

President's Message



"One lesson we have learned from financial instability around the world is that financially and operationally weak financial institutions have been a key contributing factor to nearly every crisis."

William Poole

PRESIDENT AND CEO,
FEDERAL RESERVE BANK OF ST. LOUIS

Basel II: Good for Banks, Good for Financial Stability

In June 2004, bank supervisory authorities in the Group of Ten countries endorsed the new capital-adequacy framework known as the New Basel Capital Accord, or Basel II. U.S. supervisory agencies will implement it in 2008 for the largest banking organizations. Banks making the switch will be able to operate more cost-effectively than before; for everyone else, the benefits will come from a stronger and safer banking system.

The Federal Reserve and other supervisors of international banks began planning in the late 1990s to update the 1988 risk-based, or Basel I, capital framework. To keep pace with developments in large banks' risk-management practices, bank supervisors recognized that capital requirements needed to be aligned more closely with banks' actual risks than had been true under Basel I. We at the Fed had even more reason to press for the more finely tuned Basel II framework: Not only are we the umbrella supervisor over all financial holding companies but, as the nation's central bank, we are responsible for maintaining the nation's financial stability. The best way to ensure financial stability is to promote safe and sound financial institutions.

The new accord is organized around three pillars—capital requirements, supervisory oversight and market discipline. As for the first pillar, earlier international agreements to enforce standardized bank capital requirements for credit and market risks will be supplemented with capital requirements for operational risks. These risks encom-

pass banks' exposure to problems such as internal reporting or control breakdowns, employee fraud, computer crashes and natural disasters. In addition, the measurement of credit risk—i.e., the risk of a customer defaulting—will be improved substantially.

Why is it so important to quantify a bank's exposures to these risks and allocate sufficient capital to absorb the resulting losses? One lesson we have learned from financial instability around the world is that financially and operationally weak financial institutions have been a key contributing factor to nearly every crisis. Minimum capital requirements based on advanced risk-measurement techniques should reduce greatly an economy's vulnerability to financial instability.

The second pillar of Basel II is supervisory review of the setting of minimum capital requirements. Basel II provides incentives to financial institutions to implement sound risk-measurement systems in order to align their regulatory capital more closely to their economic need for capital. This difficult process requires a great deal of judgment. Financial supervisors will need to be involved in two ways. Supervisors will assess the adequacy of a bank's risk-measurement and risk-management processes, and they will decide whether Basel II's minimum 8 percent capital requirement for risk-weighted assets is adequate for the particular institution's risk profile.

The third pillar of Basel II is market discipline. Market forces ought to supplement government supervisors' over-

sight of financial institutions. Private investors with money at stake are highly motivated to price the risk of banks' debt and equity accurately. Not only do the banks themselves learn from investors how their risks are perceived, but supervisors learn from the market as well.

Despite its limited scope of application, Basel II presents significant challenges to banks of all sizes. One outcome of the new accord will be capital requirements that differ among banks. Banks applying Basel II's most advanced credit-risk measurement approach will be able to hold less capital than other banks against certain types of historically low-risk loans, such as residential mortgages. Therefore, they may be able to offer more competitive lending rates than other banks can. Banks not operating under Basel II, then, may have to look for loan opportunities that are not affected as much by the new approach.

Basel II also introduces challenges to bank supervisors. Calculating capital requirements under the accord requires advanced economic and statistical methods.

Like most significant changes, Basel II brings with it opportunities and challenges. I have no doubt that the banking system will adjust to this new era in a way that enhances financial stability.

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S.S. SOCIAL SECURITY

The Real Population Problem

Too Few Working, Too Many Retired

BY WILLIAM POOLE AND DAVID C. WHEELLOCK

For much of the last half century, public discussion of population issues has focused on the proposition that the world faced a population explosion. Many predicted dire consequences as population growth rapidly used up supplies of exhaustible resources such as metals and petroleum. The standard of living would decline as certain essential resources became ever more scarce and costly.

This pessimistic view was not new. In 1798, Thomas Malthus, in his famous *Essay on the Principle of Population*, argued, “The power of population is indefinitely greater than the power in the earth to produce subsistence for man. Population, when unchecked, increases in a geometrical ratio. Subsistence increases only in an arithmetical ratio. A slight acquaintance with numbers will show the immensity of the first power in comparison of the second.”

Thus, in Malthus’ view, population growth will inevitably outstrip the earth’s capacity to produce food, resulting in widespread famine, disease and poverty.

Modern concern over population growth shares with Malthus the view that population pressures will have dire consequences. However, the Malthus view that these consequences are inevitable—the view that earned economics the label “dismal science”—is not shared by informed observers today. For some, advocacy of rigorous methods of population control has replaced resigned pessimism. For others, a worldwide decline in the birth rate seems to be solving the problem without further government action.

If you ask people whether we must continue to be concerned about a population explosion, it is likely that many would respond that the problem will become extremely important in coming years. Yet, experts who study these issues say that the odds that population growth will cause real difficulty in the foreseeable future have receded. We do, however,

grow as the number of persons receiving benefits increases relative to those in the labor force and paying taxes.

Population Projections

When Malthus wrote his treatise in 1798, the world’s population totaled some 900 million persons. Today, world population is roughly 6.4 billion persons, and about 100 million persons are added to the total every year. Figure 1 plots estimates of total world population from 1750 to 2000, including projections of world population to 2050 made by the United Nations.¹

For centuries, the world’s population grew slowly, as high rates of mortality largely offset high birth rates. Wars, famines and epidemic diseases caused many people to die young; consequently, average life expectancy was low. In Europe, conditions began to improve by the 17th and 18th centuries, with increased food supplies and improvements in personal hygiene and public sanitation. People began to live longer while birth rates remained high; therefore, Europe’s population began to increase rapidly.

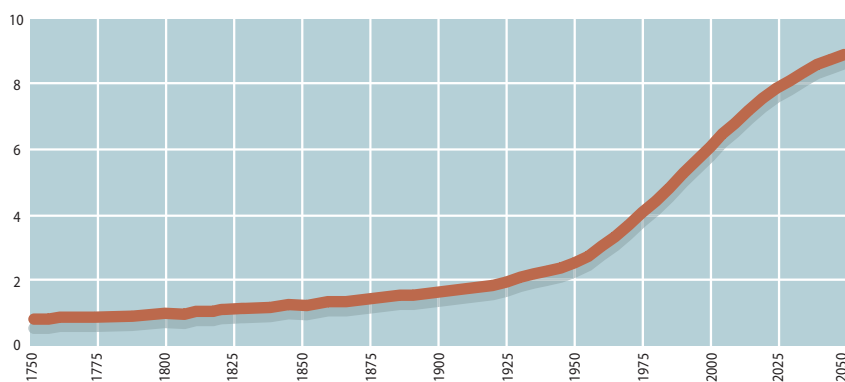
By the end of the 19th century, many other parts of the world had begun to experience increases in life span, and population growth increased throughout the world in the 20th century. World population more than doubled between 1950 and 2000 and has nearly quadrupled since 1900. Currently, world population is growing at a rate of 1.35 percent per year.

Dire Malthusian predictions have not come true, however. Although we do witness famine, disease and poverty, as Malthus predicted, these events are usually isolated and reflect temporary problems, often created by civil war. Across the world, food is generally more abundant and less expensive, measured in terms of the amount of labor that must be expended to obtain a given level of nutrition, than it ever has been. Agricultural productivity continues to rise rapidly, and it seems unlikely that world food supply will be a constraint on population growth for years to come, if ever.

Furthermore, there are reasons to believe that world population growth will slow during the next 50 years, as the U.N. projections plotted in Figure 1 indicate. Population growth has already slowed markedly in much of the developed world because fertility rates have declined. Increased educational and employment opportunities for women, as well as more widespread use of contraceptives, have contributed to an increase in the average age at which women begin to have children and to a decline in the total number of children they have.

FIGURE 1

World Population (billions)



SOURCE: United Nations

face *with certainty* another population problem that will be at hand very soon—a rapidly aging population. This article focuses on one implication of this problem—namely, the consequences of an aging population for government pension systems, such as the U.S. Social Security system, that rely on taxes paid by current workers to fund payments to retirees. The strain on such systems will

Most European and North American countries have already experienced a substantial decline in fertility rates; they completed their “demographic transition” from high rates of fertility and mortality to low rates by the 19th and early 20th centuries. Many lesser-developed countries are now at the intermediate stage of low mortality, but still high fertility rates; consequently, their population growth is rapid. Although still well above average, fertility rates have declined substantially in many of these countries during the past 20 years, which will lead to declining population growth in coming decades. U.N. forecasters expect world population growth to slow to about 0.33 percent per year by 2050, at which time forecasters are predicting that world population will total some 8.9 billion persons.

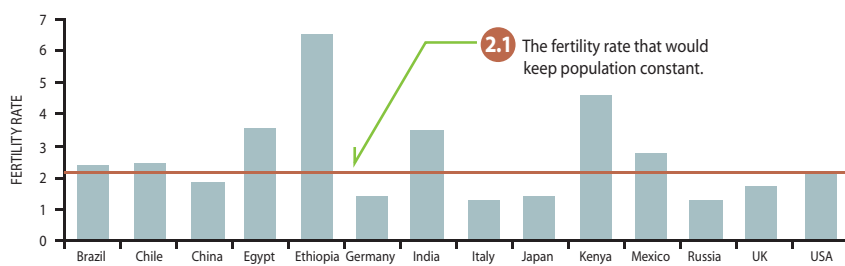
A Graying Population

A decline in the birth rate obviously means that population growth will slow. But no fancy calculations are required to understand that a sharp decline in the birth rate will also create an imbalance in a population; the decline in the number of young people inevitably means that the *proportion* of older people in the population will rise.

A good summary measure of a population’s age is the median age—the age such that half the population is older and half is younger. Over the past half century, the median age of the world’s population has increased by 2.8 years, from 23.6 in 1950 to 26.4 in 2000. The United Nations forecasts median age to rise to 36.8 years in 2050. More-developed countries are expected to have an increase in median age from 37.3 years to 45.2 years, and

FIGURE 2

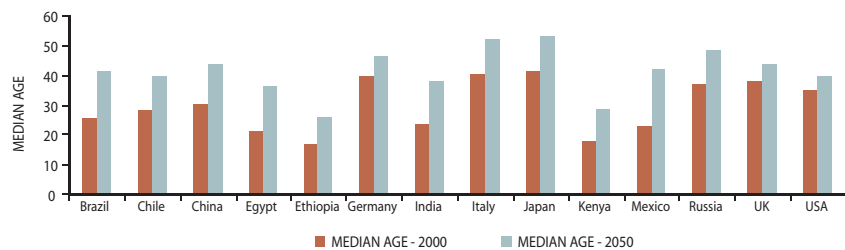
Total Fertility—Selected Countries 1995-2000 (average number of children per woman)



SOURCE: United Nations

FIGURE 3

Median Age of the Population—Selected Countries



SOURCE: United Nations

Interestingly, by mid-century, U.N. forecasters predict a world average fertility rate—that is, the average number of children a woman will bear in her lifetime—of 1.85. At that rate, fertility will be *below* the level necessary for population to stay constant—about 2.1 children per woman. Consequently, world population is expected to begin declining sometime toward the end of this century. As Figure 2 shows, fertility rates are already below the replacement rate in many economically advanced countries. As of 2000, the United States was the only large, economically developed country with a fertility rate above 2 children per woman.

lesser-developed countries from 24.1 years to 35.7 years. Japan is today the country with the oldest population, having a median age of 41.3 years. Japan is projected to have a median age of 53.2 years in 2050. The median age of the U.S. population, by contrast, is 35.2 years and is forecast to be 39.7 years in 2050. Data on median age, as of 2000 and forecasts for 2050, for selected countries are plotted in Figure 3.

The world’s fastest growing age group is comprised of those aged 80 and older. In 2000, 69 million persons, or 1.1 percent of world population, were this old. By 2050, the number aged 80 or older is



The Social Security system sets the retirement date by the calendar and not by capacity to work. Thus, today, many and perhaps most people retire while physically able to work productively.

expected to more than quintuple to 377 million and be 4.2 percent of world population. In that year, 21 countries or areas are projected to have at least 10 percent of their population aged 80 or over. Japan is forecast to have 15.5 percent of its population aged 80 or older—the highest of any country—and have almost 1 percent of its population comprised of persons aged 100 or more. The United States is projected to have 7.2 percent of its population made up of those 80 and older.

To understand the implications of the graying population, think about a family living on the U.S. frontier 150 years ago. The family was largely self-sufficient, growing its own food, making its candles and building its own house with some assistance from neighbors. The working members of the family had to grow the food for the entire family, including children and elderly grandparents. The children went to work at a young age, and the grandparents worked in the fields as long as they could. The larger the number of children too young to work and the larger the number of disabled elderly, the greater the burden on those in their prime working years.

The fact that we live in a high-income industrial society does not change the fact that those working must produce all the goods and services consumed by the entire population. Non-working dependents are dependents just as surely today as they were on the farm 150 years ago. Those in the working population will have to support themselves and the dependent population of children and elderly.

The United States and other high-income countries have public pension systems, such as our Social Security system, to support the elderly. But the Social Security system sets the retirement date by the calendar and not by capacity to work. Thus, today, many and perhaps most people retire while physically able to work productively.

The graying of the population poses a serious fiscal problem as the dependency ratio—that is, the ratio of persons out of the labor force to the number of persons in the labor force—rises. Government pension systems—Social Security in the United States—are where a rising dependency ratio has its most obvious impact. Social Security, like the public systems of most countries, is a pay-as-you-go system, meaning that taxes paid by current workers are used to fund payments to today's benefit recipients, rather than invested in accounts or otherwise set aside to finance the benefits of those currently paying taxes when they retire.

To be sure, under current law, one's Social Security benefits are related to the taxes he or she paid while working, but

that link relies on the ability of government to levy taxes on one generation of workers to finance benefits promised to another generation. Obviously, as the number of persons receiving benefits rises relative to the number paying taxes, the average taxpayer must shoulder a larger and larger burden or, alternatively, benefits must be cut.

One way to think about Social Security taxes today is that they are like the food grown by frontier farmers that they do not get to consume because the food goes to their parents and children—their dependents. Some of the income earned by those working today has to be diverted to provide benefits for retired dependents. The burden will rise substantially in coming years because the number of retirees will rise relative to those at work.

Projections by the Organization for Economic Cooperation and Development (OECD) indicate that public transfers to retired persons for pensions and health care will increase in the average OECD country by some 6 percentage points of GDP, from 21 percent to 27 percent, between now and 2050.² Unless promised future benefits are cut significantly, substantial tax increases will be necessary to effect such transfers. However, as a recent OECD report concludes, drastic tax increases could make matters worse by reducing the incentives for market work and for saving.³ The OECD concludes that in many countries it may be necessary both to reduce promised benefits and to *increase* the incentives for work.

In recent decades, there has been a tendency for people to enter the labor force at a higher age while retiring at an earlier age. Consequently, the proportion of life spent working has declined. This phenomenon reflects a number of factors, including increasing returns to education and increasingly generous transfer programs that encourage early retirement. In countries that experienced a post-World War II baby boom, large increases in the labor force in the 1960s and 1970s reduced the dependency ratio and enabled increasingly generous transfer payments to retired persons. However, if life expectancy continues to increase, as demographers project, the dependency ratio will rise and such transfers will constitute an increasing burden on those working.

This discussion should make clear that the fundamental problem our society—and all aging societies—faces is one of an increasing number of retired people relative to working people. To avoid substantial tax increases on future workers, some combination of only two possible solutions must be chosen. One is to reduce

the annual payments to Social Security beneficiaries, and the other is to reduce the number of retirement years by raising the retirement age.

Not surprisingly, many analysts conclude that reform must start by reducing incentives in the public pension systems of many countries that encourage early retirement. Often, public pension systems offer generous benefit payments to early retirees. Although early retirees typically receive a smaller annual pension than persons who wait until they are older to retire, the difference in many countries is insufficient to discourage large numbers of people from retiring early. The United States is something of an exception. For a man with average income, our Social Security system is roughly neutral between ages 62 and 70—Social Security neither encourages nor discourages continued employment. Beyond that age, however, the incentive to remain in the labor force is low. Put another way, the implicit tax of remaining in the labor force—forgone benefits—is relatively high. At a technical design level, there are a number of possible ways to create a more neutral system with respect to retirement age so that at a minimum, those who want to work longer are not penalized for doing so. The idea is that annual benefits need to be higher by an actuarially fair amount when retirement is delayed.

A recent OECD study found a close correlation between incentives to retire and retirement behavior—not surprisingly, people do respond to incentives! The implication of this research, according to its authors, is that labor force participation in the 55-64 age group would be increased substantially by reforms that abolished policy-induced incentives to retire early. Indeed, the report goes on to suggest that policy-makers should consider skewing incentives against retirement, at least up to some age, in recognition that people who work provide a net positive impact on public budgets.⁴ By continuing to work past normal retirement age, people support themselves *and* pay taxes that help to reduce the tax burden that would otherwise fall on others.

Several countries have begun to rein in their public pension systems by instituting reforms that reduce incentives to retire early. Although an important first step, many analysts conclude that the age at which persons are eligible for benefits will also have to increase in order to avoid substantial reductions in benefit payments. The United States has in place a gradual increase in the retirement age for full Social Security benefits from age 65 to age 67 by 2025. Our Social Security

system was begun in the 1930s when the average 65-year-old person could expect to live about 13 more years. By 2000, those additional years at age 65 had increased to about 18. The increase in normal retirement age from 65 to 67 by 2025 that is in current law obviously does not go far enough to offset this increase in life expectancy. Indeed, the trustees of the U.S. Social Security and Medicare trust funds project that, under current law, Social Security outlays will begin to exceed payroll tax revenue in 2018 and that the Social Security trust fund will be completely exhausted by 2042.⁵

The OECD has recommended a number of other reforms to its member countries to encourage older persons to remain active participants in the labor force. These include removing labor market rigidities that discourage part-time employment and implementing reforms that would increase the share of retirement income from private sources relative to public pay-as-you-go systems. Such policy reforms could help alleviate the fiscal challenges posed by aging populations both by lowering dependency ratios and by favoring economic growth.

Conclusion

Demographic change in the United States and elsewhere in the world presents enormous challenges. In much of the world, the combination of increased life expectancy and a reduced birth rate has created a situation in which median age is rising rapidly. As a result, government transfer programs, such as Social Security, that rely on taxes born by those currently working to fund benefits for those who are out of the labor force will come under increasing strain. Policy-makers will face difficult decisions because fiscal balance can be restored in such programs only by reducing promised benefits, raising taxes or through some combination of the two. Two of the more palatable and often discussed options are the removal of incentives that encourage early retirement and a gradual increase in the age of eligibility for retirement benefits to reflect increased life expectancy. Whether such reforms will be sufficient will depend, of course, on how quickly they are implemented and how far they go.

William Poole is president and CEO of the Federal Reserve Bank of St. Louis. David C. Wheelock is an assistant vice president and economist at the Bank. This article is based on a speech, "World Population Trends and Challenges," that Poole gave at Lincoln University, Jefferson City, Mo., on Oct. 4, 2004.

ENDNOTES

- ¹ All population data presented in this article are from the United Nations Population Division. *World Population Prospects: The 2002 Revision*. For the fertility and median age data, see www.un.org/esa/population/publications/wpp2002/wpp2002annextables.PDF (tables 3 and 8, respectively). The world population data have since been updated in the 2004 revision, and the 2002 data are not readily available. For the 2004 data, see <http://esa.un.org/unpp>.
- ² The OECD is an international organization of 30 countries headquartered in Paris.
- ³ "Strengthening Growth and Public Finances in an Era of Demographic Change." Organization for Economic Cooperation and Development, May 7, 2004. See www.oecd.org/eco.
- ⁴ This research is summarized in "Strengthening Growth and Public Finances in an Era of Demographic Change." OECD, May 2004.
- ⁵ *2004 Annual Report of the Social Security and Medicare Boards of Trustees*. The U.S. Social Security program comprises two parts. The Old-Age and Survivors Insurance (OASI) program pays retirement and survivor benefits, and the Disability Insurance (DI) program pays disability benefits. The years in which benefit payments exceed revenues and the Social Security trust fund will be exhausted refer to the combined OASDI programs. See the report at www.socialsecurity.gov/OACT/TR/TR04/index.html.

So Much for That Merit Raise

The Link between Wages and Appearance

BY KRISTIE M. ENGEMANN AND MICHAEL T. OWYANG

In a recent book, journalist Malcolm Gladwell reported the results of his survey of about one-half of the CEOs of Fortune 500 companies. He found that the average CEO is approximately 3 inches taller than the average American man, who stands 5-foot-9. Further, 30 percent of the CEOs are at least 6-foot-2; the corresponding percentage for American adult men overall is only 3.9 percent. To what can these observations be attributed? Do taller people make better CEO candidates? In general, workers expect their employment outcomes, especially wages and promotions, to depend on factors related to productivity, such as education, tenure and experience. However, this type of anecdotal evidence about the heights of CEOs suggests that employment outcomes are influenced by more than just productivity.

In past articles of this publication, various authors have explored the effect of several seemingly innocuous factors (for example, gender and marital status) that might bias wages. In this article, we examine a few aspects of appearance—a characteristic that one might not believe would directly affect wages. We first consider some studies that provide evidence of an appearance-wage bias and then discuss some possible explanations for it.

Beauty

A study by economists Daniel Hamermesh and Jeff Biddle uses survey data to examine the impact that appearance has on a person's earnings. In each survey, the interviewer who asked the questions also rated the respondents' physical appearance. Respondents were classified into one of the following groups: below average, average and above average.

Hamermesh and Biddle found that the "plainness penalty" is 9 percent and that the "beauty premium" is 5 percent after controlling for other

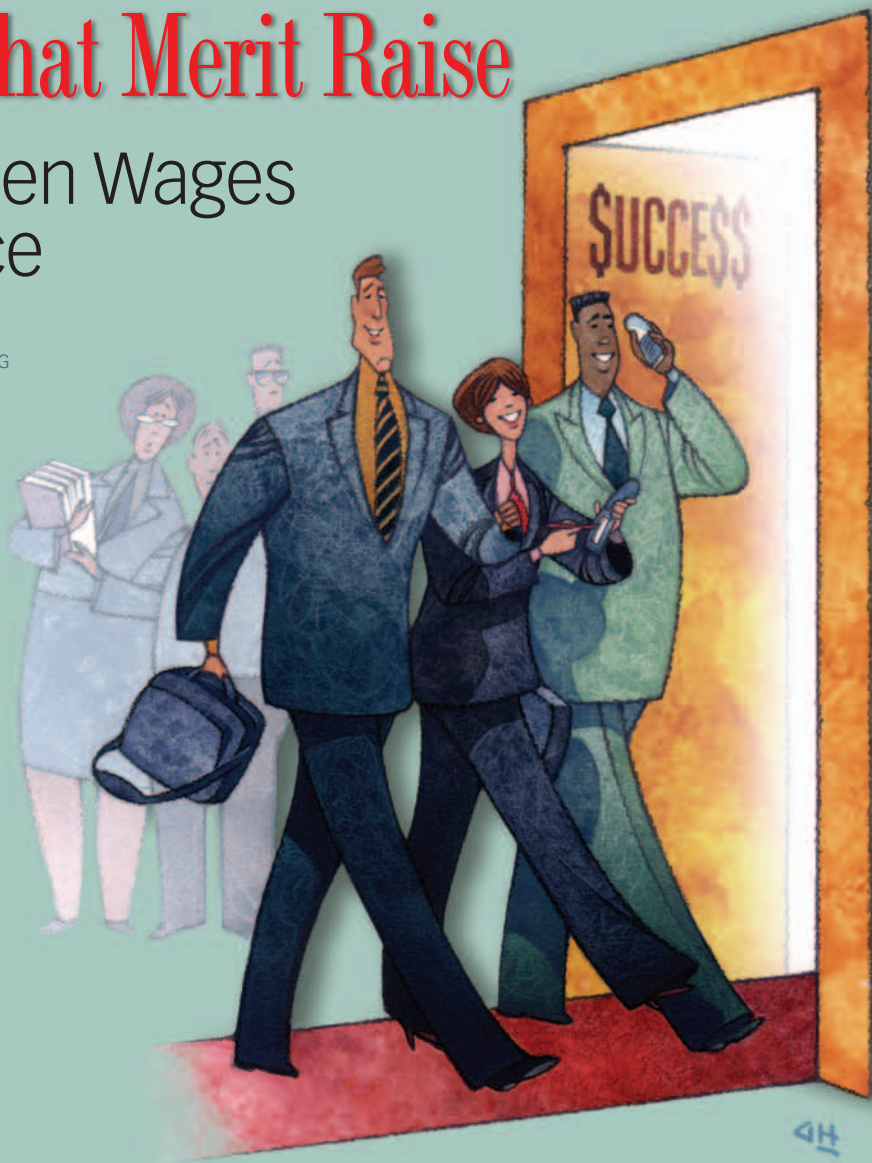
variables, such as education and experience. In other words, a person with below-average looks tended to earn 9 percent less per hour, and an above-average person tended to earn 5 percent more per hour than an average-looking person. For the median male in 1996 working full-time, the respective penalty and premium amounted to approximately \$2,600 and \$1,400 annually. The corresponding penalty and premium for the median female worker are \$2,000 and \$1,100.¹

One might think that for certain professions, appearance is more important. Indeed, occupations that require more interpersonal contact have higher percentages of above-average-looking employees. However, Hamermesh and Biddle showed that the plainness penalty and the beauty premium exist across all occupations.

In a separate paper, Biddle and Hamermesh investigated the influence of beauty on the wages of lawyers, using data collected from the same

law school for graduating classes of 1971-78 and 1981-88. The school has photographs of each entering class, which form the basis of the study. A different panel of four observers—including one person younger than 35 and one at least 35 years old from each gender—rated the students in each class on a scale of 1 to 5, where a "5" represents the most attractive. Biddle and Hamermesh took the average of the four ratings to get an individual's overall rating. To correct for differences among panelists, the ratings for each class were standardized.

They found evidence of a beauty premium for attorneys that increases with age, at least for the 1971-78 classes.² Five years after graduating, a male lawyer from these classes with a beauty rating of one rank above average had approximately 10 percent higher earnings than his counterpart with a rating of one rank below average. Fifteen years after graduation, the beauty premium increased to 12 percent. The beauty premium was smaller for the 1980s classes and might be attributed



to tighter labor market conditions at the time of graduation.

Differences in the beauty premium were found also between lawyers in the private sector and those in the public sector. Fifteen years after graduating, the beauty premium for private lawyers was three times that for public lawyers.

Weight

Economists Susan Averett and Sanders Korenman studied the effects of obesity on wages, using a sample consisting of individuals aged 16-24 in 1981 who were 23-31 in 1988. They showed that women who were obese according to their Body Mass Index (BMI) in both 1981 and 1988 earned 17 percent lower wages on average than women within their recommended BMI range. However, women who became obese between those two survey years earned only slightly less than women of recommended BMI. When comparing by race, the authors found a wage penalty for obesity among white women but no significant penalty for black women. Among white men, they found a much lower wage penalty for obesity than for their white female counterparts. A small positive relationship was actually found between obese black men and wages.

In a similar study, economist John Cawley found that the only group for which weight consistently lowered wages is white females.³ His results show that for a typical white woman weighing 64 pounds more than an otherwise-similar white female of average weight, the former's wage will be about 9 percent lower.

Height

Economists Nicola Persico, Andrew Postlewaite and Dan Silverman tried to explain the origin of the "height premium." They focused on white men to avoid possible discrimination based on gender or race. After controlling for a number of family characteristics that are generally correlated with both height and wages (parents' education, parents' occupation and number of siblings), they found that for white men in the United States, a 1.8-percent increase in wages accompanies every additional inch of height.⁴ Men's wages as adults can be linked to their height at age 16. For a given adult height, Persico, Postlewaite and Silverman found that increasing height at age 16 by one inch increased adult wages by 2.6 percent, on average. This equates to a nominal increase of approximately \$850 in 1996 annual earnings. In other words, for two adult men of the same height, the one who was

taller at 16 would most likely earn the higher wage.

Discussion

While appearance might seem unrelated to job performance, some explanations behind these wage differentials are based on *unmeasured* productivity. Certain characteristics, such as appearance, might affect productivity in ways that are not as easily measured (or as obvious) as are other characteristics, like education or experience. Appearance, for example, can affect confidence and communication, thereby influencing productivity. A study by economists Markus Mobius and Tanya Rosenblat estimates that confidence accounts for approximately 20 percent of the beauty premium. Further, employers might believe that customers or co-workers want to interact with more-attractive people. Biddle and Hamermesh found support for this view based on a higher beauty premium in the private sector since private attorneys need to attract and keep clients.

It is also conceivable that either weight or height can have an effect on unmeasured productivity. In both studies concerning weight, the authors argued that productivity might be negatively correlated with body mass, perhaps because of factors such as health or self-esteem. Persico, Postlewaite and Silverman hypothesized that height increases the chances that teens participate in social activities, such as nonacademic clubs and sports. This participation, in turn, helps them learn skills that are rewarded by employers and might enhance productivity.⁵

However, researchers have found some evidence difficult to reconcile with unmeasured productivity. Another possible explanation for these wage differences is discrimination. For example, Hamermesh and Biddle found that the beauty premium exists even outside of occupations that require frequent interpersonal contact. Moreover, the wage differential for obesity seems to be limited to white women, belying an unmeasured productivity explanation.

As these results suggest, disentangling the effects of productivity differences and discrimination can be problematic. Though discrimination is a possible explanation, anti-discrimination laws might not guarantee that these wage differentials would evaporate. Unmeasurable productivity might still result in pay disparities, and CEOs might still be tall.

Kristie M. Engemann is a senior research associate and Michael T. Owyang is a senior economist, both at the Federal Reserve Bank of St. Louis.

ENDNOTES

- Figures were calculated from median weekly earnings data from the Bureau of Labor Statistics.
- Data on earnings come from the school's follow-up surveys five and 15 years after graduation.
- Cawley examined white, black and Hispanic women and men.
- They found that compared with men taller than the median height, men shorter than the median were more likely to come from larger families, and their parents were less-educated and less likely to have held skilled or professional jobs.
- Some examples they give of skills and attributes one might gain through participation in social activities are interpersonal skills, motivation, self-esteem and self-discipline.

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Basel II Will Trickle Down to Community Bankers, Consumers

By William R. Emmons, Vahe Lskavyan and Timothy J. Yeager

Discussions about capital requirements at commercial banks may not seem important to most people. Yet the latest international capital agreement may make it more difficult for some regional and community banks to survive on the one hand, while it may promote lower mortgage rates on the other hand. For these reasons alone, it's worth learning about Basel II.

On June 26, 2004, U.S. and international bank supervisors agreed in Basel, Switzerland, to a framework that alters the way some banks compute their capital requirements—that is, how much equity a bank's owners must keep in the bank. The New Basel Capital Accord, or Basel II, is scheduled for full implementation in 2008, and it will apply initially to only about 20 of the largest U.S. banking organizations.¹ Can the 7,000-plus U.S. banks that do not adopt Basel II continue with business as usual? Hardly. This scenario is akin to network television companies ignoring developments in cable TV. In fact, Basel II is likely to have significant effects on the non-adopting banks and perhaps also on consumers.

Basel I and Regulatory Arbitrage

Capital is the difference between a bank's assets and liabilities.² Minimum capital requirements promote financial stability by ensuring that shareholders have incentives to limit the bank's risk-taking. After all, shareholders suffer the first losses in the event of failure. But minimum capital standards alone may not reduce risk-taking sufficiently. Capital standards must be tied explicitly to the bank's risk. Under a risk-based framework, banks that seek high returns by holding risky assets are required by their supervisors to hold more capital. This risk-taking is an expensive proposition for the bank because the required return—what investors expect to earn—on equity is high relative to other forms of financing, such as deposits. Risk-based capital requirements, therefore, further dampen a bank's incentives for risk-taking.

In 1988, international bank regulators produced the Basel Capital Accord, or Basel I. The major innovation of Basel I, which applies to every U.S. bank, is that capital requirements are tied explicitly to credit risk. The risk-based capital ratio is computed by dividing capital by the bank's risk-weighted assets. Risk weights rise with the asset's risk so that banks with more credit risk must hold more capital.³

So why is Basel II necessary? For one thing, bankers realize it is possible to engage in a "regulatory-capital arbitrage" of Basel I. The problem is that the capital requirements are fixed *within* asset categories. The perverse result is that banks actually face incentives to hold riskier assets within each category. For example, a commercial loan to a company with low default risk receives the same risk weight as a higher-yielding loan to a company with high default risk. As a result, if a bank switches from low-risk borrowers to high-risk borrowers, its regulatory capital is unchanged, yet its risk clearly increases.



Enter Basel II

Under Basel II, capital requirements are more risk-sensitive than they are under Basel I because banks are required to assess the riskiness of their own portfolios. A loan to a low-risk firm, then, would be treated more favorably than a loan to a high-risk firm, reducing or eliminating the arbitrage incentive.

Why not extend Basel II to all U.S. banks? Basel I, along with intensive bank supervision, appears to work well for the vast majority of U.S. banks. Moreover, implementing Basel II is a complex, resource-intensive process. Banks must estimate each loan category's probability of default, the loss given default (the percentage of the loan not repaid if default occurs) and the exposure at default (the total dollar amount at risk). These difficult estimation procedures must pass regulatory scrutiny. Under Basel II, banks must also hold capital for operational risk. This risk refers to the possibility of loss from banks' exposures to problems such as internal reporting or control breakdowns, employee fraud, computer crashes or natural disasters. Operational risk is even more difficult to estimate because historical losses are not well-documented.

Despite its initial application to only a handful of the largest banks, Basel II could present significant challenges to Basel I banks. We explore three of these challenges.

Competitive Pressures

One outcome of the new accord will be credit-risk-based capital requirements that differ among banks. Banks applying Basel II's advanced approach may be able to hold less capital than other banks against certain types of historically low-risk loans, such as residential mortgages. Therefore, Basel II banks may be able to offer more competitive lending rates than Basel I banks on these mortgages. This outcome would be a boon to household mortgage borrowers, but it would be bad news for Basel I banks.⁴ They might need to look for lending opportunities in categories less affected by Basel II.

Consider two banks competing in a local market, one of which operates under Basel I while the other operates under Basel II. The top panel of the table on Page 13

shows the initial balance sheets of the banks at implementation of Basel II. Each has the same asset portfolio. Mortgages, however, receive a risk-weight of 0.5 under Basel I, but the Basel II bank has proved to its supervisor that a 0.25 weight is appropriate. Another difference is that the risk weight for all commercial loans is 1.0 under Basel I, but the average is 1.25 for this bank under Basel II. Initially, each bank has a leverage ratio—capital divided by total assets—of 10 percent and a total risk-based capital ratio of 14.3 percent.

Because of the differing capital requirements, the Basel I bank has a comparative advantage in funding commercial lending, and the Basel II bank has a comparative advantage in funding mortgages. Although community bankers may not explicitly compute their cost of capital, they will see that Basel II banks are out-bidding them on mortgages but not on commercial loans. Over time, we would expect the commercial loans to become more concentrated at the Basel I bank, while mortgages would become more concentrated at the Basel II bank. In short, Basel I banks' loan portfolios may become more concentrated in historically riskier assets as the industry adjusts to Basel II.⁵

Further Consolidation

In addition to its effect on the competitive landscape, Basel II could accelerate industry consolidation.⁶ To remain competitive, some regional banks will feel pressure to adopt Basel II. Pressure also could come from rating agencies and shareholders who remain skeptical that a Basel I bank could manage its risks as well as a bank operating under the sophisticated Basel II risk-measurement framework. Because of the complexities and resource requirements involved in collecting, warehousing and analyzing data, Basel II will create significant economies of scale—that is, large banks can do the job cheaper on a per-dollar-of-assets basis than smaller banks. Rather than spend handsomely to convert to the new capital framework, some regional banks may agree to be bought by a Basel II organization. To be sure, industry consolidation was rapid even before Basel II; this new accord introduces one more reason why regional banks may opt to merge.

The extent of market consolidation arising from Basel II will depend on the cost advantage that Basel II banks can achieve over Basel I banks. The advantage may not be as great as one might think for at least two reasons. First, Basel II banks must hold capital explicitly for operational risk; Basel I banks have no explicit charge in this category. Second, and more important, banks must adhere to a minimum leverage ratio, which is not influenced by

risk-weighted assets. The leverage ratio is analogous to the alternative minimum tax (AMT) law in the United States. High-income earners may try to exploit many deductions and tax shelters, but in the end, the AMT prevents tax liabilities from falling below a certain threshold. Similarly, no matter how low-risk a Basel II bank's assets, the leverage ratio will prevent capital from falling below a certain threshold.⁷

Basel II for All?

The third challenge that Basel II may present for non-adopters is that bank supervisors may one day decide to apply the best practices from Basel II—potentially including some of the quantitative techniques—to all banks. If adopting banks successfully create sophisticated real-time risk-management infrastructures, bank supervisors may encourage non-adopters to implement similar approaches. The diffusion of Basel II risk-measurement techniques also poses challenges to Basel I bank supervisors, who must learn how to monitor these procedures.

Time to Tune In

To date, it has been easy for all but the largest banks to “tune out” whenever the conversation turned to Basel II. However, even banks that do not adopt Basel II need to pay attention to the process. Basel I banks will be competing against Basel II banks, potentially leading to fewer banks with less diversified loan portfolios. Moreover, bank supervisors may one day encourage all banks to follow in the footsteps of the trail-blazing Basel II banks. And mortgage borrowers may enjoy lower mortgage costs, thanks to an obscure agreement among international bank supervisors.

William R. Emmons is a senior economist, Vahe Lskavyan is an associate economist and Timothy J. Yeager is the supervisory policy officer at the Federal Reserve Bank of St. Louis.

ENDNOTES

- ¹ In this article, the term “bank” refers both to commercial banks and thrifts. Any U.S. bank will be eligible to use the Basel II framework if it convinces its supervisor that it can satisfy all the implementation requirements. For more information on Basel II, see Basel Committee on Bank Supervision (2004).
- ² The definition of bank capital is actually quite complex. We use this definition for simplicity.
- ³ Cash and U.S. government securities are considered perfectly safe; so, they receive a zero risk weight. Relatively safe mortgages receive a 50 percent weight. Commercial loans—part of the riskiest category—receive a 100 percent risk weight.
- ⁴ Of course, the mortgage business at Basel I banks would be unaffected by Basel II if the banks simply sell their loans. However, community and regional banks alike hold large amounts of residential mortgages on their balance sheets. At year-end 2004, residential mortgage loans accounted for approximately 30 percent of all loans at these banks.
- ⁵ Berger's (2004) study suggests the possibility of significant adverse effects on the competitive positions of larger banks not adopting Basel II.
- ⁶ See Hannan and Pilloff (2004) for a discussion of this issue.
- ⁷ Banks that are considered “well capitalized” must maintain a leverage ratio of 5 percent or above.

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Bank Profiles at Implementation of Basel II

Assets	Basel I Bank			Basel II Bank		
	(\$)	Basel I risk weight	Risk-weighted assets (\$)	(\$)	Basel II risk weight	Risk-weighted assets (\$)
Cash	10	0	0	10	0	0
Mortgages	40	0.5	20	40	0.25	10
Commercial Loans	50	1.0	50	50	1.25	60
Total assets	100		70	100		70
Capital	Basel I Bank			Basel II Bank		
Tier-1 equity	10			10		
Leverage ratio (%)	10%			10%		
Risk-based capital ratio (%)	14.3%			14.3%		

Will Basel II lead to lower mortgage rates? Perhaps. Currently, all U.S. banks operate under uniform Basel I capital guidelines so that each bank must hold a similar amount of capital for a given type of asset. When Basel II becomes effective in 2008, the minimum capital allocations may differ significantly between Basel I and Basel II banks. The risk weights from this hypothe-

tical example show that, relative to Basel I banks, Basel II banks will need to hold only half the capital for residential mortgages but 25 percent more capital for commercial loans. Consequently, Basel II banks may be able to fund home loans more cheaply than Basel I banks, while simultaneously becoming less competitive in other areas, such as commercial lending.



Charging Onward

MasterCard, WingHaven fuel growth spurt for O'Fallon, Mo.

Photo Collage



Promised infrastructure improvements: \$27.4 million
State tax credits: \$10 million
Total incentive package: \$44 million
Luring MasterCard's Global Technology and Operations headquarters to O'Fallon, Mo.: Priceless, say company and government officials.

By Laura J. Hopper

Will you be paying by MasterCard today?

If so, chances are you're generating revenue for the city of O'Fallon, located about 30 miles west of downtown St. Louis.

Surrounded by grassy hills and a 12-acre lake on O'Fallon's southern border sits MasterCard's computer nerve center—its Global Technology and Operations (GTO) headquarters. Inside, about 2,300 employees oversee the computer systems that settle MasterCard's credit-card transactions from around the world.

As many as 40 million credit-card authorizations are processed on a busy day in O'Fallon, with an estimated \$1 trillion in credit-card volume each year. The office generates about \$300 million in annual revenue, according to MasterCard's most recent figures. Missouri and O'Fallon estimate their share at \$18 million in total tax revenue.

The millions in business and tax revenue—along with the prestige of hosting MasterCard's largest office building—didn't come without a price for O'Fallon and for the state of Missouri. After MasterCard decided in 1997 to merge its four technology offices in the St. Louis area into one location, O'Fallon found itself in fierce competition with a Dallas suburb.

O'Fallon officials responded by teaming up with Missouri and St. Charles County to put together a \$44 million incentive package. It included:

- \$27.4 million in highway improvements;
- \$10 million in tax credits funded through the state's Build Missouri program, which offers incentives to new or relocating businesses that will create at least 500 jobs;
- \$3 million in state job training programs for MasterCard employees;
- \$1.2 million in business facility tax credits;
- other refinanced loans and community-development grants totaling more than \$1.6 million; and
- a \$785,000 rate discount on electricity service from AmerenUE.

"We found the perfect piece of land for our operations and employees," says MasterCard Vice President Linda Locke, "and we found a city administration that was extremely interested in doing what it took to get us here."

While hunting for its new site, MasterCard also discovered something else that proved to be a key factor in its final decision: an 1,100-acre development that included homes, corporate offices, stores, schools, health-care

O'Fallon, Mo.

BY THE NUMBERS

Population	O'Fallon: 69,136 (2004)
	St. Charles County: 316,574 (2003)
Labor Force	O'Fallon: 24,566 (2000)
	St. Charles County: 156,972 (2000)
Unemployment Rate	O'Fallon: 4.3 percent (2004*)
	St. Charles County: 4.1 percent (2003)
	(*average rate through October 2004)
Per Capita Income	O'Fallon: 21,774 (2000)
	St. Charles County: 23,592 (2000)
Top Five Employers	
CitiMortgage.....	4,500
MasterCard International Inc.....	2,300
Fort Zumwalt School District.....	2,000
MEMC Electronic Materials Inc.....	1,270
True Manufacturing.....	1,000

facilities, a golf course and even a town square—all within a community known as WingHaven.

Originally developed in 1999, WingHaven is based on an architectural concept known as “new urbanism.” Under this plan, residential subdivisions are surrounded by all the amenities of a traditional urban neighborhood—shops, churches, libraries and workplaces—all within a short walk or drive.

With the combination of economic incentives and an ideal residential neighborhood for its employees, MasterCard was hooked: The company broke ground in 1999 to build its GTO headquarters along WingHaven’s southern edge.

When the GTO arrived, O’Fallon was already in the midst of a 10-year growth spurt. But the widely publicized WingHaven/MasterCard partnership helped complete the transformation of this former farm town and railway stop into a bustling suburb in the heart of one of the fastest-growing counties in the United States.

From the K-Stop to the Technology Corridor

Thirty years ago, O’Fallon’s center thoroughfare—Highway K—was a two-lane road with few distinguishing markers beyond the K-Stop gas station and a Hardee’s restaurant.

Today, commuting along Highway K requires frequent traffic stops as drivers turn in and out of restaurants, groceries and retail outlets. And the city’s growth—particularly in the past 10 years—has paralleled that of its central corridor:

- Population has risen from 28,000 in 1995 to more than 69,000 in 2004.
- About 11,000 homes were in O’Fallon in 1995; now, the city has more than 23,000 homes.
- Twenty-six new businesses opened in O’Fallon in 1995. Last year, 242 opened. O’Fallon currently has about 1,500 businesses with an estimated 20,000 jobs.
- Annual sales revenue in 1995 was approximately \$322 million. Last year, it was just under \$1 billion, a milestone that the city expects to pass this year.

City leaders give credit for these numbers to O’Fallon’s emphasis on infrastructure improvements and on well-planned zoning, as well as on capitalizing on the momentum of the overall growth of St. Charles County. The county’s population increased by 33 percent from 1990 to 2000, compared with an increase of 13.1 percent for the United States and 9.3 percent for the state of Missouri. The wave of growth swept westward from St. Louis County through the city of St. Charles in the 1980s, St. Peters in the 1990s and, now, O’Fallon.

“The growth could have skipped us if O’Fallon hadn’t been open to it,” says Anne Zerr, the city’s chamber of commerce president. “The farmers would have stayed around and hung on to their

land. The city recognized that change and potential growth was coming, and they took the proper measures to plan for it and support it.”

Widening and other safety improvements to Highway K—along with the construction of some new interchanges where the main road intersects major highways—were financed in part through the Missouri incentives already promised to MasterCard. Other money came through the use of “transportation development districts,” which allow developers to petition for up to a 1 percent sales-tax increase on their property to finance transportation improvements in that area.

O’Fallon also sought to boost its economic development prospects by working with St. Charles County to create a technology corridor along the southern edge of Highway 40, adjacent to the WingHaven development. The cluster of technology firms stretches from O’Fallon’s southeastern border into the Missouri Research Park in unincorporated St. Charles County.

Among these firms is another major addition to the city’s corporate roster: Citigroup, a New York-based banking and insurance company that opened its \$85 million CitiMortgage financial center in O’Fallon in 2003. With a staff of 4,500, CitiMortgage is O’Fallon’s largest employer. As with MasterCard, Missouri and O’Fallon teamed up to make the Citigroup deal happen, offering incentives that included \$5 million in road improvements near the CitiMortgage site and \$1.45 million in tax abatements from O’Fallon.

Running Out of Room

Despite the seeming emphasis on technology firms along the southern border, city officials hesitate to label O’Fallon as being geared toward a particular industry. They cite a similar grouping of manufacturing firms in the city’s northern region, firms such as MEMC Electronic Materials, which makes silicon wafers, and True Manufacturing, which produces freezers and commercial coolers.

Libbey Simpson, the city’s director of economic development, says, “We have a good retail base, a good manufacturing base and certainly a strong office segment. So if one segment should suffer, another could help carry the economy.”

More growth is on the way with the 2006 addition of the 72-bed BJC Progress West Healthcare Center and the construction of the \$40 million Caledonia shopping center near WingHaven.

Sandwiched between St. Peters to the east and a potentially hot community of the future, Wentzville, to the west, O’Fallon has little room to grow in either direction. As a result, the city has had to turn away at least one new piece of business. Applied Food Biotechnologies, an O’Fallon firm that makes pet-food flavorings, decided to open its new research and development facility in



Not everything in O’Fallon is new. Old Town is north of I-70 along Highway K. The clock tower is a landmark there.

Wentzville because it couldn’t find affordable space to expand in O’Fallon.

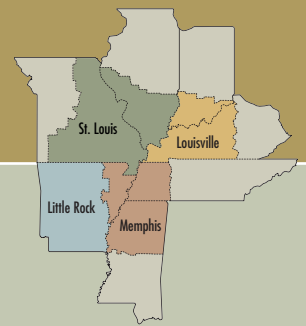
“We’re OK with that because we’d rather keep them in the region and keep those jobs here instead of having them pull out entirely,” Simpson says.

An even greater concern for O’Fallon is maintaining room for residential growth and promoting the construction of affordable homes (\$100,000 to \$200,000) and low-cost rental housing, Simpson says. Given that the westward migration of St. Louis County residents in search of cheaper housing played a key role in O’Fallon’s previous growth spurt, city officials fear a similar exodus out of O’Fallon if workers can’t find an affordable home near their jobs.

“Affordable housing is a critical issue for not just O’Fallon but all of St. Charles County,” Simpson says. “We call it ‘workforce housing.’ For instance, a single mother or somebody who’s in a service industry—such as the fire department, police, nursing or teaching—can find it challenging to afford a home in St. Charles County. So, the problem then is that your workers can’t afford to live in your community.”

St. Charles County set up a task force a few years ago to study the issue and has now recommended “inclusionary zoning,” which requires developers to intersperse less-expensive homes within their residential developments. Wentzville will probably be the first community to pilot the program, but O’Fallon hopes to follow suit, Simpson says.

Laura Hopper is a senior editor at the Federal Reserve Bank of St. Louis.



Employment Trends Vary in Three of Missouri's Metro Areas

By Elizabeth A. La Jeunesse and Christopher H. Wheeler

The three metropolitan areas located in the St. Louis Zone of the Eighth Federal Reserve District—other than St. Louis—are Springfield, Columbia and Jefferson City. All three cities have witnessed changes in their labor markets over the past four years. However, the experience of each has differed somewhat from that of the other two.

During the national recession, which lasted from March 2001 to November 2001, all three metropolitan areas saw decreases in their total employment levels as measured by the Bureau of Labor Statistics' Quarterly Census of Employment and Wages, a survey of more than 8 million establishments nationwide. As the figure shows, Springfield's total employment decreased gradually during this period, thereby most closely resembling

growth during the first half of 2004, when nearly 1,200 jobs were added.

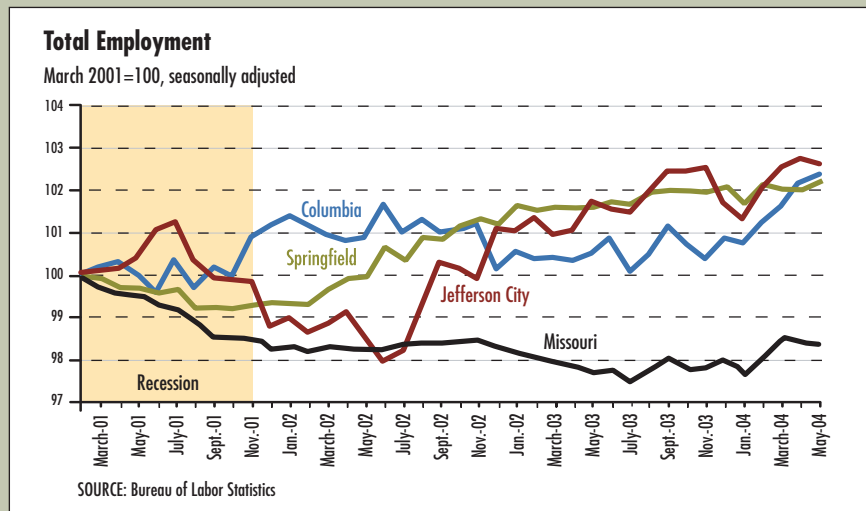
Still different was Jefferson City, where employment rose briefly during the first half of the 2001 recession, then declined over the remainder of that year. Jefferson City continued to lose employment through the first half of 2002, shedding roughly 600 jobs between January and July. In the two years following the summer of 2002, however, employment gradually trended up. By June 2004, Jefferson City's total employment stood approximately 2.5 percent (or about 1,900 jobs) higher than its March 2001 level.

In **Springfield**, underlying the decline in employment during the national recession were job losses primarily in manufacturing and professional and business services, both of which decreased at annual rates in

field's job losses in 2001—manufacturing, and professional and business services—combined with employment gains in a wide range of industries, including construction, education and health services, financial services, and the category of trade, transportation and utilities. On net, job gains in these sectors, as well as a relatively stable manufacturing sector after 2003, allowed Columbia to gain about 1,800 jobs over the entire period.

In **Jefferson City**, total employment began to decline during the middle of 2001 primarily because of job losses in manufacturing. Additional losses in finance as well as in trade, transportation and utilities contributed to an overall decline of roughly 1,500 jobs between March 2001 and July 2002. For the next two years, however, Jefferson City's job market steadily recovered as professional and business services, construction, educational and health services, and financial services all added jobs. Manufacturing, which stabilized early in 2003, further contributed to Jefferson City's growth.

Recent data from the Bureau of Labor Statistics' payroll survey, which samples a smaller number of establishments than does the Bureau of Labor Statistics' Quarterly Census of Employment and Wages but is available through the end of 2004, suggest that these recoveries continue to strengthen. In the second half of 2004, Missouri's total employment grew by roughly 10,000 jobs due to positive growth in nearly all major sectors, including education and health services, professional and business services, construction and the category of trade, transportation and utilities. Manufacturing also continued to grow after several years of decline, adding approximately 1,000 jobs between June and December. On the whole, these figures suggest that Missouri's labor markets ended 2004 on an upswing. While still below the March 2001 level, the state's total employment at the end of 2004 stood nearly 30,000 jobs higher than its July 2003 level.



the experience of the state of Missouri as a whole. Springfield has recovered more robustly than the state, however, as it regained pre-recession employment levels by mid-2002. Over the next two years, employment grew steadily, rising by nearly 4,000 jobs as of June 2004.

Columbia, in contrast, maintained comparatively stable employment during the recession. At times, Columbia's employment dropped below its March 2001 level, but these losses never amounted to more than 0.5 percent of total employment. Throughout 2002 and 2003, employment remained slightly higher than the March 2001 level and then entered a period of stronger

excess of 5 percent during 2001. Job losses in trade, transportation and utilities also contributed to the overall contraction. Springfield's recovery was driven by job gains across an array of sectors, especially financial and education/health services. Employment also increased in trade, transportation and utilities. Beginning in 2003, employment also began to rise in professional and business services.

Of these three metropolitan areas, **Columbia** exhibited the steadiest labor market between 2001 and 2004. As the figure shows, employment neither decreased nor expanded substantially over this time period. This pattern stems from job losses in the same two sectors that drove Spring-

Elizabeth A. La Jeunesse is a research associate and Christopher H. Wheeler is an economist, both at the Federal Reserve Bank of St. Louis.

LITTLE ROCK *Zone*

Service Industries Keep Employment Steady in Arkansas' Capital

By Anthony Pennington-Cross

The national recession of 2001 took a toll on employment in the Little Rock area, as it did in most other parts of the country. But the dent in jobs in Arkansas' capital was relatively short-lived. Credit the service industry for that.

From early 1995 to March 2001 (the official starting point of the recession), total nonfarm employment in the Little Rock-North Little Rock metro area (Little Rock) steadily rose for a total increase of 11.8 percent.¹ From March 2001 through December 2004, long after the recession officially ended, employment in Little Rock had increased by 0.2 percent.

As shown in the figure, the most prominent feature of the employment pattern for Little Rock has been the full recovery from the employment losses during the recession. For example, from the beginning to the nadir of the recession, employment in Little Rock dropped 2.2 percent. Other metropolitan areas in the Eighth District fared similarly: In Memphis, employment dropped 1.5 percent, and in St. Louis, 2.5 percent. However, Little Rock bounced back more than Memphis and St. Louis. From the lowest level of employment to the end of 2004, Memphis' employment grew 1.4 percent and St. Louis' grew 1.0 percent, while Little Rock's rose 2.5 percent.

The fact that employment in Little Rock has recovered well from the recession is noteworthy in large part because of the concurrent and persistent decline in manufacturing. Over the past 10 years, manufacturing employment has declined more than 30 percent; the majority (64 percent of the total change) of the losses occurring from the beginning of 2000 through the end of 2003. Other goods-producing sectors were also declining or stagnant even before the recession. (Somewhat encouragingly, manufacturing employment stabilized during 2004, although it still accounts for only 7.7 percent of total nonfarm employment, compared with 10.8 percent for the United States as a whole.)

What offset the loss in manufacturing? Service industries. They account for almost 86.9 percent of total nonfarm employment. But not

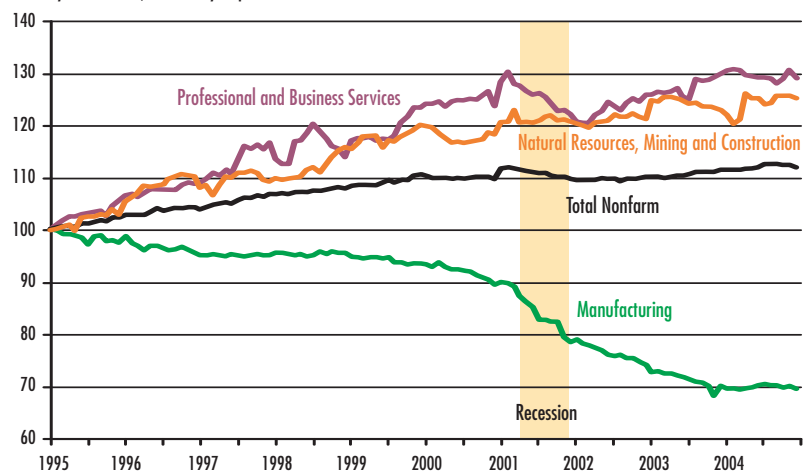
all service industries have fared equally well during the expansion, the recession or the recovery. In particular, employment in the information sector, which includes publishing, broadcasting and telecommunications firms, helped lead the expansion and the recovery from the recession but declined during the last half of 2004. Another leader among service industries is the category of professional and business services, which includes legal, accounting, design, computer, scientific and technical, as well as advertising services. Its employment rose 2.3 percent from January 2002 through December 2004.

ing as the federal funds target rate was dropped by more than four percentage points. In fact, according to the Freddie Mac Mortgage Market Survey, interest rates on 30-year fixed-rate mortgages dropped from more than 8 percent to less than 6 percent between the beginning of 2000 and the end of 2002. From that point forward, mortgage interest rates remained near or below 6 percent.

In summary, the labor market in Little Rock has proved to be resilient to the national recession in 2001. This resilience can be attributed in part to the lack of reliance on manufacturing for employment. In fact, despite the

Employment in the Little Rock-North Little Rock Metropolitan Area

January 1995=100, seasonally adjusted



SOURCE: Bureau of Labor Statistics

A goods-producing sector that has experienced substantial growth over the past 10 years is the natural resources, mining and construction (NMC) sector. From 1995 through March 2001, this sector's employment grew faster than total nonfarm employment (23 percent vs. 11.8 percent). NMC employment continued to outperform total nonfarm employment during and after the recession. For example, NMC employment grew by 1.8 percent from March of 2001 through December of 2004, while total nonfarm employment grew by only 0.2 percent. Much of this growth in employment may be attributed to construction of residential and commercial property, which was spurred by the historically low cost of borrow-

dominance of the service sector, the recession led to even more rapid restructuring away from manufacturing and into service industries. In addition, the construction industry helped Little Rock weather the ill effects of the 2001 recession, likely due in large part to low mortgage interest rates.

Anthony Pennington-Cross is a senior economist at the Federal Reserve Bank of St. Louis.

ENDNOTE

- 1 The Little Rock-North Little Rock metropolitan area includes Faulkner, Grant, Lonoke, Perry, Pulaski and Saline counties, all in the state of Arkansas.

Economy's Expansion Puts Down Roots

A view of the U.S. economic landscape in early 2005 suggests that conditions have improved modestly from three months earlier, when the economy was thought to be growing at a rate close to its long-run average of roughly 3.5 percent. Although inflation pressures have eased somewhat over the same period, measures that exclude food and energy prices generally have not. All in all, the expansion appears to be putting down roots at this point, which will allow the economy to better withstand the adverse shocks that periodically occur.

2004: A Good Year

Late-February revisions to the national income and product accounts data show that real GDP grew at a 3.8 percent annual rate in the fourth quarter of 2004, nearly three-quarters of a percentage point more than the advance estimate published in late January. For the year (fourth quarter of 2003 to fourth quarter of 2004), real GDP rose by 3.9 percent, surprisingly close to what forecasters had expected a year earlier, but moderately less than 2003's increase of 4.4 percent. The fourth-quarter inflation rates were virtually unrevised, so that the price index for personal consumption expenditures (PCE) less food and energy rose 1.6 percent in 2004, modestly faster than 2003's rise of 1.2 percent but still well below its average of the past 25 years of roughly 3.5 percent. Many economists believe that the modest deceleration in real growth and the equally modest acceleration in "core" inflation can be traced as much as anything to the roughly 50 percent rise in real crude oil prices last year.

2005 Off to a Good Start

One of the difficulties of current economic analysis is that price and expenditure data are always released weeks or months after the fact and often revised. This is why many economists also look at movements in financial market variables and monthly changes in forecasts to help



gauge the economy's near-term growth path.

As this article went to press in mid-March, household and business expenditures were generally quite good in January and—for the most part—in February. In January, nonautomotive retail sales were up strongly and appeared to remain strong in February, while housing starts and private construction were all up strongly from three months earlier. Likewise, business capital spending remained robust, as new orders for nondefense capital goods in January were up by about 7.5 percent from three months earlier.

Faced with solid growth in demand by consumers and businesses, manufacturing production was up strongly in February and from three months earlier. Domestic producers also received a boost from overseas sales, as exports—probably helped by a further decline in the value of the dollar—rose strongly over the last three months of 2004.

Labor market conditions continued to improve. Over the first two months of 2005, nonfarm payrolls were up by 394,000, substantially larger than the 211,000 gain seen over the first two months of 2004.

Financial conditions early this year generally remained supportive of growth, except for the stock market, which, through mid-March, was trading near its 2004 year-end level. Long-term interest rates through mid-March remained relatively low, risk spreads were narrowing and banks were generally easing terms and lending standards on loans to businesses and consumers. Thus, coupled with solid economic growth, bank credit (loans and leases, and bank securities) grew by a relatively rapid 2.5 percent for the three months ending in February.

2005: The Song Remains the Same

Forecasts for real GDP growth, core inflation and the unemployment rate for this year have changed very little since the middle of last year. In the February 2005 *Monetary Policy Report to the Congress*, Federal Reserve governors and presidents (who make up the Federal Open Market Committee) projected that real GDP will grow by between 3.75 to 4 percent (central tendency) this year and that the unemployment rate will average 5.25 percent in the fourth quarter. (It measured 5.4 percent in February 2005.)

The FOMC remains quite sanguine about inflation pressures: The members project that the core PCE price index will rise by between 1.5 and 1.75 percent this year and next.

One risk to the inflation forecast is a reduction in labor productivity growth and faster growth of labor compensation, two developments which occurred over the second half of 2004 to the surprise of many forecasters. As yet, though, there appear to be many more productivity optimists than pessimists.

Kevin L. Kliesen is an economist at the Federal Reserve Bank of St. Louis. Thomas A. Pollmann provided research assistance.

National and District Data

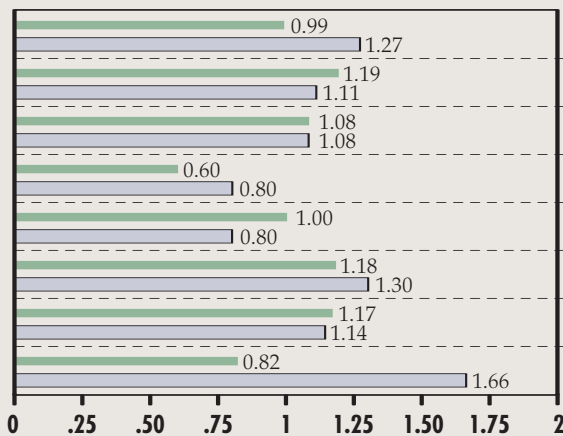
SELECTED INDICATORS OF THE NATIONAL ECONOMY AND BANKING, AGRICULTURAL AND BUSINESS CONDITIONS IN THE EIGHTH FEDERAL RESERVE DISTRICT

Commercial Bank Performance Ratios

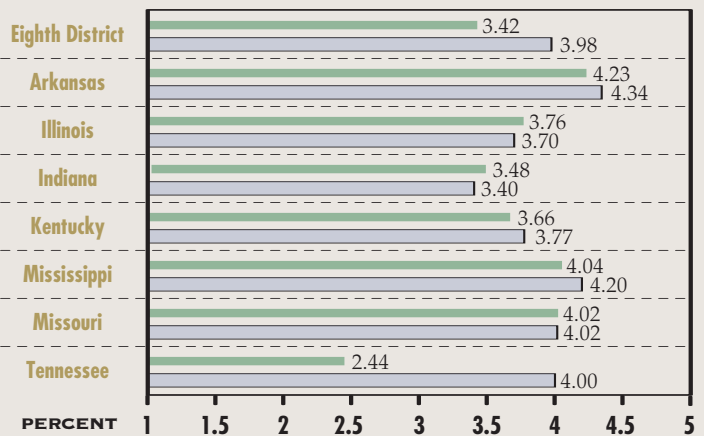
FOURTH QUARTER 2004

U.S. Banks by Asset Size	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*	1.34	1.22	1.14	1.28	1.21	1.41	1.31	1.35
Net Interest Margin*	3.67	4.32	4.31	4.23	4.27	3.86	4.07	3.49
Nonperforming Loan Ratio	0.86	0.74	0.79	0.66	0.73	0.72	0.72	0.93
Loan Loss Reserve Ratio	1.51	1.32	1.35	1.36	1.35	1.52	1.44	1.54

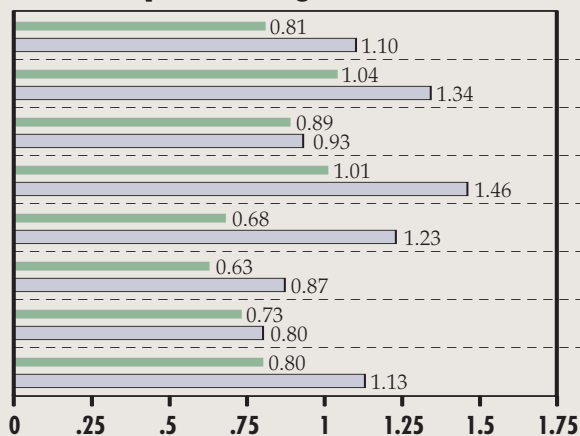
Return on Average Assets*



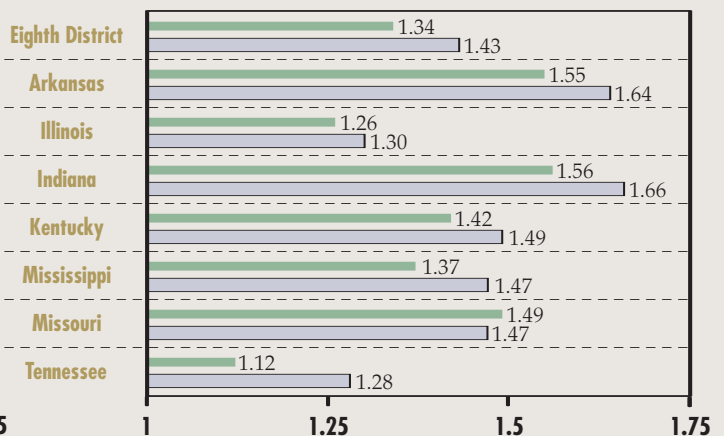
Net Interest Margin*



Nonperforming Loan Ratio



Loan Loss Reserve Ratio



● Fourth Quarter 2004

○ Fourth Quarter 2003

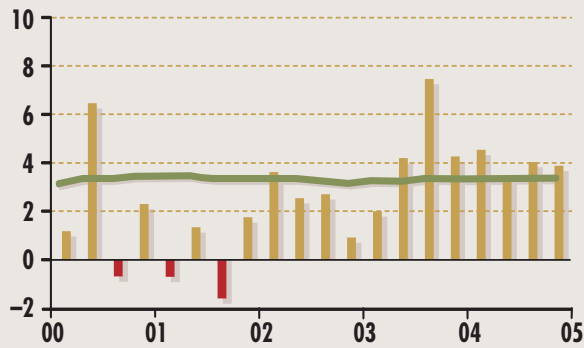
NOTE: Data include only that portion of the state within Eighth District boundaries.
SOURCE: FFIEC Reports of Condition and Income for all Insured U.S. Commercial Banks
*Annualized data

For additional banking and regional data, visit our web site at:
www.research.stlouisfed.org/fred/data/regional.html

Major Macroeconomic Indicators

Real GDP Growth

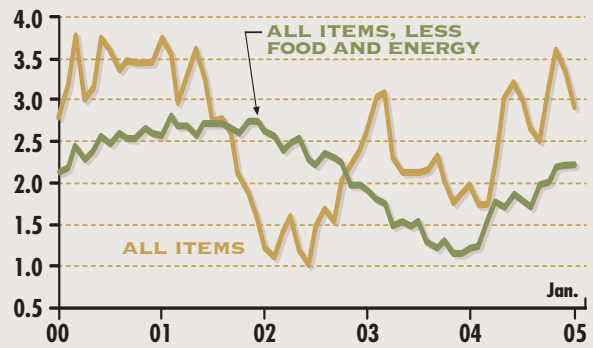
PERCENT



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

Consumer Price Inflation

PERCENT



NOTE: Percent change from a year earlier

Civilian Unemployment Rate

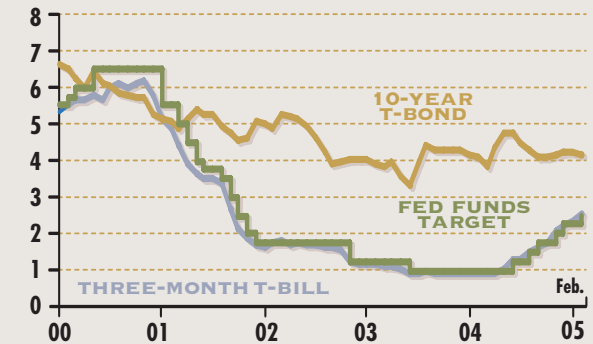
PERCENT



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

Interest Rates

PERCENT

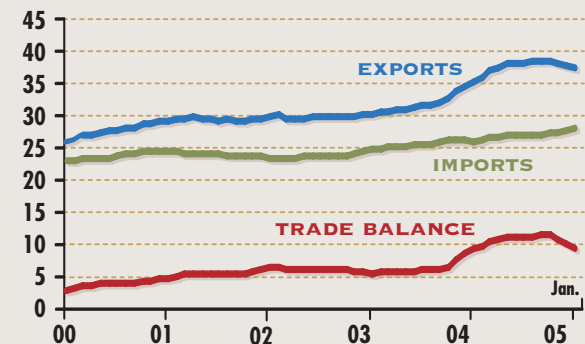


NOTE: Except for the fed funds target, which is end-of-period, data are monthly averages of daily data.

Farm Sector Indicators

U.S. Agricultural Trade

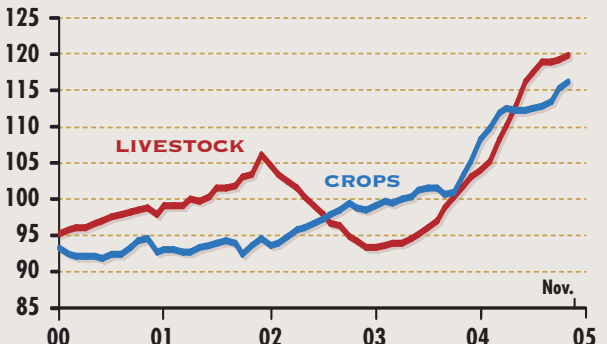
BILLIONS OF DOLLARS



NOTE: Data are aggregated over the past 12 months.

Farming Cash Receipts

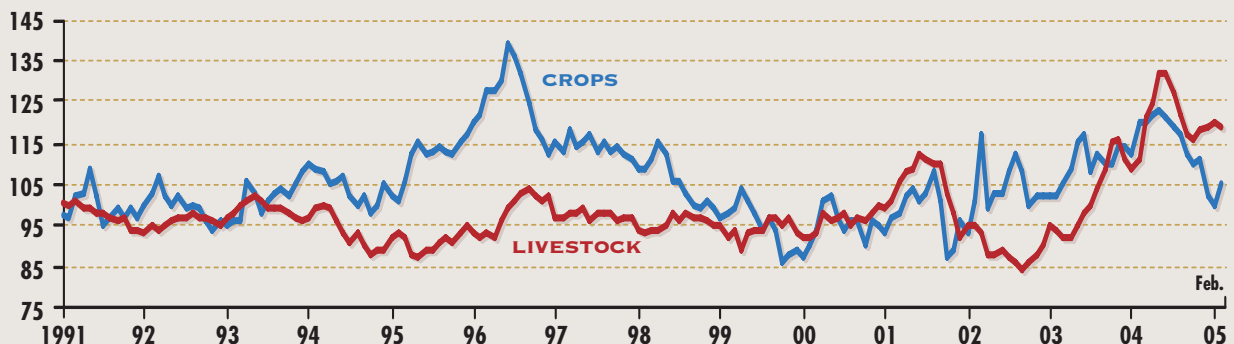
BILLIONS OF DOLLARS



NOTE: Data are aggregated over the past 12 months.

U.S. Crop and Livestock Prices

INDEX 1990-92=100



Regional Economic Indicators

Nonfarm Employment Growth*

YEAR-OVER-YEAR PERCENT CHANGE

FOURTH QUARTER 2004									
	UNITED STATES	EIGHTH DISTRICT	ARKANSAS	ILLINOIS	INDIANA	KENTUCKY	MISSISSIPPI	MISSOURI	TENNESSEE
Total Nonagricultural	1.6%	0.9%	1.2%	0.3%	1.4%	0.8%	1.0%	0.9%	1.5%
Natural Resources/Mining	4.1	0.8	3.2	-3.2	-0.5	3.0	-3.0	5.9	0.0
Construction	3.9	0.5	2.8	-2.4	2.2	0.2	0.6	2.6	1.9
Manufacturing	0.2	0.2	0.0	-0.5	1.1	0.0	-0.1	0.4	0.3
Trade/Transportation/Utilities	1.3	0.3	0.3	0.0	0.0	0.2	0.0	0.2	1.4
Information	-0.6	-3.6	-1.6	-5.6	-1.5	-2.2	-4.9	-2.3	-2.9
Financial Activities	1.5	0.2	0.7	-0.1	-0.2	-1.5	-0.1	1.4	1.3
Professional & Business Services	3.3	2.8	2.5	2.0	4.9	4.0	4.9	0.3	4.4
Educational & Health Services	2.3	2.0	2.3	1.3	3.1	1.7	2.5	2.0	2.2
Leisure & Hospitality	2.4	2.6	3.5	2.4	1.9	3.1	1.7	3.0	3.1
Other Services	0.7	0.8	0.7	0.1	2.4	1.1	0.1	1.1	0.5
Government	0.7	0.1	0.9	-0.5	0.4	-0.2	1.1	0.1	0.3

*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.

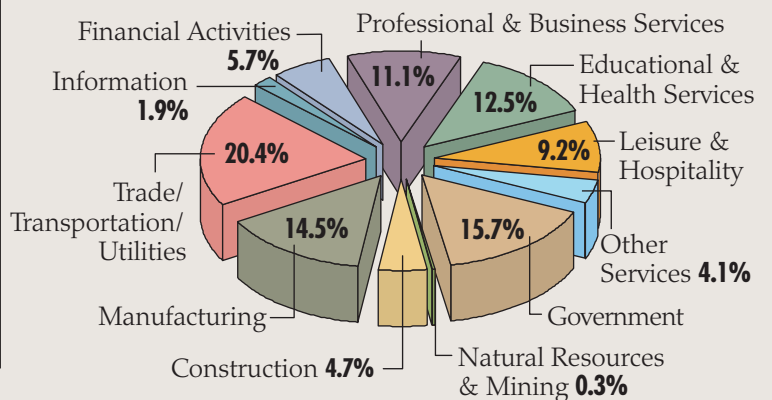
Unemployment Rates

PERCENT

	IV/2004	III/2004	IV/2003
United States	5.4%	5.4%	5.9%
Arkansas	5.6	5.7	5.9
Illinois	6.1	6.2	6.7
Indiana	5.2	5.3	5.3
Kentucky	4.7	5.1	6.0
Mississippi	6.8	6.5	5.9
Missouri	5.8	5.9	5.5
Tennessee	5.3	5.3	5.6

Eighth District Payroll

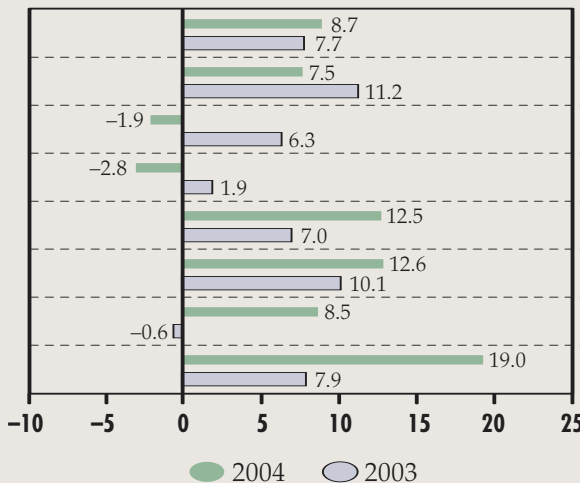
EMPLOYMENT BY INDUSTRY-2004



FOURTH QUARTER

Housing Permits

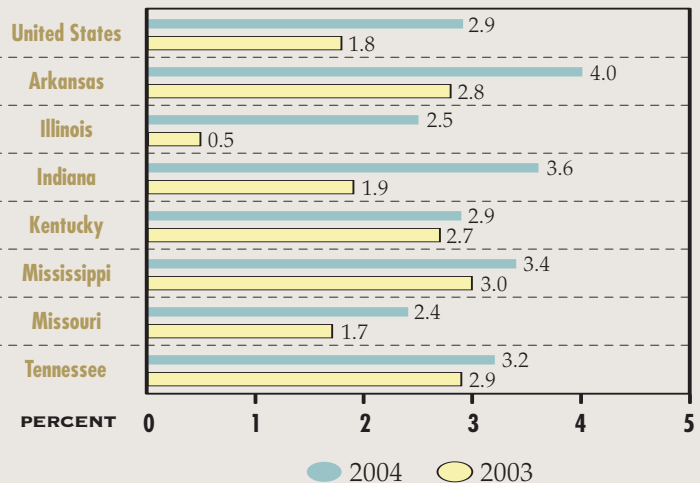
YEAR-OVER-YEAR PERCENT CHANGE IN YEAR-TO-DATE LEVELS



THIRD QUARTER

Real Personal Income[†]

YEAR-OVER-YEAR PERCENT CHANGE



[†]NOTE: Real personal income is personal income divided by the PCE chained price index.

A Letter to Subscribers

We're Putting Even More Emphasis on the Region's Economies

Dear Readers,

The St. Louis Fed has been expanding its involvement in the states and communities of the 8th Federal Reserve District. As part of this initiative, the Research Division has established the Center for Regional Economics—8th District (CRE8). The role of CRE8 is to provide and facilitate rigorous economic analysis of policy issues affecting local, state and regional economies—particularly those in the 8th Federal Reserve District.

In addition to doing research, CRE8 organizes policy forums, conferences and symposia that highlight economic research by others. These events are intended to inform and initiate discussions among policy-makers in the states and communities of the 8th District.

We have also formed the 8th District Business and Economics Research Group (BERG), a research

forum that includes CRE8 and university-based business and economics research centers in the states of the District. Please visit the CRE8 web site at <http://research.stlouisfed.org/regecon/>, where you can find a link to the BERG web page.

The Regional Economist is also undergoing changes. Beginning with this issue, we are publishing two new short articles that discuss employment trends in the metro areas within our District. One article will focus on either the St. Louis metro area or one of our three branch metro areas—Memphis, Little Rock and Louisville. The other article will focus on the smaller metro areas within one of our four zones. Over the course of a year, every metro area centered in the District will be covered.

To make room for these new articles, we have removed two of our data pages from the print edition.

The Regional Economist welcomes feedback from readers. To send a letter electronically, go to www.stlouisfed.org/publications/re. You can also write to Howard J. Wall, editor, *The Regional Economist*, Federal Reserve Bank of St. Louis, P.O. Box 442, St. Louis, MO 63166.



But don't worry, they are still available on *The Regional Economist* web site at www.stlouisfed.org/publications/re/default.html.

Howard Wall
Editor, *The Regional Economist*
Director, CRE8

Center for
Regional
Economics

