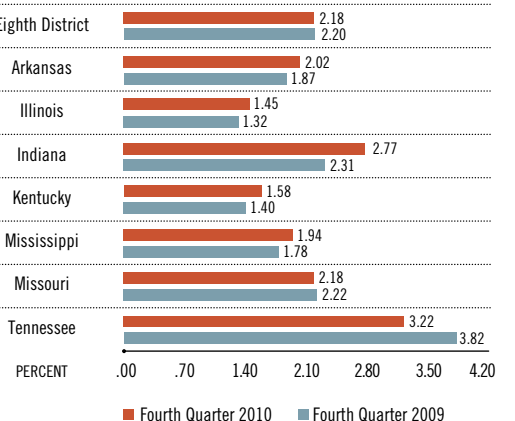
NET INTEREST MARGIN*



NONPERFORMING LOAN RATIO



LOAN LOSS RESERVE RATIO



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: www.research.stlouis.org/fred/data/regional.html.

REGIONAL ECONOMIC INDICATORS

NONFARM EMPLOYMENT GROWTH / FOURTH QUARTER 2010

YEAR-OVER-YEAR PERCENT CHANGE

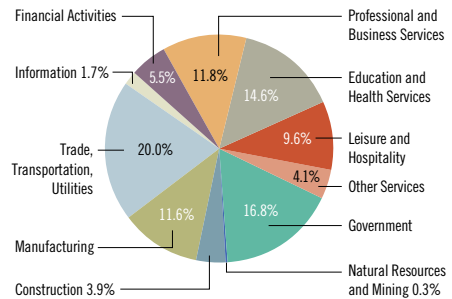
	United States	Eighth District †	Arkansas	Illinois	Indiana	Kentucky	Mississippi	Missouri	Tennessee
Total Nonagricultural	0.5%	0.6%	1.3%	0.6%	0.9%	1.0%	0.6%	-0.4%	0.9%
Natural Resources/Mining	11.0	4.7	6.7	6.3	1.5	3.2	8.6	2.4	NA
Construction	-3.3	-3.7	-4.5	-4.0	-0.6	-7.3	1.9	-6.1	NA
Manufacturing	0.5	0.6	0.5	0.7	2.6	1.6	-2.6	0.2	-1.2
Trade/Transportation/Utilities	0.4	-0.1	1.2	0.3	-0.5	-0.8	-0.1	-1.3	0.8
Information	-2.0	-3.0	-1.3	-3.0	-3.9	-2.1	1.9	-5.2	-1.8
Financial Activities	-0.9	-1.1	-1.3	-2.1	0.0	-1.5	-1.2	1.2	-1.3
Professional & Business Services	2.4	4.2	5.3	3.3	6.8	4.9	8.9	1.1	5.2
Educational & Health Services	2.1	2.1	1.8	2.8	2.7	1.3	1.5	0.9	2.4
Leisure & Hospitality	0.7	1.1	5.4	1.0	-0.7	3.3	1.9	0.4	0.7
Other Services	1.7	0.0	2.4	-0.9	-0.6	3.8	-0.1	0.2	-0.6
Government	-1.1	-0.7	-0.8	-0.6	-2.1	1.2	-1.0	-1.3	-0.3

† 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

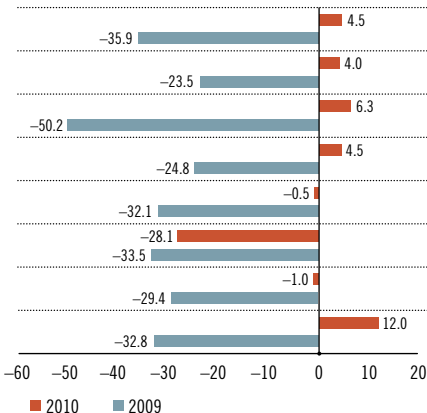
	IV/2010	III/2010	IV/2009
United States	9.6%	9.6%	10.0%
Arkansas	7.9	7.8	7.8
Illinois	9.4	10.0	11.0
Indiana	9.6	10.0	10.6
Kentucky	10.2	10.2	11.0
Mississippi	10.2	10.1	10.7
Missouri	9.6	9.6	9.7
Tennessee	9.4	9.4	10.5

EIGHTH DISTRICT PAYROLL / EMPLOYMENT BY INDUSTRY-2010



HOUSING PERMITS / FOURTH QUARTER

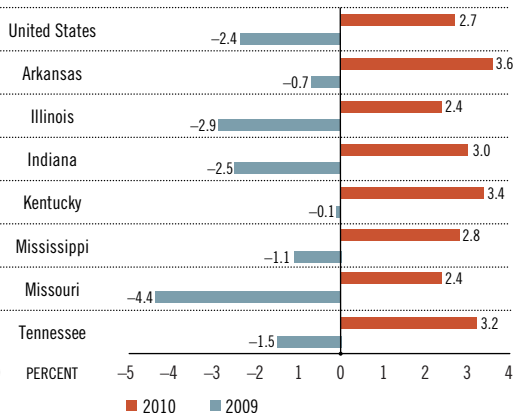
YEAR-OVER-YEAR PERCENT CHANGE IN YEAR-TO-DATE LEVELS



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.