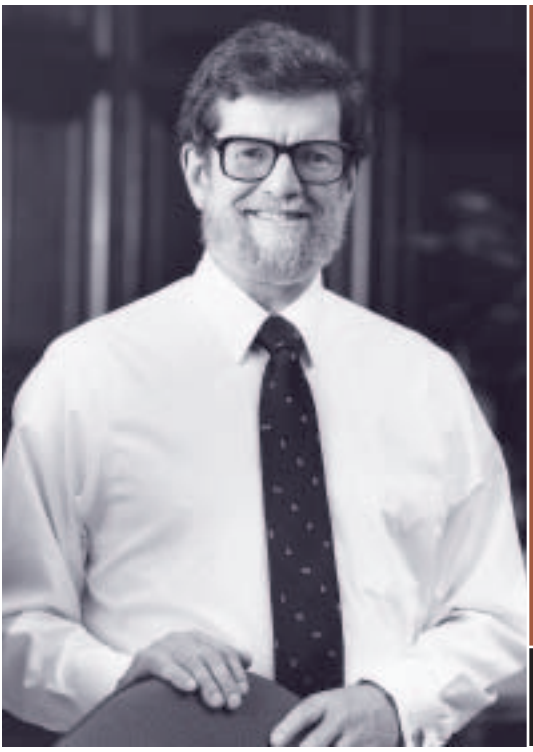
President's Message



"High oil prices certainly burden U.S. businesses and consumers. … However, at current levels, oil prices probably will not derail the economic recovery."

William Poole

PRESIDENT AND CEO,
FEDERAL RESERVE BANK OF ST. LOUIS

Latest Oil "Shock" Differs Significantly from Those of the '70s

Oil prices began rising in late 2003 and now stand at record levels in current dollars. Past sharp increases in oil prices, or "oil shocks," often preceded economic downturns. Indeed, nine of the 10 economic recessions in the United States since the end of World War II were preceded by a dramatic increase in the price of oil.

Many economists, most notably James Hamilton of the University of California at San Diego, argue that high oil prices were a key factor in causing past recessions. However, rising oil prices are not derailing the current economic recovery, nor do experts predict that the economy will fall into a recession soon. Why are things different this time?

To determine the impact of high oil prices on economic activity, we should understand the forces that drive prices upward. Many past oil shocks were driven by supply disruptions, such as the OPEC oil embargo in 1973 and the Iranian revolution in 1979. Such events reduce the amount of oil available, which increases prices. Supply shocks raise the production cost for businesses that use oil and cause them to curtail their output, perhaps enough to cause a recession.

By contrast, experts say that high demand for oil, not supply disruptions, is driving the current price surge. For instance, global oil consumption in 2004 grew at a faster rate than it had in 25 years, led by rapid increases in China, India and the United States. Thus, past high oil prices were a driver of economic weakness, while the recent surge in oil prices is being driven by the world economy's strength.

Also, while the *nominal* price of oil is at record levels, the *real* price of oil (the price adjusted for inflation) is nowhere near a record. For example, when measured using today's dollars, the price of a barrel of West Texas Intermediate, a common grade of crude oil, was roughly $80 in the late 1970s. Compare that to the $50 a barrel prices of today. Thus, the current oil shock has been less of a shock than previous ones.

The U.S. economy is less dependent on oil since the shocks of the 1970s. Reduced dependence helps insulate us somewhat from sharp price increases. The spike of the 1970s gave U.S. businesses the incentive to find substitutes for petroleum as an input in a broad range of production. Motor vehicles still depend on petroleum, of course, but they are more fuel-efficient, thanks in part to government policies such as the Corporate Average Fuel Economy (CAFE) standards. Overall, the amount of oil the United States uses, if figured as a percentage of our total output, has fallen by half in the past 30 years.

High oil prices certainly burden U.S. businesses and consumers, as anyone who fills up at the gasoline pump can attest. However, at current levels, oil prices probably will not derail the economic recovery.

Do We Have

a Saving Crisis?

By Kevin L. Kliesen

"We sit here absorbed in a debate about how to maintain Social Security—and, more important, Medicare—when the baby boomers retire. But right now, those same boomers are spending like there's no tomorrow. If we can believe the numbers, personal savings in the United States have practically disappeared."

— Former Federal Reserve Chairman Paul A. Volcker, writing in *The Washington Post*, April 10, 2005

Over time, a country enhances its living standards by saving and investing. With the nation's personal saving rate currently about 1 percent, many economists and policy-makers are becoming increasingly concerned.[1] If this low rate persists, it could lead to much lower investment rates, and hence, lower growth rates of labor productivity and real income.

Saving by households, though, is only one component of the nation's saving rate; the other two are saving by the government and saving by the business sector. When viewed in this context, the overall trend in national saving, while still below rates that persisted 30 or 40 years ago, looks measurably better because saving by businesses has actually been rising over time. Also helping to finance domestic investment rates is a sizable influx of foreign saving.

Despite these positives, households in the long term may have to boost their saving to offset potential declines in future retirement benefits from Social Security and Medicare.

Why Saving Is Important

To the layperson, saving and investment probably mean the same thing: squirreling away a certain portion of one's income and then buying financial assets (i.e., "investing") such as stocks, bonds or mutual funds with the hope that they grow at rates exceeding inflation. To economists, saving and investment mean something a bit different. In this case, saving is the idea of setting aside part of current income, or output, so that one can consume and produce more in the future. Investment, then, is the purchase of a capital good, like machinery, not the purchase of a financial asset. In both instances, though, the idea is to yield a future income. A useful way to characterize this relationship is by considering the farmer who withholds part of this year's crop (saving) to use as seed (investment) for next year's crop (future income).

On a national scale, income that is not spent is used by businesses—via loans, undistributed profits or the issuance of stocks and bonds—to buy machinery, equipment and software. Increases in the amount of investment goods (capital) per worker eventually mean higher productivity growth rates, a higher rate of increase in real wages over time and, thus, increased living standards. More broadly, we can also think of investment as expenditures on research and development or on employee training programs; we can also think of it as the income that students forgo to acquire skills in college or trade schools to boost future incomes.

Saving and Investment: The Basics

Many of the nation's most important macroeconomic statistics are found in the national income and product accounts (NIPAs). Underpinning these statistics are basic accounting identities, like that for gross domestic product (GDP). In a simplified world without international trade, a nation's domestic saving would be determined solely by its propensity to save out of current income. Conceptually, then, one can think of saving as that part of the nation's total income (or, equivalently, GDP) that is not consumed by households or by the government. The residual is, thus, that amount that is left over for businesses to invest in equipment, machinery or people (training), which we term gross domestic investment.

In reality, GDP has a foreign component because countries (households, firms and governments) trade with one another and buy and sell one another's financial and nonfinancial assets. This means that firms and, by extension, a country, have access to foreign saving to finance their capital investment projects. For example, U.S. residents acquire foreign assets when they buy into a mutual fund that holds shares of a company that trades, say, on the Japanese stock market. Similarly, many foreign central banks hold U.S. government securities, or foreign residents may use part of their saving to invest in U.S. stocks or in bonds issued by the U.S. Treasury or by companies like General Electric. In 2004, for example, purchases of U.S. government securities by foreign central banks or other official institutions totaled about $262 billion. The financial transactions used to facilitate these and other cross-border transactions are called international capital flows. In the international transactions data, these flows are measured in the Financial and Capital Account.

U.S. Gross Saving and Investment Rates

Shares of Gross Domestic Product

	1947–1982	1983–1999	2000–2004
Gross Domestic Investment	20.5	19.4	19.3
EQUALS:			
National Saving	20.3	16.9	15.2
Private	17.3	17.2	14.4
Household	6.0	4.8	1.3
Business	11.3	12.4	13.1
Government	3.1	–0.3	0.8
Federal	1.4	–1.7	–0.5
State and Local	1.6	1.4	1.2
PLUS:			
Net Foreign Capital Inflows	–0.2	–2.6	–4.1
MEMO:			
Net Domestic Investment	11.0	8.5	7.9
Net Domestic Saving	10.8	5.6	3.3
Real Corporate Bond Rate	1.7	5.6	4.0
Real Short-term Rate	0.3	2.7	0.1
Household Asset-to-Income Ratio	3.4	3.7	4.2

NOTE: Corporate bond rate is the yield on the Aaa-rated corporate debt; short-term rate is the three-month Treasury bill rate. Interest rate data begin in 1948; household asset income data begin in 1952.

SOURCE: Bureau of Economic Analysis and author's calculations

The table shows the basic saving-investment accounting identity and how trends in U.S. saving and investment rates have changed since World War II. Over this period, the amount of the nation's income devoted to purchases of equipment, software and structures (gross domestic investment) has remained relatively constant at about 20 percent of GDP. By contrast, the nation's saving rate has steadily declined over time, from an average of 20.3 percent of GDP from 1947 to 1982, to just over 15 percent over the past five years.

There are two ways to measure investment: on a gross and on a net basis. Measures of gross investment include estimates of depreciation, which is the assumed dollar amount of the nation's capital stock that wears out over time (and which must be replaced). Net investment, then, is gross investment less depreciation. In principle, net investment is the preferred measure because it measures the change in the nation's available capital stock over time, which affects economic growth. However, measuring depreciation at the aggregate level is difficult, which may be important because an increasing portion of the nation's capital stock is composed of relatively short-lived assets (high-tech equipment and software) that have high depreciation rates.

Accordingly, some have argued that gross investment better captures the improvement in the capital stock over time.[2] As the table shows, it does make a difference. Although both gross and net domestic saving have been trending lower over the postwar period, gross domestic investment rates have held rather steady, but net domestic investment rates generally have not.

National Saving Trends

Many people view the nation's total saving rate in terms of the personal saving rate. (The personal saving rate mentioned in the financial press is personal saving divided by disposable personal income; in the table, the personal saving rate is divided by GDP.) But as the table shows, national saving in the NIPAs is the sum of saving done by the three major economic sectors: households, businesses and the government (federal, state and local). In terms of their magnitudes, aggregate business saving is considerably larger than household saving. Indeed, over time business saving becomes the dominant component of gross private saving: from about 65 percent in the early 1950s to about 93 percent in 2003-04. Throughout most of the postwar period (1947 to 1999), gross private saving, which is the sum of household and business saving, remained at about 17.25 per-

cent of GDP because increased saving by businesses roughly offset declining saving rates of households. (Personal saving is simply the difference between total personal consumption expenditures and disposable personal income; business saving is largely undistributed corporate profits and the allowance for capital consumption [depreciation].) Indeed, since reaching a 37-year high of 8.2 percent in 1982, the personal saving rate declined to 0.9 percent in 2004 (yearly averages); from 2000 to 2004, it averaged 1.3 percent.

Besides private saving, national saving includes saving by the government sector. This includes both the federal government and—taken together—state and local governments. In this case, a budget surplus is recorded as positive government saving, while a deficit (outlays greater than receipts) is recorded as negative saving (dissaving). According to the table, government gross saving has usually been positive in the postwar period, primarily because state and local governments tend to run budget surpluses.[3] Except for a brief period from 1997 to 2001, periods of positive federal government saving since the early 1970s have been infrequent. In fact, from 1975 to 1996, there was only one year (1979) when federal government saving was positive; over this period, federal government saving averaged about –2 percent, only slightly less than its average of about –2.25 percent from 2002 to 2004. In contrast, state and local saving as a percent of GDP has remained relatively constant since 1975, averaging about 1.5 percent.

Although government saving at all levels is less today than, say, 30 or 40 years ago, it is also the case that government saving tends to be a relatively small percentage of the gross national saving rate—even during periods of budget surpluses. For example, in 2000, federal saving was about 2.75 percent of GDP, its highest level since 1963; yet, this was only about a quarter of gross business saving.

Accounting for Foreign Saving: Is It Worrisome?

In an integrated world economy where financial and nonfinancial assets can freely move across borders, a mismatch between a country's saving and investment must be balanced by either capital inflows or outflows. Hence, if a nation saves more than it invests, it is accumulating claims on foreign assets. When the opposite occurs, foreigners are accumulating claims on U.S. assets. Hence, the current account deficit, which is mostly the goods and services trade deficit, is the international trade equivalent of the mismatch between the country's saving and investment. In other words, when a nation imports more than it exports, its saving falls short of its capital investment; it must make up this difference by importing foreign saving (borrowing).

As seen in the table, to keep the U.S. gross domestic investment rate relatively stable, the nation has had to increasingly turn to foreign sources of saving. From 2000 to 2004, net foreign capital inflows averaged 4 percent of GDP, which is the equivalent percentage point gap between the gross saving and investment rates. In 2004, however, the current account deficit measured about 5.75 percent of GDP. This is the largest deficit since 1929 (the first observation of the official statistics) and perhaps the largest in U.S. economic history.

Is the upsurge in foreign capital flows into the United States worrisome? It depends on whom you listen to. Some commentators are alarmed about the nation's use of foreign saving to bridge the gap between the nation's gross saving and investment rates—they believe U.S. residents must save more.[4] To those who hold this view, a sudden reluctance on the part of foreign residents to purchase U.S. assets will lead to a sharp decline in the value of the dollar. (More dollars will be sold than purchased, thereby lowering the dollar's price.) A decline in the value of the U.S. dollar, all else equal, raises the dollar-price of imported goods and services. To maintain its allure to foreign investors and to offset the potential inflationary consequences of a falling dollar, some think Federal Reserve policy-makers would have to sharply increase interest rates. Although the likely effect would be to reduce spending on imports (thereby reducing the current deficit), it could also dramatically slow the growth of real GDP or lead to an outright recession.

To other economists, the upsurge in foreign flows of saving to the United States reflects, more than anything else, a rational portfolio decision by foreigners to invest in assets that offer the highest (risk-adjusted) rates of return.[5] For example, Federal Reserve Gov. Ben Bernanke argues that a "global saving glut" helps to explain the current account deficit and, at some level, the low personal saving rate.[6] In particular, many developing and emerging economies (like China's and India's) have built up considerable current account surpluses in recent years compared with their historic averages. By directing a large chunk of their domestic saving into U.S. dollar-denominated assets, they have helped to lower long-term interest rates.

The decline in interest rates has been a boom to the U.S. housing industry and to other producers of interest-sensitive products, like cars and trucks, many of which are imported from overseas.

Does It Really Matter How Much We Save?

The table shows that the ratio of household assets to income has risen markedly over time. Its average of 4.2 from 2000 to 2004 was a 13.5 percent increase over the period from 1983 to 1999 and a 24 percent increase from the 1947 to 1982 period. Some economists attribute the decline in personal saving since 1984 to financial market developments. As the value of their portfolios of stocks and bonds rises (capital gains), household wealth increases, a portion of which is spent on such things as home improvements, vacations or trading up to a larger house.[7] Hence, it appears that consumers have viewed this increased wealth as permanent and have, accordingly, decided to spend part of it by saving less (or spending more of their current wage income).[8]

Because of this wealth effect, some economists believe that the saving rates that flow out of the NIPAs are ill-suited to accurately measure the level of aggregate saving.[9] (See sidebar below for alternative measures of the personal saving rate.)

Regardless, current U.S. saving rates are low by historical standards and may need to be raised significantly. Why? Because the United States and most of the world's developed countries will soon be in a situation where the percentage of those who are drawing down their accumulated saving (retirees) will begin to rise relative to the percentage of those who are saving (workers).[10] According to the intermediate assumptions in the 2005 Annual Report of the Trustees of the Social Security Program, the number of workers per each Social Security beneficiary is expected to fall from about 3.25 in 2004 to 2 in 2060. Without sharp increases in taxes and/or reductions in benefits, it is likely that government budget deficits will rise sharply, further lowering the national saving rate.

Thus, if for no other reason, the possibility of reductions in future benefits implies that today's workers may need to boost their current saving rates. Yet, according to a recent survey released by the Employee Benefits Research Institute, the number of workers who have reportedly saved some money for retirement declined from 78 percent in 2000 to 69 percent in 2005. Moreover, the percentage who report that they are not currently saving for retirement has held steady at about 40 percent over the past five years.[11]

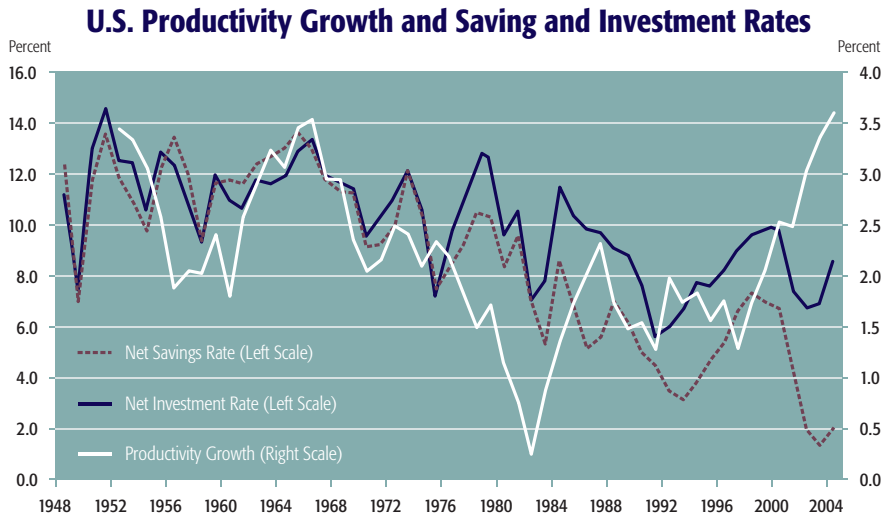
According to recent data from the Organization for Economic Cooperation and Development (OECD), saving rates in the United States are much lower than in other well-developed economies, most of which face demographic challenges greater than those of the United States. Consider some of the U.S.'s largest trading partners. From 1995 to 2004 (projected), the net

Are We Measuring Personal Saving Correctly?

The most-cited measure of personal saving flows from the national income and product accounts (NIPAs). However, the NIPAs are constructed to measure production (GDP) and its statistical equivalent measure of income (gross domestic income). Thus, changes in asset prices or sales of stock (capital gains) that can affect saving are not included in the table. If these realized capital gains are added back into personal income, then the adjusted personal saving rate would have equaled about 4 percent in 2000 vs. about 2.25 percent for the official published saving rate. By 2002, the last year for which realized capital gains data are available, the adjusted saving rate had fallen to about 2.75 percent, compared with 2 percent for the official rate.[1]

A second criticism of the official personal saving rate is that it excludes the value of household durable goods that provide a flow of services over time, like the implicit rental income (shelter service) that residential homeowners received. Although the NIPAs do account for rental income of owner-occupied housing, which, in large measure, is the implicit rental value of the property less cash expenses and an imputed expense for consumption of fixed capital, the NIPAs do not account for the similar flows of income derived from (net) investment in consumer durable goods like cars or appliances. If these flows are added to the personal savings, then the personal saving rate would have measured about 5.25 percent in 2000 and 4.5 percent in 2002. Although both of these adjusted measures of the personal saving rate are well above the official measure, they still show a downward trend in personal saving over time.

[1] Reinsdorf (2004).



NOTE: Labor productivity growth measured on a five-year moving average basis.

household saving rate averaged 10.5 percent in Germany, 11 percent in France and about 8.75 percent in Japan. By contrast, over the same period, the U.S. net household saving rate averaged 2.75 percent, which was modestly below Canada's rate (4.5 percent) but still above Australia's rate (1.75 percent). Although international capital flows weaken the link between national saving and domestic economic growth rates, one would expect that economic growth would be highest in the high-saving rate countries and weakest in the low-saving rate countries. However, this has not been the case in recent years.

Consider the economic growth rate of each of these countries from 1995 to 2004 (using OECD data). In the low-saving countries, annual economic growth was about 3.75 percent per year in Australia and about 3.5 percent per year in the United States and in Canada. By contrast, economic growth averaged about 1.25 percent per year in Germany, 1.5 percent in Japan and about 2.25 percent in France.[12]

This result is especially interesting for the United States since national saving rates, whether measured on a net or gross basis, have been falling since the early 1980s—and rather sharply since 2000. At the same time, it appears that the U.S. economy's long-term, or potential, economic growth rate has been accelerating because of relatively large and, to this point, sustained increases in labor productivity growth.

The figure shows that, measured on a five-year moving average basis, which removes the rather large year-to-year volatility in productivity growth, the economy's performance has been improving at a rapid rate despite falling saving and investment rates. Indeed, the U.S. net saving rate has fallen to levels not seen since the Great Depression (when saving rates turned negative) while the productivity growth rate has reached its highest rates in the postwar period.

As one would suspect, there was a fairly strong positive correlation between productivity growth and saving and investment rates from 1952 to 1994. As seen in the figure, though, the correlation between saving and productivity growth has turned strongly negative since 1995. This development may be evidence of the boom in U.S. economic conditions caused by the massive inflows of foreign saving mentioned by Bernanke. From this perspective, globalization has clearly benefited the United States.

Conclusion

Recently, many economists and policymakers have expressed concern over the near-record low personal saving rates in the United States. Economists tend to believe that persistently low saving rates eventually mean lower growth rates of investment, slower labor productivity growth and smaller increases in living standards. However, what matters is total saving, which includes saving by the government and businesses. Although total saving rates look measurably better than the personal saving rates, the United States is still saving significantly less now that it was in the 1950s, '60s and '70s and at a much lower rate than many of our largest trading partners. Despite these low saving rates, U.S. economic growth rates have been considerably faster than those of other high-saving countries.

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ENDNOTES

1 Gramlich (2005).

2 See Council of Economic Advisers (1990), pp. 109-42.

3 The majority of state and local governments operate under balanced budget rules, and, moreover, many run surpluses for "rainy day" funds. See Garrett and Wagner (2004) for more information.

4 Kuttner (2005).

5 Poole (2003).

6 Bernanke (2005).

7 Juster et. al (2004).

8 Peach and Steindel (2000).

9 See Gale and Sabelhaus (1999) and the references therein.

10 Poole and Wheelock (2005).

11 Helman et al. (2005).

12 These growth discrepancies hold even when viewed over a slightly longer period, 1990 to 2004, and using per capita real GDP growth rates.

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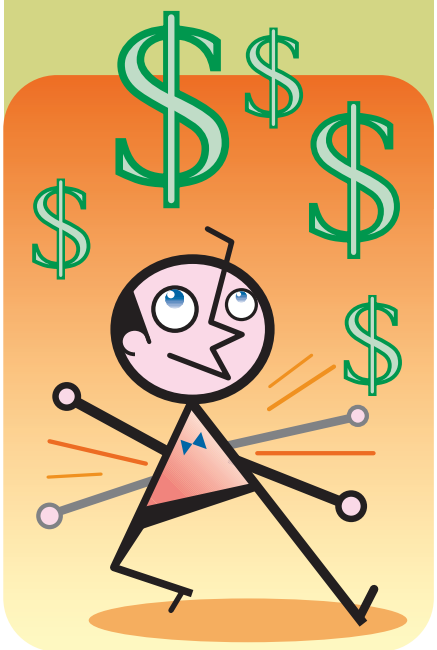
Cash-Out Refinancing: Check It Out Carefully



By William R. Emmons

Cash-out refinancing has been a popular option in recent years because it can generate cash today while leaving monthly mortgage payments unchanged. It's not a free lunch, however. The cost of greater financial flexibility today can be a greater burden of repayment later.

Many Refinancing Options

A decline in long-term interest rates has driven a surge in refinancing activity in recent years. Although the number of households refinancing their mortgages declined by more than 50 percent in 2004 compared to 2003, last year still ranks among the busiest "refi" years ever.[1]

Many refinancing options are available to qualified borrowers. Suppose you just entered into a $100,000 principal amount, fixed 8-percent, amortizing 30-year mortgage.[2] The monthly payment on this mortgage would be $733.76. Suppose also that on the next day, 30-year fixed mortgage rates fall to 6 percent because expectations of future inflation have fallen 2 percentage points and all long-term interest rates have been adjusted downward by that amount.

How will you refinance your mortgage? Will you keep the principal amount of the mortgage the same, or will you maintain the same monthly payment, or the same amortization schedule (amount of loan principal paid each month)? Would you like to shorten or extend the term of the mortgage; switch from a fixed to a floating rate or vice versa; take a "hybrid" mortgage with a fixed rate for five years and then convert automatically to floating; pay only interest for a period of time and then begin principal payments; receive a lower interest rate by agreeing not to refinance again for a certain period of time; or pay points (an up-front fee) to receive a lower interest rate? The variety of options can be overwhelming.

For simplicity, we'll consider a choice between only two mortgages: a) simple refinancing—borrow $100,000 at 6 percent for 30 years with standard amortization, reducing your monthly payment to $599.55; or b) cash-out refinancing—borrow $122,385.77 at 6 percent for 30 years with standard amortization, maintaining your monthly payment at $733.76.

Simple refinancing saves you $134.21 each month for as long as you keep the mortgage, while cash-out refinancing allows you to take home $22,385.77 in cash today and keep your monthly payments unchanged. The decision on which route to take isn't an obvious or easy one. In fact, U.S. households were as likely last year to engage in simple refinancing as they were in cash-out refinancing.

Shifting the Burden

To understand the economics of mortgage refinancing when mortgage rates have declined, we need some basic financial tools. The most important is the concept of "duration," a mathematical measure that summarizes both the sensitivity of a fixed-income obligation's fair value to changes in interest rates and, more important for our purposes, the amount of time until half of a debt has been repaid. Duration, thus, is related to the speed at which debt is paid off. Duration is measured in years and takes into account the fact that interest and principal are paid at various points in time, not just at maturity. A key result from the mathematics of duration is that, for a given fixed-income instrument such as a mortgage, duration increases as interest rates decline and vice versa.

For example, a household that replaces an 8-percent, 30-year, $100,000 fixed-rate mortgage with a 6-percent, 30-year, $100,000 fixed-rate mortgage has accepted greater duration. That is, the refinancing transaction effectively has pushed the real burden of repaying the loan more than a year into the future, on average. The 8-percent mortgage has a duration of 9.6 years, while the 6-percent mortgage has a duration of 10.8 years. In other words, half of the 8-percent mortgage will be paid off after 9.6 years, but it will take 10.8 years to pay off half of the 6-percent mortgage. The key point is that greater duration means a household should expect and plan for greater repayment burdens than previously expected beginning at some future time.

Mortgage Tilt Reflects Duration

To illustrate the complex economic trade-offs involved in choosing between simple refinancing and cash-out refinancing, consider a moderate-income household with a $100,000, 8-percent, 30-year mortgage. After paying all its other expenses (including taxes, food, clothing, transportation, entertainment, housing repairs, etc.), this household has $10,000 available each year ($833.33 per month) to make mortgage payments.[3] The $733.76 monthly payment on its 8-percent mortgage represents 88 percent of the amount it can pay without having to cut back on other expense categories.

For purposes of illustration, inflation is expected to be 4 percent each year; so, the household's income and all of its other expenses are expected to rise 4 percent annually. The amount the household can afford to pay on its mortgage also increases by 4 percent each year because its wage income or Social Security payments will increase at about the inflation rate. The economic burden of repaying the fixed-rate mortgage, therefore, declines over time because the level monthly payment effectively is eroded by inflation.

The declining burden over time of repaying the $100,000, 8-percent mortgage is shown by the dotted blue line

in the accompanying figure. The downward slope of the repayment-burden schedule is known as the "tilt" of the mortgage. The members of this household expect to retire after 25 years, at which time their income available to make mortgage payments will fall by half. Because inflation has pushed up the household's income over time, the burden of repaying the mortgage even in retirement is manageable—a maximum of only 66 percent of available retirement income is needed to cover mortgage payments during year 26.

Monthly Payment Isn't Everything

Now consider the effects of falling inflation expectations and mortgage rates. The dashed green line in the figure represents a simple mortgage refinancing—that is, the principal remains $100,000 and the monthly payment falls to $599.55. The household's new schedule of repayment burden is flatter than before. That is, the tilt has decreased because the duration has increased. The household faces a lower repayment burden in the early years (through year 10), but a greater repayment burden in the later years compared to the original mortgage. Recall that the household's income is growing at only 2 percent annually rather than 4 percent; so, inflation does not erode the level mortgage payments as rapidly.

The greatest stress over the lifetime of the mortgage now occurs during the household's retirement, when the repayment burden peaks at about 88 percent of available income. This is a result of the mortgage's greater duration, shifting the real burdens of repayment into the future.

Now consider a cash-out refinancing. (See the solid orange line.) The household increases the mortgage principal to $122,385.77, resulting in $22,385.77 of cash to be pocketed now. The monthly payment remains exactly as it was before refinancing ($733.76). The figure shows that the tilt of the new mortgage is less than before while starting at the same level of repayment burden. Thus, the household will face a higher burden of repayment at every subsequent period during the life of the mortgage. In this example, the household's new projected repayment burden peaks in retirement at more than 100 percent of available income. In other words, the cost of the $22,385.77 cash-out refinancing today is the need to cut back other spending later.[4]

Trickier Than It Looks

The complexities of mortgage refinancing described here do not mean a household with a mortgage should not refinance when interest rates fall. A household would be foolish not to do so if the present value of all the interest it can save is greater than the cost of refinancing. In practice, this usually means that mortgage rates do not need to fall very much to make refinancing worthwhile.

Choosing how to refinance is tricky, however. A lower inflation rate can push down mortgage rates but it also lowers future growth of wage income and Social Security. Lower interest rates increase duration, which means that more of the real burden of repaying the mortgage automatically is shifted into the future.

Unless a household really needs the extra cash today, cash-out refinancing may not be the best choice. Even though the monthly payment may remain the same, the increased mortgage principal amount represents a greater debt burden that must be repaid in the future.

William Emmons is a senior economist at the Federal Reserve Bank of St. Louis.

ENDNOTES

1 Data are from the Mortgage Bankers Association.

2 This mortgage requires you to make monthly payments of $733.76 each month for 30 years, with an option to refinance without penalty at any time. Transaction costs to refinance a mortgage may amount to a few thousand dollars. The monthly payments contain a small amount of principal repayment, or amortization, at the beginning and a progressively larger principal repayment as time passes. The remainder of each monthly payment represents interest on the remaining principal outstanding.

3 We assume this household does not itemize deductions on its income-tax return; so, the deductibility of mortgage interest is irrelevant to its financial decisions. Less than 28 percent of taxpayers claimed the mortgage interest deduction in 2001 (Internal Revenue Service, 2005), and most of those that do are in relatively high marginal-tax-rate brackets because they have above-median incomes ($42,400 in 2002; U.S. Department of Commerce, 2002).

4 The household could invest all of the cash-out proceeds to supplement the income needed to meet future mortgage payments, but this strategy is risky unless the investment is guaranteed. Unfortunately, it is impossible to earn a guaranteed return as high as the interest rate on the borrowed money. However, paying off other debt that bears an interest rate higher than 6 percent would be an efficient and risk-free use of cash-out refinancing proceeds.

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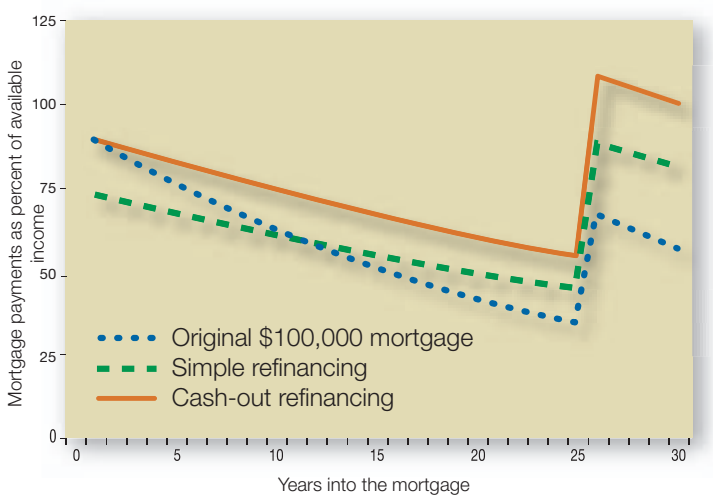
Repayment Burden of Three Mortgages



"Before Refinancing" Assumptions:

- Expected inflation rate is 4 percent.
- Available income begins at $10,000 in year 1, increasing by 4 percent annually through year 25.
- Available income falls by half at retirement beginning in year 26, then increases at 4 percent annually through year 30.
- Original mortgage is for $100,000 at 8 percent for 30 years.

"After Refinancing" Assumptions:

- Expected inflation falls to 2 percent.
- Available income begins at $10,000 in year 1, increasing by 2 percent annually through year 25.
- Available income falls by half at retirement beginning in year 26, then increases at 2 percent annually through year 30.
- Simple refinancing results in a $100,000 mortgage at 6 percent for 30 years.
- Cash-out refinancing results in a $122,385.77 mortgage at 6 percent for 30 years.

The Economics of Smoking Bans:

PEERING THROUGH THE HAZE

BY MICHAEL R. PAKKO

Across the nation, communities are debating the efficacy of banning smoking in all public places, including private establishments. The policy issues involved are multidimensional, but the public debate often boils down to public health vs. economic impact. Discerning the economic impact can be difficult, however. Widespread smoking bans are a recent phenomenon; so, data are limited. Many smoking bans are riddled with exemptions or were passed in communities where nonsmoking establishments were already becoming the norm. A case study of Maryville, Mo., serves to illustrate some of the difficulties in gauging the economic impact of smoking bans—demonstrating that the issues remain hazy.

Aggregate and Distributional Effects

In evaluating the economic effects of smoking bans, the focus of policy-makers is often directed toward considering the overall effects of smoking bans on business in a community.[1] The consensus view of these studies is that no definitive impact can be ascertained. Economic activity in some communities appears to decrease; others seem to experience an increase over time. However, the statistical significance of these findings is often weak or lacking.

There are a number of reasons that this finding is not very surprising.

First, these studies are necessarily conducted with limited data. Sample periods are short, and detailed local data are often scarce. Accordingly, it can be difficult to control for the many possible factors that might be relevant to local economic conditions without sacrificing some ability to adequately test hypotheses. On the other hand, the possibility that important variables may have been omitted from an analysis implies that the statistical significance of its findings is often fragile.

More important, basic consumer theory suggests a fundamental reason that the overall effects of smoking bans might be limited: When an option is denied to consumers, they tend to substitute other similar products and services. A smoking ban might lead both smokers and nonsmokers to reallocate their expenditures—perhaps skewing spending patterns temporarily—but with the ultimate effect of leaving total spending on broad categories such as "entertainment" unchanged.

However, the lack of a measurable overall effect can mask some important features of the distribution of gains and losses among specific businesses or types of businesses. The pattern of these effects is not surprising. Proprietors and customers of establishments like bars, bingo halls, bowling alleys and casinos tend to express concerns about business losses.[2] Family-oriented restaurants, chain outlets, fast-food restaurants and take-out establishments, on the other hand, are less likely to be affected. Survey results reveal that bar owners perceive smoking bans to be a particularly significant threat to their business. In one nationwide survey of restaurant and bar owners, 39 percent of restaurant owners expected revenue losses after a smoking ban, while 83 percent of bar owners expected losses.[3]

Nevertheless, as public attitudes evolve, many businesses have found it advantageous to offer smoke-free environments for their customers and employees. Each proprietor makes careful business decisions about how to best fill a niche in the market and make a profit in the process. A government regulation that tries to force the market toward a new equilibrium, however, can impose transitional costs and/or long-term hardship for many individual businesses.

Political Economy

Establishments that cater to a largely smoking clientele are likely to oppose a smoking ban, and those that explicitly cater to a nonsmoking customer base might also be driven to oppose it—to protect their own market niche. Businesses in communities with a relatively high proportion of smokers relative to nonsmokers will be opposed to regional smoking bans, as will businesses and municipalities bordering communities that have not adopted a smoking ban. Many establishments that would be largely unaffected might be inclined to stay on the sidelines of the debate.

Tavern and bar owners have been among the most vociferous opponents of 100 percent smoking bans. As a result, many ordinances include exemptions for stand-alone bars or other establishments with a high proportion of revenue from alcohol sales. In some ordinances, exemptions also exist for casinos, bowling alleys, bingo halls, fraternal organizations, etc.

These political compromises arise in response to the economic pressures that drive particular businesses to be vocal in opposition to smoking-ban ordinances. Those who are most threatened by a public policy proposal tend to be more adamant in their opposition and are more likely to have their interests accommodated in final legislation. Exemptions represent something of a second-best outcome (achieved through the political process rather than through market mechanisms) for mitigating the most economically disruptive effects of a proposed public policy.

The prevalence of such exemptions in existing smoking ordinances raises two important points: First, exemptions reflect underlying economic pressures that provide indirect evidence of the potential adverse effects of comprehensive smoking-ban proposals. Second, since many existing smoking ordinances have included exemptions, data from case studies cannot necessarily be extrapolated to evaluate the effects of more comprehensive or restrictive proposals in other communities.

The Maryville Experience

Many of these principles are illustrated by the case of Maryville, Mo. On June 9, 2003, Maryville implemented an ordinance that prohibited smoking in restaurants. A study of the first year of the smoking ban, recently released by the Missouri Department of Health and Senior Services (DHSS), presents data on taxable sales receipts for Maryville bars and restaurants before and after the implementation of the ordinance.

The authors of the study state at the outset that their findings are consistent with the consensus view of no significant impact. But after noting that taxable sales at eating and drinking establishments in Maryville grew sharply after the imposition of a Clean Indoor Air Law, the authors go on to speculate that "the ordinance may have been beneficial for this area of business."

As seen in the figure, bar and restaurants sales in Maryville clearly rose following the smoking ban.[4] But why?

An investigation of local business developments in Maryville turned up one important event that is relevant to the analysis: the opening of a new Applebee's in Maryville in February 2004. According to local news reports, the Applebee's franchise has been a phenomenal success.[5] Maryville is a fairly small town, with a resident population of 11,000. It has only 37 restaurants and bars. It is quite conceivable that the opening of a new, popular restaurant chain outlet would have a significant independent effect on the Maryville data.

As shown in the figure, this factor clearly accounts for the surge in restaurant and bar sales in the first two quarters of 2004. After adjustment for the Applebee's effect, sales are not different from the long-term trend.[6]

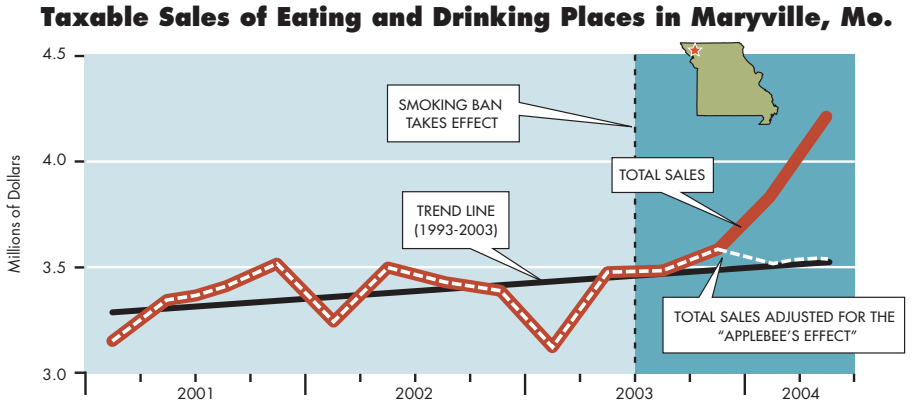
Exemptions to the Maryville ordinance are also a factor to consider. The smoking ban exempts seven establishments by name and also excludes other businesses that receive more than 60 percent of their revenue from alcohol sales. The specific exemptions included in the ordinance suggest that it represented a political compromise that accommodated concerns raised by local business owners.

In the end, the ordinance in Maryville affected very few businesses at all. According to the Missouri Tobacco Use Prevention Program, 70 percent of the restaurants in Maryville were smoke-free well before the ban. Assuming that figure excludes bars that were exempted, the ordinance affected only a handful of restaurants. It would be very surprising to find that the smoking ban had any significant effect on total bar and restaurant sales in Maryville.

This raises one final issue to consider: Existing studies necessarily focus on communities that are among the first to implement smoke-free ordinances. Maryville's ordinance is cited as "the first such ordinance in Missouri to completely prohibit smoking in all restaurants." Such communities are more likely to have a proportionately smaller smoking population and/or fewer businesses that would be adversely affected by a smoking ban. This introduces a "sample-selection bias" that limits the general applicability of existing case studies.

Michael R. Pakko is a senior economist at the Federal Reserve Bank of St. Louis.

Taxable Sales of Eating and Drinking Places in Maryville, Mo.



The raw data show an increase in sales at eating and drinking places following the introduction of the Maryville smoking ban in 2003. After accounting for the effect of a new Applebee's, however, sales are no different from the long-term trend.

ENDNOTES

1 For a review of this literature that emphasizes the public health perspective, see Scollo et al (2003).

2 Indeed, one recent paper found that a smoking ban in Ottawa, Ontario, reduced sales at bars and pubs by more than 20 percent (Evans, 2005). Another found that a ban in Delaware reduced revenues at racetrack casinos by more than 12 percent (Pakko, 2005b).

3 Dunham and Marlow (2000).

4 Note that the data are quarterly, covering six years—a total of only 26 observations. In a simple regression including a dummy variable for the Maryville smoking ban, the effect of the ban is found to be statistically significant. When data on local and regional economic activity are included in the analysis, however, the positive effect of the smoking ban remains but its statistical significance is eroded. The effect of the smoking ban is not statistically significant in regressions that include bar and restaurant sales for Missouri or in regressions that include the unemployment rate for Nodaway County (Pakko, 2005a).

5 In a report on the restaurant's one-year anniversary, the *Maryville Daily Forum* quotes the vice president of operations for Applebee's parent company as saying that "Maryville has been one of the busiest stores in the country since its opening. We call it our crown jewel." (Goff, 2005).

6 The adjustment is based on a regression equation reported in Pakko (2005a). The addition of other economic variables does not alter the finding that the Applebee's effect dominates the smoking-ban effect for explaining the surge in Maryville bar and restaurant sales in the first half of 2004.

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DOING IT BY THE BOOK

Oxford Capitalizes on Its Literary Past and Present

By Stephen Greene

As Abraham Lincoln is to Springfield, Ill., as Mark Twain is to Hannibal, Mo., William Faulkner is to Oxford, Miss.

The man some call America's greatest novelist closely identified himself and several of his most famous works with his "postage stamp of native soil." More than four decades after his death, Oxford continues to repay Faulkner for his admiration and loyalty by embracing him and, in a sense, defining itself by his legacy.

About 20,000 visitors each year stroll through Rowan Oak, the estate of Faulkner. Last year, the 161-year-old home reopened to the public following a two-year, $1.3 million renovation. It's estimated that 80 percent of visitors to Rowan Oak come from out of town and spend about $1.6 million here annually.

For Oxford, the renovation is "another arrow in our quiver," says one local official.

"It's unusual for a writer of Faulkner's caliber to live in his hometown and also to write about it," says Bill Griffith, curator of Rowan Oak, where Faulkner wrote some of his most heralded novels, including *As I Lay Dying* and *Absalom, Absalom!*

Thanks to its solid literary foundation, the presence of the University of Mississippi (a.k.a. Ole Miss) and a thriving, well-preserved town square, Oxford attracts visitors and new residents. They are not only chasing intellectual pursuits but are looking for a place that embodies Old South nostalgia. Their interest in Oxford has resulted in a 72-percent jump in assessed property values in all of Lafayette County since 1999, according to the local economic development foundation. That's the highest increase in the state.

Keeping It Low Key

It's a little ironic, Griffith admits, that Faulkner's home draws so many visitors. "One thing Faulkner treasured more than anything was his privacy," Griffith says. "I don't think he'd approve of us opening up his house, showing people around and telling stories. However, we keep it as low key as we can. We do not sell anything, and we never will sell anything here at his house."

Out of respect for the man who, according to legend, dug potholes in his driveway to keep away gawkers, no road signs direct people to Rowan Oak, which is nestled off a winding side road just southeast of the Ole Miss main campus. The university bought the estate from Faulkner's daughter in 1973. With the renovation complete, Griffith can turn more of his attention to raising money for a Faulkner museum, which would be housed in a new $12 million expansion of the school's museum complex.

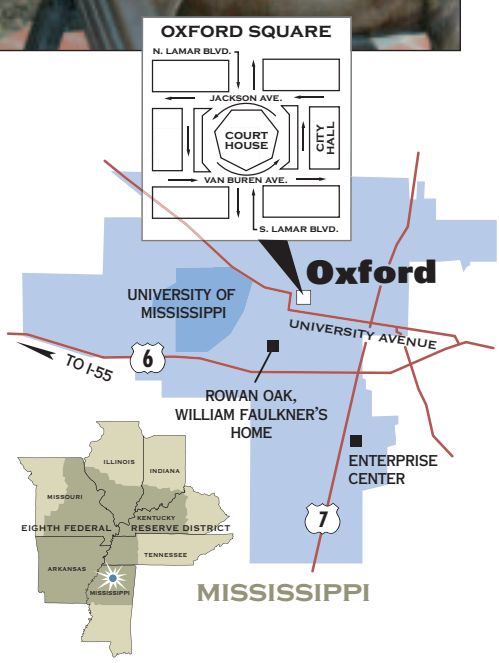
Not far from Rowan Oak's serenity is the town square—the hub of Oxford's sound and fury. Around the historic courthouse are coffee shops, eclectic restaurants, an art gallery, an old-fashioned department store, specialty boutiques and a bookstore called Square Books, which was instrumental in the square's renaissance when Richard Howorth opened it 25 years ago.

Square Books is a prime reason for the square's heavy traffic.

Howorth still owns Square Books today, but spends most of his time on his other job—mayor of Oxford. He leaves the day-to-day operations of the business to general manager Lyn Roberts.

"Richard was really the first person to take one of the buildings in the square and renovate it," explains Roberts. "He added some vibrancy

A statue of William Faulkner sits outside Oxford's City Hall.



Oxford, Miss.

BY THE NUMBERS

Population .....Oxford: 12,761 (2003)
Lafayette County: 40,745 (2004)

Labor Force.....Lafayette County: 19,940 (Feb. 2005)

Unemployment Rate .....Lafayette County: 4.8 (Feb. 2005)

Per Capita Personal Income.....Lafayette County: $23,927 (2003)

Top Five Employers

University of Mississippi	2,500
North Mississippi Regional Center	1,100
Baptist Memorial Hospital	1,000
Whirlpool Corp.	509
City of Oxford	264

Ole Miss has been an Oxford institution since the university opened its doors in 1848.

to the area. I don't think Square Books can take 100 percent of the credit, but it has helped make the square a destination for people."

Recently, the bookstore opened two spinoffs in the square: Square Books Jr., selling children's books, and Off Square Books, which sells discounted books. The latter is where the company hosts most of its 150 events each year, including numerous book signings. Ole Miss Law School graduate John Grisham, who owns a home in Oxford, appears at Square Books when he releases a new book.

Because of the square's success, a sort of economic "man bites dog" story has emerged here. The Oxford Mall, which opened on the west side of town in the early 1980s, now sits mostly vacant. Malls and big box stores have wounded most main streets, but the square remains king in Oxford.

"The square is what drives it all," says Hugh Stump, executive director of the Oxford Convention and Visitors Bureau. "You'd be hard-pressed to find 10 towns in the country that have as bustling a square for the size of the town."

And no incentives from taxpayers were ever offered to attract businesses to the square, according to the economic development foundation.

The mall isn't without hope, however. On one side, a movie theater complex is under construction; it will connect to the few stores that remain. The other side of the property has been bought by the university, which plans to base its Innovation and Outreach Center there.

The state's flagship university, Ole Miss has a weighty presence in Oxford. It's not only the largest employer, but its student population is about equal to the number of permanent residents in the city. Besides the mall project, the university is planning other major construction: a new law school building and an expansion of the journalism department.

Graduation isn't the end of some students' involvement with Oxford. Well-to-do Ole Miss alumni are buying houses or condos here, even though they aren't full-time residents. As a result, home prices are jumping. Homes close to the square go on the market for as high as $400,000. This is forcing full-time residents to move to outlying parts of the county to find affordable real estate. One telling statistic is that only one of Oxford's nearly 60 police officers lives within the city limits.

"That shows the disparity in the real estate market when people who provide city services can't even live in the city," Stump says.

Adds Max Hipp, executive director of the Oxford-Lafayette County Economic Development Foundation: "Affordable housing is a problem. It's very hard for a young couple to start out and make a go of it inside the city limits. Homes are very expensive."

It's a big-town side effect that is challenging this small town community. Roberts calls Oxford a "crossroads" community: "It is still a small town, but because of the university and what our store offers, people have access to a lot of things that are cosmopolitan."

Stephen Greene is a senior editor at the Federal Reserve Bank of St. Louis.

TURNING THE PAGE: OXFORD TRIES TO SHIFT FOCUS TO HIGH-TECH JOBS

Beyond its literary side, Oxford is trying to hold on to its manufacturing sector and make a name for itself in the sciences.

Surrounding Lafayette County lost 800 manufacturing jobs in 2002 and 2003 when Georgia Pacific and Toro-Lawnboy moved jobs offshore. Max Hipp of the local economic development foundation says that the county has recovered most of these losses through expansions at the Whirlpool and Caterpillar plants.

To foster the comeback, the county granted financial incentives and crafted favorable lease arrangements to companies looking to stay and expand. The Mississippi Development Authority also has provided incentives, financial assistance and job training. With help from the development authority, the county was able to buy the 200,000-square-foot former Emerson Electric building in the Lafayette County Industrial Park. The building will be leased to Winchester Ammunition, which plans to bring 150 jobs and a $3.5 million payroll to the area.

Hipp realizes that future business growth probably will emerge from new technologies.

"Like so many other communities, we would like to be able to focus on high tech," he says. "We know that there is a shift from basic manufacturing."

Hipp would like to see more companies like BioDerm Sciences Inc. come to Oxford. A producer of wound-healing creams and sprays, BioDerm recently set up shop in the Oxford Enterprise Center, a city-owned business incubator. BioDerm President Greg Perkins expects the company by 2007 to employ between 50 and 60 technical personnel, earning an average salary of $60,000.

Before choosing Oxford, the company had a relationship with researchers at the university's School of Pharmacy and at the university's National Center for Natural Products Research.

The local economy can always benefit from leveraging the research strengths of the university, says Alice Clark, vice chancellor of Research and Sponsored Programs at Ole Miss. "We've long held that research universities can be an economic engine, and (BioDerm) is an example of how that can happen," Clark says.

LOOKING TO RETIRE? OXFORD WANTS YOU

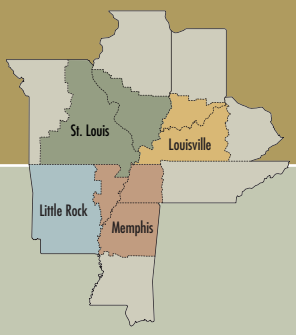
About 50 articles and web sites since 1992 have mentioned Oxford as a good place to retire. This pleases Christy Knapp, who heads the Oxford-Lafayette County Retiree Attraction Program.

"People who retire to Oxford come because of the cultural amenities, especially what the university offers," Knapp says. "They want a smaller, quaint town where there are a lot of things to do."

Knapp says she markets to the "young old," or people 55 to 65. When residents who make Oxford their primary residence turn 65, however, they become eligible for some attractive benefits, including:

- four hours of free classes per semester at Ole Miss;
- a property tax exemption for the first $75,000 of their home's true value; and
- no state income tax on certified retirement income, e.g., Social Security, pensions, 401(k).

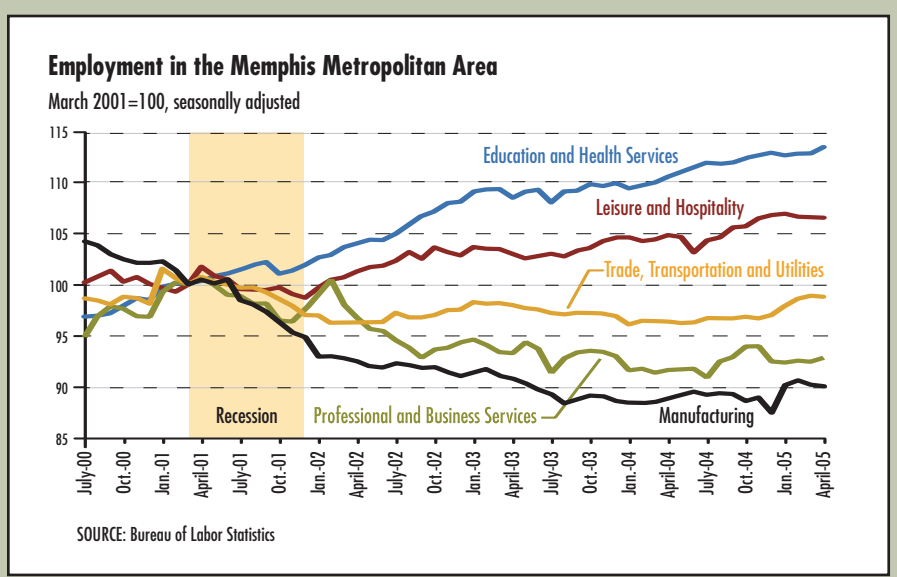
What Oxford lacks are retirement communities where seniors can enjoy a variety of services under one roof. Knapp says she has begun to have conversations with interested developers.



Health-Care Industry Pulls Memphis Out of Job Slump

By Rubén Hernández-Murillo and Deborah Roisman

During the 2001 recession, payroll employment in the Memphis metropolitan area declined as it did in other parts of the country.[1] While some sectors were deeply affected (namely, manufacturing and professional and business services), others suffered little if at all. A case in point is the leisure and hospitality sector, which declined only slightly during the recession and has since expanded considerably. The education and health services sector took center stage by adding jobs during the recession and continuing on a strong expansionary path after its conclusion.



Total nonfarm payroll employment in Memphis had been growing steadily prior to March 2001, the official date for the onset of the national recession. Employment grew by 12.4 percent between January 1995 and March 2001. Between March 2001 and November 2001, the official end of the recession, Memphis lost 8,700 jobs, or about 1.4 percent. Just as in the rest of the country, employment continued to decline after the recession was officially over, but by June 2002, Memphis employment was on its way to recovery. As of April 2005, Memphis employment exceeded its prerecession level by about 2,100 jobs.

Highlights and Lowlights

The brightest spot in the Memphis economy, both during and since the recession, has been the education and health services sector. From March 2001 to April 2005, employment in this sector grew by 13.3 percent. The driving force has been the health services component, which contributed 10.8 percentage points to this increase. Moreover, the expansion in the health sector represents about 59 percent of the net increase of 10,800 nonfarm jobs in Memphis since November 2001.

Manufacturing and professional and business services were the two sectors hit the hardest during the recession. Manufacturing represents approximately 10 percent of total nonfarm employment, and the professional and business services sector represents about 11 percent.

During the recession, manufacturing employment in the Memphis area fell by 4.7 percent and continued to decline long after the national recession was over: Between March 2001 and April 2005, employment in this sector fell by a total of 10 percent. At the national level, manufacturing employment fell by 15.5 percent over the same period.

Professional and business services did not fare much better. Although it was the fastest-growing sector in Memphis between January 1995 and March 2001, employment in this sector fell by 3.6 percent during the recession. It continued to drop afterward. Memphis' experience contrasted with that of the rest of the nation. In the United States as a whole, professional and business services employment has increased since the end of the recession.

Trade, transportation and utilities is the leading sector in the Memphis economy, corresponding to about 28 percent of total nonfarm employment. This sector also hit a bump during the 2001 recession: The sector lost 3,800 jobs, a decline of 2.2 percent. Of those jobs, only 41 percent had been recovered by April 2005.

The leisure and hospitality sector, which represents about 10 percent of total nonfarm employment, was also adversely affected by the recession, declining by about 1 percent. The number of jobs in this sector, however, increased by 7.5 percent from November 2001 to April 2005, which in part owes to the thriving casino and hotel industry, particularly in Tunica County, Miss.

Conclusion

Overall, the Memphis area labor market has managed to weather the 2001 recession reasonably well despite the losses suffered by the transportation, manufacturing, and professional and business services sectors. Credit goes to the remarkable performance of the health-care industry, which continues to create jobs, and to the steady growth experienced by the leisure and hospitality sector since the end of the recession.

Rubén Hernández-Murillo is a senior economist and Deborah Roisman is a senior research associate, both at the Federal Reserve Bank of St. Louis.

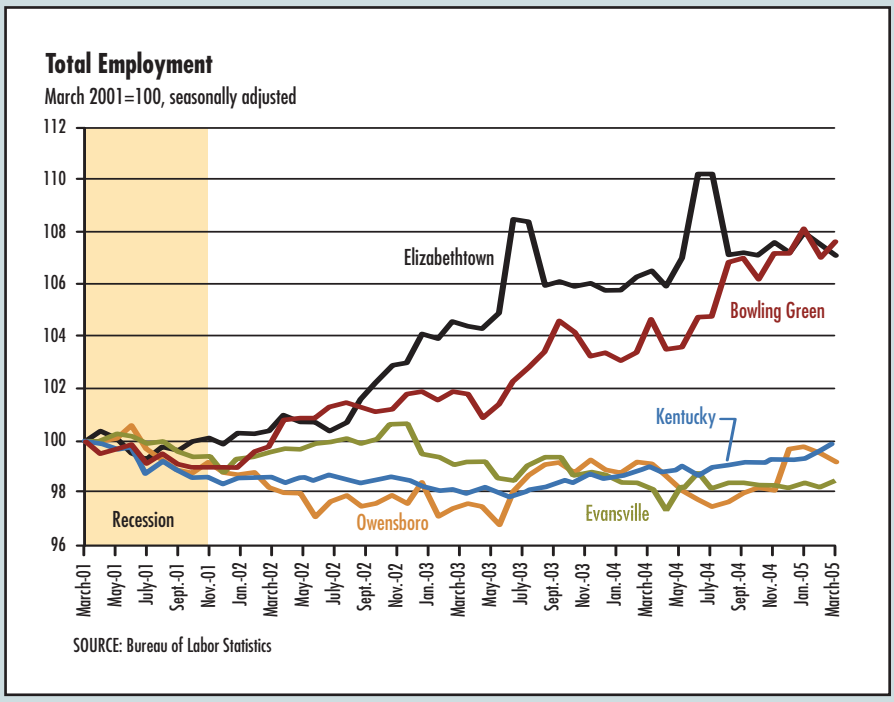
ENDNOTE

1 The Memphis metropolitan area consists of Shelby County, Tenn., where the city of Memphis is located, as well as seven additional counties: Tipton and Fayette counties in Tennessee; DeSoto, Marshall, Tate and Tunica counties in northwestern Mississippi; and Crittenden County in eastern Arkansas.

Neighboring Cities Show Job Trends That Are Far Apart

By Thomas A. Garrett and Lesli S. Ott

Employment trends in the metropolitan statistical areas (MSAs) of Bowling Green, Elizabethtown, Owensboro and Evansville have been far from uniform. Although employment in all four neighboring MSAs fell during the recent recession, which began in March 2001 and ended the following November, only two have seen a significant recovery since then. As seen in the chart, Bowling Green and Elizabethtown have greatly outperformed Kentucky as a whole in terms of employment growth since the end of the recession. But Owensboro and Evansville have been more similar to the state of Kentucky as a whole.



Bowling Green's employment decreased by 1 percent during the recession, then rebounded to its prerecession level by March 2002. Strong growth since that time has resulted in April 2005 employment that was 7.6 percent higher than it was in March 2001.

Bowling Green's recovery was bolstered by postrecession increases in employment in the professional and business services sector and in the leisure and hospitality sector, which rose by 34 percent and 22 percent, respectively, from November 2001 through April 2005. Natural resources, mining and construction employment increased by 7 percent from April 2004 to April 2005. Job growth in the manufacturing sector has been showing improvement since late 2003.

After experiencing a relatively mild recession, **Elizabethtown** has seen nearly continuous job growth. After falling 0.7 percent between March 2001 and July 2001, employment returned to its prerecession level by October 2001. As of April 2005, employment was 7 percent higher than in March 2001.

Elizabethtown actually experienced an increase in employment during the recession. Between March 2001 and November 2001, professional and business services employment increased by nearly 15 percent, while natural resources, mining and construction employment increased by more than 10 percent. The largest employment decline over the same period was a 4 percent decrease in manufacturing. April 2005 employment numbers for all major sectors except manufacturing were above November 2001 levels. Professional and business employment in April 2005 was 45 percent higher than in November 2001. Over this same period, education and health services employment rose by 13 percent, and employment in trade, transportation and utilities grew by 8 percent.

Employment in **Owensboro** increased by 0.3 percent between March 2001 and June 2001 but decreased by 1.4 percent between June 2001 and the end of the recession. Employment continued to fall through June 2003, reaching a level that was 3 percent below March 2001 employment. Employment began to trend upward in July 2003, but employment in April 2005 was still 1 percent lower than prerecession levels.

Owensboro had its largest employment losses in the manufacturing sector and in the trade, transportation and utilities sector, where losses were 4.5 percent and 2.5 percent, respectively, between March and November 2001. Employment in these sectors continued to decline even after the recession. In April 2005, total employment in Owensboro was near its prerecession level due to job growth in financial activities, education and health services, leisure and hospitality, and government.

The **Evansville** MSA experienced a 0.6 percent decrease in employment during the recession but recovered these losses by July 2002. Since that time, however, employment has trended downward; in April 2005, employment was nearly 2 percent below its prerecession level.

The sector that experienced the largest percent decrease in jobs during the recession was financial services (15 percent). Unlike the other MSAs, there has been very little increase in this or other employment sectors since November 2001. Between November 2001 and April 2005, employment in construction fell by 13 percent, professional and business services employment decreased by 7 percent, and employment in the information and in the financial services sectors fell by 9 and 8 percent, respectively. However, between November 2001 and April 2005, employment in education and health services increased by nearly 1 percent, and leisure and hospitality employment increased by 5 percent.

Thomas A. Garrett is a research officer and Lesli S. Ott is a research analyst, both at the Federal Reserve Bank of St. Louis.

A Patchwork Economy?

By Kevin L. Kliesen

Real GDP rose at only a 3.1 percent annual rate during the first quarter, according to the advance estimate, which was released April 28. This growth was about 0.75 percentage points less than both the April *Blue Chip Consensus* forecast and the economy's growth rate in the fourth quarter of 2004, prompting concern in some quarters that the economy had fallen into a "soft patch." Especially worrisome was that the growth of real final sales (a measure of demand for domestically produced goods and services) slowed even more, by 1.5 percentage points to 1.9 percent—its slowest pace in more than two years. This meant that the remainder of first-quarter growth was due to an accumulation of newly produced goods that went unsold (business inventories), a development that spurred most forecasters to trim their estimates of second-quarter growth.

Soft Patch?

After the advance GDP report was released, a few key reports suggested that the Bureau of Economic Analysis had underestimated the strength of economic conditions in the first quarter. Thus, by the time the revised GDP estimate was published May 26, first-quarter real GDP growth was revised upward to 3.5 percent, while growth of real final sales was boosted to 2.7 percent.

Meanwhile, the April data that began to trickle in suggested that fears of a soft patch were overblown. First, nonfarm payroll employment surged by 274,000, about 100,000 more than expectations. Second, retail sales, domestic auto sales, housing starts, existing home sales and factory orders for manufactured durable goods all rose quite strongly in April. Third, crude oil prices had retreated modestly from their peak in early April, a development that helped push stock prices up a little more than 6 percent between mid-April and early June. Finally, the Federal Reserve's Senior Loan Officer Opinion Survey showed continued strong demand for commercial and industrial loans by both large and small firms for the three months ending in April.

Tempering the improved outlook in April was a modest decline in industrial production. Some of this softness spread elsewhere in May, according to some of the regional manufacturing surveys. In addition, payroll employment rose by only 78,000, about 100,000 less than expected, and car and truck sales fell about 4.5 percent. Further adding to the uncertainty, oil prices rebounded, pushing past $50 per barrel in early June.

The Inflation Outlook is . . .? Exactly!

Slightly weaker growth in the first quarter was accompanied by a pick-up in inflation. The price index that is preferred by the Federal Open Market Committee rose at about a 2.25 percent rate in the first quarter.[1] That's the largest increase in a little more than three years. As the May FOMC minutes revealed, Fed policy-makers expressed concern that higher oil prices had worked their way into core inflation and perhaps were responsible for the "discernable upcreep" in some measures of inflation expectations in recent months. Still, the FOMC was confident that inflation would moderate over the remainder of the year and into 2006.

What makes policy-makers so sanguine about the inflation outlook? First, inflation-sensitive long-term interest rates have declined by about 75 basis points since their March peak of just over 4.6 percent. Second, market-based measures of inflation expectations declined a bit further following the May 3, 2005, FOMC meeting. Third, labor productivity rose by more than expected in the first quarter, and the employment cost index (a measure of wage inflation) rose by less than expected. Fourth, the core CPI rose much less than expected in April (0.6 percent annualized) after rising at about a 3.25 percent rate over the first three months of the year. Fifth, the trade-weighted value of the U.S. dollar (broad index) rose to a more-than-seven-month high for the week ending May 27; if sustained, a stronger dollar should moderate recent gains in the prices of imports other than petroleum.

Although some analysts attribute falling long-term interest rates to a concern that higher oil prices and a less accommodative monetary policy are sapping the strength of the economy, forecasts for economic conditions over the second half of this year and into next year remain fairly upbeat and are mostly unchanged since the first of this year. In view of this, the FOMC seems determined to prevent a further rise in core inflation or inflation expectations by maintaining its regimen of a "measured pace" of interest rate increases.

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ENDNOTE

1 The FOMC's preferred index is the personal consumption expenditures (PCE) price index that excludes food and energy prices. It is from the national income and product accounts (NIPAs).

National and District Data

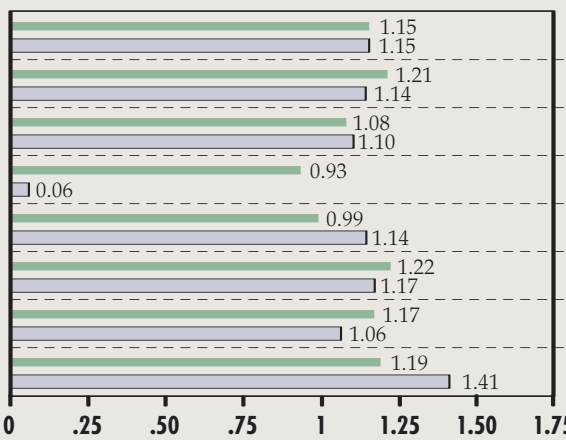
SELECTED INDICATORS OF THE NATIONAL ECONOMY AND BANKING, AGRICULTURAL AND BUSINESS CONDITIONS IN THE EIGHTH FEDERAL RESERVE DISTRICT

Commercial Bank Performance Ratios

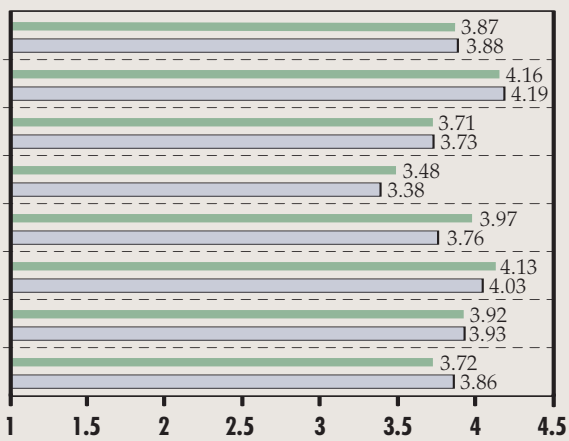
FIRST QUARTER 2005

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*	1.37	1.22	1.16	1.35	1.25	1.41	1.33	1.39
Net Interest Margin*	3.56	4.27	4.27	4.18	4.23	3.82	4.02	3.37
Nonperforming Loan Ratio	0.80	0.73	0.80	0.63	0.72	0.66	0.69	0.85
Loan Loss Reserve Ratio	1.44	1.30	1.34	1.30	1.32	1.41	1.37	1.47

Return on Average Assets*

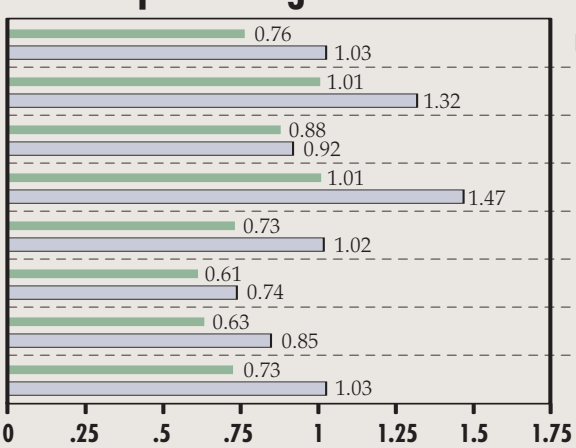


Net Interest Margin*

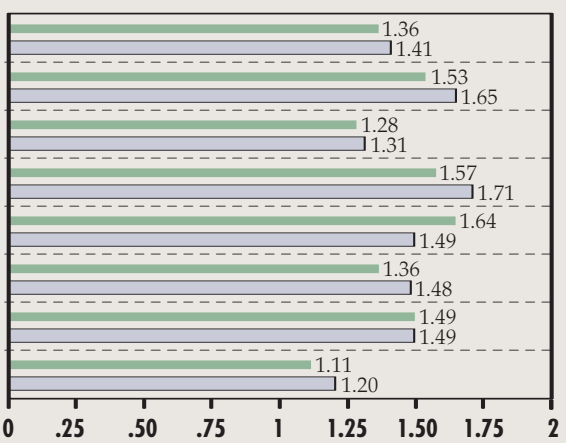


Eighth District
Arkansas
Illinois
Indiana
Kentucky
Mississippi
Missouri
Tennessee

Nonperforming Loan Ratio



Loan Loss Reserve Ratio



First Quarter 2005 First Quarter 2004

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.

Regional Economic Indicators

Nonfarm Employment Growth*

YEAR-OVER-YEAR PERCENT CHANGE

	FIRST QUARTER 2005								
	UNITED STATES	EIGHTH DISTRICT	ARKANSAS	ILLINOIS	INDIANA	KENTUCKY	MISSISSIPPI	MISSOURI	TENNESSEE
Total Nonagricultural	1.7%	1.2%	1.3%	0.6%	2.2%	1.1%	1.2%	1.1%	1.2%
Natural Resources/Mining	6.0	1.8	4.3	–0.4	0.0	3.9	–1.9	4.4	0.0
Construction	3.9	2.5	3.6	–0.3	6.7	4.5	1.0	2.7	2.0
Manufacturing	0.2	0.4	–0.1	–0.2	1.2	0.4	–0.2	0.7	0.4
Trade/Transportation/Utilities	1.3	0.8	0.6	0.2	1.3	0.6	1.0	1.1	1.2
Information	–0.5	–2.8	–0.8	–3.8	–0.8	–3.0	–3.2	–2.4	–3.1
Financial Activities	2.1	0.8	1.9	0.1	1.0	–2.2	1.2	3.1	1.6
Professional & Business Services	3.7	2.8	1.8	2.8	5.0	4.0	4.5	–0.3	3.6
Education & Health Services	2.3	1.7	2.5	0.8	2.4	1.3	2.5	2.1	2.1
Leisure & Hospitality	2.2	3.1	2.7	3.5	4.1	3.5	2.0	2.1	2.6
Other Services	0.8	0.9	0.5	–0.1	3.3	1.8	–1.2	1.5	0.4
Government	0.8	0.0	1.2	–0.5	0.8	–0.3	1.2	0.1	–1.0

*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.

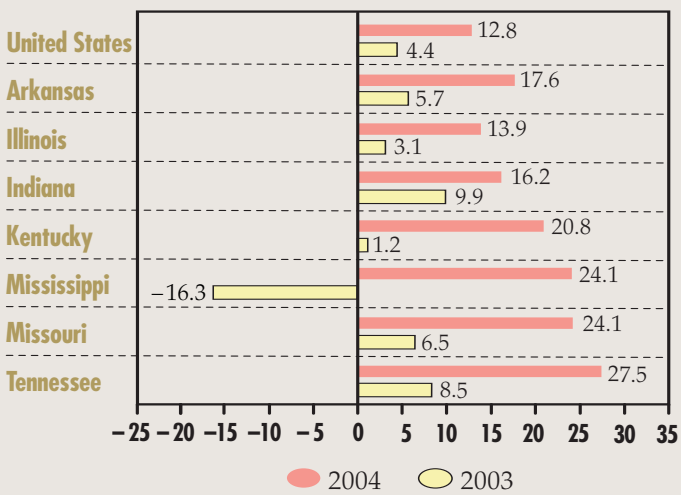
Unemployment Rates

PERCENT

	I/2005	IV/2004	I/2004
United States	5.3%	5.4%	5.7%
Arkansas	5.4	5.6	5.7
Illinois	5.7	6.1	6.4
Indiana	5.6	5.2	5.3
Kentucky	5.2	4.7	5.7
Mississippi	7.0	6.8	5.4
Missouri	5.8	5.8	5.4
Tennessee	5.9	5.3	5.4

Exports

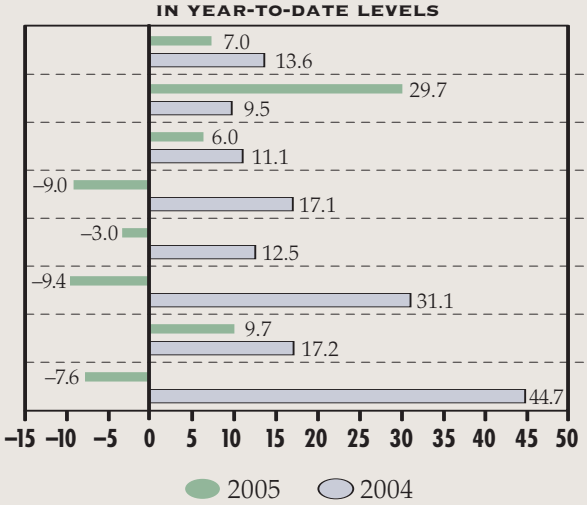
YEAR-OVER-YEAR PERCENT CHANGE



FIRST QUARTER

Housing Permits

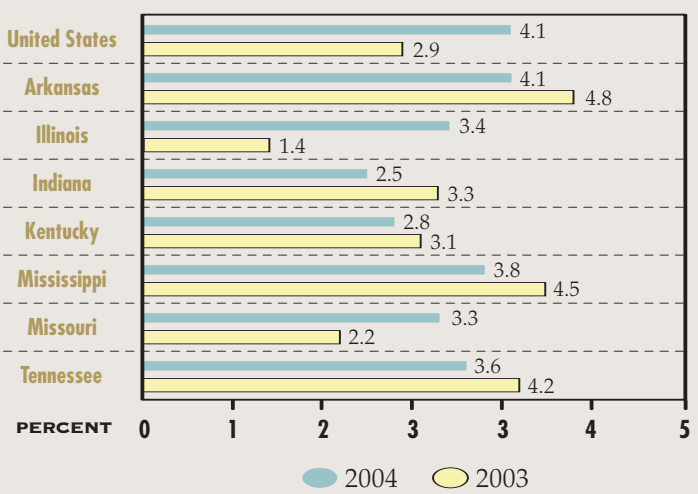
YEAR-OVER-YEAR PERCENT CHANGE IN YEAR-TO-DATE LEVELS



FOURTH QUARTER

Real Personal Income†

YEAR-OVER-YEAR PERCENT CHANGE

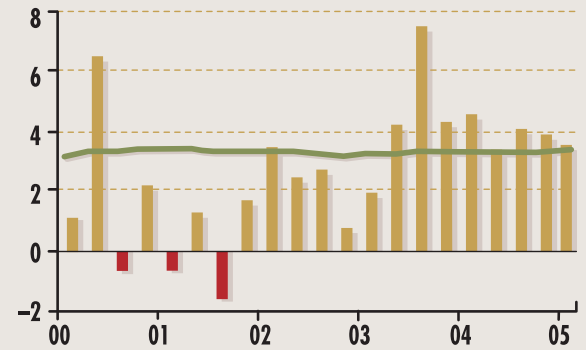


†NOTE: Real personal income is personal income divided by the PCE chained price index.

Major Macroeconomic Indicators

Real GDP Growth

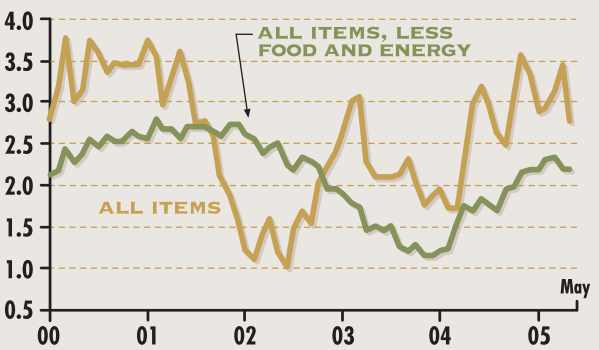
PERCENT



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

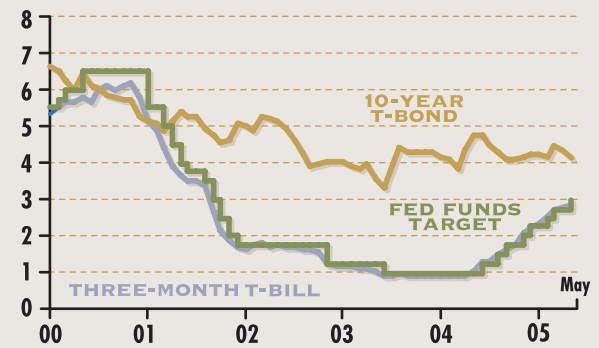
Civilian Unemployment Rate

PERCENT

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

Interest Rates

PERCENT

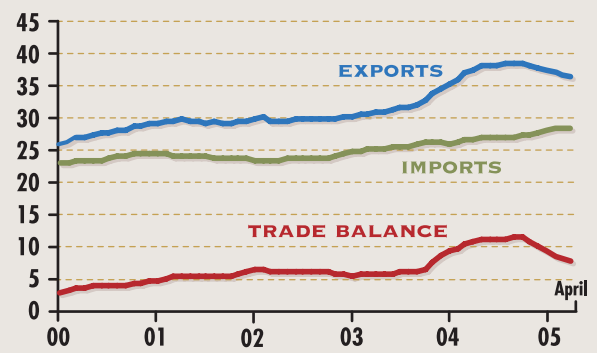


NOTE: Except for the fed funds target, which is end-of-period, data are monthly averages of daily data.

Farm Sector Indicators

U.S. Agricultural Trade

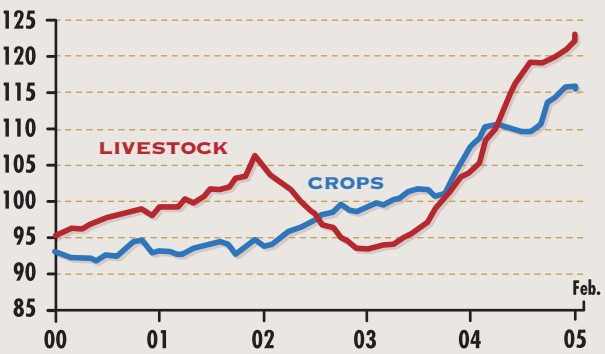
BILLIONS OF DOLLARS



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