50th Anniversary
1953-2003

AZB
ARIZONA BUSINESS

VOLUME 50 • NUMBER 1
JANUARY 2003

ARIZONA STATE UNIVERSITY'S MONTHLY NEWSLETTER ON THE ARIZONA ECONOMY

Arizona's tax burden and government spending are low

Public finance in Arizona

Arizona's state government budget deficit projected for the current and succeeding fiscal years is among the largest in the country as a percentage of the general fund. While the deficit results in part from the weak economy, tax cuts much greater than spending reductions between fiscal years 1993 and 2002 largely are responsible. This article is a summary of the report *Public Finance in Arizona*, available from the Center for Business Research's Web site (www.cob.asu.edu/seid/cbr).

STATE GOVERNMENT REVENUES

Most of the data used in the discussion of state government finance comes from the Joint Legislative Budget Committee (JLBC). The analysis focuses on the general fund, which currently is receiving attention because of its large projected deficits. In the current fiscal year (FY2003 runs from July 1, 2002 to June 30, 2003), the JLBC is forecasting general fund revenues to be nearly $6.2 billion.

History of Tax Law Changes

Significant changes to the Arizona tax code have been implemented over the last 25 years. In the mid-1980s, the state economy weakened substantially, lowering revenues. At the same time, spending for the Arizona Health Care Cost Containment System (AHCCCS, the state's alternative to Medicaid) skyrocketed. (Prior to the mid-1980s, spending on indigent health care was a county, not state, responsibility.)

In order to balance the general fund — which is required by the Arizona Constitution — tax increases were enacted from 1988 through 1990 (implemented from FY1989 through FY1992, though almost entirely by FY1991) and were accompanied by spending reductions that resulted in substantial layoffs of state government workers. Collections were increased from various taxes, most notably the individual income tax; the overall tax burden rose. The JLBC estimates that the effect of these tax increases was to raise state government revenues by nearly $450 million per year in the early 1990s.

After 1991, the Arizona economy began to strengthen, raising revenues. This enabled a series of tax cuts to be passed. Implemented from FY1993 through FY2002, these tax reductions began slowly (the magnitude of the cuts were small and/or the reductions were phased in), due to a still weak economy and continued spending increases for AHCCCS through FY1993. The Arizona economy strengthened further during 1993, with growth rates reaching boom conditions by 1994. The surge in revenues that resulted allowed subsequent tax reductions to be much larger, as seen in Table 1. The cumulative tax cuts that took effect in FY1996 completely offset the tax increases made several years earlier. Continued reductions in taxes cumulated to an estimated reduction in annual revenues of about $800 million by FY2002.

Revenue Changes and Economic Growth

In order to evaluate changes over time in aggregate public-sector revenues (or public spending), adjustments must be made for inflation, population growth, and economic growth. Because of productivity growth, even inflation-adjusted per person (real per capita) economic measures exhibit an upward trend. With household and business incomes rising more than inflation, taxpayers are able to pay more in real taxes without experiencing an increase in their tax burden (tax payments as a percentage of income).

Between FY1991 and FY2003, real per capita general fund taxes and revenues fell slightly (a 1 percent drop for revenues and 3 percent for taxes). Real per capita economic growth, as measured by per capita personal income (PCPI), is projected to be 21 percent during this period. (FY1991 is used as a comparison because it marked the end of an economic recession, is comparable to FY2003 in terms of the economic cycle, and was the last year of sizable tax increases.)

Since FY1991 marks a high point in real taxes and revenues collected per person, it is not representative of Arizona's historical record. For this reason, FY1986 (in the midst of a period of stability in fiscal policy) is presented as another comparison point. Small real per capita increases in taxes (4 percent) and revenues (8 percent) from FY1986 through

INSIDE

CENTER FOR BUSINESS RESEARCH

ASU College of Business
ARIZONA STATE UNIVERSITY

FY2003 are considerably less than the projected economic growth rate based on real PCPI (23 percent). Gains in real per capita gross state product (GSP, a broader measure of economic performance) were even larger. Between 1986 and 2000 (the latest year available), real per capita GSP rose 34 percent; the gain was 38 percent between 1991 and 2000. Thus, the overall tax burden in Arizona has dropped substantially, not only from the 1991 peak but also from typical historical levels.

Real per capita state government revenues increased in many years from FY1989 through FY2000. Increases first were due to the tax increases that came into effect beginning in FY1989. Then, strong economic growth was responsible, with revenues up particularly due to capital gains resulting from the huge increases in the stock market from 1995 through 1999 and to a lesser extent in 2000. The economic and stock market slumps that began in 2001 have had a significant downward impact on government revenues, with the estimated figure for the current fiscal year 10 percent less than the FY2000 peak.

From FY1989 through FY1991, real per capita personal income declined. Thus, the real per capita revenue gains during this period equated to an increase in the tax burden. However, real per capita economic growth from FY1992 through FY2000 was greater than the rise in real per capita revenue. Thus, the tax burden dropped. It continued to fall after FY2000, despite the weak economy.

State law limits appropriations to 7 percent of personal income. Comparing general fund revenues to personal income, the peak came in FY1991 at 5.06 percent. Revenues still were 5.00 percent of personal income in FY1995, but since then the figure has fallen, to a projected 4.14 percent in the current fiscal year. This figure is the lowest since the JLBC time series began in 1971.

State government collects revenues from a number of tax and nontax sources. However, just two taxes — the sales and use tax and the individual income tax — currently provide about 87 percent of the revenues, compared to 65 percent in FY1971.

STATE GOVERNMENT EXPENDITURES

Of the nearly $6.2 billion general fund operating budget appropriation in FY2003, 62 percent ($3.8 billion) is classified as "mandatory:" spending specified in permanent statute or determined by a statutory funding formula. If the projected deficit of $800 million to $1 billion in the next fiscal year were to be made up strictly from spending reductions in "discretionary" programs, 34 to 43 percent of the total discretionary spending of $2.3 billion would have to be cut. Even if spending reductions were applied to the entire $6.2 billion budget, the cut would have to be 13 to 16 percent (about one-seventh) of the general fund budget. This would be on top of the spending reductions implemented before the beginning of the current fiscal year.

Real per capita state government expenditures increased in each year from FY1992 through FY1999. However, the percent change has been negative since then, with the projected figure for the current fiscal year 12 percent less than the FY1999 peak. Compared to FY1991, real per capita spending in the current fiscal year is less than 3 percent higher; the gain since FY1986 is just 8 percent, a third of the economic growth rate.

Thus, expenditures as a percentage of personal income have dropped. The percentage fell considerably in FY2002 and FY2003, reaching the lowest level since FY1980. In part by not allowing inflation adjustments to agency budgets, spending was restrained during the 1990s before dropping sharply in FY2002 and FY2003. The general fund operating appropriations are only 4.16 percent of projected personal income in FY2003; the comparable figure in FY2001, the last year of actual personal income data, was 4.58 percent. The figure had topped out at 5 percent in FY1992.

The JLBC groups expenditures into the major categories of education (58 percent of total FY2003 general fund appropriations), health and welfare (23 percent), protection and safety (11 percent), general government (5 percent), natural resources (1 percent), inspection and regulation (less than 1 percent), and transportation (less than 0.1 percent). Compared to FY1979, the first year of the JLBC annual expenditure series (updated on October 7, 2002), the share of expenditures going to education has declined, while the proportions received by health and welfare and protection and safety have increased.

BUDGET STABILIZATION FUND

In 1990, the Arizona Legislature created the Budget Stabilization Fund (BSF), also known as the "rainy day fund." The BSF is designed to set aside revenue during times of strong economic growth to be spent during periods of weak growth or recession. Public revenue collection is quite cyclical, more so than average in Arizona because of the severe cyclicality of its economy.

The annual transfer between the BSF and the general fund is determined by a formula that compares the inflation-adjusted percent change in Arizona personal income minus transfer payments for the latest calendar year to its average growth rate over the last seven years. The difference in growth rate is multiplied by the general fund revenues of the prior fiscal year. When growth is above trend, monies are transferred from the general fund to the BSF. When growth is below trend, the transfer is from the BSF to the general fund.

Under the 1990 statute, the balance in the rainy day fund could reach 15 percent of the general fund budget before further transfers to the BSF were blocked. The size of the cap had been determined from an analysis of prior economic cycles that showed that a rainy day balance of this size was necessary to prevent the BSF from dropping to zero before the economy recovered from a recession. However, the Legislature reduced the cap to 5 percent in 1995. Subsequently, the limit gradually was raised from 5 percent in FY1997 to 7 percent in FY2000.

The first payment into the BSF was made in FY1994. By the next fiscal year (when the limit was dropped to 5 percent), the cap already

TABLE 1
ESTIMATED DOLLAR VALUE OF TAX CHANGES
General Fund, Arizona State Government

	Dollars in Millions	
Fiscal Year	*Annual*	*Cumulative*
1989	$122	$122
1990	109	231
1991	208	439
1992	10	449
1993	-19	430
1994	-25	405
1995	-121	284
1996	-285	-1
1997	-175	-176
1998	-172	-348
1999	-143	-491
2000	-105	-596
2001	-159	-755
2002	-38	-794
2003	17	-777
2004	-27	-804

Note: The Proposition 301 increase in the sales tax for educational purposes is not included in this chart. In addition, the analysis is "static" in that it does not include possible stimulation in revenue collections from the tax reductions. This topic is explored in a later section.

Source: Joint Legislative Budget Committee, "Fiscal Impact of Statutory Tax Relief Provisions," internal memo, Sept. 19, 2002.

was reached, so the full transfer indicated by the formula was not made. In the next two years, the formula called for a transfer to the BSF, but no deposit was made to the fund because of the 5 percent limit. While the dollar limit of the BSF rose gradually each year because of the increasing size of the general fund (before adjustment for inflation or population growth), the fund's interest earnings kept the balance at the limit. In FY1998 and FY1999, the gradual increase in the percentage limit allowed some deposit to the fund, though less than that indicated by the formula. Over the five years through FY1999, a total of about $430 million called for by the formula was not transferred to the BSF because of the reduction in the original 15 percent limit — nearly half the amount of tax cuts passed by the Legislature during these years.

Based on the formula, only small transfers to or from the BSF were recommended in FY2000 and FY2001. A large transfer of nearly $300 million from the BSF to the general fund was called for in FY2002 and a similar transfer likely will be recommended for FY2003. (The exact figure will be determined in spring 2003 when calendar year 2002 personal income is released by the federal government.) However, the Legislature has been using the fund for other purposes, most notably to pay the cost of the alternative fuels legislation. More generally, the Legislature in recent years has made a number of ad hoc changes to the fund and has not followed the formula. As a result of the lowered cap and other uses, the BSF has been depleted. Thus, the large transfer from the BSF to the general fund called for in spring 2002 could not be made and BSF funds will not be available to mitigate the large projected deficits for FY2003 and FY2004.

A simulation was run under the assumption that the original 1990 BSF statute was not modified and that the fund was not used for other purposes. Under these conditions, the rainy day fund would have reached about $865 million (14 percent of the general fund) at the end of FY2001. Thus, despite transfers to the general fund of close to $300 million in FY2002 and again in FY2003, the BSF still would have a balance of more than $300 million [see Table 2]. Projections of economic growth in 2003 suggest that a smaller transfer from the BSF to the general fund would be likely during FY2004.

A similar simulation was run with the lowered percentage limits, but without the ad hoc changes made to the BSF. The difference in the BSF balance between the original law and the revised statute would have exceeded $530 million in FY2002: the $430 million not transferred to the BSF due to the lower limit, and interest earnings that could not be placed in the fund because of the limit and that did not accrue because of the lower balance in the BSF.

The projected general fund deficit for the current fiscal year is greater than the formula-recommended transfers from the BSF to the general fund. The recommended transfers reflect the severity of the economic cycle. The larger projected deficits, then, are a measure of the magnitude of tax cuts implemented between FY1993 and FY2002 in excess of reductions in expenditures and offsets to the earlier tax increases. This has been termed a "structural deficit," an imbalance unrelated to the economic cycle. Because of spending cuts implemented before the start of the current fiscal year, the difference between the projected deficit and the formula-driven transfer from the BSF to the general fund is only about $200 million.

This difference is projected to be much larger in FY2004. The overall deficit for FY2004 (which begins July 1, 2003) currently is projected at between $800 million and $1 billion, with the unknown strength of an economic recovery causing the lack of precision in the forecast. The projected formula-driven (i.e. reflecting the economic cycle) transfer from the BSF to the general fund would be a little more than $100 million.

INTERSTATE COMPARISONS

The level of government levying taxes and having responsibility for funding programs varies from state to state. Thus, state government finance data cannot be accurately compared across states. Instead, state government finance data must be combined with local government finance data (including counties, cities, school districts and special districts). The U.S. Department of Commerce's Bureau of the Census produces combined government finance data annually.

Revenues

In FY2000, total revenues available to state and local governments in Arizona totaled nearly $23 billion. Nearly $4.5 billion came from the federal government, while state and local taxes were the source of $13.3 billion. The balance came from current charges (user fees), interest earned, and miscellaneous other sources.

Total Arizona government revenue in FY2000 was 19 percent less than the national per capita average, third lowest to Arkansas and Tennessee among all states (including the District of Columbia). Arizona's revenue from the federal government was 16 percent less than the national per capita average, eighth lowest in the nation and third lowest in the West. The state also compared quite low on revenue raised directly by Arizona governments: 20 percent below average, fifth lowest in the nation and least in the West. Since Arizona does not use nontax sources of

TABLE 2
BUDGET STABILIZATION FUND SIMULATIONS
Arizona State Government
(Dollars in Millions)

	Based on 1990 Statute		Based on Revised Statutes*		Difference	
Fiscal Year	*Transfer*	*Ending Balance*	*Transfer*	*Ending Balance*	*Transfer*	*Ending Balance*
1994	$58	$58	$58	$58	$0	$0
1995	189	251	160	222	-29	-29
1996	137	401	-1	232	-138	-169
1997	108	531	4	249	-104	-282
1998	102	658	31	294	-71	-364
1999	135	824	48	357	-87	-467
2000	-71	801	-71	307	0	-494
2001	33	865	33	354	0	-511
2002	-292	607	-292	76	0	-531
2003	-282	348	-76	0	206	-348
2004	-118	244	0	0	118	-244

*Regarding the maximum allowed in the fund; it does not reflect one-time changes made by the Legislature.

Note: The simulations are based on revised data as of November 2002, with calendar year 2002 personal income growth projected from actual figures for the first two quarters of the year. Data for FY2004 are projected.

Source: Center for Business Research, L. William Seidman Research Institute, College of Business, Arizona State University.

revenue, such as user fees, nearly as much as the national average, the burden of state and local taxes was not as low: 14th lowest in the nation and third lowest in the West, 17 percent below the national per capita average. Since FY1996, per capita taxes in Arizona as a ratio to the national average have been lower than in any prior year (the Census Bureau time series began in FY1964).

To analyze the change in Arizona's fiscal position over time, comparisons to the FY1986 and FY1991 base periods are shown in Table 3. Inflation-adjusted per capita total revenues have climbed over time, though the increases in each period were substantially less than the national average. From FY1986 to FY2000, Arizona's 25 percent increase compared to 44 percent nationally. The only states with lesser gains were Alaska and Wyoming, which collect considerable revenue from cyclical natural resources. Between FY1986 and FY2000, the total revenue increase in Arizona slightly exceeded the real per capita economic growth rate as measured by personal income, but was less than the gain in gross state product. The increase from FY1991 to FY2000 was less than economic growth.

Per capita taxes rose at the pace of per capita personal income over the longer period but at less than half the rate during the shorter period, well below the national average. The 23 percent increase in Arizona from FY1986 to FY2000 was less than the national average of 40 percent, with the state ranking fourth lowest in the nation. Real per capita collections from nontax sources dropped over the longer period and barely rose over the shorter period, while use of these nontax sources expanded considerably nationally.

Over both periods, large gains in federal funding were realized in Arizona, with the federal share of total revenues up to nearly 20 percent in FY2000. Arizona's 96 percent per person gain was far above the national average of 55 percent; only three states, including Oregon, had larger advances. Yet per capita federal spending in Arizona as a ratio to the national average climbed to only 84 percent, the eighth lowest ratio in the nation and third lowest among 10 western states (Nevada and Colorado received less federal revenues per capita).

The sources of revenues are detailed in Table 3. The general sales tax was the largest single source of revenue in Arizona in FY2000.

Expenditures

The Census Bureau data on state and local government finances provide expenditures for a number of functions. Overall, and for some categories, capital outlays (spending on infrastructure, such as new schools and new roads, and equipment and land) are shown separately. This allows spending on current operations — compensation, supplies, materials, operating leases and contractual services — to be calculated.

As a percentage of the national average, per capita total expenditures and per capita spending on current operations fell during the 1990s in Arizona to the lowest ratios on record. Per capita spending on current operations has been less than the national average since the late 1960s, but per person capital outlays have been above average throughout the time series, by substantial amounts in most years. However, the ratio of per person capital outlays to the national average has been lower since the early 1990s than in most earlier years.

Arizona state and local government expenditures totaled more than $23 billion in FY2000. In per capita terms, Arizona's expenditures were 15 percent less than the national average and ranked second lowest in the West (Idaho was lower); four nonwestern states also had lower figures. Relative to census income, spending in Arizona was 10 percent less than the national average, third lowest in the West (Colorado and Nevada were lower) and 11th lowest nationally. Real per capita spending in Arizona rose slightly more than personal income between FY1986 and FY2000, but considerably less than the national average (25 percent vs. the national average of 49 percent). Only three states had a smaller increase. Between FY1991 and FY2000, the increase was only half that of both the national average and Arizona per capita personal income.

Arizona's rapid population growth is responsible for its capital outlays being above the national average. In FY2000, capital outlays in Arizona were 6 percent more than the national average on a per capita basis and 13 percent higher on the census income measure. Arizona ranked 21st in the nation and sixth among the western states on the per capita measure, with ranks on the census income measure nearly the same. Per person capital outlays as a ratio to the national average have been among the lowest on record in recent years despite Arizona continuing to have the second-fastest rate of population growth among the states. Between FY1986 and FY2000, real per capita spending on capita outlays dropped in Arizona by 8 percent

TABLE 3
REVENUES BY SOURCE
General Fund, Arizona State And Local Governments

	1999-2000*		Change, 1985-86 to 1999-2000*		
	Share of Total	*Per Capita Ratio to US*	*Share of Total*	*Per Capita Ratio to US*	*Percent*
TOTAL REVENUE	100.0%	81%	0.0%	-13%	25%
From Federal Government	19.6	84	7.1	18	96
Total Own Source	80.4	80	-7.1	-19	15
Taxes	58.3	84	-0.8	-12	23
Property	17.1	86	0.2	-5	26
Sales and Gross Receipts	26.6	107	-1.5	-18	18
General Sales	21.2	123	0.1	-17	25
Selective Sales	5.3	71	-1.6	-24	-4
Motor Fuels	2.6	105	-0.5	-25	4
Other	2.7	54	-1.1	-23	-11
Income	12.3	62	1.8	-5	46
Individual	10.0	59	NA	NA	NA
Corporate	2.3	79	NA	NA	NA
Motor Vehicle License	0.7	51	-1.4	-88	-60
Other	1.7	43	0.1	2	36
Current Charges	11.5	64	0.3	-20	28
Education	4.7	89	-0.1	-32	21
Hospitals	1.0	22	-0.4	-13	-9
Other	5.8	71	0.7	-20	43
Interest Earned	5.1	90	-1.1	-13	3
Other Revenue	5.8	84	-5.5	-86	-37

*Fiscal Years NA: not available

Source: U.S. Department of Commerce, Bureau of the Census, adjusted by population and GDP Implicit Price Deflator from U.S. Department of Commerce, Bureau of Economic Analysis.

while rising 54 percent nationally. Only three states had a greater decline. Capital outlays also fell from FY1991 through FY2000 in Arizona, compared to a national increase.

Arizona government spending on current operations was 19 percent less than the national per capita average in FY2000, lowest in the West and fifth lowest in the nation. Relative to census income, Arizona's spending on current operations was 13 percent below the national average, eighth lowest nationally and third lowest in the West. Per person spending rose less than the national average between FY1986 and FY2000 (33 v. 48 percent). Four states, including Nevada, had smaller gains. Between FY1991 and FY2000, the increase in Arizona was less than economic growth and less than the national average.

"Fiscal need" is calculated by adjusting per capita expenditure figures by workload factors. For example, school-age children are a larger than average share of Arizona's population, so Arizona needs to spend more on education than the national average. Overall public spending in Arizona in FY1997 needed to be 6 percent more than the national average to provide a level of public services equal to the national average. However, per capita spending on current operations was 21 percent less than the national average in that year.

Spending by category is detailed in Table 4. Education accounted for one-third of the expenditures in FY2000.

MEASURES OF TAX BURDEN

Tax burdens can be compared across states by several methods. Arizona's tax burden is less than the national average by each method, by between 11 and 17 percent on most measures. Arizona's tax burden relative to other states has dropped considerably since the early 1990s. Further, each method indicates that the sales tax burden is well above average, but that the burdens imposed by the other major taxes (income and property) are below average.

Per Capita

Dividing tax receipts by population is the simplest measure of tax burden. The main drawback to the per capita calculation is that geographic differences in the ability to pay (essentially variations in income levels) are not considered. Applied to the Census Bureau data, this method produces the lowest measure of Arizona's tax burden relative to the national average.

When this method is applied to the government finance data collected by the Census Bureau, taxes paid by businesses cannot be separated from those paid by individuals (except for the income tax). Similarly, taxes paid by tourists, business travelers, and seasonal residents cannot be isolated. Thus, the per capita calculation substantially overstates the direct taxes paid by the average resident.

Relative to Income

Comparing tax collections to a measure of income is an attempt to incorporate interstate differences in ability to pay. Applied to the Census Bureau data, this method has the same shortcomings as the per capita method in not being able to differentiate taxes paid by

TABLE 4
TOTAL EXPENDITURES BY TYPE
General Fund, Arizona State And Local Governments

	1999-2000*		Change, 1985-86 to 1999-2000*		
	Share of Total	*Per Capita Ratio to US*	*Share of Total*	*Per Capita Ratio to US*	*Percent*
TOTAL EXPENDITURES	100.0%	85%	0.0%	-16%	25%
Education	33.8	82	-5.0	-30	8
Higher Education	10.6	100	-2.1	-37	4
Elementary And Secondary	22.0	76	-3.0	-29	10
Other	1.2	71	0.1	-7	32
Social Services	19.0	66	6.8	10	93
Public Welfare	12.7	69	5.5	12	119
Cash Assistance	1.8	111	0.8	79	127
Vendor Payments	8.5	69	4.2	-2	147
Other Public Welfare	2.4	54	0.5	-2	54
Health And Hospitals	5.9	59	1.0	3	51
Other Social Services	0.5	129	0.3	87	194
Transportation	10.1	107	-2.2	-26	2
Highways	8.4	106	-2.4	-29	-3
Other	1.6	118	0.2	-8	43
Public Safety	12.5	115	1.9	-11	47
Police	4.7	105	0.2	-16	30
Fire	2.9	161	1.3	57	123
Correction	4.1	107	0.4	-46	36
Inspection And Regulation	0.7	98	0.1	2	36
Environment and Housing	7.9	86	-1.5	-30	5
Natural Resources and Parks	3.5	100	-0.8	-41	0
Housing/Community	1.5	73	0.4	11	66
Sewerage And Solid Waste	2.9	79	-1.0	-43	-8
Government Administration	6.5	102	0.5	-15	34
Interest On General Debt	4.4	80	-2.7	-37	-23
Other Expenditures	5.3	80	2.3	26	120
CAPITAL OUTLAYS	16.0	106	-5.6	-70	-8
Education	4.8	99	-1.3	-140	-2
Higher	1.4	120	0.1	-42	30
Elementary/Secondary	3.3	93	-1.3	-190	-11
Highways	4.9	111	-2.7	-64	-20
Natural Resources And Parks	1.0	109	-0.6	-122	-27
Sewerage And Solid Waste	0.9	104	-1.3	-80	-47
Other	4.4	107	0.4	-9	36
CURRENT OPERATIONS	84.0	81	5.6	-9	33
Education	29.1	80	-3.7	-23	10
Higher	9.2	98	-2.2	-37	1
Elementary/Secondary	18.7	74	-1.6	-18	15
Highways	3.5	98	0.3	13	38
Natural Resources And Parks	2.6	97	-0.2	-18	16
Sewerage And Solid Waste	1.9	71	0.3	-12	48
Other	46.9	81	9.8	0	54

*Fiscal Years

Source: U.S. Department of Commerce, Bureau of the Census, adjusted by population and GDP Implicit Price Deflator from U.S. Department of Commerce, Bureau of Economic Analysis.

businesses from those paid by individuals or by residents from nonresidents.

From one perspective, acknowledging differences in income levels (the ability to pay) across states is important and makes this a more useful measure than the per capita tax burden. From another perspective, however, states with low incomes may have greater demands for their public services. Limiting tax collections (and therefore expenditures) to the average ability to pay could compromise the capacity of the state to address income and related issues, helping to perpetuate those problems. A highly progressive tax system can collect above average revenues without unduly burdening those with low incomes.

The income measure usually compared to tax collections is personal income. This series has the advantage of being released annually (actually, quarterly) and is used in Arizona statutes such as those related to the expenditure limitation and budget stabilization fund. While personal income is a reasonable measure of economic growth, it is a poor indicator of ability to pay. Personal income is defined broadly and includes nonmonetary income, such as the imputed rent received by homeowners, and income received by entities other than individuals (such as nonprofit organizations). Since these other sources of income are not available to households to apply to tax payments, personal income produces a distorted indicator of ability to pay. Moreover, a lack of state-level data forces the allocation of the national figure to states by simplistic means for several of these nonmonetary sources of income.

Household or individual income (measuring only money income) are much better measures of ability to pay, but reliable data are available only every 10 years from the decennial census. In Arizona, the difference between the personal income and census income measures is substantial. Per capita income in 1999 from the decennial census was 6 percent less than the national average, while per capita personal income was 15 percent less than the national average. The difference between theses two measures is greater in Arizona than in any other state.

In FY2000, per capita taxes in Arizona were 17 percent less than the national average, but taxes per $1,000 of personal income were only 2 percent less than average. Per $1,000 of aggregate income reported in the decennial census, taxes were 11 percent less than the national average. Regardless of the measure used, the ratio to the national average was down substantially from FY1989 to FY1999, ranging from 10 percentage points on the personal income measure to 14 points using the census income measure. The decline from FY1979 to FY1999 was even greater, from 15 percentage points based on personal income to 20 percentage points on a per capita basis.

Tax Capacity and Tax Effort

Tax capacity is defined as the revenue each state would raise if it applied national average tax rates to commonly used tax bases. Tax effort is calculated as the ratio of a state's actual tax collections to its tax capacity. These measures provide a much better gauge than personal income of the ability to pay and are available for selected years, with the latest data for FY1997.

Overall tax capacity in Arizona historically ranged from somewhat below to near the national average, with the FY1997 figure at the national average. Tax effort in Arizona generally was somewhat below the national average, but in recessionary periods it was higher than the national average. (During recessions, Arizona's highly cyclical economy disproportionately lowers tax capacity and therefore raises tax effort.) By FY1997, however, Arizona's tax effort had dropped to 16 percent less than the national average and ranked as seventh lowest of the states. (Around $600 million of tax cuts took effect after FY1997, likely lowering Arizona's tax effort ratio further).

Fiscal need relative to tax capacity was 5 percent less than the national average, ranking Arizona among the 15 lowest states. Fiscal need relative to tax effort was second lowest in the country.

Hypothetical Household

Another approach to comparing tax burdens across geographic areas is to select a hypothetical household based on household composition, income and other factors. The tax burden for this household is calculated using the actual tax code in every state. These studies typically limit the analysis to major taxes paid directly by households and often select just one hypothetical household, typically of upper-middle income. Because the property tax varies by place within a state, these studies usually pick one city in each state to compare. Since these analyses actually work through the tax code in each state, they result in an accurate portrayal of geographic variations in tax burden for the selected household.

Based on this method, tax burdens in Arizona are below the national average by amounts similar to the methods discussed above, which do not separate the state's high business taxes from individual taxes. Thus, the hypothetical household technique more accurately portrays the individual or household tax burden.

A study conducted by the District of Columbia calculates the tax bill for a family of four with two school-age children who own their home, at five widely different income

TABLE 5
HYPOTHETICAL HOUSEHOLD TAX BURDENS

	District of Columbia Family of Four - Income Level					Kiplinger's Retirees
	$25,000	*$50,000*	*$75,000*	*$100,000*	*$150,000*	
TOTAL						
Rank*	17	18	14	19	18	17
Ratio**	89%	89%	83%	91%	95%	83%
Income Tax						
Rank*	24	15	12	12	11	29
Ratio**	64%	64%	63%	62%	61%	82%
Property Tax						
Rank*	27	28	24	32	36	17
Ratio**	85%	88%	76%	97%	109%	66%
Sales Tax						
Rank*	50	50	50	50	50	39
Ratio**	152%	155%	152%	152%	152%	120%
Auto Taxes						
Rank*	3	6	21	33	31	NA
Ratio**	61%	62%	83%	98%	95%	NA

* Among the largest city in each of the 50 states and District of Columbia; 1 = lowest taxes.
** Phoenix figure as a percentage of the average of all 51 places.

Source: Government of the District of Columbia, "Tax Rates and Tax Burdens," August 2002, and Kiplinger's Retirement Planning 2002.

levels ranging from $25,000 to $150,000. The 2002 study used the 2001 tax code for four tax categories: individual income tax, residential property tax, general sales and use tax, and automobile taxes (including gasoline tax, registration fees, excise tax, and personal property tax). It includes the largest city in each state and the District of Columbia.

The overall tax burden for Arizona (Phoenix) ranks between 14th and 19th lowest at each income level, with the tax bill ranging from 5 to 17 percent less than the average of the 51 places [see Table 5]. According to the 2000 census, about 80 percent of Arizona households have an income of less than $75,000, for which the tax burden ranges from 11 to 17 percent lower than average. States with the lowest taxes generally are in the West or South. Most of the states with the highest tax burdens are in the Northeast. Among cities in 10 western states, the tax burden in Arizona was fifth or sixth lowest at each income level.

Among the four types of taxes measured, the tax burden in Arizona is comparatively the lowest on the income tax at 36 to 39 percent less than the average of the places. Except in the lowest income group (which pays very little in income tax), Arizona's tax burden ranks between 11th and 15th lowest. The property tax burden is below average except at the highest income level, ranking between 24th and 36th lowest. The incidence of the automobile-related taxes and fees in Arizona varies by income level from third lowest (39 percent below average) at the lowest income level to 33rd lowest (2 percent below average) at the $100,000 level. In contrast to these generally low taxes, Arizona has the second highest sales tax burden at about 52 percent above average.

Several similar studies were conducted by other sources during the 1990s for a high-income family of four. Considering all of these studies, Arizona's tax burden has fallen from average in the early 1990s to among the 15 or so lowest in the nation currently.

Studies also have been done of hypothetical retiree couples. A recent study appearing in Kiplinger's Retirement Planning 2002 assumes household income is a high $60,000, both individuals are 65, and they own a 2,000 square foot home free and clear that is valued at the local median for homes of this size. The study measures income, property and sales taxes in the capital city of each state and in the District of Columbia based on 2001 tax rules.

The tax burden for the hypothetical retired household in Arizona ranks 17th lowest among the 51 places at 17 percent below average and fifth lowest in the West. Among the three taxes, the retiree household pays the most in the property tax, nationally and in Arizona. The property tax in Arizona is 34 percent less than the average of the places, ranking 17th lowest in the country and third lowest in the West. The value of the home in Arizona is in the middle of the places (but second lowest in the West) so the tax rate is the cause of Arizona's low tax bill. The sales tax in Arizona is 20 percent higher than the national average and 12th highest. It is fourth highest among the 10 western states. Income taxes are low for retiree households nationally and in Arizona. The tax bill in Arizona is 18 percent below the average, but ranks as 22nd highest. It is fourth highest in the West.

TAXES AND ECONOMIC GROWTH

Nearly any position on the relationship between taxes and economic performance is supported in the published literature. However, the bulk of the modern literature indicates that taxes have only a small effect on economic growth. Generally, tax burdens must be far out of line with competitor regions before much of an effect on the economy can be measured. For a state, a tax cut will have little effect on the economy unless the tax burden is comparatively quite high (especially in comparison to competing states) and the tax reduction is very large.

Despite the attention given to taxes, tax payments are a small expense for most businesses. Taxes typically are only about 2 percent of operating income. Taxes included in this figure are state and local taxes; social security and payroll taxes; unemployment insurance taxes; excise taxes; import and tariff duties; business license and privilege taxes; and the environmental tax. The federal income tax is not included. Thus, state and local taxes are less than 2 percent of operating income. Therefore, the difference in state and local tax rates between states would have to be very large to have a noticeable effect on a company's profits. Overall, the compensation of company officers is nearly as large an expense as taxes.

The Laffer Curve and Supply-Side Economics

Supply-side economics is based on the concept that tax reductions stimulate economic growth, with the stimulus so great that government revenues rise despite the lower tax rates. The economist Arthur Laffer brought the relationship between taxes and economic performance into the popular literature in the 1970s. However, the analytical foundations of his Laffer Curve were established centuries ago. Moreover, the curve is a mathematical relationship (Rolle's Theorem).

The concept is simple: An optimal level of tax rates produces the greatest government revenue; lower tax rates than optimal result in lower revenues, while higher-than-optimal tax rates reduce public revenues by discouraging economic activity. The exact shape of this relationship's curve can vary by specific circumstances, but the end points always are the same: No tax results in no public revenue while a 100 percent tax rate (in most cases) would cause all legal economic activity to cease. The difficulties in real-world application of this relationship are to identify the tax rate that constitutes the optimal point, and to describe the exact shape of the curve.

Elasticity is defined in economics as the responsiveness, or sensitivity, of consumers to a change in price. Elasticities apply to fiscal policy because tax rates are a price. Economic theory indicates that unless elasticities are quite high, the peak of the Laffer Curve (the optimal tax rate) for a broad tax (such as the personal income tax) is higher than commonly assumed, so high that such a rate would not be considered realistic. High elasticities are more possible in the case of narrowly defined taxes, raising the possibility that a tax rate on a narrow tax might be higher than optimal.

Laffer originally discussed this relationship in the context of national tax rates, particularly the federal income tax rate, which was very high in the 1970s. The concept also is valid at a regional level such as a state, but state tax rates are low relative to the federal income tax rate, meaning that a decrease in a state tax rate is less likely to have a supply-side effect. Any effect likely is small.

On the other hand, a state tax by definition is narrower than a national tax and thus is more likely to have an optimal point that is being exceeded in reality. This is because states compete for economic activity, most of which is mobile (not tied to a particular place as in the case of a mine). Capital and labor can move easily throughout the country. Thus, at the state level, the optimal point on the Laffer Curve may be the average tax burden of all states (or of a subset of competitor states).

It might be argued that the optimal tax rate is not either of these averages, but rather is a tax level higher or lower than this. For example, some may argue that tax burdens in all states

are either higher or lower than optimal. Not only is this argument not easily proved, but one or a few states that aggressively raise or lower taxes based on such an argument still would be bound by the existing Laffer Curve. If tax policy in these states strayed too far from the norm in either direction, diminishing government revenues would result.

A greater economic and public-revenue impact is likely from a reduction in a higher-than-optimal business tax than in a higher-than-optimal personal tax, since one business decision (for example, in site selection) can affect many workers. Even if a supply-side effect results from a tax cut, a net positive effect on government finance will not accrue unless underutilized resources also are present. For example, if a state with higher-than-optimal tax rates also has high unemployment and high commercial and industrial vacancy rates, then a reduction in taxes to near the optimal point might stimulate economic growth, putting more residents to work and more highly utilizing existing facilities. Since labor to support the faster economic growth would not need to be imported, population growth would not accelerate. Thus, the increase in government revenues would not be offset by the need to increase public spending to support new residents.

The Situation in Arizona

Most of the taxes cut in Arizona in the early 1980s and during the 1990s were broad-based taxes. None of the tax rates were demonstrably much higher than the optimal tax rate. Individual income taxes and residential property taxes (which account for more than half of the tax revenues cut in the 1990s) did not have rates even close to the average of the states. Thus, the lack of evidence that actual tax cuts (or increases) in Arizona had an effect on economic performance or government revenues fits this Laffer Curve analysis.

Except briefly during recessions, Arizona has had neither high unemployment rates nor high commercial/industrial vacancy rates. The vast majority of jobs created in Arizona are filled by labor imported into the state from other states and other countries. Thus, even assuming that tax cuts in Arizona did have an effect on economic growth, the requirement of excess capacity is not met. If lowered taxes stimulated the Arizona economy further, then even more labor would have to be imported into the state, both for the construction of the facilities needed to house these economic activities and for the permanent employment created. Thus, while public revenues would increase, the need for public spending also would rise. Unless the incomes of the imported workers were above the existing average (considerably so if the worker had or would have school-age children), taxes paid by new residents would not cover the costs of providing them with public services.

One example exists in Arizona of a tax reduction that might have a net positive effect on economic growth and public-sector finance. The business property tax, a narrow tax, is demonstrably high relative to other places. It is a tax that disproportionately affects some businesses, particularly manufacturers who use considerable equipment in their operation. High-tech manufacturers, such as semiconductor plants, are among those with considerable equipment. These companies pay high wages. Lower business property taxes might encourage companies to expand facilities in Arizona. Although most of the labor force needed for an expansion would be imported, the high wages of these new workers could result in a net positive effect even on public-sector finance.

— Tom R. Rex
Research Manager

Construction activity slips in third quarter 2002

Although the Arizona construction industry improved over the first through third quarters of 2002 — from $2.8 billion to $3.1 billion — it slipped from $3.5 in the second quarter and was slightly below the previous year's $3.2 billion. The improvement continues to be driven by the single-family market, which has grown despite the weak economic environment — rising from 57 percent of the state's construction activity in 2001 to 62 percent in second quarter 2002, and to 65 percent in the third quarter.

Although the commercial sector ($519 million) continues to represent 17 percent of total construction dollar value, it fell from $703 million (25 percent) in second quarter 2002. Lacking any major projects such as Intel in Chandler that dominated the sector a year ago, industrial development continued to account for only 1 percent of Arizona's total construction activity.

Phoenix was the most active area of development, with nearly 17 percent of Arizona's construction market; the 12 communities listed in Table 1 represented 70 percent. Other areas of significant development included El Mirage ($58 million), Avondale ($56 million), unincorporated Yavapai County ($50 million), Peoria ($45 million), Flagstaff ($45 million), Prescott ($43 million) and Lake Havasu City ($38 million).

RESIDENTIAL

The single-family housing market has remained one of the last vestiges of the dynamic economy of the 1990s. With the continued decline in mortgage interest rates, more consumers have been able to satisfy their housing needs, ranging from a first home to a move-up home to an investment home to a second home.

Leading areas of single-family development in Maricopa County were Phoenix (1,950 permits), Gilbert (919), Chandler (879) and Mesa (672). The West Valley communities of Surprise (759), Avondale (385), El Mirage (448) and Goodyear (441) now account for 23 percent of the new home market.

The single-family housing market in Pima County has remained very stable (see Table 2). Tucson authorized 488 homes; unincorporated Pima County, 635; Marana, 281; and Oro Valley, 99. The average permit value in Pima County increased from last year's $144,100 to $151,205, while in Maricopa County it rose from $148,680 to $153,380.

Pinal County (1,156 permits) accounted for 8 percent of the state's new home market,

TABLE 1
REPORTING UNITS WITH GREATEST TOTAL VALUE OF BUILDING PERMITS
Third Quarter 2002

Reporting Unit	*Value (in millions)*
Phoenix	$543
Unincorporated Maricopa County	255
Chandler	248
Unincorporated Pima County	173
Gilbert	169
Mesa	161
Scottsdale	138
Tucson	120
Unincorporated Pinal County	116
Surprise	99
Glendale	93
Goodyear	81

Source: Arizona Real Estate Center, L. William Seidman Research Institute, College of Business, Arizona State University.

TABLE 2
KEY SECTOR CONSTRUCTION ACTIVITY
Third Quarter 2002, Second Quarter 2002 and Third Quarter 2001

	Single-family		COMMERCIAL						Industrial	
			Apartments[a]		Office Buildings[b]		Retail Stores[c]			
	Number of Permits	Dollar Value (000)	Number of Permits	Dollar Value (000)	Number of Permits	Dollar Value (000)	Number of Permits	Dollar Value (000)	Number of Permits	Dollar Value (000)
MARICOPA COUNTY										
3rd Quarter 2002	8,869	$1,360,297	2,560	$167,732	87	$70,645	125	$49,997	18	$20,416
2nd Quarter 2002	9,880	1,507,846	2,041	127,080	76	94,131	165	131,294	30	12,686
3rd Quarter 2001	8,407	1,249,902	2,212	143,414	89	109,682	124	153,397	43	28,626
PIMA COUNTY										
3rd Quarter 2002	1,730	261,377	171	6,939	36	5,365	19	21,595	6	1,161
2nd Quarter 2002	1,762	272,909	167	16,564	21	10,750	30	36,478	16	3,643
3rd Quarter 2001	1,724	248,430	0	0	24	10,682	9	6,456	2	616
REST OF ARIZONA										
3rd Quarter 2002	3,613	403,705	240	14,639	21	17,951	58	11,348	37	12,575
2nd Quarter 2002	3,745	417,683	42	3,779	31	11,360	39	29,259	28	12,992
3rd Quarter 2001	2,839	314,487	103	4,977	41	32,528	40	14,757	19	7,434
ARIZONA TOTAL										
3rd Quarter 2002	14,212	2,025,379	2,971	189,310	144	93,961	202	82,940	61	34,152
2nd Quarter 2002	15,387	2,198,438	2,250	147,423	128	116,241	234	197,031	74	29,321
3rd Quarter 2001	12,970	1,812,819	2,315	148,391	154	152,892	173	174,610	64	36,676

[a] Five or more housing units [b] Office, bank, medical and professional buildings [c] Shopping centers and other mercantile buildings

Source (Tables 2 and 3): Arizona Real Estate Center, L. William Seidman Research Institute, College of Business, Arizona State University.

while Mohave (646) and Yavapai (670) each had 5 percent. In these counties the unincorporated areas are important markets, with 857 permits in unincorporated Pinal County, 260 in Yavapai and 145 in Mohave. Specific communities included Lake Havasu City (316), Casa Grande (186), Prescott (158), and Flagstaff (159). The highest average permit value was in Paradise Valley ($946,735) while others were $206,000 in Prescott, $194,040 in Sedona, $123,465 in Flagstaff, $113,950 in Casa Grande, and $97,160 in Lake Havasu City.

COMMERCIAL

Apartments have shown improvement throughout the year, while the retail sector has shown significant declines (see Table 2). The struggling economy coupled with corporate restructuring has resulted in low demand, leading to higher vacancy rates and slower rent growth. Primary areas of office building development were Phoenix ($21 million), Scottsdale ($19 million) and Glendale ($11 million). Unincorporated Maricopa County continues to be a leading area of apartment development (700 units) followed by Chandler (448) and Glendale (384). Retail development activity really slowed in the quarter (see Table 2) with only $21 million in Phoenix and $11 million in Glendale. Scottsdale reported no retail development activity for the quarter. Remodeling of existing space totaled $42 million, with $21 million in Scottsdale and $6 million in Tempe. Phoenix issued the largest single commercial permit at $6.5 million for Grand Canyon University.

Commercial development followed a comparable pattern in Pima County and elsewhere [see Table 2]. Tucson authorized 171 apartment units and Prescott Valley, 226. Unincorporated Pima County reported $14.4 million in new retail development and unincorporated Pinal County issued a single office building permit valued at $13.4 million.

Commercial remodeling activity was strong in Tucson ($7 million), unincorporated Pima County ($11 million) and Flagstaff ($2.3 million).

INDUSTRIAL AND OTHER

Industrial development in Maricopa County slightly improved (see Table 2), led by $11.4 million in Tolleson and $2.4 million in Mesa. Outside Maricopa County, Flagstaff ($7.5 million) was the only area reporting activity above $1 million.

Construction of educational and public facilities increased from $39 million in second quarter 2002 to $52 million, with $26 million in Phoenix. New medical facilities were permitted in Flagstaff ($9 million), Cottonwood ($5 million) and Yuma ($4 million). Unincorporated Pima County issued two public works permits totaling $22 million.

TABLE 3
ARIZONA HOUSING UNITS AUTHORIZED
Third Quarter 2002

	One Family	Mobile Homes	Duplex	3-4 Family	5 or More	Total
MARICOPA COUNTY	8,869	290	30	58	2,560	11,807
% Change, Previous Year	5	-5	-50	12	16	7
% Change, Previous Quarter	-10	-9	88	26	25	-4
PIMA COUNTY	1,730	318	24	6	171	2,249
% Change, Previous Year	0	11	-29	-83	–	8
% Change, Previous Quarter	-11	3	-33	0	2	-8
REST OF ARIZONA	3613	933	92	75	240	4,953
% Change, Previous Year	27	4	109	150	133	27
% Change, Previous Quarter	-4	-17	-21	200	471	-2
TOTAL, ARIZONA	14,212	1,541	146	139	2,971	19,009
% Change, Previous Year	10	4	6	18	28	12
% Change, Previous Quarter	-9	-12	-13	81	32	-4

Note: A dash indicates that a percent change could not be calculated because at least one period had no activity.

TABLE 4
ARIZONA BUILDING PERMITS
Third Quarter 2002

	Residential*		Commercial		Industrial		Other		Total	
	Number of Permits	*Dollar Value (000)*	*Number of Permits*	*Dollar Value (000)*	*Number of Permits*	*Dollar Value (000)*	*Number of Permits*	*Dollar Value (000)*	*Number of Permits*	*Dollar Value (000)*
MARICOPA COUNTY	11,356	$1,434,477	930	$375,101	18	$20,416	8,919	$261,725	21,223	$2,091,719
% Change, Previous Year	8	10	-5	-32	-58	-29	16	-41	10	-10
% Change, Previous Quarter	-11	-9	4	-25	-40	61	-12	-27	-11	-14
PIMA COUNTY	2,872	274,854	386	60,691	6	1,161	2,004	55,333	5,268	392,039
% Change, Previous Year	10	5	7	2	200	88	53	92	23	12
% Change, Previous Quarter	-11	-13	29	-50	-63	-68	9	98	-2	-16
REST OF ARIZONA	6,586	467,350	491	83,179	37	12,575	1,772	74,074	8,886	637,178
% Change, Previous Year	19	26	13	6	95	69	-1	80	15	28
% Change, Previous Quarter	-8	-4	9	1	32	-3	-24	38	-11	0
TOTAL, ARIZONA	20,814	2,176,681	1,807	518,971	61	34,152	12,695	391,132	35,377	3,120,936
% Change, Previous Year	12	12	2	-25	-5	-7	18	-24	13	-2
% Change, Previous Quarter	-10	-8	10	-26	-18	16	-11	-11	-9	-12

* Includes mobile homes

Source: Arizona Real Estate Center, L. William Seidman Research Institute, College of Business, Arizona State University.

LOOKING AHEAD

The future of Arizona's real estate market is tied to the struggling economy. For the commercial sector, the economy must strengthen enough to sustain job growth and new businesses, which will in turn deplete the existing supply of commercial inventory and justify new construction. While an improving economy will lead to increased household income and consumer confidence, it will also lead to higher interest rates and heighten affordability concerns, which could dampen the new home market. However, if the new home sales should slow, it would probably lead to a stronger apartment market.

Other issues could come into play. One is the fiscal trouble facing the state and cities. Another is the availability and quality of water for the future population. The provision and quality of public services are an important consideration in attracting new businesses, supporting the growth of existing businesses and attracting and keeping households.

— Jay Q. Butler
Director
Arizona Real Estate Center

Business Conditions Index rises slightly in November

The seasonally adjusted Arizona Business Conditions Index rose to 48.3 in November. An index reading of over 50 indicates that the local economy is growing; a reading below 50 suggests a slowdown in the overall level of economic activity in the near term.

ANALYSIS

The index moved up a half-point in November, but remained below the critical 50-point level, suggesting a very slow improvement in local business conditions. Of the seven components measured, three showed a decline and four increased.

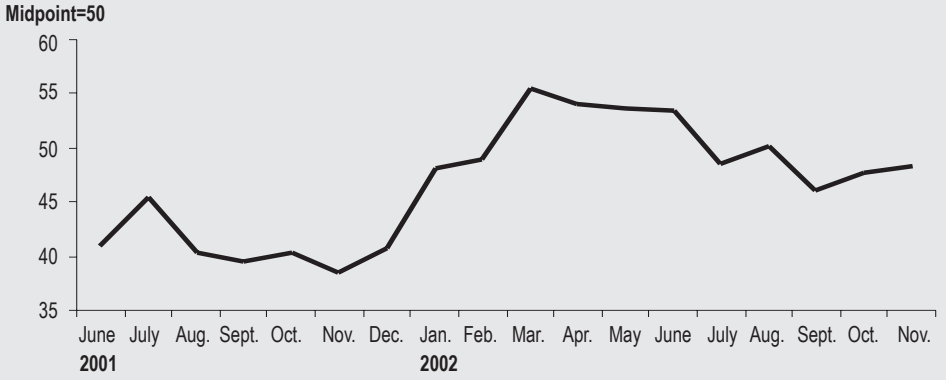
The sub-index of Delivery Times from Suppliers showed the most marked decrease, dropping 6.1 points to 50.3 in November, which is a neutral reading. This sharp decline probably is due to the ending of the longshoreman's strike in California, which had slowed import and export activity on the West Coast. An increase in Delivery Times is usually considered in a positive light because it is an indication that suppliers are experiencing pressure on their inventory on hand.

In more optimistic news, the Purchases sub-index rose by 1.4 points in November to reach 52.1. A score of 54.7 in the Production component also is a positive sign. The Employment component remained in the doldrums, falling slightly to 38.1. The opposing movement of these two components is indicative of increased productivity in the workplace, but is not sustainable in the long term. This dichotomy is seen mostly in the manufacturing sector and is less pronounced in non-manufacturing industries.

The Prices Index rose by 1.7 points to 50.5 in November. This is a fairly neutral reading, but suggests that the weakness in prices that appeared the previous month may be gone.

— Dawn McLaren
Research Economist
Bank One Economic Outlook Center

FIGURE I
ARIZONA BUSINESS CONDITIONS INDEX*



*Excludes Price Index

Source: Bank One Economic Outlook Center, L. William Seidman Research Institute, College of Business, Arizona State University.

Arizona Leading Index continues climb in November

The Bank One Arizona Index of Leading Economic Indicators rose in November to 117.6, an increase of 0.1 percent over the revised 117.5 number for the previous month and 5.0 percent over the November 2001 reading of 112.0 (1987 = 100).

The inflation-adjusted value of the M2 money supply, production, new orders, hours worked in manufacturing and sensitive materials prices were positive. The inflation-adjusted value of Maricopa County residential building permits, delivery times, materials inventories and employment from the Business Conditions Survey were negative.

The production and new orders components have risen two months in a row, something that has not happened since January. If the upward trend holds for another few months, the prospects for employment gains should brighten as well. The continuing surge in the money supply was counterbalanced this month by the drop in permit activity, while the rest of the indicators turned in a mixed performance.

The majority of analysts anticipate weakening activity on the single-family housing front as mortgage rates drift upward during 2003. Interest rates are expected to increase modestly by year's end as the economy picks up steam. However, if the economy does not accelerate, consumer caution could well have the same impact as higher interest rates on building activity. Activity is unlikely to drop as steeply as it has in past cycles, but the near-record pace of this year is unsustainable. Construction activity in the nonresidential sectors already has dropped to very low levels, with little prospect of improved performance for at least a couple of years.

An improving outlook for the manufacturing sector balances the bad news for housing construction. High-tech manufacturing accounts for a large part of manufacturing in Arizona, and at last there are some glimmers of light. Worldwide semiconductor billings have been positive on a year-over-year basis since July, and Asia Pacific activity excluding Japan has been positive on a year-over-year basis since January. The evidence continues to mount that high-tech manufacturing will improve in advance of manufacturing in general.

Unfortunately, employment has not yet turned around, and there is little or no evidence that employers are in a hiring mood. In fact, the way employers view employees and the hiring process appears to have changed over the last two decades. Historically, employers laid off employees during downturns with the expectation of rehiring them when conditions improved. Increased competitive pressures encouraged firms to lay off workers thoroughout the '90s while at the same hiring other workers. The recession accelerated the layoffs while discouraging the hiring. While the pace of layoffs has slowed significantly during the recovery, hiring remains very anemic. Competitive pressures have not let up, which may explain the signs of increased spending on semiconductors as firms try to further improve productivity.

The Leading Index continues to point in the direction of an improving economy, but most people will not feel comfortable until the job market improves. Manufacturing appears to be on the rise, which should help the rest of the economy because manufacturing jobs tend to pay high wages. At the same time, however, this trend will be offset by job losses in construction — another high-wage sector.

— Tracy Clark
Associate Director
Bank One Economic Outlook Center

TABLE 1

NET CONTRIBUTION OF INDIVIDUAL COMPONENTS TO THE ARIZONA INDEX OF LEADING ECONOMIC INDICATORS

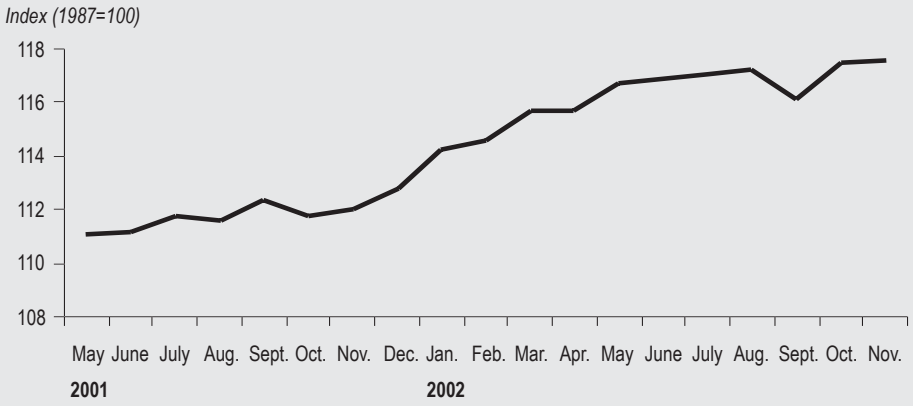
	Net Contribution+			
	August	*September*	*October*	*November*
Delivery Time*	0.09	-0.16	0.06	-0.16
Inventory Levels*	0.03	-0.42	0.30	-0.03
New Orders*	0.16	-0.12	0.04	0.04
Production*	0.15	-0.12	0.07	0.05
Employment*	-0.20	-0.09	-0.04	-0.02
Residential Building Permits	-0.21	-0.07	0.63	-0.29
Average Workweek, Manufacturing	-0.07	0.04	-0.14	0.04
Money Supply	0.29	0.12	0.32	0.38
Change in Sensitive Materials Prices	-0.13	-0.14	-0.00	0.02

+ The net contribution of each component is calculated by multiplying the monthly percent change in its index by its relative importance.

* Based on indicators from the Purchasing Management Association of Arizona, Purchasing Management Association of Southern Arizona and the Northern Arizona Group.

FIGURE I

ARIZONA INDEX OF LEADING ECONOMIC INDICATORS



Source (Table 1 and Figure I): Bank One Economic Outlook Center, L. William Seidman Research Institute, College of Business, Arizona State University.

College of Business

AZB/ARIZONA BUSINESS
Larry Edward Penley, Dean
Timothy D. Hogan, Center Director
Nancy A. Maneely, Editor

AZB/ARIZONA BUSINESS (ISSN 1079–4255) is published monthly by the Center for Business Research, L. William Seidman Research Institute, College of Business, Arizona State University, PO Box 874011, Tempe, AZ 85287–4011; phone (480) 965–3961. Annual rate: $24 per year to Arizona residents, $30 per year out-of-state, $36 per year foreign. Checks must be made payable to ASU Foundation, a separate non-profit organization which exists to support ASU. Your payment is not considered a charitable contribution. Fees will be applied to the printing and mailing of AZB/ARIZONA BUSINESS, which is not printed or mailed at state expense. Periodicals postage paid at Tempe, Arizona. POSTMASTER: Send change of address to AZB/ARIZONA BUSINESS, Center for Business Research, College of Business, Arizona State University, P.O. Box 874011, Tempe, AZ 85287–4011.

AZB/ARIZONA BUSINESS is also available online at:
www.cob.asu.edu/seid/cbr/

ARIZONA ECONOMIC INDICATORS

	Month or Quarter	Current Value	Previous Value	Percent Change Previous Period	Percent Change from Year Ago	Year-to-Date Value	Year-to-Date Percent Change from Year Ago
LEADING ECONOMIC INDEX (1987 = 100)							
Arizona	November	117.6	117.5 r	0.1	5.0	NA	NA
BUSINESS CONDITIONS INDEX							
Arizona	November	48.3	47.8 r	1.0	25.3	NA	NA
BUILDING PERMITS (Thousands of $)							
Maricopa County	October	831,013	663,539 r	25.2	24.1	7,396,134	-10.7
Pima County	October	112,643	115,971 r	-2.9	4.3	1,278,188	12.3
Balance of State	October	183,399	166,502	10.1	4.1	1,956,188	22.6
Arizona	October	1,127,055	946,012 r	19.1	18.2	10,630,510	-3.5
TOTAL HOUSING UNITS AUTHORIZED							
Maricopa County	October	4,025	3,945	2.0	63.2	37,516	-2.6
Pima County	October	752	766 r	-1.8	-13.6	7,349	0.4
Balance of State	October	1,563	1,321	18.3	2.0	15,589	16.7
Arizona	October	6,340	6,032 r	5.1	30.2	60,454	2.1
HOME SALES							
Maricopa County - Number	October	9,400	9,880	-4.9	8.5	87,790	1.9
Maricopa County - Median Price($)	October	147,825	145,000	1.9	7.2	143,325	4.7
HOUSING AFFORDABILITY INDEXES							
Metropolitan Phoenix - New Homes	3rd Quarter	115	114	0.9	5.5	NA	NA
Metropolitan Phoenix - Resale Homes	3rd Quarter	126	122	3.3	2.4	NA	NA
MORTGAGE RATES (30-year Fixed)							
Maricopa County	November	5.8	5.8	0.0	-9.4	NA	NA
POPULATION ESTIMATES (Thousands)							
Maricopa County	3rd Quarter	3,310	3,289 r	0.6	2.9	NA	NA
Pima County	3rd Quarter	888	884	0.4	1.8	NA	NA
Balance of State	3rd Quarter	1,304	1,295	0.7	2.8	NA	NA
Arizona	3rd Quarter	5,502	5,468 r	0.6	2.7	NA	NA
RETAIL SALES (Millions of $)							
Maricopa County	October	2,439	2,409	1.3	-4.0	24,860	-0.4
Arizona	October	3,622	3,541	2.3	-2.7	36,856	0.9

Note: The above figures reflect the latest data available as of date of publication and are subject to revision.

NA = Not Applicable r = Revised

Source: Center for Business Research, Arizona Real Estate Center, and Bank One Economic Outlook Center, affiliates of the L. William Seidman Research Institute, College of Business, Arizona State University. Retail sales data are from the Arizona Department of Revenue.