



Digging into the Infrastructure Debate

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By Kevin L. Kliesen and Douglas C. Smith

Is the nation's infrastructure really in such bad shape? Should we be spending more on the Internet and less on interstates? And what of competing needs—health care, education, wars?

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



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James Bullard, President and CEO
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As in the Past, Reform Will Follow Crisis

Historically, crises have led to significant legislation. For example, the panic of 1907 led to the Federal Reserve Act of 1913, which established the Federal Reserve as the central bank. Out of the Great Depression came the Glass-Steagall Act, which established the Federal Deposit Insurance Corp. and separated commercial from investment banking. The thrift crisis in the late 1980s led to the enactment of the Federal Deposit Insurance Corp. Improvement Act (FDICIA) of 1991, which mandated prompt resolution of failing banks and new standards for bank supervision, regulation and capital requirements. The collapse of Enron and WorldCom gave rise to Sarbanes-Oxley in 2002, in an effort to improve the accuracy and reliability of corporate disclosures.¹

The current financial crisis will undoubtedly spur further regulation. Successful regulation should be aimed not at preventing all failures, but rather at establishing a clear and credible process such that if a failure were to occur, it would take place in an orderly fashion and not cause industry-wide panic.

Portions of the regulatory system currently in place work well. Smaller-bank regulation, for example, was successful during the thrift crisis and during the current crisis. Key components of small-bank regulation are deposit insurance—which assures depositors that they will not lose their money—and prudential regulation—which prevents bankers from abusing deposit insurance. Good monitoring and rating systems are in place, allowing regulators to identify, in a timely way, banks that are on the verge of failing and to prepare for those failures accordingly. Should a bank fail, there are clear rules and organized procedures in place; everyone knows and understands what these rules and procedures are.

A similar system is not in place for large bank and nonbank financial institutions. Large institutions are much more complex and difficult to monitor. Many, if not all, of these institutions are global enterprises.

Assessing the financial well-being of the organization as a whole is challenging, especially because no regulator is responsible for monitoring the entire entity. This can lead to the sudden revelation of problems and, consequently, market disruption.

"Just as an effective monitoring system is needed for these large banks and nonbanks, so is a clear and credible resolution regime."

Just as an effective monitoring system is needed for these large banks and nonbanks, so is a clear and credible resolution regime. One possibility is to incorporate special considerations for financial institutions into the bankruptcy code, clarifying the process and accelerating it. Quick and clear resolution would avoid market disruptions.²

As the need for reform in the financial services industry has been debated, there has been talk about creating a systemic risk regulator. The Fed has long been playing this role on a de facto basis, given that it is the lender of last resort and controls monetary policy. The Fed also has a long history of bringing suspected risk issues to

the forefront. My predecessor, Bill Poole, sounded the alarm on Fannie Mae and Freddie Mac in this space nearly seven years ago.³ The late Fed Gov. Ned Gramlich took his case against predatory lending to Alan Greenspan in 2000. Minneapolis Fed President Gary Stern has been leading the charge against “too big to fail” for years.

Whether a new systemic regulator is needed, along with who would fill that role, is one of just many regulatory issues that need to be decided. So far, the discussion has been broad. Now, it's time to narrow the focus and act. Ω

E N D N O T E S

¹ See the FDIC's web site for a compilation of banking legislation since the 1880s. Go to www.fdic.gov/regulations/laws/important/index.html.

² See “Insolvency of Systemically Significant Companies: Bankruptcy vs. Conservatorship/Receivership,” Congressional Research Service Report for Congress R40530, April 20, 2009. See <http://openocrs.com/document/R40530/>.

³ Federal Reserve Bank of St. Louis *The Regional Economist*, October 2002, Vol. 10, No. 4, p. 3.



Digging into the Infrastructure Debate

Vehicles trapped atop the Interstate 35W bridge in Minneapolis after it collapsed Aug. 1, 2007.

AP PHOTO/JACOB REYNOLDS, FILE

By Kevin L. Kliesen and Douglas C. Smith

The nation's public infrastructure is crumbling and in dire need of repair, according to conventional wisdom. This view seems to have become more strident after the Minneapolis bridge collapse in 2007. The American Recovery and Reinvestment Act of 2009 (ARRA) ostensibly addresses this concern by providing \$111 billion for infrastructure and science projects. Of this amount, about a quarter (\$27.5 billion) was set aside for spending on highway construction. Officials in the seven states that comprise parts or all of the Eighth Federal Reserve District have already proposed infrastructure projects totaling several billion dollars.

A well-functioning public infrastructure system is necessary to support rising living standards over time, but other factors are also crucial to improving these standards. Moreover, the evidence that the nation's public infrastructure has fallen into widespread disrepair does not appear to be

overwhelming. Even if it turns out to be, ongoing and emerging structural changes in the economy may necessitate a more careful assessment of future outlays for traditional infrastructure.

The State of Public Infrastructure

The nation's infrastructure can be thought of as its tangible capital stock (income-earning assets), whether owned by private companies or the government.¹ This can include everything from the Toyota manufacturing plant in Indiana to the FedEx and UPS warehousing and distribution facilities in Memphis and Louisville, respectively. However, to most people, infrastructure is the nation's streets, highways, bridges and other structures that are typically owned and operated by the government. More than 75 percent of the government's capital stock is owned by state and local governments.

Several recent reports on the health of the nation's infrastructure rate it to be

in relatively poor shape. According to some organizations, such as the American Society of Civil Engineers (ASCE), this is a long-standing concern. Every few years, the society rates 15 categories of public infrastructure. In its *2009 Report Card for America's Infrastructure*, the ASCE said that only three of 15 categories merited a C (mediocre), while the remaining 12 barely passed with a D (poor). This year's cumulative grade (D) is unchanged from the society's previous report in 2005, and it differs little from the reports issued in 2001 (D+) and in 1998 (D). The ASCE further says that the United States needs to more than double planned infrastructure spending over the next five years, or by about \$1.1 trillion, to put the nation's infrastructure in "good condition." About half of this infrastructure gap is due to deteriorating roads and bridges.

Citing the ASCE's findings, the National Governors Association (NGA) published

An Infrastructure Vision for the 21st Century this year.² According to the NGA, “the nation’s infrastructure system is no longer adequately meeting the nation’s needs and faces several long-term challenges that affect our ability to maintain and enhance our competitiveness, quality of life and environmental sustainability.”

Other studies sound similar alarms. For example, the Organisation for Economic Cooperation and Development (OECD) said in 2007 that advanced countries besides the United States face similar problems:

“A gap is opening up in OECD countries between the infrastructure investments required for the future, and the capacity of the public sector to meet those requirements from traditional sources.”³

Yet, the Congressional Budget Office estimated last year that spending on the U.S. transportation infrastructure was roughly \$16 billion below the spending needed to maintain current levels of service.

Divergent studies about infrastructure gaps are not new. In a comprehensive study published in 1994, the late economist (and former Fed governor) Edward Gramlich noted that engineering assessments of infrastructure gaps that were originally published in the early 1980s became progressively smaller over time “as they were done more carefully.” Of course, it is certainly possible that engineering assessments have improved over time in response to these criticisms.

Increased traffic congestion is one of the costs associated with inadequate public spending on infrastructure. In a 2007 report, the Texas Transportation Institute at Texas A&M University estimated that the costs associated with travel delays and wasted fuel (congestion costs) in nearly 450 urban areas totaled \$710 per person (in 2005 dollars), about 25 percent higher in inflation-adjusted terms from a decade earlier.⁴ Since a significant portion of these congestion costs reflects the fact that a scarce resource (roads) is made freely available to everyone early in the morning and late in the afternoon (rush hour traffic), economists generally argue that some form of congestion pricing—rather than new infrastructure outlays—would mitigate these costs.⁵

Infrastructure Investment in the Eighth District

In 2009, the American Recovery and Reinvestment Act (ARRA) provided tens of billions of federal dollars to state and local government officials for “shovel ready” infrastructure projects. As seen in Figure 1, nearly \$1.3 billion in infrastructure investment has been requested thus far by governors for state transportation projects that will take place in the Eighth District.¹³

Arkansas and Missouri have advanced the most comprehensive and expensive infrastructure projects. Nearly 60 percent, or \$761 million, of the total proposed infrastructure work in the Eighth District stems from proposals issued by the Arkansas and Missouri state governments. However, since Arkansas’ total (\$436 million) surpasses the ARRA amount actually designated to infrastructure investment in Arkansas, other federal aid, as well as state and local funds, will make up the difference.

The Missouri Department of Transportation has requested about \$325 million to fund 81 programs in the Eighth District. The majority of these projects call for refurbishing state routes and highways, and several direct significant investment toward the utilization of newer, more efficient modes of repairing roads.

In Illinois, state and local government officials have already identified projects that would use three-quarters of the \$936 million designated to Illinois for infrastructure investment. Within the Eighth District, proposals for \$81 million in state infrastructure projects have been made. As in Missouri, most of the ARRA proposals pertain to road and bridge repair.

Within Mississippi’s portion of the Eighth District, state officials have requested funding for 33 state projects. Of the \$103 million being sought, 72 percent is directed toward road maintenance and improvement, with the remainder directed mostly toward bridge repair and replacement. The road maintenance and improvement projects encompass approximately 265 miles of road repair and rehabilitation.

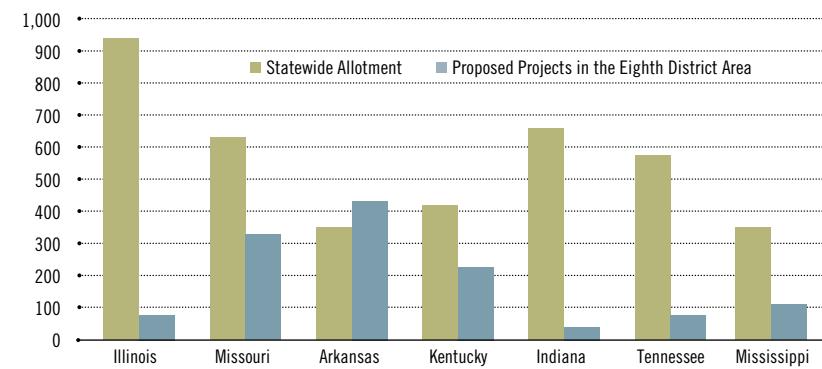
A significant portion of the infrastructure projects proposed by the Indiana Department of Transportation was originally budgeted for future years. ARRA has allowed Indiana to bring forward a number of these future projects, as well as a list of newly created projects, most of which are dedicated to road repair and preventive maintenance. In fact, of the \$34 million in proposed infrastructure projects, nearly \$21 million is dedicated to preventive roadway maintenance.

Currently, the departments of transportation in both Tennessee and Kentucky have designated 52 state projects to use infrastructure funding in the Eighth District. Tennessee has requested almost \$70 million, primarily for the resurfacing of roads and the replacement of nine bridges, while Kentucky has advanced proposals for over \$220 million to repair streets, widen highways and build new roads. The Kentucky Department of Transportation has also asked for \$1 million for public transportation enhancements within the Eighth District.

FIGURE 1

Proposed Infrastructure Projects in the Eighth District Using 2009 ARRA Funds

MILLIONS OF DOLLARS



NOTE: Proposed projects as of May 20, 2009, that would use American Recovery and Reinvestment Act money.

The Economics of Infrastructure Spending

Economics is the study of how society responds to incentives when deciding how to allocate scarce resources. Since this decision process necessarily involves trade-offs, economies that prosper over time tend to allocate their economic resources to the purchase of capital that produces the highest rate of return. In the private sphere, this generally occurs as businesses strive to maximize profits and returns to shareholders. In the public sphere, these questions are equally valid, but answering them often requires information that is not readily available. For example, how does a city determine the rate of return on a new police station, unless it can accurately determine the value of future crimes that might be prevented?

Competing demands for public services besides infrastructure compound the problem confronting government authorities. For example, if a city has \$X to spend on

If a city has \$X to spend on infrastructure improvements, will the rate of return on a highway overpass produce a higher rate of return than an improvement to a city's sewer or flood-control systems?

infrastructure improvements, will the rate of return on a highway overpass produce a higher rate of return than an improvement to a city's sewer or flood-control systems? These questions are often difficult to answer, but are nonetheless important. Some might believe that the presence of trade-offs forces government officials to neglect bridges and other facilities. However, as the sidebar "How Safe Are the Nation's Roads and Bridges?" shows, the rhetoric is sometimes not matched by the reality.

Most economists believe that capital formation is an important determinant of economic growth over time because more capital per worker usually leads to a higher level of output per worker (productivity). In the late 1980s and the early 1990s, many academic articles were written that discussed the effects of public infrastructure on the nation's productivity. In particular, some economists suggested that a reduction in public capital spending may have been an

important contributor to the 1973 slowdown in U.S. labor productivity growth.⁶

Although other factors were likely more important in explaining the productivity slowdown, public infrastructure is nevertheless important because it facilitates the production of many private goods and services. For example, many trucking firms and package delivery services are heavy users of the nation's streets, highways and public airports. Accordingly, additions to the public capital stock can improve living standards, as well as provide other benefits not captured in the economic statistics, such as time saving or outdoor recreation.

Over time, additions or subtractions to the capital stock will depend on both macroeconomic factors (how well or poorly the economy is performing) and microeconomic factors (performance of the state or local economy or the ability of state and local authorities to raise money). Some of the key macroeconomic determinants of infrastructure spending include:⁷

1. Growth of per capita income and technical change:

- The development of the internal combustion engine and commercial aviation has dramatically altered the scope and composition of the nation's infrastructure. For example, as the U.S. grew wealthier after World War II, the number of registered vehicles per person age 16 and older doubled between 1948 (0.4) and 1971 (0.81). One of the responses to this development was the interstate highway system.

2. Population change:

- Having more people generally entails a larger demand for public schools, hospitals, fire stations and other basic infrastructure.

3. Other factors, such as the relative cost of public services:

- Increases in commodity and energy prices have significantly increased construction costs since 2002. Higher construction costs generally mean fewer bridge or street projects.

The Government's Role in Infrastructure Spending

Economists have long argued that the provision of certain kinds of infrastructure is one of the major responsibilities of government. In fact, Adam Smith in *The Wealth of Nations* argued that providing public works

is the “third and last duty” of the government.⁸ In a market economy, new goods and services naturally occur in response to perceived profit opportunities. For example, if a firm correctly perceives an unmet demand for a shopping center, it will reap considerable profits from its construction.

However, this is generally different for public goods like highways or bridges. First, public goods are usually very expensive to build and maintain, and the state or local government generally reaps no profit from its use by the citizenry. If a bridge is designed and built to generate revenue for the governing authority, it would have to impose a toll sufficiently high enough to cover its construction costs, maintenance and opportunity cost. However, if the toll is too high, drivers may use an alternative route, leaving revenue lower than expected. Regardless, the new bridge would probably still reduce traffic and congestion in other areas, which means that there would be benefits accruing to those who did not use the bridge.

Public goods that provide social benefits to those who do not directly use the bridge are called externalities. The presence of externalities means that a private firm would not be willing to finance such a large capital outlay unless it can earn a profit—in other words, capturing a part of the revenue generated by using the bridge (in our example). This is why most large-scale capital projects are funded by the taxpayer—even if some taxpayers who do not use the bridge benefit from its construction.

At the state and local (microeconomic) level, there are many additional factors that will influence an authority’s decision to increase or rebuild its infrastructure. These include political considerations, engineering assessments and the performance of the local economy (which affects tax revenue). Other microeconomic determinants include:

1. Budget constraints:

- Most state and local governments have some form of a balanced budget requirement, which limits their ability to fund expensive new projects out of general revenue. When revenue declines, as in recessions, public projects often get canceled or delayed.

2. Net benefits:

- A project will be economically feasible if its benefits exceed its costs. Although

TABLE 1

Real Public Capital Stock Per Person

2000 DOLLARS			
	Per Capita Amounts		Growth
	1997	2007	1997-2007
Total	\$19,828	\$21,787	0.95
Equipment and Software	\$2,507	\$2,740	0.89
Structures	17,317	19,066	0.97
Residential	814	833	0.23
Industrial	252	182	-3.18
Office	1,208	1,449	1.84
Commercial	87	92	0.51
Health Care	556	555	-0.01
Education	2,920	3,743	2.51
Public Safety	487	518	0.61
Amusement	448	531	1.72
Public Transportation	878	1,120	2.47
Power	564	587	0.41
Highways	4,985	5,330	0.67
Military	1,304	1,076	-1.90
Conservation	645	626	-0.29
Other	2,171	2,424	1.11
Addenda			
Growth rate of real GDP per capita			1.81

NOTE: Total government capital stock. Figures may not sum to totals because of chain-weighting system.

SOURCE: Authors’ calculations based on data published by the Bureau of Economic Analysis.

estimating budgetary costs are straightforward, there may be nonbudgetary costs—for example, excessive reliance on debt may reduce a state’s or municipality’s credit rating, forcing it to pay a higher rate of interest. Estimating the dollar value of benefits can be extremely difficult.

3. Rate of return:

- A project is also economically feasible if its real rate of return exceeds an estimated real interest rate that could be earned on revenue invested elsewhere (opportunity cost). According to Gramlich, estimates of the real rate of return on public infrastructure vary greatly—ranging from large and positive (maintaining current highway conditions) to negative (reinforcing structures to exceed minimum standards).

Trends in Infrastructure Spending

As the nation’s policymakers debate the size and scope of future infrastructure investments, it is necessary to try to

How Safe Are the Nation's Roads and Bridges?

In the U.S., the National Bridge Inspection Standards require safety inspections for most bridges every two years. According to the Federal Highway Administration, approximately 83 percent of all bridges are inspected once every two years, 12 percent are inspected annually and 5 percent are inspected on a four-year cycle.

According to the U.S. Department of Transportation, the percentage of bridges located in urban areas that are rated in good condition has improved from about 57 percent in 1990 to about 70 percent in 2008. In rural areas, where roughly 75 percent of the nation's 601,000 bridges are located, about 77 percent of the bridges were deemed to be in good condition last year. Similarly, the percentage of the nation's interstates and other freeways and expressways located in urban areas that were rated in poor or mediocre condition declined measurably between 1995 and 2005. However, the percentage of other principal arteries in urban areas rated poor or mediocre was basically unchanged over this period at about 27 percent, while minor arteries in urban areas that were rated poor or mediocre actually rose from about 20 percent to 28 percent.



ascertain whether public investment has been lacking over the past several years. Table 1 provides an estimate of the real (inflation-adjusted) value of public capital (structures and equipment and software) divided by the resident U.S. population (per capita) from 1997 to 2007, including its growth rate over this 10-year period.⁹ From 1997 to 2007, real per capita structures (infrastructure) rose from about \$19,800 to nearly \$21,800, an increase of 0.95 percent per year. This increase was about half of the increase in real GDP per capita over this period (1.81 percent). If the demand for public structures per person grows in tandem with per capita real GDP growth, then U.S. infrastructure spending may have been shortchanged over this period. However, it is difficult to know definitively whether that has been the case because of recent changes in the composition of the capital stock reflecting other factors.

To see this, consider the following three categories from Table 1: industrial structures, health care structures and military structures. The decline in public health care structures is perhaps surprising, but may reflect the rapid growth of spending on health care services (Medicare and Medicaid) that has come at the expense of

new facilities. For military structures, the demise of the Cold War and the wars in Iraq and Afghanistan may have necessitated increased spending on armaments rather than structures.

The two largest categories—education facilities and highways—present a study in contrasts. First, the per capita stock of highways, which is the largest category, increased from just under \$5,000 per person to a little more than \$5,300 per person, or roughly 0.7 percent per year. This increase, however, was less than half of the growth rate in real GDP per capita and suggests some evidence that a portion of the nation's roads and highways need repairing. But does it? Recall that highway construction costs have increased sharply since 2002, undoubtedly affecting outlays. Moreover, as Figure 2 shows, two other factors may be at work. First, miles driven per person age 16 and older has been declining since 2004. Second, the use of public transportation has been increasing considerably since 1995.¹⁰ It is likely that both of these factors have been influenced by the increase in real energy prices from 2002 to 2008. Indeed, similar patterns were experienced during the oil shocks that occurred in the 1970s.

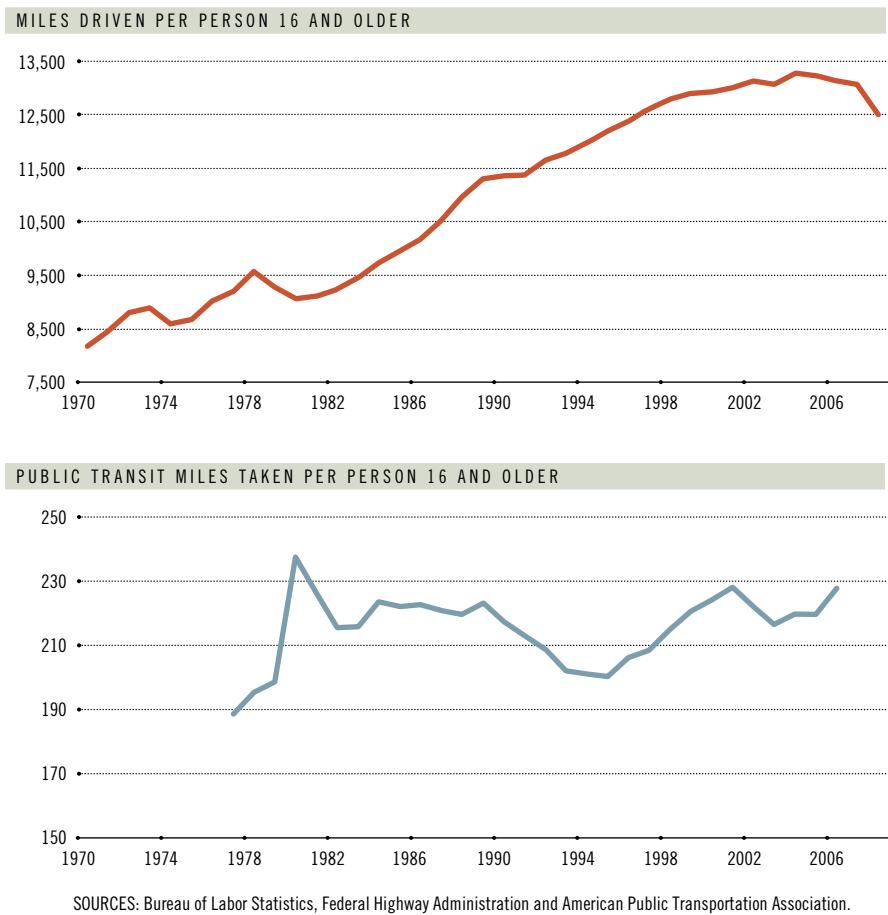
As seen in Table 1, the public transportation capital stock per person has grown rapidly since 1997. Although public transit data are available only through 2006, it is likely that the rise in gasoline prices in 2007 and 2008 increased public transit usage further. If these trends continue, then it would be natural to see smaller future increases in public spending on roads and bridges.

By contrast, the stock of real public education facilities per person increased much faster than real GDP per capita over this period. Early in the post-World War II period, the baby boom necessitated a boom in school construction. The school-age percentage of the population (ages 5 to 24) rose from a little more than 31 percent in 1945 to a post-World War II peak of about 38 percent in 1970. Since then, the school-age share fell to a post-WW II low of about 27.5 percent in 2007.

All else equal, this drop should slow the growth of school construction. Public education outlays, however, have increased. This increase may be due to increased outlays by state governments on college structures and may be related to the wage gap between those with a high school diploma and a college degree. With only about a third of the labor force holding a

FIGURE 2

Transportation



college degree, it may not be surprising to see increased expenditures on community colleges and four-year colleges.¹¹

Going forward, private and public policy makers may need to think anew about how they use their scarce resources to build the nation's infrastructure of the future.¹² To take just one example, an increasing share of commerce is conducted over the Internet, which conceivably reduces the need for more traditional infrastructure facilities, such as airports and roads, while increasing the need for other types of facilities and equipment. Second, if the price of energy resumes its increase in real terms, then growth in the demand for traditional, carbon-based fuels will naturally slow or decline, and new and different kinds of alternative fuels will likely increase in use. This change would entail shifting resources to a different kind of energy infrastructure.

Finally, the retirement of the baby boomers promises to put additional strains on

government budgets at all levels, as well as on the private sector. An aging population naturally requires more health-care facilities, which will necessitate increasing public outlays, likely financed either with higher taxes or with revenue originally dedicated to other areas of the budget. The result: Those who support more spending on infrastructure will face more competition for scarce resources. Ω

Kevin L. Kliesen is an economist, and Douglas C. Smith is a research associate, at the Federal Reserve Bank of St. Louis. For more on Kliesen's work, see <http://research.stlouisfed.org/econ/kliesen/index.html>.

E N D N O T E S

¹ It is important to distinguish between capital stocks and capital flows. The latter is the annual or quarterly change in the capital stock, otherwise known as fixed investment, which is part of GDP. This article will focus on capital stocks.

² See Springer and Dierkers.

³ See OECD.

⁴ See the Texas A&M report at <http://mobility.tamu.edu>.

⁵ See Congressional Budget Office or the 2008 *Economic Report of the President*.

⁶ For a flavor of the debate, see Gramlich or Tatom and the references cited therein.

⁷ See Musgrave and Musgrave.

⁸ The other two duties are defense and justice (enforcement of laws). See Book III.

⁹ Because of changes in the structural classification of the capital stock by the Census Bureau, measures of the capital stock in Table 1 before 1997 are not consistent with those from 1997 to the present.

¹⁰ See American Public Transportation Association.

¹¹ See Kolesnikova and Shimek.

¹² Also see the discussion in Council of Economic Advisers, Chapter 6.

¹³ Shovel-ready projects are required to use at least 50 percent of the requested money within 120 days. Dollar figures in this section refer to areas in the geographic boundary of the Eighth District. Figures exclude funds approved and designated by local governments.

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From Community College to a Bachelor's Degree and Beyond: How Smooth Is the Road?

By Natalia Kolesnikova

Community colleges provide an opportunity to receive a post-secondary education to many students who would not attend college otherwise: students from low-income families, first-generation students and older students who continue to work full time as they attend college. Attending a community college, even without completing a degree, results in economic payoffs and better job opportunities.¹

Community colleges were originally designed to prepare students, through an associate degree, to transfer to a four-year college. The purpose of community colleges has changed significantly over time. Now, many community college students choose not to pursue their education further than receiving a degree or a certificate from a community college. A previous article on community colleges (in the October 2008 issue of *The Regional Economist*) examined the opportunities and payoffs for students who attend community colleges. This article focuses on one particular group of students: those who start their post-secondary education at community colleges and then continue at four-year institutions. How do these students compare with their counterparts who initially start at four-year institutions?

From a Community College to a Bachelor's Degree

Bridget Terry Long and Michal Kurlaender recently studied a group of students over a nine-year period. They found that the rates of dropping out or "stopping out" without a bachelor's degree are much higher for those who start at community colleges than for those who start at four-year institutions.² Community college students were 36 percent less likely to obtain a bachelor's degree than

similar students who started at four-year colleges. Moreover, among community college students who expressed an intention to obtain a four-year bachelor's degree, only 26 percent have such a degree nine years later. On the other hand, 50 percent and 73 percent of those who start at nonselective and selective four-year institutions, respectively, obtain a bachelor's degree within nine years. The negative effect of starting post-secondary education at a community college remains even after the authors adjust for selection bias by controlling for students' race, gender, age, ability (measured by ACT scores) and family income. The authors suggest that "it is worth comparing the size of the penalty to the difference in costs at two-year versus four-year institutions."³

Long-term Educational Choices

Still, some community college students successfully transfer to four-year colleges and obtain a bachelor's degree or higher. The 2003 National Survey of College Graduates shows that among people who have at least a bachelor's degree, 17 percent report having received an associate degree.⁴ The data allow a comparison between those who received an associate degree prior to enrolling at a four-year institution to obtain a bachelor's degree and those who started their post-secondary education at a four-year college.

The survey data indicate that there are differences in educational choices between those who obtained an associate degree before enrolling in a four-year college and those who did not. Students with an associate degree are more likely to be enrolled in public and nonselective colleges than students who do not have an associate degree (who are, in turn, more likely to attend private and selective universities). When it comes to

choosing a field of study, fewer people with a prior associate degree major in sciences and engineering than people who start their college education at a four-year college. Instead, people with an associate degree are more likely to major in health, technology and management than their counterparts.

Almost 70 percent of bachelor's degree holders with a prior associate degree do not continue their education beyond their first bachelor's degree. This compares with less than 60 percent of their counterparts who started post-secondary education at four-year colleges. For those who continued beyond a bachelor's degree, slightly less time was needed on average to obtain a master's or a professional degree if a person had an associate degree but more time was needed to finish a Ph.D. program. Among people who only have a bachelor's degree, about 21 percent have a prior associate degree. Among those who received a master's degree, only 14.3 percent have an associate degree. The proportion of people with an associate degree is even smaller among those with a doctorate or a professional degree (5.8 and 9.5 percent, respectively).

Long-term Labor Market Outcomes

An important measure of long-term outcomes is, of course, an individual's salary. The survey data provide an opportunity to compare annual salaries of people with an associate degree who proceeded to receive a bachelor's degree or higher with annual salaries of their counterparts with no prior associate degree.⁵

As expected, the results confirm that people with a higher level of education have, on average, higher earnings. Bachelor's degree holders earn \$54,125 a year; people with a master's degree earn \$60,676 a year;



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people with a doctorate earn \$70,711 a year; and people with professional degrees earn \$78,705 a year, on average. What is more interesting, the results also show differences in annual salaries for individuals with a prior associate degree and without it for all education levels. Regardless of the highest degree, people who started their post-secondary education with an associate degree earn about \$2,600-\$9,100 less on average, depending on their highest degree, than those who started at a four-year college.

To better understand this phenomenon, a regression analysis can be applied to compare people of the same race, gender, highest degree, major field of study and work experience but who differ in obtaining an associate degree prior to pursuing a bachelor's degree. The table shows that, for each education level, the same pattern is observed: Workers with little experience make less than those with more experience, women earn less than men and minorities earn less than whites. More important to this study, those who obtain an associate degree and then a more-advanced degree have lower earnings than similar individuals who started their college education at a four-year college.⁶

Data available from the college graduates survey are not sufficient to answer why the persistent salary gap exists because the survey results do not include any information on family background and academic preparation of individuals. One could hypothesize that, because community college students are more likely to come from families with lower incomes and education, these students are also more likely to attend poor-performance schools for their elementary and secondary education. It is possible that these students fall far behind even before entering the post-secondary

education system and that this disadvantage affects their educational and labor market outcomes throughout their lives.

Looking Ahead

Compared with those who start their post-secondary education at traditional four-year colleges, community college students are less likely to obtain a bachelor's degree or continue their education beyond it. There is also a persistent salary gap between those who have a bachelor's degree or higher and a prior associate degree and similar individuals who do not have a prior associate degree. This gap remains even for people of the same gender, race, education, experience level, field of study and type of college they attended.

Still, for many students, community colleges offer the best chance to obtain a college education. It is important, however, for individuals to know how easy it is to get sidetracked. If someone's objective is obtaining a bachelor's degree, a person should be more persistent and stay focused on the goal.

Community colleges play an important role in serving disadvantaged populations. However, it is not reasonable to expect that they alone will be able to overturn apparent long-lasting cultural and educational negative effects that students from low-income families are facing. There is also a need to re-examine what is the best measure of community colleges' performance. Given their changed purpose and higher emphasis on terminal certificate programs and work-force training, transfer rates to four-year colleges are not an adequate evaluation tool anymore. ¶

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ENDNOTES

¹ See Kane and Rouse for a survey of several studies and more information.

² The study uses a unique longitudinal data set that includes everyone who entered Ohio public institutions of higher education in the fall of 1998 and follows them over nine years. Data provide information on students' high school preparation, entrance exams, degree intentions, family background, college performance and, finally, degree completion.

³ It is also worth mentioning that students who start post-secondary education at community colleges take longer on average to complete a degree. The length of the study, nine years, might not give enough time to obtain a bachelor's degree for some of them.

⁴ The 2003 National Survey of College Graduates (NSCG) included a sample of respondents to the 2000 Decennial Census long form who indicated they have a bachelor's degree or higher in any field of study. The survey collected detailed information about their educational background characteristics, current and past employment, current salary and demographic characteristics. It is assumed that people who indicated that they have an associate degree received it prior to enrolling in a four-year institution to obtain a bachelor's degree.

⁵ This analysis considers only individuals of prime age (25 to 55 years old) who are employed. The sample is also restricted to those between the 5th percentile and 95th percentile of salary distribution in the NSCG dataset.

⁶ For more detailed results and discussion, see Kolesnikova.

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EFFECT OF VARIOUS FACTORS ON SALARY

Highest Degree	Having a prior associate degree	For each extra year of experience	Being a woman	Being black	Being Hispanic	Being Asian
Bachelor's degree	-\$2,268	\$574	-\$12,681	-\$5,583	-\$6,345	-\$3,627
Master's degree	-\$2,117	\$532	-\$11,671	-\$1,349	-\$3,534	-\$1,836
Ph.D.	-\$6,883	\$1,374	-\$7,583	-\$6,014	-\$2,556	-\$3,012
Professional degree	-\$7,767	\$1,185	-\$7,061	-\$2,025	-\$2,899	-\$2,455

NOTE: Author's calculations. Data are from 2003 NSCG survey. Each cell represents a dollar effect on annual salary of changing one factor when all other factors remain the same. For example, an individual with a bachelor's degree who has a prior associate degree earns \$2,268 a year less than a similar (of the same highest level of education, race, gender, work experience, etc.) individual who has no prior associate degree. Similarly, a woman with a master's degree earns \$11,671 a year less than a similar (of the same level of education, race, work experience, etc.) man.

The Curious Case of the U.S. Monetary Base

By Richard G. Anderson

It is common for monetary policy actions to be gauged by their effect on short-term interest rates. The current stance of policy in the U.S. is associated with rates near zero, leaving further declines untenable. In this policy environment, it is useful to monitor alternative measures of the stance of monetary policy. Much recent attention has been focused on a measure called the “monetary base,” which has risen sharply since the fall of 2008. (See Figure 1.) Should analysts and policymakers be concerned about this increase?

The monetary base is the narrowest measure of money used by economists. It consists of deposits held at the Federal Reserve by depository financial institutions (including commercial banks, savings banks and credit unions), plus all coin and currency held by households and businesses (including the depository institutions). These financial assets are used for “final” settlement of transactions in the economy—currency for hand-to-hand payment among persons and businesses, and deposits at the Fed for bank-to-bank settlement that is irrevocable (including check clearing and wire payments)—hence, the label of “base” (that is, basic) money.

In normal times, the monetary base increases and decreases roughly dollar-for-dollar with changes in the amount of assets held by the Fed. When the Fed buys an asset, such as a Treasury security, it writes a check drawn on itself. The recipient deposits the check at his or her bank, which sends the check to the Fed so that the check’s amount may be credited to its Federal Reserve account. The funds at the Fed are valuable because they may be used to pay debts due, on behalf of customers, to other banks.

During the past year and a half, the Fed has introduced a number of programs to reduce stress in financial markets.¹ These programs have greatly increased the amount of assets held by the Fed—and, in turn, the monetary base. Analysts and commentators are concerned that, unless the increases are reversed promptly when economic activity expands, inflation will accelerate. Such fears are reasonable because, as explained below, the aggregate amount of deposits held by banks at the Fed is not reduced by their lending and borrowing—hence, a few dollars’ increase in the monetary base potentially can lead to the creation of large amounts of new credit.

Traditional Monetary Policy

The numerous new Fed programs have been labeled “nontraditional” monetary policy. But, in contrast, what is “traditional” policy? And what separates traditional policy from nontraditional policy?

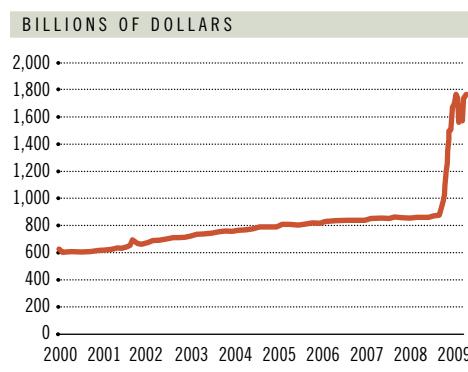
Traditional monetary policy refers to the Fed’s seeking to maintain an overnight interest rate (the federal funds rate) close to a desired target. Each day, the Fed nudges the federal funds rate toward a desired target by buying or selling Treasury securities. When the Fed buys a Treasury security, deposits at the Fed increase and, other things unchanged, the overnight interest rate falls; conversely, when it sells a security, other things equal, overnight interest rates rise. Each purchase or sale changes the size of the monetary base—but the daily changes have no effect on economic activity and are correctly ignored. Only when multiple changes accumulate into a large and persistent change in the monetary base does an impact arise on

economic activity, both real output and inflation.

It is important to note that the Fed initiates these actions that change the size of the monetary base; households and firms (including financial firms), individually or as a group, cannot change the *total* amount of deposits that they, as a group, hold at the Fed.² To see this, suppose bank A makes a new loan by crediting \$1 million to a customer’s checking account. As the borrower spends the loan and the funds are deposited in other banks, bank A’s deposit at the Fed will shrink because it must pay some of its deposits to the banks that have received the spent funds. The deposits at the Fed do not disappear, however; the deposits at the Fed move from bank A’s deposit account to another bank’s account, but the *total* quantity is neither increased nor decreased by the borrowing, spending and saving decisions made by households and firms (including banks).

Nontraditional Monetary Policy

Recently introduced Fed programs have been labeled nontraditional for several reasons. First, the overnight interest rate usually targeted by the Fed is near zero. Hence, the Fed’s purchase and sale of securities must be judged by whether these actions reduce stress and improve credit conditions in individual financial markets, rather than by their impact on the economy as a whole. Second, whereas traditional policy involves buying and selling Treasury securities, nontraditional programs involve buying financial assets other than Treasury securities. These assets, necessarily, have greater default risk than Treasurys. By buying these assets, the Fed accepts some

FIGURE 1**Adjusted Monetary Base**

SOURCE: Federal Reserve Bank of St. Louis FRED (BASE)

risk of default and losses, although the risk likely is small. Third, the assets in these nontraditional programs have been paid for with deposits at the Federal Reserve Bank of New York. Although the assets are non-traditional, their purchase with deposits at the Fed is *very* traditional. As usual, paying for purchased assets with deposits at the Fed causes increases in the monetary base dollar-for-dollar.

Increase in the Monetary Base

The table shows a simplified version of the Fed balance sheet for two weeks: the week ending Sept. 10, 2008, and the week ending Jan. 14, 2009. Liabilities include currency, deposits of depository institutions, the Treasury's deposit and capital. (The sum of the first two equals the monetary base.) Assets have been grouped into traditional (Treasurys and similar securities) and non-traditional (assets acquired under the new programs).³

During the four months ending January 2009, the Fed's nontraditional programs increased deposits at the Fed from \$32 billion in the first half of September to \$828 billion in the latter half of January.⁴ The monetary base doubled. (Currency increased, but by only a modest amount.)

Monetary Policy Implications of Nontraditional Programs

In several speeches, Fed Chairman Ben Bernanke has emphasized that nontraditional policy focuses on reducing stress in specific financial markets, that is, on *credit easing*. The focus is apparent in the types of securities purchased, including commercial

paper, mortgage-backed securities and privately issued asset-backed securities. Be this as it may, the programs nonetheless have greatly increased the monetary base—and portend, if not promptly reversed when economic activity revises, higher future inflation. When will confidence return to the economy, such that banks feel able to accurately assess the riskiness of loans and borrowers feel confident in their ability to repay? When confidence returns, will financial markets be roiled as the Fed reduces its assets and the monetary base? Finally, the Fed now has an additional policy instrument not previously available: the payment of interest on deposits at the Fed.⁵ Can it be used to forestall undesired increases in bank lending?

Recent increases in the monetary base are far greater than any previously in American history (even adjusted for the size of the economy), surely a “noble experiment” in policymaking. Will these policies be successful without accelerating inflation? The epitaph to this curious case of monetary base expansion is yet to be written. Ω

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Table 1**Federal Reserve Balance Sheet**

BILLIONS OF DOLLARS			
Week Ending Jan. 14, 2009			
Assets		Liabilities	
Traditional Assets	593	Federal Reserve Notes	844
Treasury Securities	476	Bank Deposits	828
Other Traditional Assets	117	Other Liabilities	344
Nontraditional Assets	1,465	Capital Account	42
Total Assets	2,058	Total Liabilities	2,058
Week Ending Sept. 10, 2008			
Assets		Liabilities	
Traditional Assets	722	Federal Reserve Notes	798
Treasury Securities	480	Bank Deposits	32
Other Traditional Assets	242	Other Liabilities	54
Nontraditional Assets	202	Capital Account	40
Total Assets	924	Total Liabilities	924

SOURCE: Federal Reserve Board H.4.1.

END NOTES

¹ A chronology of these programs is available at www.stlouisfed.org/timeline. See also Aubuchon and Bernanke.

² Again, the devil is in the details: The sentence is true if (when) the level of depository institutions' borrowing from the Fed does not change.

³ For more information on the impact of new programs on the Fed's balance sheet, see Gavin.

⁴ Not all programs have increased deposits at Federal Reserve banks. The securities lending program, for example, does not affect deposits at Federal Reserve banks. Plus, some programs increase deposits at Federal Reserve banks via additional Fed lending (not by the purchase of assets), including the Term Auction Facility, increased discount window lending and swap lines with foreign central banks.

⁵ See Anderson.

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No Ifs, Ands or Butts: Illinois Casinos Lost Revenue after Smoking Banned



By Thomas A. Garrett and Michael R. Pakko

In January 2008, the state of Illinois implemented the Smoke-Free Illinois Act, prohibiting smoking in all public places and places of employment, including privately owned bars, restaurants and casinos.¹ Many states and communities have enacted similar legislation in recent years, but the Illinois smoking ban was the first to include a smoking prohibition on the gambling floors of commercial casinos.^{2,3} During debate leading up to the act's passage, the casino industry and many other industries argued for an exemption from the statewide smoking ban. They were unsuccessful.

In the first year after the smoking ban took effect, revenue at Illinois casinos fell sharply from the previous year.⁴ As shown in the figure, the decline in revenue stands in sharp contrast both to the growth of recent years and to the performance of casinos in nearby states.

According to the Illinois Casino Gaming Association (an industry organization), the smoking ban was responsible for a 19 percent decline in revenue during its first year. Critics of this claim have suggested that the general economic downturn is more to blame than is the smoke-free law.⁵

Raising the Stakes

Smoke-free laws have been controversial, facing opposition from the owners of bars and restaurants, as well as from the owners of casinos. The policy discussion on prohibiting smoking in casinos has generated sharper debate than smoking bans in bars and restaurants for several reasons. First, the marginal contribution of one or two casinos to local employment and tax revenue, most notably in the Midwest and South, is much greater than from a bar or

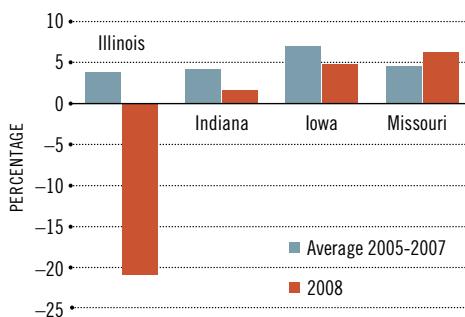
restaurant; in many small communities, one or two casinos employ a large percentage of the population and provide a large percentage of tax revenue to local communities. Second, many state and local governments earmark casino revenue to specific programs like infrastructure and education. Third, a casino-smoking ban is likely to have a greater negative revenue impact on the gambling industry than a smoking ban would have on the restaurant industry because customers patronize casinos for longer time periods than they do restaurants. Finally, the view by some that casino gambling is a sinful activity increases attention to any public policy affecting casino gambling.

observation seems to be that smoking and gambling constitute what economists call "complementary goods," meaning that they tend to be consumed together.

Smoking Ban or Recession?

Although the Illinois Casino Gaming Association has claimed that the smoking ban was largely responsible for the declining revenue of casinos, others have suggested that the downturn in general economic conditions was the culprit. In its 2008 annual report, the Illinois Gaming Board acknowledges the potential role of these two factors, leaving their relative importance as an open question:

Casino Revenue Growth



SOURCE: State gaming boards of Illinois, Indiana, Iowa and Missouri.

One key factor in the potential revenue loss from a ban on smoking in casinos is the percentage of gamblers who smoke. Those in the casino industry argue that a smoking ban unfairly hurts their industry because casino customers have a higher smoking rate than the general population does. Some evidence also suggests that casino customers who smoke spend more on gambling than nonsmoking customers.⁶ Regardless of the specific underlying reasons, a general

There are two factors underlying the reductions in this year's gaming revenues. The first is the smoking ban. ... According to the casino industry, implementation of this act has caused the AGR [revenues] per admission to fall. This is because habitual smokers take smoking breaks, during which time they do not engage in gaming activity. The second factor is the downturn in the Illinois and national economies. As a discretionary form of spending, gaming expenditures are especially prone to reductions during hard economic times. The relative importance of the above two factors has not yet been quantified with certainty.

—2008 Annual Report,
Illinois Gaming Board, p. 12

In a newly released working paper, we take on this question.⁷ Using monthly data for adjusted gross receipts and total admissions at each of Illinois' nine casinos, we estimate statistical models to explain the pattern of

revenue over the period 1997 through 2008. The models include controls for trends, seasonal patterns, regulatory changes and the general pace of economic activity. After controlling for all these factors, we evaluate the remaining change in revenue that is attributable to the Smoke-Free Illinois Act, identifying the effects of the smoking ban by the timing of its implementation.

Our estimate for the effect on total revenue for all nine casinos is representative of our general findings: We estimate that the smoking ban is associated with a 20 to 22 percent revenue decline, amounting to a total loss in casino revenue of more than \$400 million. This estimate implies that casino revenue in Illinois would have been approximately flat in the absence of the smoking ban (+/- 1 percent), rather than experiencing the 21 percent decline shown in the chart.

The presence of riverboat gambling in three states adjacent to Illinois provides an opportunity for comparing this finding with the experience of similar casinos that were not subject to the Illinois smoking ban. Using data for gambling revenue at casinos in Indiana, Iowa and Missouri, we find no significant change associated with the adoption of the Illinois smoking ban. The same calculation that leads to our finding of a 22 percent decline in Illinois revenue yields very small increases in Iowa (2.2) and Missouri (1.9) and literally zero percent change in Indiana. Statistically, these estimates are all consistent with no change in revenue. This observation confirms—at least at the statewide level—that the effect we identify for Illinois is unique. Casinos in each of these states suffered roughly the same downturn in economic activity, but only the Illinois casinos suffered the losses that our model associates with the implementation of the smoking ban.

Analyzing total attendance, rather than revenue, yielded further insights into the impact of the smoking ban. Again, after taking account of other factors, we found that the smoking ban was associated with a statistically significant decline in admissions of 12.3 percent. Estimates for surrounding states showed small declines in each state, but in none of the cases was the decline statistically significant. So, not only did customers tend to gamble less and, therefore, generate lower revenue for the Illinois casinos

(as indicated in the Illinois Gaming Board's annual report), they also attended the casinos less often.

Our full research report also compares attendance and revenue of individual casinos in Illinois with their nearby competitors. Our findings for these regional markets around the state further refine our estimates, but do not change the nature of the results: Riverboat casinos in Illinois as a group experienced significant downturns in attendance and revenue after the implementation of the Smoke-Free Illinois Act.⁸ In fact, after summing our estimated revenue losses for the individual casinos, we find the same outcome, an aggregate decline of approximately 22 percent.⁹

The Bottom Line

One of the reasons that the smoking ban has been more contentious for casinos than for other types of businesses is the contribution that gambling taxes make to state and local tax revenue. In Illinois, casinos are subject to a per-capita admissions tax, as well as a progressive tax on gambling revenue. Revenue from these taxes is divided between the state government and the governments of the communities in which the casinos are located.

Using our estimates of revenue losses and declining attendance at each of the casinos in Illinois, we find that the tax loss was more than \$200 million in 2008. For the local communities, the total loss in tax revenue amounted to over \$12 million.

The economic effects of the Smoke-Free Illinois Act—specifically with regard to casino revenue and government tax receipts—represent only part of the act's overall impact. In a full analysis, these costs need to be considered alongside other costs and benefits, including the public health benefits of the legislation. But as policymakers in Illinois and elsewhere ponder the implications of the Illinois smoking ban, the impact on revenue, attendance and taxes should not be ignored. Ω

Thomas A. Garrett and Michael R. Pakko are economists at the Federal Reserve Bank of St. Louis. For more on their work, see <http://research.stlouisfed.org/econ/garrett/> and <http://research.stlouisfed.org/econ/pakko/>.

ENDNOTES

¹ Full text of the Smoke-Free Illinois Act (SB0500, Public Act 095-0017) as well as the voting history, can be found at www.ilga.gov/search/iga_search.asp?scope=sentran95.

² One closely related case is a 2002 smoking ban in Delaware that applied to state-sponsored electronic gambling machines at racetracks (so-called racinos). Research on this case study is summarized in a previous article in *The Regional Economist* (Pakko, January 2008).

³ At the same time the Illinois law took effect, Colorado implemented a smoking prohibition that applied to commercial casinos. In this study, we consider only the experience of the Illinois gambling industry.

⁴ Our measure of casino revenue is adjusted gross receipts (AGR), defined as gross receipts less winnings paid out to gamblers.

⁵ See, for example, Long, Ford and Slife.

⁶ Petry and Oncken conducted a survey of gamblers who smoke and those who do not and found that smokers gambled on more days and spent more money gambling than did nonsmoking gamblers.

⁷ See Garrett and Pakko.

⁸ In only one case, the Par-A-Dice Casino in East Peoria, was this pattern different. For that casino, the change in revenue was negative and significant, but the estimate for attendance showed a small but significant increase. This might be attributable to the fact that the Par-A-Dice faces no nearby competition, or it may be due to some other factor that is not explicitly included in our analysis.

⁹ The point estimate for the statewide total is 22.1 percent. For the sum of individual casinos' revenue, the figure is 21.8 percent.

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RESORT REJUVENATES FRENCH LICK, IND.

By Susan C. Thomson

French Lick, Ind., the storied mineral springs spa where the rich and famous luxuriated in the early 20th century, had seen better days. The new French Lick Resort, completed two years ago, has brought them back.

The all-purpose playground boasts 689 rooms, a casino, a conference center, a bowling alley, riding trails, spas, restaurants, tennis courts, shops, indoor and outdoor swimming pools and three golf courses. Its crown jewels, though, are its two century-old resort hotels, one of which had been vacant since 1983. They have been meticulously and dazzlingly restored to their yesteryear grandeur. Gold leaf moldings, crystal chandeliers, tile floors, marble columns, sumptuous carpets, fine furniture—every interior feature is either original, a restoration or a period-perfect reproduction.

The stunning transformation was set in motion just four years ago, when the Indiana Gaming Commission, responding to more than a decade of prodding by local leaders, approved French Lick for a casino, the state's 11th.

Cook Group—a manufacturer of medical devices based in Bloomington, Ind., led

by passionate preservationist Bill Cook—emerged from a field of potential developers, which included basketball star Larry Bird, who grew up in the French Lick area. Cook's company estimates its investment in the resort at nearly \$500 million, \$33.6 million of it offset by federal tax credits for historic preservation.

The result has been economic manna for rural Orange County, in south-central Indiana about 100 miles south of Indianapolis and 60 miles northwest of Louisville, Ky. As its resort business ebbed over the years, so did the county's manufacturing base. From the late 1990s to the early 2000s, factories that made motors, wire, sofas, pianos, electronics, upholstery foam and wooden furniture closed their doors, wiping out nearly 1,000 jobs.

Unemployment in the area was "out of control," says Barry Wininger, president of the French Lick Town Council then. On

PHOTO COURTESY OF FRENCH LICK RESORT



The West Baden Springs Hotel was built in 1902 and renovated in the past few years, along with the French Lick Springs Hotel. Together, they comprise the French Lick Resort.

French Lick by the numbers

POPULATION

City of French Lick	1,923 *
Orange County	19,571 **

LABOR FORCE

County	10,657 ***
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UNEMPLOYMENT RATE

County	11.2 percent ***
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PER CAPITA INCOME

County	\$25,948 ****
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* U.S. Bureau of the Census, July 1, 2002

** U.S. Bureau of the Census, estimate July 2, 2008

*** U.S. Bureau of Labor Statistics, March 2009

**** BEA/HAVER, 2007

TOP EMPLOYERS

French Lick Resort	1,450 †
Big Splash	250 ‡‡
Pluto Corp.	145 †††
Jasper Group	137 †††
Spring Valley Community Schools	113

Sources: Self-reported

† Annual average, including part-timers

‡‡ Peak season, including part-timer

†† Annual average

a tax base that provided only \$650,000 a year, the town fell ever more behind on routine upkeep.

Abruptly, the resort alone created 1,200 new jobs and nearly quadrupled the town's annual income—to \$2.5 million.

Its new wealth comes, in part, from the town's 8 percent slice of the state's tax on the new casino's admissions and its 5 percent share of the state's tax on gamblers' winnings. Separately, the resort agreed to give the town directly a 1 to 5 percent progressive cut on those winnings.

Emboldened by their town's improved prospects, its leaders were determined to leverage them aggressively in order to spur as much additional private investment as possible. They began by issuing \$15 million in revenue bonds to be paid back from current income over 20 years.

The proceeds were put to immediate use, upgrading sewers, improving downtown streets and acquiring and readying for development 2½ downtown acres across the street from the larger of the two refurbished hotels.

What had been an unsightly collection of mostly vacant commercial buildings has become the Town Center. There, construction proceeds now on a \$6 million, 60,000-square-foot, three-story building that will include shops, restaurants and apartments. The town backed the project by selling the land at what town attorney David Umpleby describes as "a steep discount" and by issuing industrial development bonds, providing partial loan guarantees and putting up 10 percent of the two co-developers' equity.

The venture has also benefited from the town's generosity with real estate tax abatement, allowing new developments to phase in full payment of their property taxes over 10 years. The resort got that concession, as did two properties that opened this spring. They are an 80-room Comfort Suites and Big Splash, a combination 154-room hotel and 40,000-square-foot indoor water park.

For the \$27 million Big Splash, the town also guaranteed \$6 million of debt and arranged for New Markets Tax Credits, a low-interest financing tool available to low-income communities through the U.S. Treasury Department.

Developers Jerry Fuhs of Big Splash and Mike Hicks of Comfort Suites, the town's



PHOTO BY SUSAN C. THOMSON

first chain hotel, say they based their plans on their assumption that the resort would spur an influx of tourists, some looking for other places to stay and other things to do.

Though it promotes French Lick, the Orange County Convention and Visitors Bureau does not count tourists, and the resort does not make public its occupancy rates or other business indicators. Chris Leininger, the resort's chief operating officer, offers only that it is meeting projections, which have been lowered in light of the recession.

Indiana Gaming Commission statistics show that since opening in October 2006, the resort's casino has lagged the state's 10 others in attendance almost every month. Attendance this year is off as much as 20 percent from last year, while casino attendance statewide has generally held up despite the current economic chill.

Leininger attributes the drop to competition from horse tracks in Anderson and

The Town Center (above) is the result of a variety of incentives. The city discounted the price of the land, issued industrial development bonds, provided partial loan guarantees, put up 10 percent of the equity in the \$6 million project and abated property taxes.

Big Splash, a combination 154-room hotel and 40,000-square-foot indoor water park (below), opened this spring. The development benefited from property tax abatement, federal New Markets Tax Credits and the town's guarantee on some of the debt.



PHOTO COURTESY OF VALLEY OF THE SPRINGS RESORT



PHOTOS © AMY DRAKE, SMALL TOWN PHOTOGRAPHS

These houses (left) along Walnut Street, just a block from downtown, await a rehabber or developer. Elsewhere in town, houses that were long in disrepair have been bought and renovated.

Downtown has its share of vacant lots (right), including this one for sale next to Morris Leatherworks. The visitors bureau would like to see more tourist-friendly shops and restaurants in town, along with more special events to keep tourists in town longer. Within walking distance of downtown is the French Lick Resort, part of which is visible behind the truck at far left.

Go online to see more photos of French Lick. Follow the links at www.stlouisfed.org/publications/re.



Shelbyville, Ind., which the Gaming Commission allowed to install slot and other gambling machines last year. Both venues are about a half-hour drive from Indianapolis, while French Lick is two hours away.

Although its casino came first, the resort now downplays it, promoting instead all of its other amenities, including a variety of activities for children.

Perhaps the best gauge of French Lick tourism comes from the town's general aviation airport, which logged a combined 7,949 takeoffs and landings last year—a two-year increase of 40 percent. The airport's manager, Brian Payne, says almost all of the traffic is resort-related and consists in single- and twin-engine personal aircraft, sometimes bearing day-tripping golfers. The past few months have also brought the occasional 30-passenger plane, the largest the airport can handle, chartered by the resort for customers in a distant city.

In anticipation of even more traffic to come, the airport earlier this year tore down its 40-year-old, 700-square-foot terminal to make way for a new one almost five times larger. Cook Group donated the design work. Grants of \$300,000 from the Indiana Economic Development Corp. and \$250,000 from the Orange County Development Commission are paying for the construction.

For all the new and high-end investment, most of French Lick remains unchanged from its pre-resort days. Most houses are small, many of them the worse for wear. Beyond the new Town Center, the downtown is dotted with partly or entirely empty commercial buildings. Carol Singelstad, a vice president of Springs Valley Bank and Trust and a lifelong resident of French Lick, says many long-time owners took advantage of a

wave of real-estate speculation touched off by the resort and sold out.

In a view often heard around town, she says the town needs more tourist-friendly shops and restaurants than anything else. Teresa Anderson, president and chief executive of the Convention & Visitors Bureau, says tourist surveys suggest "a dire need" of exactly those things, plus more special events, to lure visitors and encourage them to extend their stays.

Such add-ons will only accelerate French Lick's growing dependence on tourism, evident in the suddenness and wide margin by which the town's new attractions have overtaken manufacturing as sources of jobs.

Chief among the remaining manufacturers are Pluto Corp. and Jasper Group. The latter is the local branch of a company based 25 miles away in Jasper, Ind., a survivor of Orange County's once flourishing hardwood-furniture industry. Pluto is almost as much a part of French Lick lore as the two dowager hotels and about the same age. In its early days, the company bottled water from nearby mineral springs and sold it in town and beyond as Pluto Water. Now, at two plants in French Lick, one in the center of town, it bottles household cleaning products.

For its future, though, French Lick is banking heavily and unapologetically on tourism.

"One could make the argument that they're putting all of their eggs in one basket," says Uric Dufrene, a business professor at Indiana Southern University who has a special interest in regional economic development and has been a frequent visitor to French Lick. "But that was the only basket they had left, I think." □

Susan C. Thomson is a freelance writer.

The Storm Clouds Begin To Depart

By Kevin L. Kliesen

Indications are that the U.S. economy is beginning to climb out of the worst recession since World War II. As the recovery begins to take hold, many economists, policymakers and financial market participants have begun to focus on the long-run implications of the exceptional actions taken to jump-start economic activity over the past year or so. These concerns center on the potentially damaging effects of large projected budget deficits over the next several years and on the possibility of higher inflation and inflation expectations, both of which could cause long-term interest rates to rise sharply.

A Deep Recession

According to the National Bureau of Economic Research, the U.S. economy has been in recession since December 2007. As is normal during a recession, labor markets contract, firms cut production and inventories accumulate. But this recession has been much longer and deeper than normal. From the third quarter of 2008 to the first quarter of 2009, the U.S. economy contracted at an annual rate of 6 percent, the largest two-quarter decline in more than 50 years. Private industry has cut more than 6 million jobs since December 2007, causing the nation's unemployment rate to rise to 9.4 percent as of May 2009. In the manufacturing sector, capacity utilization rates have dropped to levels not seen since the 1930s—a response to the sharp drop in domestic and foreign demand for U.S.-produced goods. Not surprisingly, firms have drastically reduced their capital outlays.

Often, deep and protracted recessions—such as those of 1973-75 and 1981-82—are the byproduct of a fundamental restructuring of the economy. In this regard, two

current developments stand out. First, the Detroit automotive industry, which was throttled by last year's surge in gasoline and diesel prices, is consolidating. In all likelihood, the industry will re-emerge with dozens fewer vehicle assembly and parts plants, hundreds fewer dealers and tens of thousands fewer employees.

Massive changes are also likely to hit the housing, banking and mortgage finance industry. In the first quarter of 2009, both single-family housing starts and new-home sales fell to their lowest level on record—two short years removed from a record-setting boom in construction and house prices. In response, large numbers of home builders and mortgage lenders have gone out of business, as have many large commercial banks and thrifts that were active participants in the boom. Other large banks have received considerable financial aid from the government to prevent their failure. Adding to the uncertainty, financial regulatory reform legislation may produce further enduring changes.

Some Good News and Some Worries

Stock prices, which tend to rise toward the tail end of recessions, have posted significant gains since early March. Rising stock prices increase household net worth and decrease the cost of capital for firms, thereby helping to boost spending by households and firms. Still, most measures of U.S. house prices continue to decline from year-earlier levels. Rising levels of mortgage defaults and home foreclosures have exacerbated the downward pressure on house prices.

Recessions tend to produce lower inflation rates, as firms cut prices, slack in the economy builds, and oil and other commodity prices decline. Thus far in 2009, these pressures have kept inflation well below last

year's rates. Accordingly, the consensus of professional forecasters is that inflation will be a nonevent in 2009 and 2010 and that long-term inflation expectations will remain low and stable.

Many reputable economists have warned that these forecasts should be viewed cautiously, given the Fed's highly expansionary policies. In a signal that global demand conditions could be improving by more than expected, oil and commodity prices have risen noticeably since mid-February, while yields on 10-year U.S. Treasury securities have risen considerably. It is too early to tell whether this is an inflation scare in the bond market or whether long-term interest rates are merely readjusting upward to a level that is consistent with a growing economy.

In response to the deep downturn and disruption in financial markets, monetary and fiscal policy remains highly expansionary. These actions will eventually produce faster growth in aggregate demand and prices. Hence, if the recovery turns out to be more robust than expected, inflation and inflation expectations may begin to increase. In that case, Fed policymakers will need to shift gears. However, the unusual nature of this recession makes it much harder to predict the tenor of the recovery. While there was abundant evidence of some stabilization in the economy and in financial markets this spring, the risk of an extended period of slow growth should not be automatically dismissed. Such an outcome would not necessarily diminish the risk of higher inflation. Ω

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

District Fares Better than Nation as Prime-Mortgage Problems Escalate

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

The early stage of the ongoing mortgage crisis—marked by sharp rises in mortgage delinquencies and home foreclosures—was attributed largely to the poor quality of loans. The performance of subprime loans suffered as falling house prices and higher interest rates made interest payments unaffordable for subprime borrowers. But as the nation weathers the recession and as unemployment rises, prime borrowers are also finding it harder to make mortgage payments. While subprime mortgages constituted about 11.7 percent of mortgages serviced in 2008, the corresponding share for prime mortgages was 77.1 percent.¹ Therefore, even a much smaller foreclosure rate among prime mortgages can have a larger potential impact on the total number of foreclosures.

For the nation and the Eighth Federal Reserve District, data from the Mortgage Bankers Association (MBA) National Delinquency Survey indicate that a larger percentage of subprime mortgages are more than 90 days delinquent than are prime mortgages.² Last year, 9.40 percent of subprime mortgages were delinquent, compared with only 1.86 percent of prime mortgages. Similarly, a larger percentage of subprime mortgages (16.53 percent) entered foreclosure procedures last year than did prime mortgages (2.45 percent).

However, prime mortgages in distress were increasing throughout 2008. For mortgages serviced by reporting members of the MBA, the percentage of loans in which mortgage payments were more than 90 days past due in the prime category increased from 0.71 percent in the fourth quarter of 2007 to 1.86 percent in the fourth quarter of 2008. A similar pattern held for the District states, where the

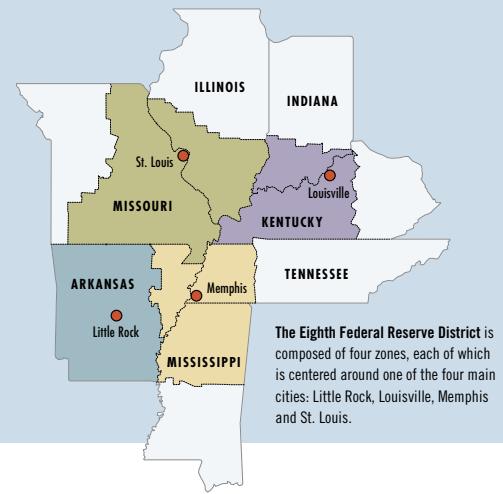
percent of past-due loans increased from an average of 0.78 percent in the fourth quarter of 2007 to an average of 1.52 percent in the fourth quarter of 2008. Also, the percentage of prime mortgage foreclosures started averaged 0.54 percent in District states during the fourth quarter of 2008, an increase from 0.45 percent during the same period a year before.

Delinquencies

The delinquency rate is defined here as the number of mortgages with payments past due greater than 90 days, but does not include mortgages in foreclosure. Broadly speaking, a mortgage is usually delinquent before a lender decides to initiate foreclosure procedures. Thus, the delinquency rate might be considered to be a leading indicator for the foreclosure rate.

Foreclosures of subprime mortgages continue to be high nationwide and in the District, and the subprime delinquency rate also continues to increase. However, the percentage of delinquent prime loans is also increasing and, for most states, is increasing faster than in the subprime market. For the U.S. as a whole, the percentage of prime mortgages 90 days or more past due reached 1.86 percent in the fourth quarter of 2008, compared with 0.71 percent in the fourth quarter of 2007. Figure 1 illustrates the sharp rise in the prime delinquency rate over the past year. Despite this increase in delinquencies, the most recent data show that the District states are below the national average for prime mortgages past due more than 90 days. Only Mississippi (2.04 percent) reported a higher delinquency rate than the national average.

The New York Federal Reserve provides delinquency rates among all mortgages



(both prime and subprime) at the county level. Within the District, Shelby County (which contains the city of Memphis), reported the highest fourth quarter 2008 delinquency rate at 4.59 percent for all mortgages. Other counties that are part of large metropolitan areas in the District reported much lower delinquency rates among all mortgages. Jefferson County, Ky., reported a 2.75 percent delinquency rate in the fourth quarter of 2008, followed by St. Louis County, Mo., (2.24 percent) and Pulaski County, Ark., (2.08 percent). These counties compare favorably with the national average of 3 percent.

Foreclosures

Most states in the District have experienced a higher rate of foreclosure relative to a year ago, even though foreclosures among subprime mortgages appear to be stabilizing. Similar to the spike in prime delinquencies, the foreclosure rate among prime mortgages has increased over the past year in the District and the U.S. Recent data, however, show that the District rates are lower than the overall U.S. average.

The foreclosure rate defined here considers the percentage of loans that enter or start the foreclosure process in a quarter, as opposed to the percentage of total mortgages in foreclosure (since it might take more than one quarter to finalize the foreclosure process). The U.S. average foreclosure rate in prime mortgages for the fourth quarter of 2008 was 0.68 percent, up from 0.43 percent in the fourth quarter of 2007. Among the District states, Indiana reported a higher prime foreclosure rate than the U.S. average at 0.70 percent and Arkansas reported the lowest foreclosure rate among prime

mortgages at 0.44 percent. All District states, with the exception of Mississippi, saw an increase in the foreclosure rate of prime mortgages. Mississippi's rate declined slightly from 0.62 percent in the fourth quarter of 2007 to 0.60 percent in the fourth quarter of 2008. While these rates are not as high as that for the subprime segment of the market, their effect is significant, simply by virtue of the fact that prime loans constitute by far the largest share of mortgages.

Although the number of subprime foreclosures remains high in the U.S. and in the District, the rate of new subprime foreclosures appears to be stabilizing. The rate of subprime foreclosures started in the fourth quarter reached 3.96 for the U.S. as a whole, increasing only slightly from the previous year's 3.71 percent and declining from the peak of 4.26 percent in the second quarter of 2008. Among District states, Arkansas, Illinois and Tennessee saw an increase in the rate of subprime foreclosures over the same period, while Indiana, Kentucky, Missouri and Mississippi experienced a decline. Illinois experienced the largest increase (0.35 percentage points), while Indiana experienced the largest decline (-0.65 percentage points). Figure 2 illustrates that, overall, the subprime foreclosure rates changed only slightly throughout 2008, and, furthermore, that subprime foreclosures in the District states are below the national average.

Cause for Concern?

For the nation and the District, there was a dramatic spike in delinquencies of prime mortgages in 2008, while the number of subprime foreclosures started has been leveling off. In the past, more than 70 percent of subprime originations were refinances of existing loans, at least some of which were prime mortgages. Today, subprime originations have all but disappeared, and refinancing opportunities for prime mortgages have been sharply reduced. Given that a high delinquency rate may indicate the possibility of a larger number of future foreclosures, the increasing delinquency rates among prime mortgages in the U.S. and the District states are of concern. Recent data, however, show that both delinquency rates and foreclosure rates are lower on average for the District states compared with the U.S. as a whole. Ω

FIGURE 1

Percent of Residential Mortgages 90+ Days Delinquent

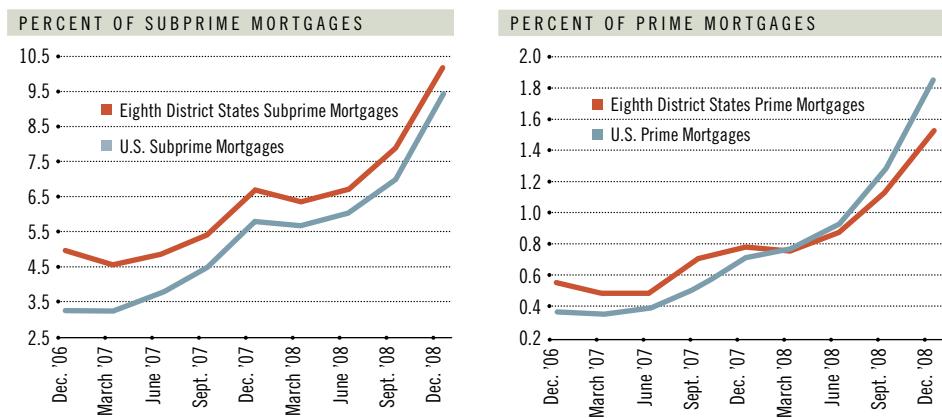
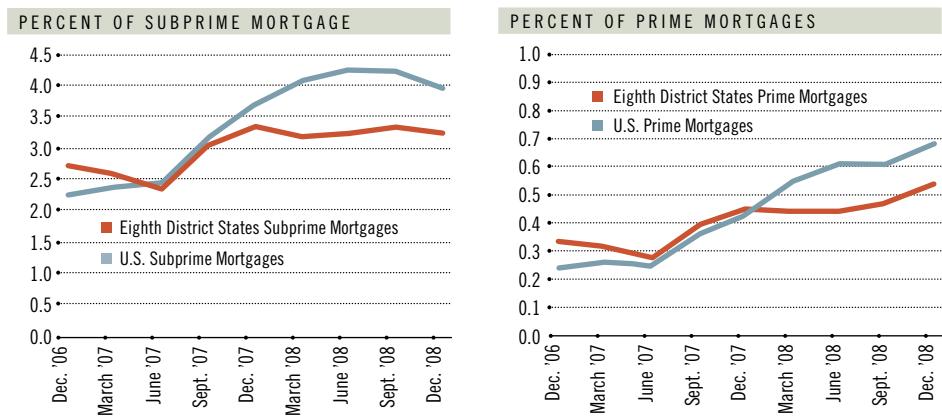


FIGURE 2

Percent of Residential Mortgage Foreclosures Started



SOURCE: Mortgage Bankers Association's National Delinquency Survey

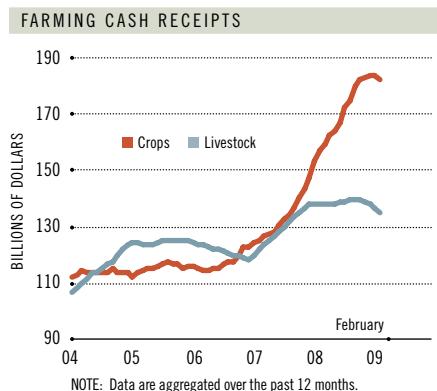
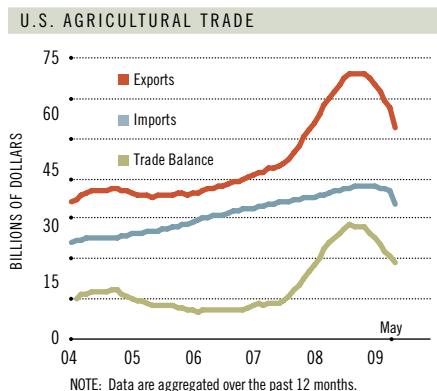
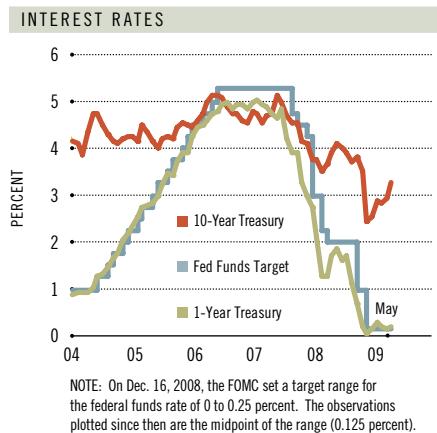
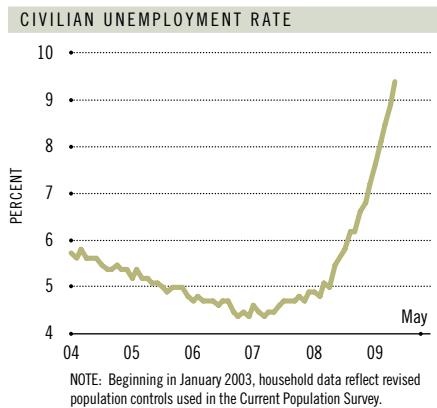
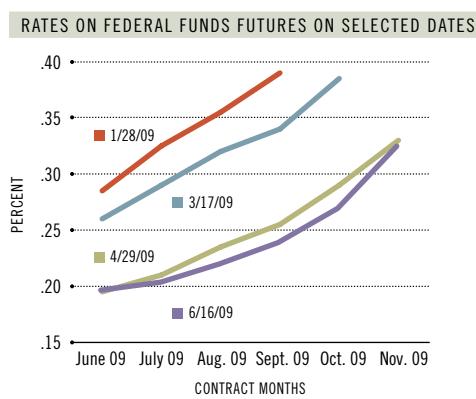
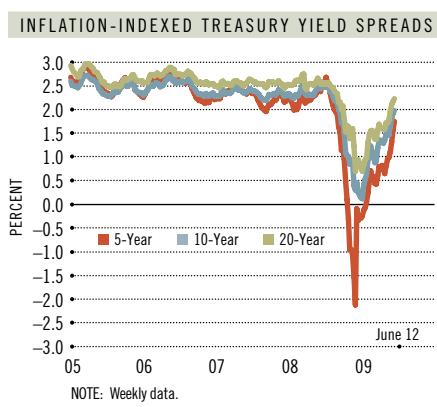
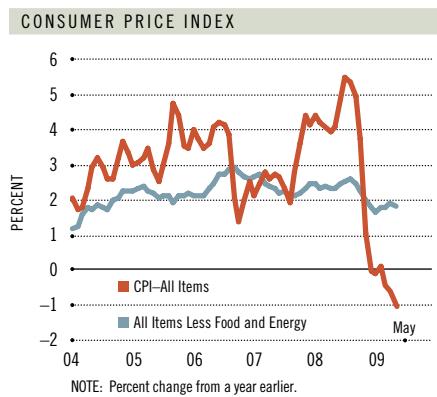
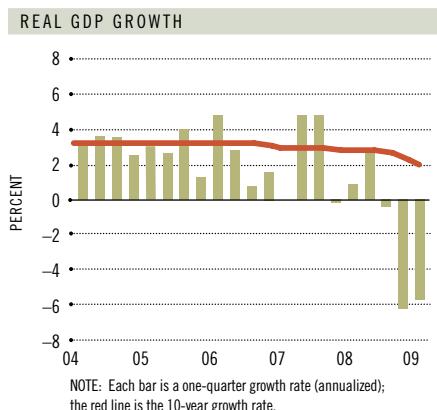
Subhayu Bandyopadhyay and Rubén Hernández-Murillo are economists at the Federal Reserve Bank of St. Louis. Craig P. Aubuchon and Christopher J. Martinek are research associates at the Bank. For more on Bandyopadhyay's work, see <http://research.stlouisfed.org/econ/bandyopadhyay>. For more on Hernández-Murillo's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

END NOTES

¹ Mortgages are composed of prime mortgages, subprime mortgages, Federal Housing Authority (FHA) originated mortgages and Veterans Administration (VA) originated mortgages.

² It is important to note that this survey encompasses only mortgages serviced by reporting MBA members. Thus, figures reported from this survey do not summarize all mortgages. However, the MBA points out that the survey represents a significant portion of the mortgage market, covering 80 to 85 percent of all first-lien residential mortgage loans outstanding.

Eleven more charts are available on the web version of this issue. Among the areas they cover are agriculture, commercial banking, housing permits, income and jobs. Much of the data is specific to the Eighth District. To go directly to these charts, use this URL: www.stlouisfed.org/publications/re/2009/c/pdf/7-09-data.pdf.



ASK AN ECONOMIST



Dave Wheelock, an economist at the St. Louis Fed since 1993, heads up the banking and financial markets group in the Research division. His research interests are financial and monetary history—especially the Great Depression—and banking. His outside interests include traveling, playing trumpet in the University City Symphony Orchestra and helping to coach his son's baseball team. For more on his work, see <http://research.stlouisfed.org/econ/wheelock>.

How do the current financial crisis and recession compare with the Great Depression?

The Great Depression of the 1930s was the most severe U.S. economic downturn of the 20th century. Between 1929 and 1933, the nation's production of goods and services (GDP) fell nearly 30 percent, the unemployment rate reached 25 percent of the labor force and the consumer price level declined by some 30 percent.

The current financial crisis is the most severe since the 1930s. However, the current recession is unlikely to rival the Great Depression. The recession began in the fourth quarter of 2007, but GDP did not begin to contract until the second half of 2008 and has fallen by just 3 percent as of the first quarter of 2009. Many economists expect that GDP will begin to rise in the second half of this year. The unemployment rate reached 9.4 percent in May 2009, its highest level since August 1983. Economists expect that the unemployment rate will continue to rise for a while, but few expect the unemployment rate to come close to Depression levels.

In contrast with the deflation of the 1930s, consumer prices have declined only modestly since September 2008. The consumer

price index fell 3 percent between its September 2008 peak and April 2009, mainly because of a sharp decline in energy prices. Energy prices have since risen and consumer prices have stabilized. Few economists predict deflation on the scale of the Great Depression.

Like the Great Depression, the current episode has been marked by a sharp decline in the stock market and by other financial distress. The S&P 500 Composite Index fell 57 percent between its peak on Oct. 9, 2007, and its recent low on March 9, 2009, with much of the decline occurring after the middle of September 2008, when the financial crisis intensified. During the Depression, the stock market lost more than 80 percent of its value.

Several very large financial firms have experienced multibillion dollar losses during the current crisis, and a few have survived only with government assistance. However, while the number of bank failures has risen, many fewer banks have failed during the current period than during the Depression or even during the 1980s and early 1990s. Twenty-five banks failed last year and another 36 failed during the first five months of this year. By contrast, more than 100 banks failed every year from 1985 to 1992, including 221 in 1988, and many more savings and loan associations failed.

The distress in the home mortgage market has been a notable feature of the current episode. Unfortunately, the data on mortgage delinquency and foreclosure rates for the Great Depression are not directly comparable with the data for the current crisis. However, while severe, the current level of distress in U.S. mortgage markets is not as severe as the distress in those markets during the Great Depression, when approximately one-half of all homeowners with a mortgage fell behind on their payments.

To read more about this comparison, see a Q&A with Dave on the Bank's Great Depression web site for teachers. Go to www.stlouisfed.org/greatdepression/qa.html.

For an up-to-date timeline on the current financial crisis, see <http://timeline.stlouisfed.org>.

FED FLASH POLL RESULTS

Whenever a new issue of *The Regional Economist* is published, a new poll is posted on our web site. The poll question is always pegged to an article in that quarter's issue. Here are the results of the poll that went with the April issue. The question stemmed from the article "Corporate Social Responsibility Can Be Profitable."



611 RESPONSES AS OF 6/18/2009

THIS ISSUE'S POLL QUESTION:

Which of these comes closest to your list of infrastructure priorities?

1. Roads, sewers, schools, health care, mass transit.
2. Mass transit, alternative fuel, Internet, roads, sewers.
3. Schools, health care, roads, sewers, mass transit.
4. Internet, mass transit, alternative fuel, sewers, roads.
5. Roads, power (pipelines, electricity grid, etc.), sewers, Internet, mass transit.

After reading "Digging into the Infrastructure Debate," go to www.stlouisfed.org/publications/re to vote. Anyone can vote, but please do so only once. (This is not a scientific poll.)

CHECK OUT OUR REDESIGNED WEB SITE

The St. Louis Fed has redesigned its web site, www.stlouisfed.org. Besides sporting a new look and feel, the web site includes new features, including easy-to-access and easy-to-understand charts on basic economic data, such as GDP, jobs, inflation and the monetary base. In the new multimedia center, you will be able to watch short videos of such things as President James Bullard speaking on the current financial crisis. In addition, we've beefed up news from our Little Rock, Louisville and Memphis zones.

WE WELCOME YOUR LETTERS

You can submit a letter to the editor electronically by going to www.stlouisfed.org/publications/re/letter.cfm. You can also send a letter on paper through the mail: address it to Michael Pakko, editor, *The Regional Economist*, Federal Reserve Bank of St. Louis, Box 442, St. Louis, MO, 63166.



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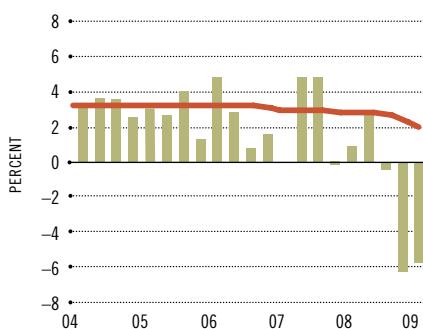
N E X T I S S U E



Recessions' Pain Not Felt Equally

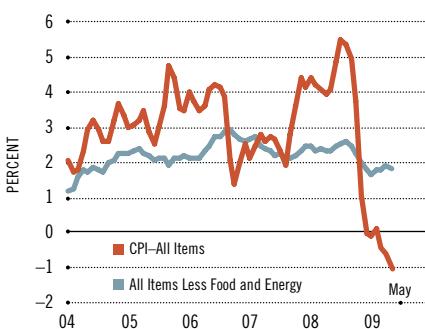
The effects of a recession on employment tend to differ a great deal across demographic groups, and the current recession is no exception. The October issue of *The Regional Economist* will include an analysis of employment losses disaggregated by sex, marital status, race, age groups and education level.

REAL GDP GROWTH



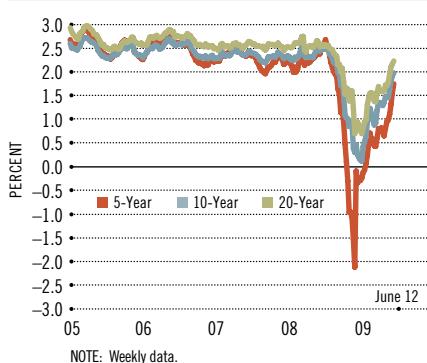
NOTE: Each bar is a one-quarter growth rate (annualized); the red line is the 10-year growth rate.

CONSUMER PRICE INDEX



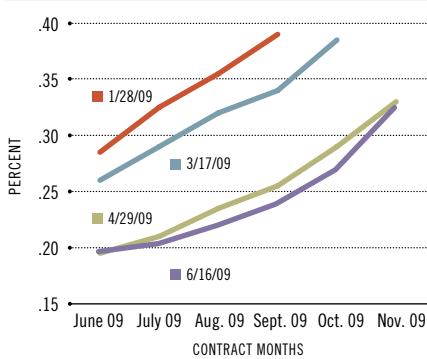
NOTE: Percent change from a year earlier.

INFLATION-INDEXED TREASURY YIELD SPREADS



NOTE: Weekly data.

RATES ON FEDERAL FUNDS FUTURES ON SELECTED DATES



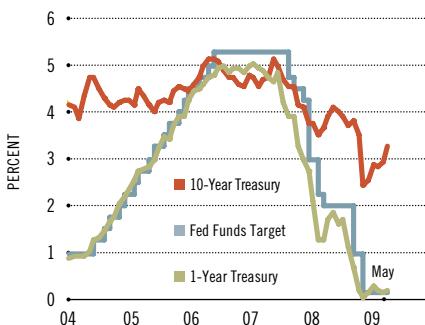
CONTRACT MONTHS

CIVILIAN UNEMPLOYMENT RATE



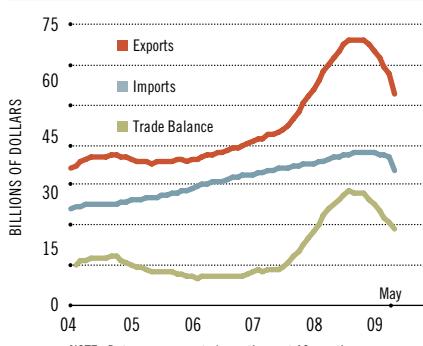
NOTE: Beginning in January 2003, household data reflect revised population controls used in the Current Population Survey.

INTEREST RATES



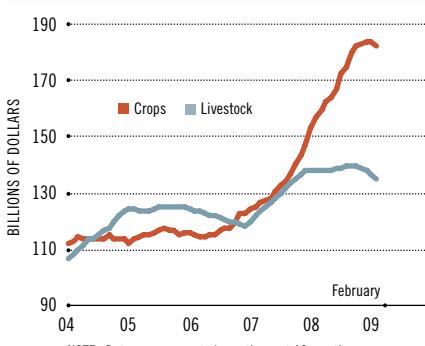
NOTE: On Dec. 16, 2008, the FOMC set a target range for the federal funds rate of 0 to 0.25 percent. The observations

U.S. AGRICULTURAL TRADE



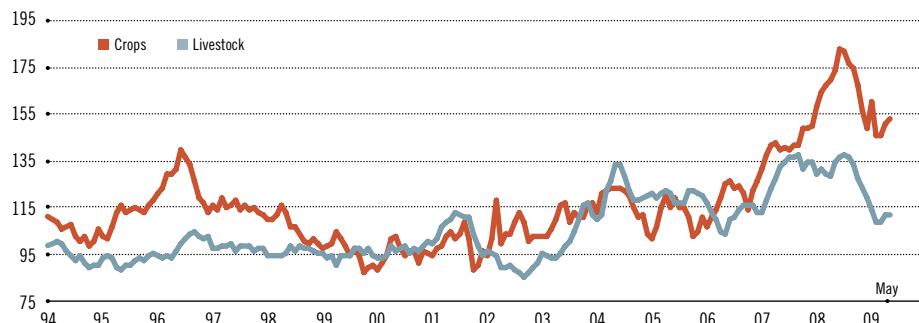
NOTE: Data are aggregated over the past 12 months.

FARMING CASH RECEIPTS



NOTE: Data are aggregated over the past 12 months.

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

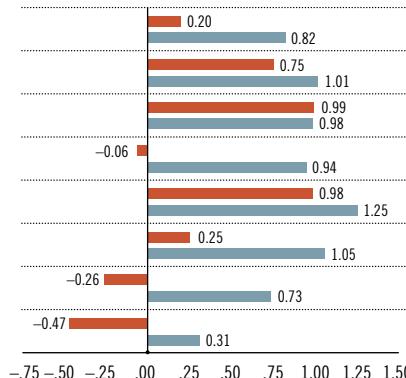


COMMERCIAL BANK PERFORMANCE RATIOS

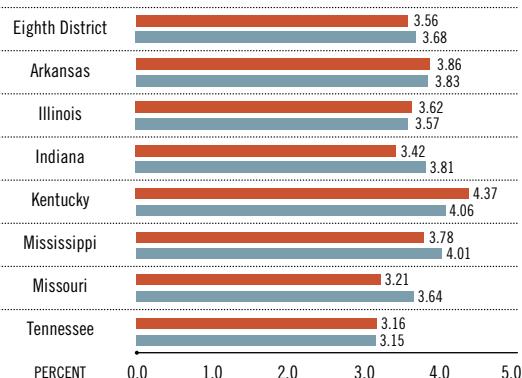
U.S. BANKS BY ASSET SIZE / FIRST QUARTER 2009

	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*	0.23	0.41	0.39	0.35	0.37	-0.37	-0.03	0.30
Net Interest Margin*	3.23	3.72	3.76	3.62	3.68	3.50	3.58	3.13
Nonperforming Loan Ratio	3.76	2.64	2.53	3.06	2.82	3.74	3.31	3.94
Loan Loss Reserve Ratio	2.64	1.49	1.49	1.59	1.54	2.08	1.84	2.96

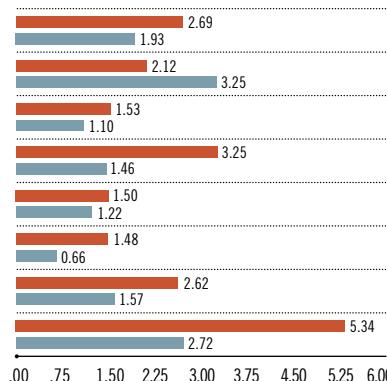
RETURN ON AVERAGE ASSETS*



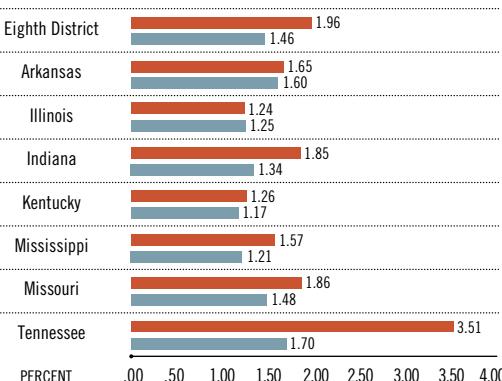
NET INTEREST MARGIN*



NONPERFORMING LOAN RATIO



LOAN LOSS RESERVE RATIO



■ First Quarter 2009 ■ First Quarter 2008

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* / FIRST QUARTER 2009

YEAR-OVER-YEAR PERCENT CHANGE

	United States	Eighth District†	Arkansas	Illinois	Indiana	Kentucky	Mississippi	Missouri	Tennessee
Total Nonagricultural	-3.1%	-3.2%	-2.1%	-3.5%	-3.8%	-3.3%	-3.2%	-1.9%	-3.9%
Natural Resources/Mining	2.6	6.7%	11.1	3.9	3.1	13.2	0.0	-7.6	#NA
Construction	-11.9	-10.5%	-0.9	-12.1	-13.7	-13.6	-6.4	-8.3	#NA
Manufacturing	-9.1	-10.2%	-8.5	-7.6	-13.0	-13.6	-10.0	-8.7	-10.6
Trade/Transportation/Utilities	-4.0	-3.5%	-4.7	-3.6	-2.9	-2.9	-3.5	-2.3	-4.8
Information	-3.6	-3.4%	-7.1	-3.6	-2.7	-1.7	-2.0	-0.4	-7.1
Financial Activities	-3.8	-3.0%	-6.0	-3.1	-2.0	-1.3	-5.0	-2.1	-4.3
Professional & Business Services	-5.2	-5.1%	-2.0	-6.8	-7.3	-2.7	-6.0	-1.7	-4.4
Educational & Health Services	2.6	2.4%	2.4	1.5	4.6	1.7	0.4	2.2	3.0
Leisure & Hospitality	-2.2	-1.4%	1.2	-3.5	0.8	1.0	-3.2	-1.2	-1.5
Other Services	-1.6	-2.4%	-1.0	-0.8	-4.5	-3.1	-1.5	-3.0	-3.6
Government	0.6	0.4%	1.9	0.0	0.3	-1.3	1.5	1.2	0.4

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

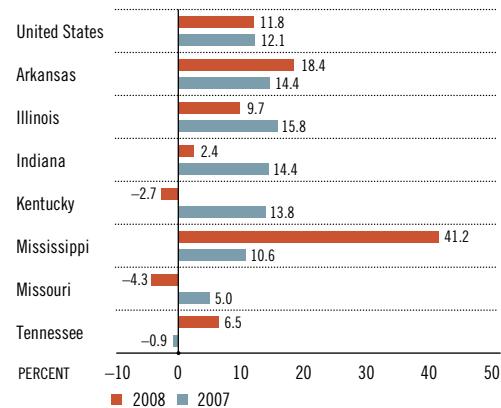
† Eighth District growth rates are calculated from the sums of the seven states. For Natural Resources/Mining and Construction categories, the data exclude Tennessee (for which data on these individual sectors is no longer available).

UNEMPLOYMENT RATES

	I/2009	IV/2008	I/2008
United States	8.1%	6.9%	4.9%
Arkansas	6.4	5.5	4.8
Illinois	8.5	7.0	5.9
Indiana	9.6	7.1	5.0
Kentucky	9.3	7.2	5.7
Mississippi	9.1	7.5	6.0
Missouri	8.4	6.8	5.5
Tennessee	9.1	7.2	5.5

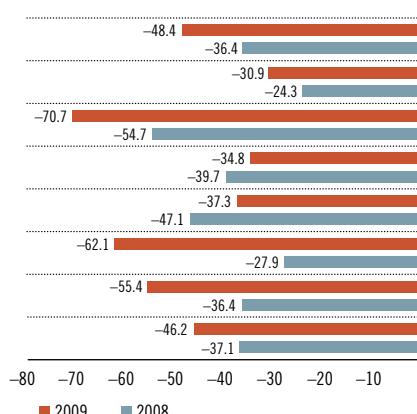
EXPORTS

YEAR-OVER-YEAR PERCENT CHANGE



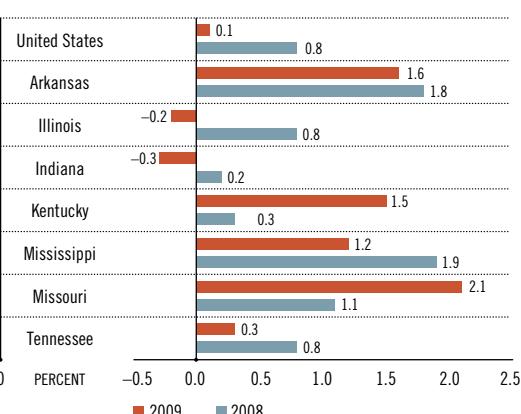
HOUSING PERMITS / FIRST QUARTER

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



REAL PERSONAL INCOME* / FIRST QUARTER

YEAR-OVER-YEAR PERCENT CHANGE



All data are seasonally adjusted unless otherwise noted.

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